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Master's Thesis

Increasing Engagement in Voluntary Corporate Meetings through Gamification

by

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Abstract (English)

The value of voluntary corporate meetings is created through the discretionary engagement of their attendees, which is difficult to sustain. This thesis investigates how gamification can be utilized to improve the quality of such meetings by increasing engagement, specifically the fields of participation, preparation, and attendance. Following the design science research process, two artifacts were designed and evaluated in such a meeting series at a German IT service provider.

Through qualitative content analysis of semi-structured interviews with attendees, the unused potential of the meeting was traced to these three fields, and the solution scope was defined. The gamification must leave the meeting itself untouched and not create forced competition. A multivocal literature review gathered game elements prior work applied to comparable problems and revealed that no work covers all three fields in a workplace meeting. The resulting concept composes these elements into a configurable opt-in layer grounded in player types and self-determination theory. A web application implements it. A configured subset was deployed in a case study of the meeting series and evaluated after two gamified instances with an attendee survey and the attendance record.

The deployment increased the reported motivation for all three behaviors, most strongly the motivation to attend. The second gamified instance had the highest attendance on record. The anticipated perception of forced competition did not materialize. While this evidence from two instances in a single setting does not establish a trend, it suggests a promising solution to the engagement problem of voluntary meeting formats.

Abstract (German)

Der Wert freiwilliger Meetings in Unternehmen entsteht durch das Engagement der Teilnehmenden, die sich aus eigenem Antrieb einbringen. Dieses Engagement aufrechtzuerhalten, ist jedoch schwierig. In dieser Arbeit wird untersucht, wie sich die Qualität solcher Meetings durch Gamification verbessern lässt, indem das Engagement in Bezug auf die Felder Beteiligung, Vorbereitung und Anwesenheit gesteigert wird. Dem Design-Science-Research-Prozess folgend, wurden zwei Artefakte entworfen und in einer Meetingreihe bei einem deutschen IT-Dienstleister evaluiert.

Semistrukturierte Interviews mit Teilnehmenden, ausgewertet mittels qualitativer Inhaltsanalyse, führten das ungenutzte Potenzial des Meetings auf diese drei Felder zurück und grenzten den Lösungsraum ein. Die Gamification darf das Meeting selbst nicht verändern und keinen erzwungenen Wettbewerb erzeugen. Ein Multivocal Literature Review erfasste die Spielelemente, die frühere Arbeiten auf vergleichbare Probleme anwendeten, und zeigte, dass keine dieser Arbeiten alle drei Felder in einem betrieblichen Meeting abdeckt. Das resultierende Konzept fasst diese Elemente zu einer konfigurierbaren Opt-in-Schicht zusammen, die auf Spielertypen und der Selbstbestimmungstheorie basiert. Eine Webanwendung implementiert es. Eine konfigurierte Teilmenge des Konzepts wurde in Form einer Fallstudie der Meetingreihe eingesetzt und nach zwei gamifizierten Terminen mithilfe einer Teilnehmendenbefragung und den Anwesenheitsaufzeichnungen evaluiert.

Der Einsatz erhöhte die berichtete Motivation für alle drei Verhaltensweisen, am stärksten für die Anwesenheit. Beim zweiten gamifizierten Termin wurde die bislang höchste Anwesenheit verzeichnet. Die befürchtete Wahrnehmung erzwungenen Wettbewerbs blieb aus. Während diese Ergebnisse aus zwei Terminen in einem einzigen Setting keinen Trend belegen, deuten sie auf eine vielversprechende Lösung für das Engagement-Problem freiwilliger Veranstaltungsformate hin.

Contents

Abstract (English)	iii
Abstract (German)	v
1 Introduction	1
1.1 Motivation and Problem	1
1.2 Context	1
1.3 Contribution	2
1.4 Thesis Structure	2
2 Background	3
2.1 Gamification	3
2.2 Self-Determination Theory	5
2.3 Player Types	6
3 Methodology	7
4 Problem Identification	9
4.1 The Knowledge Sharing Meeting	9
4.2 Interviews	10
4.2.1 Design	10
4.2.2 Execution	11
4.3 Coding	12
4.4 Findings	12
4.4.1 Current Value	13
4.4.2 Problems	14
5 Related Work	17
5.1 Review Process	17
5.2 Review Results	20
5.3 Game Element Coding	22
5.3.1 Procedure	22
5.3.2 Coded Elements	22
6 Gamification Concept	25
6.1 Design Objectives	25
6.2 Concept Design	26
6.3 Composition	30
7 Architecture	33
7.1 Architectural Requirements	33
7.2 System Context	35

7.3	Container View	36
7.4	Component View	38
8	Prototype	41
8.1	Technology Stack	41
8.2	Features	42
9	Evaluation	47
9.1	Case Study	47
9.2	Configuration	48
9.3	Survey	49
9.4	Results	50
9.4.1	Closed-Ended Answers	51
9.4.2	Open-Ended Answers	53
10	Discussion	57
10.1	Problem Fields	57
10.2	Game Elements and Composition	59
10.3	Adoption and Configuration	62
10.4	Threats to Validity	64
11	Conclusion and Outlook	67
	List of Abbreviations	69
A	Problem Identification Interview Guide	71
B	Problem Identification Interview Scripts	75
B.1	Interviewee A	75
B.2	Interviewee B	77
B.3	Interviewee C	79
B.4	Interviewee D	80
B.5	Interviewee E	82
C	Problem Identification Interview Coding	85
C.1	Citations and Paraphrases	85
C.2	Intermediate Category System	93
D	Evaluation Survey Questionnaire	95
E	Evaluation Survey Results	99
E.1	Closed-Ended Answers	99
E.2	Free-Text Answers	100
F	Evaluation Survey Coding	103
	List of Figures	107
	List of Tables	109
	Bibliography	111

1 Introduction

This chapter motivates the research question of this thesis and outlines the contribution made in addressing it. The research question is derived from the general problem of sustaining engagement in voluntary meetings and from a specific meeting series in which this issue is examined.

1.1 Motivation and Problem

Meetings represent a central form of collaboration within organizations. Employees use them to discuss problems, generate ideas, and make decisions. Organizations invest a significant portion of paid working time in meetings [1], [2]. In addition to mandated formats, organizations rely on voluntary meetings in which employees contribute on their own initiative. One prominent example is knowledge sharing, which is widely regarded as a key asset in software organizations because it enables teams to leverage each other's expertise rather than repeatedly solving the same problems [3], [4], [5]. However, such voluntary formats often struggle to sustain engagement over time and depend on discretionary effort beyond employees' core responsibilities [6], [7].

When meetings are viewed in terms of their cost and value, it becomes clear that low engagement is problematic. Meetings consume paid working time, so they carry a direct cost [1], [2]. Research on meetings shows that attendee behaviors and interactions can make or break meeting outcomes [1]. In a voluntary meeting, these behaviors are the discretionary contributions that engagement describes; therefore, the value generated by such a meeting scales with engagement. When engagement is low, however, the cost of the meeting is incurred without the corresponding value being realized.

In a voluntary format, whether attendees engage is, by definition, left to their personal choice. This type of voluntary contribution is understood as a form of Organizational Citizenship Behavior (OCB) [8], [9]. Organ [8, p. 4] defines OCB as “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization”. Project-related work is part of an employee's formal role and the reward system, and therefore tends to take priority over voluntary meetings. Consequently, maintaining engagement in such voluntary formats is difficult.

1.2 Context

This thesis is conducted in collaboration with SSC-Services GmbH¹, a German IT service provider. The company runs exactly such a voluntary meeting and struggles to sustain engagement in it.

The meeting in question is a recurring series of voluntary knowledge sharing meetings for software developers, with an instance held every four weeks. It is open to all developers in the company, and its goal is to provide one central place for knowledge sharing among them.

¹<https://www.ssc-services.de/> (accessed on June 7, 2026)

This meeting series is an example of the aforementioned voluntary format and therefore depends on the discretionary engagement of its attendees. Currently, the meetings suffer from low engagement, which limits their value to the company. The motivation for this thesis is to improve this engagement.

1.3 Contribution

One possible approach to mitigating the problem of low engagement described above is gamification. Deterding et al. [10, p. 9] define gamification as “the use of game design elements in non-game contexts”. Applying these elements to the behaviors that drive engagement may provide the motivational incentives that the voluntary format currently lacks. Whether and how gamification can be used for this purpose is the question this thesis sets out to answer.

The thesis addresses the following research question:

RQ How can gamification be utilized to improve the quality of voluntary corporate meetings by increasing engagement, specifically participation, preparation, and attendance?

The three specifically named fields are the empirical result of the problem identification conducted in this thesis. Answering this question entails the design of two artifacts: a gamification concept that can be adapted to different meetings in different contexts, and a configurable software artifact that implements it. These two artifacts are the main contribution of this thesis.

To address the research question, this thesis employs Design Science Research (DSR) [11].

1.4 Thesis Structure

The remainder of this thesis is structured following the DSR process. Chapter 2 establishes the theoretical background and defines the gamification terminology used throughout the thesis. Chapter 3 presents the research methodology, introducing DSR as the overarching research method and mapping its activities to the methods that carry them out. Chapter 4 reports the problem identification. It describes the expert interviews and derives the three problem fields that ground the research question. Building on this, Chapter 5 reviews related work to determine which game elements prior work has used and to establish the research gap. Together, the problem fields and the research gap define the design objectives of the artifacts.

The design and development of the artifacts then spans three chapters. Chapter 6 presents the gamification concept, while Chapters 7 and 8 describe the architecture and the implemented prototype of the supporting software artifact. Chapter 9 demonstrates and evaluates the concept in a real-world case study. Chapter 10 discusses the results as well as the threats to the validity of this research. Finally, Chapter 11 concludes the thesis and gives an outlook on future work.

2 Background

This chapter establishes the conceptual foundations of the thesis. Drawing on foundational literature, it defines gamification and its game elements, summarizes the motivational theory on which these elements are based, and introduces player types that demonstrate how individuals respond differently to the same design.

2.1 Gamification

Deterding et al. [10, p. 9] define gamification as “the use of game design elements in non-game contexts”. This definition emphasizes that the underlying activity remains unchanged. Hamari et al. [12] accordingly describe gamification as layering motivational affordances onto an existing activity in order to invoke psychological and, in turn, behavioral outcomes. Although the research field is young, a survey by Seaborn and Fels [13] finds that a standard conceptualization along these lines is emerging, and that gamification constitutes a concept distinct from related approaches. One distinction relevant to the scope of this thesis is that of serious games. Serious games are full-fledged games designed for non-entertainment purposes, whereas gamified applications only incorporate elements of games [10]. Therefore, in this thesis, gamification means adding game elements to an existing workplace meeting series, not replacing the meeting with a game.

Game design elements exist at several levels of abstraction. Deterding et al. [10] distinguish five levels, from concrete interface design patterns such as badges, leaderboards, and levels, through game design patterns and mechanics, to abstract design principles, models, and methods. Additionally, applied gamification varies in purpose, context, and concrete design across domains [13], with points, badges, and leaderboards being the most frequently implemented elements in empirical studies [12]. Speaking about game elements consistently therefore requires a vocabulary that gives each element a defined meaning. The taxonomy of Toda et al. [14] provides such a vocabulary. It defines 21 game elements, validated in two rounds of expert surveys, with the stated goal of standardizing the terminology used to describe educational gamification designs. The taxonomy also lends itself to analysis, as demonstrated by the authors’ decomposition of existing gamified environments into their elements [15]. This thesis adopts the terminology defined by Toda et al. [14]: terms such as *points*, *badges*, *leaderboards*, *levels*, and *time pressure* refer to the elements defined there. Table 2.1 lists all 21 elements of the taxonomy with shortened descriptions.

Whether gamification produces the intended effects is an empirical question. The evidence is promising but not unconditional. In a review of 24 empirical studies, Hamari et al. [12] conclude that gamification does work in the majority of cases, but that most studies report positive effects only for some of the examined outcomes. The effects depend strongly on the context in which gamification is implemented and on the users interacting with it. Seaborn and Fels [13] draw a similar conclusion from their survey: applied results lean positive but remain mixed. Thus, gamification is no guarantee of engagement; its effect hinges on how well the chosen elements fit the

Table 2.1: The game element taxonomy. Adapted from Toda et al. [14, p. 87]; example and synonym lists in the description are omitted.

Element	Description	Affected Behavior
Acknowledgement	All kind of feedback that praises the players' specific actions.	Engagement
Chance	Randomness and probability characteristics to increase or decrease the odds of certain actions or outcomes.	Engagement
Competition	When two or more players compete against each other towards a common goal.	Engagement, Motivation
Cooperation	When two or more players collaborate to achieve a common goal.	Motivation
Economy	Transactions within the game, monetising game values and other elements.	Engagement
Imposed Choice	Decisions that the player is obliged to make in order to advance the game (not to be confused with Narrative).	Engagement, Motivation
Level	Hierarchical layers present in a game, which provide a gradual way for the player to obtain new advantages as they advance.	Engagement
Narrative	Order of events where they happen in a game. These are choices influenced by the players' actions (not to be confused with Imposed Choice).	Motivation
Novelty	New, updated information presented to the player continuously.	Engagement, Motivation
Objectives	Guide the players' actions. Quantifiable or spatial, from short to long term.	Engagement, Motivation
Point	Unit used to measure users' performance.	Engagement
Progression	This allows players to locate themselves (and their progress) within a game.	Engagement
Puzzles	Challenges within the game that should make a player think.	Engagement
Rarity	Limited resources and collectables.	Engagement
Renovation	When players are allowed to redo/restart an action.	Engagement
Reputation	Titles that the player accumulates within the game.	Engagement, Motivation
Sensation	Use of players' senses to create new experiences.	Engagement
Social Pressure	Pressure through social interactions with another player(s) (playable and non-playable).	Engagement, Motivation
Stats	Visible information used by the player, related to their outcomes within the game.	Engagement
Storytelling	It is the way the story of the game is told (as a script). It is told within the game, through text, voice, or sensorial resources.	Engagement
Time Pressure	Pressure through time within the game.	Engagement, Motivation

activity and the people involved. Why particular elements work for particular users is a question the field answers with motivational psychology, as the conceptual foundations of gamification converge on psychological theories of motivation [13].

2.2 Self-Determination Theory

Ryan and Deci [16, p. 56] define intrinsic motivation as “the doing of an activity for its inherent satisfactions rather than for some separable consequence”. Thus, an intrinsically motivated person acts for the enjoyment or challenge of the activity itself rather than because of external pressures or rewards. In contrast, extrinsic motivation applies “whenever an activity is done in order to attain some separable outcome” [16, p. 60]. Motivation thus differs not only in amount but also in orientation. People can be equally motivated for the same activity for different reasons, and the type of motivation shapes both the experience and the quality of the resulting behavior [16].

Self-Determination Theory (SDT) explains what sustains the intrinsic form. Ryan and Deci [17] propose three innate psychological needs: competence, autonomy, and relatedness. Social contexts that satisfy these needs support intrinsic motivation and well-being, while contexts that thwart them diminish both [17]. Cognitive evaluation theory, a subtheory of SDT, adds a condition on feedback. Events that signal competence enhance intrinsic motivation only when they are accompanied by a sense of autonomy [16].

Whether external rewards help or harm motivation is one of the most examined questions around the theory. A meta-analysis by Deci et al. [18] of 128 experiments shows that expected tangible rewards made contingent on task performance tend to undermine intrinsic motivation, whereas verbal rewards and positive feedback tend to enhance it. This phenomenon is also known as “motivation crowding”: external interventions crowd out intrinsic motivation when the affected individuals perceive them as controlling, and can crowd it in when they perceive them as supportive [19]. This undermining effect does not make extrinsic motivation uniformly harmful. Extrinsic motivation spans a continuum of internalization, and the more a person internalizes an external prompt, the more autonomous the resulting behavior becomes [16].

For gamification, these mechanisms play out at the level of individual game elements. In a randomized experiment, Sailer et al. [20, p. 371] find that “badges, leaderboards, and performance graphs positively affect competence need satisfaction, as well as perceived task meaningfulness, while avatars, meaningful stories, and teammates affect experiences of social relatedness”. Mekler et al. [21], in contrast, observe that points, levels, and leaderboards raise the quantity of output in an annotation task without changing intrinsic motivation, and interpret the elements as having acted as extrinsic incentives in their setting. Taken together, the two experiments indicate that game elements can serve either motivational pathway. Leaderboards, present in both studies, satisfied the competence need in one and acted as an extrinsic incentive in the other. Which pathway an element influences is therefore not fixed by the element itself, but varies with the setting it is deployed in. This aligns with the context dependence reported for gamification as a whole [12].

2.3 Player Types

The user dependence of gamification effects has a counterpart in game research: people play for different reasons, so the same design appeals to different players to different degrees [12]. The original typology of player motivations by Bartle [22] stems from a long-running discussion among players of early multi-user online games. Bartle [22] abstracts four player types: achievers, who aim for points and rising levels; explorers, who enjoy uncovering how the game world works; socializers, who care about interacting with other players; and killers, who seek competition and want to dominate other players. These types span two axes: acting versus interacting, and orientation toward other players versus orientation toward the game world. Figure 2.1 locates the four types on these axes. Although suggesting that players can generally be assigned a single type, the types are framed as degrees of adherence to preferred play styles rather than as strict categories [22].

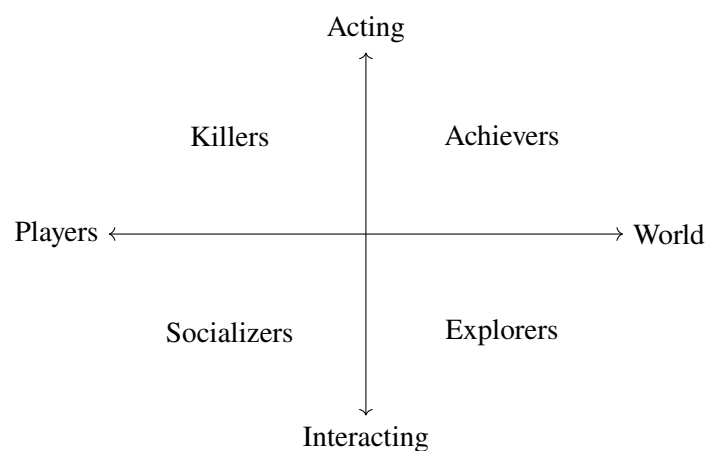


Figure 2.1: The four player types. Redrawn from Bartle [22, p. 6].

Later work consolidates this typology. A meta-synthesis of player typologies by Hamari and Tuunanen [23] identifies five dimensions that recur across the field: achievement, exploration, sociability, domination, and immersion. Four of the five dimensions remain grounded in Bartle's types, and the authors caution against interpreting the types as exclusive categories to which a player belongs [23]. This caution is further supported by empirical evidence. In a factor analysis of survey data from 3000 players of online games, Yee [24] found that play motivations group into achievement, social, and immersion components that barely correlate. A strong preference in one direction does not suppress the others.

3 Methodology

The RQ is a constructive design question that asks how gamification can be utilized to achieve a specific effect in a real setting. Answering this question requires a gamification concept that addresses the problems at hand, as well as a supporting software artifact. Whether these two artifacts achieve the intended effect can only be determined by studying them in use [11], [25]. Therefore, the research design must couple the construction of a solution with its evaluation against the problem it addresses.

DSR is an established paradigm for exactly this type of research. “[Rooted] in engineering and the sciences of the artificial[,] [...] [i]t is fundamentally a problem-solving paradigm” [11, p. 76]. It both creates and evaluates artifacts that address real-world problems [11], [26]. An artifact in this sense can be a construct, a model, a method, or an instantiation [11]. The output of such research is design knowledge, in the form of an analysis of the problem, the artifact built to solve it, and the evidence of the artifact’s utility [27]. This is the form that an answer to the RQ has to take. Furthermore, the paradigm has proven effective for research on gamified systems in particular. Morschheuser et al. [28] develop and evaluate a method for designing gamification following a DSR approach. This thesis therefore adopts DSR as its overarching research method.

The conduct of DSR can be structured into a sequence of six activities: problem identification and motivation, definition of the objectives for a solution, design and development, demonstration, evaluation, and communication [25], [29]. This process model forms the foundation of the research design at hand, in which each activity is carried out using a method suited to its purpose.

Problem identification is conducted in the form of a series of semi-structured expert interviews [30], [31] that capture the current state of the meeting series from those who attend it regularly. The definition of the solution objectives proceeds from these problems [25]. These objectives then frame a Multivocal Literature Review (MLR) [32] that gathers the game elements prior work has used to address comparable problems and, in doing so, exposes the gap the artifact has to close. The qualitative material is analyzed separately for both activities using Qualitative Content Analysis (QCA) [33], which condenses it into a structured set of categories.

During design and development, the gathered elements are composed, together with original design ideas, to create the gamification concept. As an instantiation of this central artifact, the software artifact is implemented [11]. Albin [34] describes design as the activity of transforming requirements into a feasible solution. Since the concept and the software artifact directly stem from the identified problems and the gathered elements, this activity calls for justified design decisions rather than for a dedicated empirical method.

Demonstration and evaluation involve deploying the resulting artifact in the intended context and assessing its effectiveness in addressing the identified problems [25]. This thesis carries out both activities as a case study [35] in the meeting series described in Section 1.2 and measures the artifact’s effect on the attendees via a survey [36]. This survey’s open-ended responses are condensed into categories using QCA.

In summary, the research design progresses from empirically identified problems and solution objectives to an artifact derived from literature and evaluated empirically. Figure 3.1 maps each activity of this process to the methods applied and the deliverables produced.

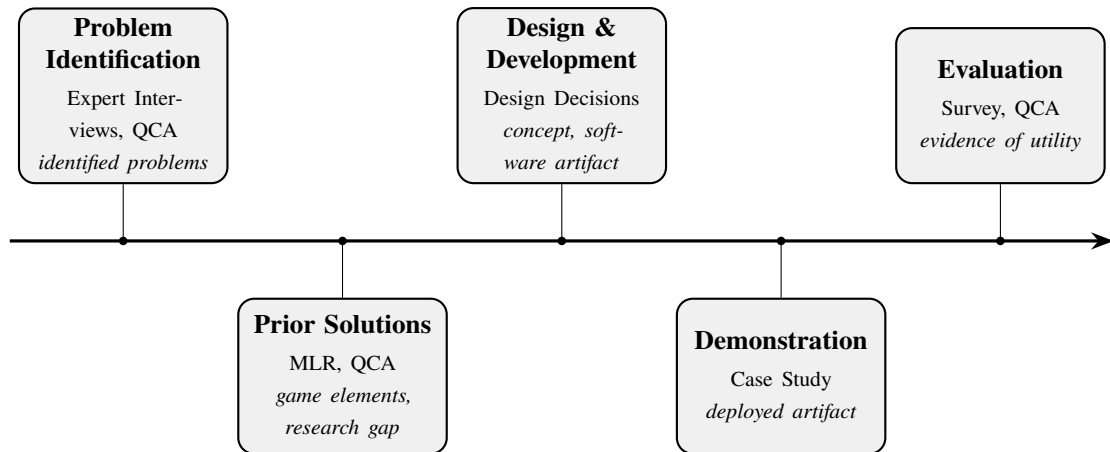


Figure 3.1: The research design of this thesis.

4 Problem Identification

This chapter establishes what value the knowledge sharing meeting under study provides to its attendees and which problems limit that value. These are both elicited through a series of semi-structured interviews with attendees and condensed into problem fields using QCA.

4.1 The Knowledge Sharing Meeting

A meeting instance of the series introduced in Section 1.2 is scheduled for about two hours, although it often ends earlier. Historically, the number of attendees has ranged from 13 to 23, and the ratio of on-site to online attendees varies from meeting to meeting.

The agenda is the same for each instance and consists of several blocks. It includes organizational steps, such as appointing someone to write the protocol for that meeting instance, as well as blocks that facilitate knowledge sharing. This appointment is made ad hoc by the moderator, and on-site attendees without a laptop at hand are usually passed over, since the protocol is written on one. The knowledge sharing blocks include the Today We Learned (TWL) block, in which attendees briefly share generalizable learnings they have had since the last meeting, prepared presentations on customer projects or new technologies, and sometimes a discussion of other prepared topics. Table 4.1 lists all agenda blocks in their usual order.

Table 4.1: The usual agenda blocks of a meeting instance, in order.

Agenda block	Description
Protocol	An attendee is appointed to write the protocol for the current instance.
Working group updates	Small groups that work on topics between instances report their progress.
Today We Learned	Attendees briefly share things they have learned since the last instance. A Microsoft Teams ¹ channel asynchronously collects submissions, which are reviewed in this block.
Challenges and Successes	Developers share current challenges and successes from their customer projects.
Presentations	Zero to two prepared talks of about 10 to 30 minutes on customer projects or new technologies.
Open Session	Prepared topics that require or benefit from the presence of multiple attendees are discussed. It is held only when such topics have been prepared by someone.
Next Moderation	The moderator of the next instance is appointed.

¹<https://www.microsoft.com/en-us/microsoft-teams/group-chat-software> (accessed on June 20, 2026)

Each instance is recorded, and both the recording and the written protocol are shared with all developers afterwards, so that the content is available to those who did not attend.

4.2 Interviews

The interviews pursue two objectives: to capture the value the meeting currently provides to its attendees, and to identify problems that attendees experience with the meeting, which limit this value. The interviews are of an exploratory and qualitative nature. They are intended to open up the problem space rather than to test predefined hypotheses.

Interviews are commonly grouped into structured, semi-structured, and unstructured formats [37]. A structured format requires every question to be fixed in advance, making it too rigid to follow up on an unanticipated answer, which is where much of the explanatory detail lies [37], [38]. An unstructured interview allows for such follow-up, but the resulting conversations are difficult to compare across interviewees [31]. The semi-structured format combines a set of guiding questions with the freedom to probe further. This makes it the format of choice when the goal is to elicit the reasons behind respondents' answers while maintaining comparability across interviews [31], [37], [38]. The problem identification requires exactly this approach. The goal is to understand the reasons behind attendees' perceptions of the meeting, comparable across interviewees. The semi-structured format matches this need and is therefore used for the interviews.

Similar to Morschheuser et al. [28], who rely on semi-structured expert interviews within a DSR study, the interviews are designed as expert interviews. The regular attendees are treated as experts on this specific meeting because the study seeks their experiential knowledge of how it runs, what it delivers, and where it falls short [30]. Interviewing is thereby understood as a means of producing this experiential knowledge rather than merely retrieving facts [31].

4.2.1 Design

The sample consists of five regular attendees, all of whom are software engineers or architects at the case company. They range from junior to senior and architect levels. The selection process follows a purposeful strategy [39] based on two criteria: regular attendance of the meeting series, and a deliberate mix of seniority levels. This mix of seniority levels is intended to reveal whether developers at different experience levels perceive different problems or value different parts of the meeting. Table 4.2 summarizes the interviewees, who are referred to by the labels A to E throughout the thesis.

Table 4.2: The profile of the five interviewees.

Interviewee	Role	Time in series	Attendance mode	Participation	Attendance rate
A	Junior Developer	1 year	On-site	Passive	Almost always
B	Mid-Level Developer	4 years	On-site	Active	Mostly
C	Junior Developer	3.5 years	On-site	Passive	Almost always
D	Senior Developer and Architect	6 years	On-site	Active	Almost always
E	Senior Developer	6 years	Remote	Rather passive	Almost always

Only attendees are included in the sample. The guide probes in depth what works and what does not in the meeting. Developers who do not attend the meeting could not answer these questions from experience. Interviewing non-attendees would have required a separate guide, which would have eliminated the cross-interview comparability the study relies on. Consequently, statements about developers who avoid the meeting are based on inferences from attendees rather than on direct testimony.

Although five interviews is a small sample, two lines of evidence suggest that this sample size is sufficient. First, qualitative interview evidence shows that the core themes of a shared topic emerge early. Guest et al. [40] found that the basic elements of their themes emerged after about six interviews and reached saturation within twelve, in a sample far larger and more heterogeneous than the one used in this thesis. Second, evidence from usability testing shows that a small number of subjects already surfaces the large majority of problems, with diminishing returns after that. About five subjects are commonly considered sufficient [41], [42]. This second argument rests on the assumption that problem-identification interviews and usability tests are sufficiently similar. This transfer is plausible because both probe a single shared artifact for a bounded set of issues, but it remains an assumption. Together, these lines of evidence suggest that five interviews can be expected to reveal the core problems of the meeting. The execution confirmed this expectation; the fifth interview surfaced no new themes.

The interview guide follows the phased framework of Kallio et al. [43] for semi-structured interview guides. It opens with a brief demographic block and then transitions to the main questions. These follow a broad-to-specific progression as suggested by the literature [31], [43]. Starting from the value the meeting currently provides, the questions narrow down to the recall of concrete instances that the interviewee would rather not have attended. A final open block invites discussion of topics not covered by the previous questions. This is included to mitigate the risk that a structured guide misses topics the author did not anticipate. The guide was informally refined after the first interview. No formal pilot test in the sense of the framework’s pilot-testing phase was conducted [43]. The full interview guide is provided in Appendix A.

4.2.2 Execution

The interviews were conducted in early 2026 by the thesis author. Each interview was held one-on-one, either on-site or via video call, and lasted roughly 30 to 45 minutes. The interviews were conducted in German.

Each interview was documented through extensive note-taking during the conversation. Any uncertainties in the notes were resolved by asking the interviewee directly. The notes were subsequently consolidated into one interview script per interview, a reconstruction of the conversation in dialogue form with numbered turns. Rutakumwa et al. [44] compared interview scripts written from notes taken during the interview with verbatim transcripts of the same conversations, and found the two “comparable in the detail captured” [44, p. 566] and generally comparable in how they depict the key themes of an interview. Vogel and Funck [45] likewise regard notes-based interview protocols as a suitable, in some circumstances preferable, documentation method. In addition, each interviewee reviewed and approved the script of their own interview, confirming that it accurately reflects the conversation. The subsequent coding extracts theme-level segments rather than word-level detail; thus, the interview scripts provide the necessary data. Representative quotes are translated into English where they appear in this thesis, and the original German interview scripts are provided in Appendix B. To retain anonymity, the scripts identify interviewees only by their labels.

4.3 Coding

QCA, as proposed by Mayring [33], offers a systematic, rule-guided approach to interpreting qualitative material, reducing it to a structured set of categories [46]. Kohlbacher [47] shows that it suits qualitative interview data and case study research, which matches the material at hand. Of the procedures Mayring [33] provides, the interview scripts were analyzed through inductive category formation, followed by a reduction step, because the problems to be identified are not known in advance, and the categories must emerge from the material itself. The coding was carried out by the author of this thesis alone. Therefore, the reliability of the analysis rests on the rule-guided procedure that QCA prescribes, in which every category is explicitly defined and consistently applied to the material [33].

The unit of analysis is the meaningful segment, which is defined as a passage of an interview script that expresses one coherent statement. Each segment was extracted, paraphrased, and translated into English. The full extraction table, including the original German phrasings, is provided in Table C.1. The paraphrases were then grouped inductively, so that the categories were formed directly from the material rather than from a predefined scheme. This step yielded 19 intermediate categories, each of which captures one recurring theme across interviewees. For example, there is a category on meeting efficiency that gathers statements about agenda items taking longer than planned. The full intermediate category system is provided in Table C.2. Finally, the 19 intermediate categories were reduced to seven by merging those that describe the same underlying theme. For instance, the categories on low participation, meeting efficiency, and organizational overhead merged into one, since the efficiency and overhead issues are manifestations of the same participation gap rather than independent defects. In particular, the organizational items occupy meeting time only because no attendee volunteers to take them over, making the overhead an expression of the missing participation.

Throughout the analysis, the frequency of a category is determined by the coded segments assigned to it, rather than by the number of interviewees who raised the theme. A high frequency therefore indicates that a theme was mentioned often, either by several interviewees or repeatedly by a few. Where this distinction is relevant, the distribution across interviewees is noted in the findings.

The reduction condensed the material into seven categories spanning both the value the meeting provides and the problems that limit it, with frequencies between 3 and 33 coded segments. Table 4.3 lists the seven categories and their descriptions and frequencies.

4.4 Findings

The coding revealed both the meeting's strengths and its weaknesses. Three of the seven categories describe the value the meeting currently provides (RC1, RC3, RC6), while three others describe problems that limit this value (RC5, RC4, RC2). The remaining category records a constraint on any solution rather than a strength or a problem of the meeting: attendees expect a gamification of the meeting to work through intrinsic motivation so that it does not feel artificial, like external pressure or forced competition (RC7). Only the two senior interviewees, D and E, raised this constraint. Since none of the other interviewees voiced the contrary expectation, this category was kept. Of the other six categories, RC4 rests on three interviewees, RC5 on four, and the remaining four on all five. Table 4.4 summarizes this classification.

Table 4.3: The reduced category system.

Key	Category	Description	Freq.
RC1	Meeting provides good overall value	The meeting is consistently rated positively (about 6 to 8 out of 10), the time is considered well spent, and the current format is broadly satisfactory.	23
RC2	Cross-team exchange scales with attendance across all roles	Cross-team knowledge exchange is the meeting's core purpose and benefits all developer roles, each for different reasons (juniors build knowledge, seniors gain overview and perspectives). Unlike typical meetings, value scales with attendance: each additional attendee brings unique experiences, topics, and perspectives.	26
RC3	Practical content and synchronous on-site attendance maximize value	Broadly applicable, practical content, especially in presentations, Today We Learned, and shared problem-solution experiences, drives the most value, whereas overly project-specific or theoretical content fails to engage. Synchronous on-site attendance is equally essential, and fully asynchronous alternatives would fail because the content would be ignored in daily work.	33
RC4	Insufficient preparation reduces meeting quality	Lack of preparation for presentations, working groups, and meeting roles is a primary driver of reduced meeting quality.	9
RC5	Low participation drives inefficiency and overhead	Active contribution is concentrated among a few attendees, and many do not prepare or are reluctant to speak spontaneously. This drives structural inefficiency, since agenda items run longer than necessary when no one engages, and it contributes to organizational overhead that could partly be handled asynchronously.	15
RC6	Social, motivational, and knowledge-transfer value	The meeting provides social connection, community, and networking alongside motivational benefits such as fresh perspectives, a break from project tunnels, and career visibility. Direct application of knowledge is rare, but the main transfer value lies in impulses for further exploration and awareness of topics and experts.	25
RC7	Gamification must be intrinsic and not feel forced	Gamification risks feeling pushy, artificial, or uncomfortable. It must work through intrinsic motivation rather than competition or external pressure.	3

Table 4.4: The classification of the reduced categories.

Group	Categories	Content
Current value and strengths	RC1, RC3, RC6	The value the meeting currently provides and the conditions under which it arises.
Problems	RC5, RC4, RC2	The problem fields participation, preparation, and attendance.
Design constraint	RC7	The expectation that gamification works through intrinsic motivation.

Apart from RC7, seniority did not notably affect the answers. Interviewees across all experience levels identified the same core issues. This suggests that the identified problems are not specific to a single experience level.

4.4.1 Current Value

Interviewees rated the meeting's overall value between about six and eight out of ten and considered the time broadly well spent (RC1). The most valued content is broadly applicable and practical. This content is delivered primarily through presentations, the TWL block, and shared accounts of concrete problems and their solutions. Overly project-specific or theoretical content engages few

attendees (RC3). This category further shows that the format carries as much of the value as the content. Synchronous on-site attendance leads to noticeably more attention than remote attendance, and interviewees expected a fully asynchronous version of the meeting to fail because its content would be ignored in day-to-day work. Interviewee C described the difference directly: “Online, you are always doing something on the side. On-site, you are much more attentive.”

Beyond knowledge, the meeting provides social and motivational value, including social connection, fresh perspectives, a break from narrow project work, and visibility of who knows what (RC6). The direct application of what is learned is occasional, and the main value lies in impulses for further exploration and in awareness of topics and experts. At the core of this value stands the cross-team exchange. As Interviewee E put it, “if [the meeting series] is dropped, everyone eventually just works in their own little bubble again”.

Taken together, the three categories describe an effective meeting. The format satisfies its attendees, the content is valued, and the exchange provides benefits beyond knowledge. The following problems are therefore to be read as potential the meeting leaves unused, not as failures of what it currently does. At the same time, the strengths delimit the scope of acceptable measures: any solution addressing the problems must preserve the synchronous format and the social character on which the current value rests.

4.4.2 Problems

The three problem-bearing categories translate into three problem fields, each of which is named after the behavior whose absence limits the meeting’s value.

Participation: Active contribution is concentrated among a few attendees, while many remain passive and reluctant to speak spontaneously (RC5). Participation involves engaging during an instance itself, beyond simply being present. The challenges and successes section, TWL entries, and spontaneous input in discussions arise only when attendees take the initiative in the moment, which often does not happen. Interviewee D observed that “at Today We Learned it always feels like the same three people talking”. The coding traced two further symptoms back to this passivity. First, agenda items run longer than necessary when no one engages. Second, organizational blocks, such as working group updates and protocol distribution, consume too much meeting time due to low motivation to participate. Low participation therefore limits the meeting in two ways: knowledge present in the developer community remains invisible to others, and part of the time of those who do attend is spent without value.

Preparation: The value of an individual instance depends heavily on how well its contributions are prepared. Insufficient preparation for presentations, working group updates, and meeting roles primarily results in low-value instances (RC4). Interviewee B described the immediate effect: “Some parts just get skipped or are not used properly because nobody prepared anything.” Interviewee A recalled a specific example: “Thirty minutes presenting something the presenter did not understand. And there was no practical use case for it either.” In both cases, the scheduled meeting time was spent without achieving the knowledge sharing return it is meant to produce.

Attendance: The third problem field emerges from a strength. The meeting’s core purpose is cross-team knowledge exchange, which benefits all developer roles, and, unlike most meetings, its value grows with the number of attendees (RC2). Interviewee E captured this inversion: “Normally a meeting’s cost-benefit gets worse the more people are in it. But here it is the other way around [...] more people potentially means more experiences, topics, perspectives.” However, when compared

against the current state, the strength becomes a problem. Although the meeting is open to every developer in the company, only a subset attends regularly. Consequently, parts of the available knowledge never enter the exchange and some of the potential value stays unrealized. The voluntary format currently offers little incentive for non-attendees to start attending. Unlike the first two fields, this one relies partly on inference. All five interviewees regularly attend the meetings and could not explain why others do not attend.

The three problem fields share a common root: the voluntary nature of the meeting provides insufficient incentive for the behaviors that create its value, namely participation, preparation, and attendance. Since these three fields reflect how engaged attendees are with the meeting, they are grouped under the term “meeting engagement”. The outcome they act on is captured by the term “meeting quality”, which is the value an instance provides to its attendees. Low engagement lowers meeting quality, and raising engagement is the key to improving it.

5 Related Work

Building on the problem fields identified in Chapter 4, this chapter derives the research gap this thesis addresses and provides an overview of the game elements prior work builds on. Related work is gathered through a MLR. Each included work is compared to this thesis, and the game elements of all works are coded.

5.1 Review Process

A Systematic Literature Review (SLR) identifies, evaluates, and interprets the available research relevant to a question by following a predefined, repeatable protocol. This makes the review systematic and limits the influence of reviewer bias [48], [49]. Garousi et al. [32, p. 1] define a MLR as “a form of a [SLR] which includes the grey literature [...] in addition to the published (formal) literature”. Grey literature captures the state of practice alongside the state of research, which is valuable when a topic is more widely adopted in practice than in academic publishing [32], [50]. Since gamification is widely applied in the industry [13], relevant game elements may be documented outside peer-reviewed venues. Therefore, the related work is identified through a MLR, following the guidelines of Kitchenham [48], their later refinement [49], and subsequent experience with their application [51]. The selection of sources is reported according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA), an established standard for documenting the identification, screening, and inclusion of records in a review, as well as for presenting that process as a flow diagram [52], [53].

This thesis’ MLR covered four white literature databases: the ACM Digital Library, Springer Nature Link, IEEE Xplore, and Google Scholar. Google Search was used as the grey literature source. The search string combines the three problem fields with a general gamification term and was applied identically across all sources:

("gamification" OR "gamify" OR "gamified" OR "gameful design" OR "game elements")
AND ("meeting participation" OR "meeting attendance" OR "meeting preparation" OR
"meeting engagement" OR "meeting quality")

Several factors influenced the search. The databases do not uniformly support the wildcard operator, so it was omitted from the search string. Full-text searches were used wherever possible since restricting searches to titles and abstracts returned too few results. No additional exclusion terms were added to the query, as the number of results was already small. The term “meeting” could not be used on its own, because it matches the many publications presented at conferences whose names contain “meeting”. To capture relevant sources beyond the three problem fields, the umbrella term “meeting engagement” and its objective, “meeting quality”, were added to the search string.

The inclusion criteria follow from the review’s objectives: finding empirical evidence of specific game elements that can be reused to address the three problem fields. A source contributes to this only if it applies game design elements in a non-game context, and therefore constitutes gamification as defined by Deterding et al. [10]. The findings must also be applicable to the target setting.

Therefore, the context must be a business meeting or a context similar enough that the results plausibly transfer. Further, reusing an element requires empirical findings about it, because an element without observed effects offers no basis for design decisions. Two formal criteria complete the set. The year criterion reflects the field's recent emergence. The term "gamification" only saw widespread adoption in the second half of 2010 [10], so earlier sources predate the current understanding of the concept and were therefore excluded. The language criterion ensures that every full text can be read and evaluated by the author. Sources were included only if they fulfilled all five criteria. Table 5.1 states each criterion with its description.

Table 5.1: The inclusion criteria of the MLR.

Criterion	Description
Application in a non-game context	The source applies game design elements in a non-game context, in line with the definition of gamification [10].
Context related or transferable to meetings	The context is a business meeting or close enough that its findings can be transferred to a business meeting setting.
Empirical findings with reusable elements	The source reports empirical findings and describes concrete game elements that can be reused.
Published after 2010	The source is recent enough to reflect the current understanding of gamification.
Written in English or German	The source is accessible for this review.

The white literature database search yielded 416 records. After removing duplicates and records failing the publication year and document type filters, 322 remained for screening. Title and abstract screening filtered out 312 reports, leaving ten for full-text screening. Six were excluded: five for presenting no concrete game elements and one for a context not transferable to meetings. This left four works that were included. Forward and backward snowballing on the included reports identified a total of 23 additional records with relevant titles. Abstract screening excluded 17 of them. The remaining six were assessed in full text, and one was excluded for presenting no concrete elements; the other five were included, bringing the total to nine related works. The grey literature search was stopped after five consecutive result pages of ten entries each yielded no relevant source, which was taken as the point of saturation. Up to that point, 160 records had surfaced. Fifteen appeared relevant by title, but none satisfied the screening criteria. One full text could not be retrieved, nine presented no concrete game elements, four were set in contexts not transferable to meetings, and one was a company advertising its own product. Figure 5.1 details the individual steps of the selection process as a PRISMA flow diagram [52].

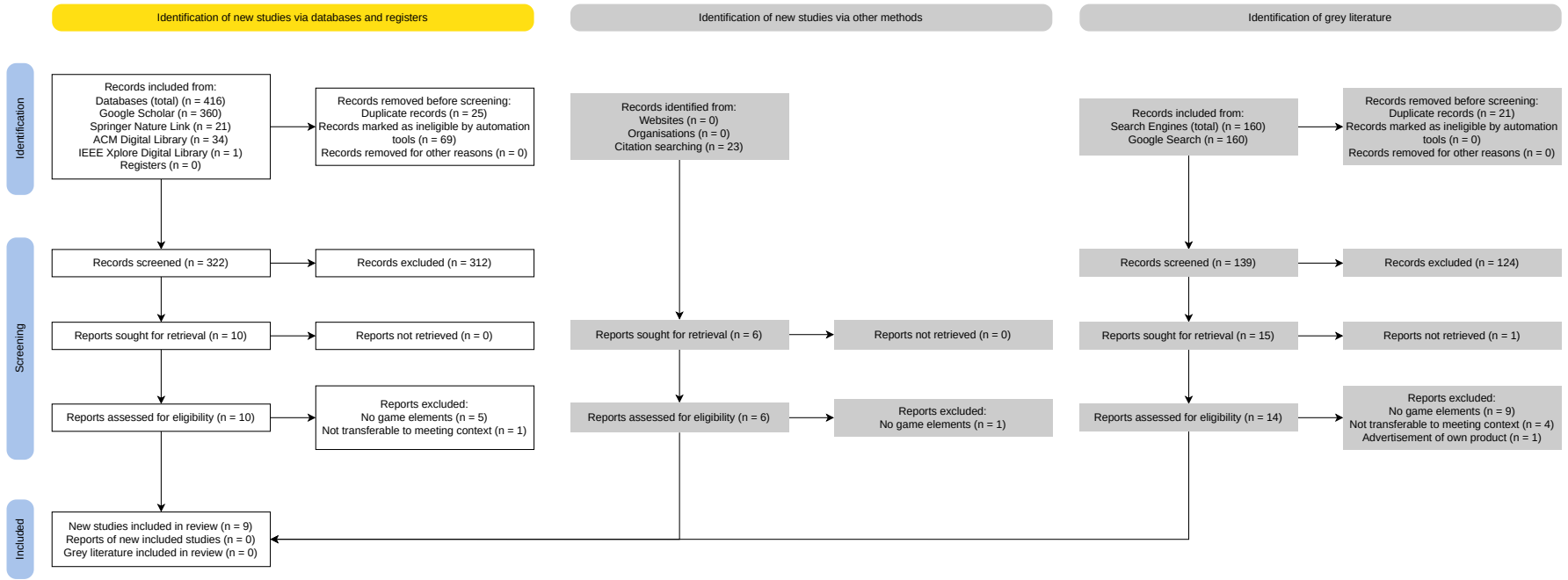


Figure 5.1: The PRISMA flow diagram of the MLR.

5.2 Review Results

Three related studies apply gamification directly to meetings. Costa et al. [54] studied leaderboards to encourage punctuality in regular work meetings. An application records each attendee's arrival time and converts it into a score. The resulting leaderboard is posted for all to see. The study found that the leaderboard alone did not make every attendee punctual, but rather gave rise to gameful social comparisons, which the attendees reported as the cause of their improved punctuality. The gamification therefore acts through social comparison on punctuality, which is being present on time rather than being present at all. The study addresses neither participation nor preparation. Böhmer et al. [55] targeted attention during enterprise meetings. Their application shows information about the other attendees and asks trivia questions about them. This kept attendees who would otherwise be distracted by their phones engaged in the meeting context and sparked conversations. The effect concerns engagement with the other people in the room rather than with the meeting content, and the same trivia game also increased distraction. Dulskaja et al. [56] addressed the perception of business meetings as a waste of time through "Robatiempos", a storytelling-driven business game in which employees collectively oppose fictional "Timestealer" characters that waste meeting time. The game combines a narrative told in audio-video pieces, a card game, and a decalogue of appropriate meeting behaviors. It is played in three dedicated workshops rather than in the meetings themselves. While the intervention raised awareness of efficient meeting behavior, the study does not report whether meetings actually become more efficient.

A second group focuses on educational and study settings, which resemble recurring, synchronous meetings centered on knowledge. Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57] gamified a software engineering study group using experience points, levels, cooperative team quests, badges, and progress bars. A grounded-theory analysis revealed positive effects on content comprehension, retention, and study dynamics. However, the students did not reach the higher levels of their gamification design. Silva Júnior et al. [58] gamified an entire introductory organic chemistry course. Attendance, punctuality, quizzes, tournaments, and group tasks all award points that contribute to a single leaderboard. An end-of-semester reward system grants badges, bonus scores, and physical gifts. The students rated the strategy positively. Jia et al. [59] used gamification to "break the silence" in synchronous online lessons held over videoconferencing. Their design is grounded in goal-setting theory and combines badges, individual and group leaderboards, and rewards. In a quasi-experiment, the gamified group significantly outperformed the non-gamified group in terms of participation, producing an increasing number of quality responses over time. This is one of the strongest measured participation effects among the related studies, but it was obtained in an instructor-led, graded class rather than a voluntary meeting.

A third group applies gamification to clinical trial work. Both Majkowski et al. [60] and Lane et al. [61] report on the gamification toolkit of the Trial Innovation Network, which converts routine trial metrics into points. On top of these points, the toolkit builds team leaderboards, progress metaphors (e.g., a Mount Everest climb or a Tour de France map), and public recognition in webinars. Majkowski et al. [60] describe how one game design was reused across the start-up tasks of seven trials and the enrollment tasks of nine, and derive design guidelines from the experience. Lane et al. [61] evaluated the approach and found that a higher game score was significantly associated with faster achievement of trial start-up milestones, including site activation and institutional review board approval. However, they caution that the analysis is retrospective. These studies demonstrate that performance-based elements can be layered onto an existing work process to track real outcomes, even though the context is distributed trial work rather than a meeting.

Finally, Yang et al. [62] examined competitive crowdsourcing. Using survey data from 295 solvers, they modeled the effect of points and immediate performance feedback on intrinsic and extrinsic motivation. They found that both increased crowdsourcing participation, with points acting on both kinds of motivation and immediate feedback acting solely on intrinsic motivation. This result links specific elements to motivation, which is relevant to engaging individuals. However, participation here means task-solving on a platform rather than contributing in a meeting.

The extent to which this evidence applies to workplace meetings was evaluated individually for each problem field. Each study is rated on two dimensions. The first is how directly the evidence applies to the field, showing either an element that improves the field itself or only a behavior that resembles part of it. The second is how closely the context resembles a workplace meeting. A study earns a *direct* rating on a field when it demonstrates an element that improves the field itself in a workplace-meeting setting. If one dimension falls short because the evidence concerns a behavior that only resembles the field, such as punctuality for attendance, or because the context is meeting-like but not a workplace meeting, such as a live online lesson, the rating is *near-transfer*. Evidence from a non-meeting context, or evidence that falls short on both dimensions, counts as *far-transfer*, and a study that offers no evidence on a field is rated *not assessable*. Applying these criteria to each related study and field shows that no single work earns a *direct* rating on all three problem fields. Table 5.2 presents the assessment for each study and problem field.

Table 5.2: The transferability of the nine related works to the three problem fields (● *direct*, ● *near-transfer*, ☉ *far-transfer*, ○ *not assessable*).

Paper	Context	Attendance	Participation	Preparation
<i>Meetings</i>				
Costa et al. [54]	Regular work meetings	●	○	○
Böhmer et al. [55]	Enterprise get-to-know meetings	○	●	○
Dulskaia et al. [56]	Business meetings	○	○	○
<i>Educational and study settings</i>				
Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57]	Software engineering study group	●	☉	☉
Silva Júnior et al. [58]	Introductory university course	●	☉	☉
Jia et al. [59]	Synchronous online lessons	○	●	○
<i>Clinical trials</i>				
Majkowski et al. [60]	Multicenter clinical trials	☉	☉	☉
Lane et al. [61]	Clinical trial start-up	☉	☉	☉
<i>Crowdsourcing</i>				
Yang et al. [62]	Competitive crowdsourcing	☉	☉	○

The studies set directly in corporate meetings each touch at most one field. Costa et al. [54] address attendance, Böhmer et al. [55] participation, and Dulskaia et al. [56] provide no assessable evidence on any of the three. Studies that cover multiple fields at once are set in non-meeting contexts, such as clinical trials, education, and crowdsourcing, so their evidence is *near-transfer* or *far-transfer*. Therefore, a gamification concept that improves participation, preparation, and attendance in a voluntary workplace meeting context does not yet exist in the surveyed literature.

This gap is emphasized by Dulskaia et al. [56], the only study that shares almost the same problem statement as this thesis: a business-meeting setting perceived as wasting time that is addressed with a game-based intervention. However, the “Robatiempos” intervention is not gamification in the strict sense, since gamification layers game elements onto the existing activity rather than replacing

it with a separate game [10], [12]. “Robatiempos” falls on the game side of this distinction, since it is a self-contained storytelling and card game about meeting culture, played in dedicated workshops. None of its elements attach to the tasks of an actual meeting. Therefore, even the study related most closely to this thesis does not provide a transferable gamification design for meetings themselves. It widens the research gap rather than closing it.

5.3 Game Element Coding

To obtain an overview of the game elements employed by prior work against the three problem fields, the elements used by the nine related studies were systematically extracted.

5.3.1 Procedure

The extraction used QCA after Mayring [33] in its structuring, deductive form. It is the same rule-guided procedure that condensed the interview data, but with categories taken from a predefined category system instead of formed from the material [46], [47]. Where the material requires it, there is also the option of extending the system inductively [33]. No inductive extension was needed, as all coded elements stem from the taxonomy. The material comprises the nine related work papers, coded at the level of meaningful units.

The game element taxonomy of Toda et al. [14], introduced in Chapter 2, serves as the predefined category system. A deductive codebook needs distinct, explicitly defined categories [33], [47]. The taxonomy meets this requirement with its 21 individually defined elements, which are granular enough to differentiate those found in the related studies. Furthermore, it has previously been proven sufficient for the analytical classification of the game elements of existing gamified systems [15]. Although the taxonomy originates from educational contexts, its definitions operate at the level of individual game elements and therefore carry over to the meeting context of this thesis. Table III of Toda et al. [14] was adopted unchanged as the codebook for this coding.

5.3.2 Coded Elements

Nearly every coded system has two elements at its core: stats, used by eight of the nine systems, and points, used by seven. In the coded studies, stats consistently represent the performance metrics that are tracked for another element and made visible to the user, and points translate these metrics into a score. A middle tier of four elements follows with six occurrences each: acknowledgement, primarily in the form of badges; competition, almost always realized as a leaderboard; cooperation, mostly as team leaderboards; and objectives, mostly as clearly communicated performance goals. Social pressure appears in five studies, mostly implicitly, as users do not want to be last on a public leaderboard. Progression and storytelling each appear four times. Progression makes objective or level progress visible through a progress bar, while, in the clinical-trial studies, storytelling provides a metaphor for that progress. For instance, it might depict a Tour de France stage instead of a plain bar. The remaining coded elements appear rarely: level, puzzles, and time pressure appear three times each, renovation and reputation twice, and chance and novelty once, the latter two only as randomly generated puzzles. Five elements, economy, imposed choice, narrative, rarity, and sensation, occur in none of the related studies. Figure 5.2 shows the full frequency distribution, and Table 5.3 depicts which studies use which elements.

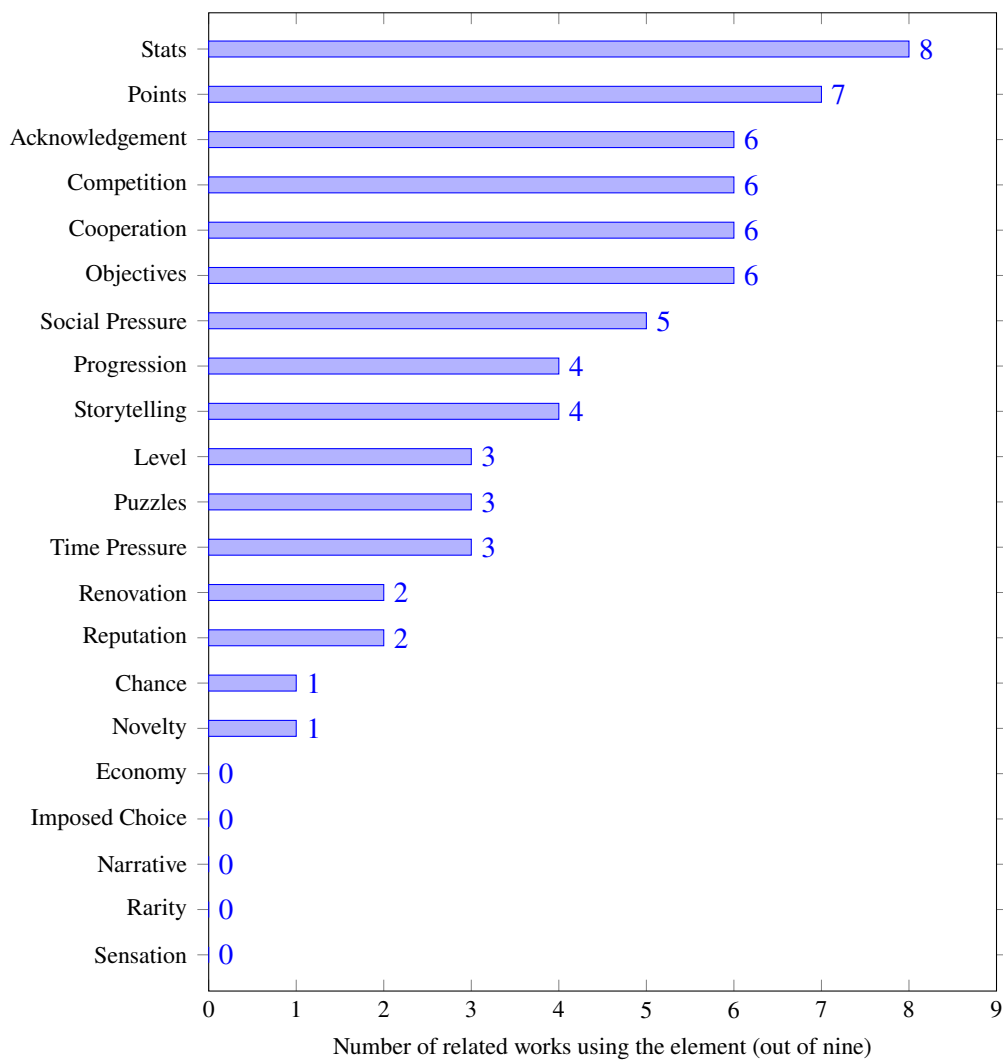


Figure 5.2: The frequency of game elements across the related works.

Table 5.3: The coding matrix of the game elements used by the related works (a bullet marks presence).

Paper	Stats	Points	Acknowledgement	Competition	Cooperation	Objectives	Social Pressure	Progression	Storytelling	Level	Puzzles	Time Pressure	Renovation	Reputation	Chance	Novelty	Economy	Imposed Choice	Narrative	Rarity	Sensation
<i>Meetings</i>																					
Costa et al. [54]	•	•		•			•					•									
Böhmer et al. [55]	•			•		•	•				•				•	•					
Dulskaia et al. [56]					•				•												
<i>Educational and study settings</i>																					
Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57]	•	•	•		•	•		•	•	•	•		•								
Silva Júnior et al. [58]	•	•	•	•	•	•					•	•	•	•							
Jia et al. [59]	•	•	•	•	•	•	•	•							•						
<i>Clinical trials</i>																					
Majkowski et al. [60]	•	•	•	•	•	•	•	•	•	•		•									
Lane et al. [61]	•	•	•	•	•	•	•	•	•												
<i>Crowdsourcing</i>																					
Yang et al. [62]	•	•	•							•											
Total	8	7	6	6	6	6	5	4	4	3	3	3	2	2	1	1	0	0	0	0	0

6 Gamification Concept

This chapter reports the gamification concept: a general design whose game elements a meeting series can adopt and configure to suit its needs. The design objectives are derived from the identified problems, and the concept is designed to meet them. Each of the concept's game elements is traced back to the related work that inspired it.

6.1 Design Objectives

Three objectives can be derived directly from the problem identification. First, the concept must be able to raise participation, preparation, and attendance, since these are the weak areas of the meeting series (DO1). Second, the meeting itself must remain untouched (DO2). Category RC1 showed that attendees rate the meeting positively and consider the current format satisfactory. Therefore, the gamification must be an additional layer around the meeting, not a change to its agenda or conduct. It must also be light enough so as not to compete with the meeting for time and attention. Finally, involvement in the gamification must be voluntary (DO3), so that no attendee is exposed to its elements without choosing to take part (RC7).

Beyond this, the concept must be generalizable (DO4). The effectiveness of gamification depends strongly on the context and the people using its elements [12], and not every meeting series struggles with all three problem fields. Hard-wiring the fields would tie the concept to the setting of this thesis. Therefore, the concept must be based on configurable performance metrics that adopters select and define. Participation, preparation, and attendance remain expressible as specific metrics wherever they are relevant problems, but no field is forced on a meeting series that does not need it.

Further, the concept must engage a diverse group of attendees who are not uniform in what motivates them (DO5). Meeting attendees can be expected to spread across multiple player types, and a concept that appeals to only one type may only reach part of the group [22], [23]. In particular, a points total shown on a leaderboard speaks only to achievement and competition. Engaging explorers and socializers requires elements that go beyond a scoreboard and allow attendees to act on their standing. Therefore, the concept must offer something to each player type: points, levels, badges, and leaderboards for achievers; variety and surprise for explorers; team elements and opportunities for interaction for socializers; and competitive comparison for those who seek competition.

Serving sociable and cooperative types is why the concept must offer team elements alongside individual ones. Individual elements speak to personal achievement and competition, while team elements emphasize relatedness and shared goals. Among the related studies that gamify group settings, Jia et al. [59] combine individual scoring and leaderboards with team-level competition and cooperation. Majkowski et al. [60] and Lane et al. [61] focus entirely on team-level scoring. The practitioner guide of Mitchell [63] suggests a split of roughly three quarters individual to one quarter team and cooperative elements.

Lastly, the concept must balance extrinsic and intrinsic motivation (DO6). As established in Section 2.2, points, incentives, and real-world rewards are extrinsic motivators [16]. On their own they risk crowding out intrinsic interests attendees may have in the meeting [17], [18]. Therefore, the concept must also incorporate elements that support the three needs of SDT [17]. To support autonomy, the concept must be opt-in and allow attendees to choose how and when to engage with each element. Competence must be addressed by elements that make progress visible, and relatedness by team elements and by occasions for interaction. The aim is to create a system whose engagement does not collapse once a reward is withdrawn.

Autonomy can, however, collide with the competitive elements, especially in a small group. When too many attendees opt out, those seeking competition lose their comparison group. Therefore, the concept must remain functional when only part of the group opts in, although increasing engagement across the group (DO1) already pushes toward broad voluntary uptake. Table 6.1 summarizes the six design objectives.

Table 6.1: The design objectives of the gamification concept.

Label	Design Objective
DO1	Raise participation, preparation, and attendance
DO2	Leave the meeting untouched
DO3	Voluntary, opt-in involvement
DO4	Generalizable through configurable metrics
DO5	Engage all player types
DO6	Balance extrinsic and intrinsic motivation

6.2 Concept Design

At its core, the concept records attendees' activities in and around each meeting instance and transforms these contributions into a game. A set of performance metrics captures each attendee's contribution for every meeting instance. These metrics include whether they attended, arrived on time, or gave a presentation. A central point system converts them into points. The points then drive most elements that form the game: a level system, individual and team leaderboards, and cooperative progress bars. The two leaderboards and the progress bar, in turn, can unlock real-world incentives. Reaching a new level awards a lootbox containing a random powerup. A streak builds directly on one specific performance metric, and rewards keeping it up over consecutive instances. Additional elements that are not driven by points include badges for noteworthy achievements, quests for one-time organizational tasks, two minigames, a dashboard that makes each attendee's metrics transparent, and a coach function that suggests metrics attendees could improve on. Figure 6.1 shows the full gamification concept, its building blocks, how they connect, and the type of each block.

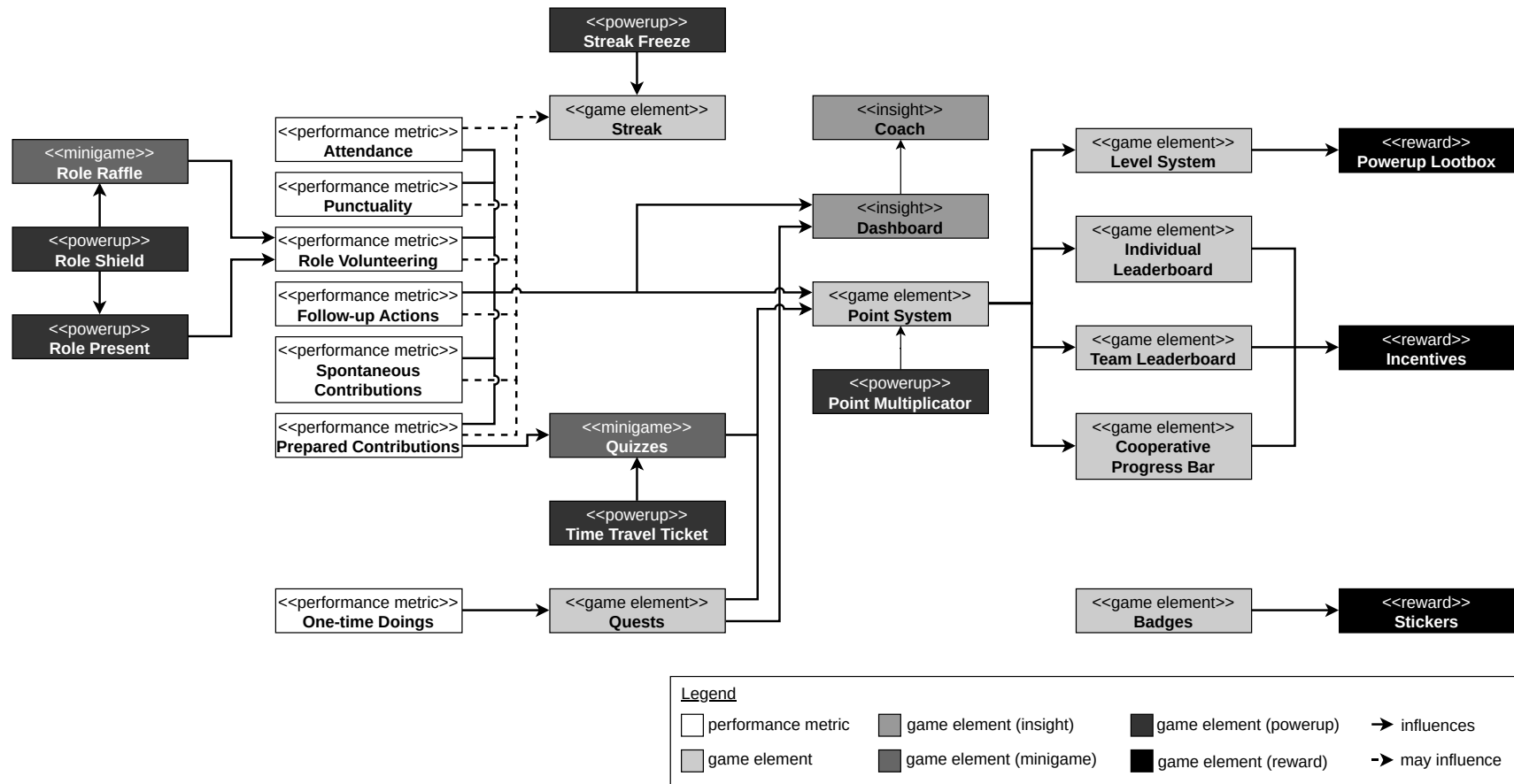


Figure 6.1: The configurable gamification concept.

The types in the diagram reflect how attendees interact with each block. Performance metrics lie under an attendee's direct influence. Each recorded contribution affects the attendee's metrics and consequently everything built on them. The edges represent firm influences, with one exception. Since a streak is tied to a single, per-instance metric of the adopter's choice, the dashed edges indicate metrics that may contribute to it. One-time doings cannot, because a metric that does not repeat with every instance cannot sustain a streak. All other building blocks are game elements. Those with a distinct interaction pattern are specified further. Game elements that are labeled only as such, e.g., the leaderboards, the level system, or the streak, are read rather than operated. Attendees can only influence them through their metrics, and are meant to be motivated by what the game elements display. Rewards, such as lootboxes, incentives, and stickers, are given out based on the elements they are attached to. Insights, namely the dashboard and the coach, are meant to be consulted to optimize points earned. Minigames are played, and attendees influence whether and when to engage in them. Lastly, powerups are entirely in the hands of the attendee. The holder decides when to use a powerup and chooses its target, be it a meeting instance, a quiz, or another attendee.

The metrics and elements in the diagram are suggestions, not fixed specifications. The concept is meant to be adapted to the context of the adopting meeting series (DO4). Additional performance metrics can be added, existing ones excluded or redefined, and any element that does not fit the context can be omitted. The diagram therefore shows the full set of building blocks considered in this thesis, from which an adopter selects and adjusts a subset.

Seven types of performance metrics are suggested. Attendance records whether an attendee was present, and could, e.g., distinguish between on-site and remote attendance, or full and partial attendance. Punctuality records how late an attendee arrives, e.g., the number of minutes past the start time. Role volunteering records whether an attendee takes on a task during the meeting, such as writing the protocol or moderating the instance. Follow-up actions record work done after the meeting, such as notifying absent colleagues of decisions made during the meeting. Spontaneous contributions are contributions made during the instance that require no preparation. On the other hand, prepared contributions, such as presentations, require preparation. Both types of contributions require the adopter to clearly define what counts as a contribution and what does not. All aforementioned performance metrics are recorded per attendee per meeting instance. One-time doings are the only exception: they capture tasks that occur once for the entire meeting series or at irregular intervals. Examples include setting up the series or securing budget to extend it.

The *point system* converts these records into a single score per attendee. The point value of each metric is deliberately not fixed. Adopters can weigh the metrics they value most more heavily, e.g., by giving a prepared contribution more points than mere attendance.

The *individual leaderboard* ranks attendees by points, and the *team leaderboard* does the same for groups of attendees. How attendees are grouped into teams is left up to the adopting meeting series. For example, it can reuse existing organizational units or assemble teams specifically for the gamification. The *level system* advances attendees through levels as they accumulate points, while the *cooperative progress bar* tracks the combined points of all attendees against a shared target. The spacing of the required points across levels is also left to the adopter. Evenly spaced levels maintain a consistent pace of advancement, regardless of how long an attendee has been part of the meeting series. In contrast, increasing level costs give latecomers a way to catch up. They quickly pass the inexpensive early levels while long-standing attendees rarely level up. Since each new level awards a lootbox, latecomers collect powerups, such as the point multiplicator, at a higher rate. Both leaderboards and progress bars are meant to be limited in time and reset at regular intervals, so that no early lead becomes permanent and attendees who join the meeting series later still have a chance

to compete. The leaderboards and the progress bar can carry real-world incentives. For instance, the individual leaderboard could award a prize to the top-ranked attendee or the top few at the end of an interval. Prizes could be physical objects or one-time monetary rewards. A filled cooperative progress bar could release a group incentive, such as budget for a shared event. Afterwards, the bar resets. To prevent the competition from discouraging the lower-ranked attendees, adopters might choose to publicly display only the top of a leaderboard, while each attendee should always be able to see their own rank in private. Workplace technologies that track and rank people can make them feel measured against externally set standards [64], and publishing the lowest ranks would invite exactly that, besides pushing these attendees to opt out.

Powerups allow attendees to take action based on their standing and to create small, playful interactions (DO5). Each powerup is drawn randomly from the lootbox awarded upon leveling up and can be used exactly once. In order to use a powerup a second time, it must be acquired again through another level-up. The *point multiplier* increases the points earned for one meeting instance, and the attendee chooses when to apply it. This lets them save it for a meeting in which they expect to score well. The multiplier can also be offered in several sizes with different factors, so a lootbox can yield boosts of varying strength. The *streak freeze* preserves a streak for one instance in which its condition is not met. A broken streak can depress the engagement an intact one builds [65]. Therefore, with a streak freeze equipped, an attendee can, e.g., miss an instance without losing their streak. A held streak freeze should activate automatically once the streak would break, so the protection works, especially when the owner is absent. The *role present* forces another attendee to take on a role in one meeting instance. The *role shield* excludes its holder from all roles for one instance, which can be used to avoid the role raffle and to block a role present. The point multiplier, the role present, and the role shield all target an upcoming meeting instance and must be used before it starts. This rules out spending a powerup on an instance whose outcome is already known. The *time travel ticket* allows an attendee to answer a quiz after it has closed and still receive the associated points. This gives attendees who joined the meeting series late a way to catch up.

The *streak* is tied to one performance metric, usually attendance, and counts the number of consecutive meeting instances in which an attendee fulfills that metric. An attendance streak, for example, grows with every meeting an attendee shows up to and breaks when one is missed, unless a streak freeze is spent.

Quests connect one-time doings to the point system. Whenever such a task is pending, a quest can be posted to find a volunteer for it. The quest specifies the task and the number of points granted for completing it. A quest can be open to a single attendee or to several. For example, a quest might offer points for organizing a special meeting instance. Completing it records the one-time doing and awards the points.

The first minigame, the *role raffle*, assigns an attendee to a role, such as writing the protocol, in a given meeting instance. Since the draw is random, the only way an attendee can influence this minigame is by volunteering for the role, making the raffle unnecessary. Because volunteering is the more time-efficient outcome, a role taken on voluntarily could be worth more points than one assigned by the raffle. This encourages attendees to step forward on their own, saving meeting time. The raffle also reframes an otherwise tedious step. Assigning a task, such as writing the protocol, through a shared, playful draw turns it into a moment of interaction, which supports the networking that attendees value in the case study's meeting series (RC6). The second minigame, the *quiz*, builds on the content discussed during a meeting. In a knowledge sharing meeting, for example, the knowledge gained is worth retaining, and a short quiz on the topic, with a few points as reward, gives attendees a reason to revisit and reinforce it. Quizzes best serve this purpose while the information is still fresh, and points earned on long-past quizzes would say little about

an attendee's engagement with the meeting. Therefore, each quiz is open for a set period of time and then closes. This introduces time pressure, itself an established game element that affects engagement and motivation [14].

Badges can be attached to almost anything in the concept, and even to events outside it that the adopter defines. The criterion behind a badge can rest on the recorded performance metrics, for example a number of instances in which a metric was fulfilled, or on values derived from other elements, such as a point total or a leaderboard position. For example, an attendee might earn a badge for their first recorded attendance or for opening their tenth lootbox, a team might earn one for finishing first on the team leaderboard, and an adopter might award one for an occasion no element tracks, such as being voted the most valuable attendee of a meeting instance. Badges can also be handed out as physical stickers that attendees can put on the backs of their laptops.

The *dashboard* shows each attendee their performance metrics accumulated over a chosen number of meeting instances, or all of them. The *coach function* builds on this by identifying the metrics through which others earn most of their points, but which the attendee has neglected so far. Then, the coach function suggests attendees to focus on these metrics to improve their own score.

6.3 Composition

Most of the elements above are derived from the related work. The QCA in Section 5.3 identified these elements as the most frequently used by previous studies. The design process of the concept largely involved selecting and adapting these established elements, and adding a small number of own contributions. The point system, individual leaderboard, level system, and dashboard are adopted directly. The level system follows Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57] and Yang et al. [62], whose levels advance primarily by accumulated points. Majkowski et al. [60] also use levels, but award them by predefined criteria, so the concept does not draw on their variant.

Other game elements are extended beyond their reported use to fit the meeting series. The related settings derive team scores from joint tasks, such as trial sites that collectively complete startup tasks [60], [61]. However, voluntary meetings do not necessarily offer such joint tasks. Contributions like attending or presenting are individual acts, and DO2 rules out adding group tasks to the meeting. The team leaderboard therefore ranks teams by the sum or the average of their members' individual points, and the cooperative progress bar fills with the combined points of all attendees. This implements the cooperative elements DO5 demands without changing the meeting.

Badges are extended in scope. The related studies award them on select occasions, such as level-ups, top ranks, or specific metrics [57], [58], [59], [60]. Fixing the occasions would prescribe what a meeting series deems worthy of recognizing, a choice DO4 leaves to the adopter. Consequently, the concept allows attaching badges to any achievement. Widespread acknowledgment also keeps a gamification inclusive, a guideline Majkowski et al. [60] derive from their deployments. Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57] tie their quests to course projects with prerequisites and difficulty tiers, which requires a work breakdown that a meeting series does not have. The tasks that a meeting series does generate occur once or irregularly, so quests are recast to gamify exactly these. Both extensions follow a direction the related study itself points to. The future work of Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57] asks for badges beyond level-ups and for quests broken into smaller units of work.

Regarding incentives, the concept follows existing practice of the related studies. Silva Júnior et al. [58] award prizes by leaderboard position at the end of the semester, and Jia et al. [59] reward the three best groups. The concept adopts this approach for its leaderboards and extends it to the cooperative progress bar, which releases a group incentive once filled. Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57], in contrast, propose a virtual currency with which rewards could be bought, though only as future work that no related study implements. The concept deliberately omits this. Attached incentives fix how many prizes are paid out per interval, enabling adopters to budget them in advance and fund larger prizes for the same expenditure. An open redemption leaves the payout count uncertain and pushes toward smaller prizes to bound the cost. A currency that prices every activity would also harden the extrinsic frame that DO6 seeks to balance [18], [19].

The incentive attachment also adds game value of its own. Awarding a prize for a leaderboard position creates a deadline at the end of the interval, thereby adding time pressure to the competition. Tangible prizes further make positions worth competing for, something the attendees in the study of Costa et al. [54] asked for themselves. The group incentive on the progress bar forgoes both pressures. The bar simply makes it transparent when the group has earned its incentive, so no meeting time is spent on tracking it (DO2). The group keeps the choice of when to redeem it. However, fixed prizes do give up the free choice of reward that a redemption would offer. The concept accepts this loss of autonomy in exchange for predictability, since engagement with the incentives themselves remains optional (DO3).

The stickers, finally, only take inspiration from the related work. Similar to the certificates of Majkowski et al. [60], which are valued for being long-lasting and displayable, the stickers make badges physical. Both certificates and stickers require a place to be displayed, or they remain unseen. However, stickers are smaller and easier to place, e.g., on a laptop lid. There they stay visible during everyday work and also reach colleagues who have not yet opted in, supporting the broad uptake DO1 pushes toward.

Four elements are own contributions that the related studies do not use: the streak, the powerup system, the two minigames in their present form, and the coach function. Each of them fills a gap that the previous elements would leave open. The adopted elements reward actions within a single meeting instance, but none reward repeating the action in the next meeting. The streak closes this gap for a meeting series that recurs at fixed intervals. Logged streaks are a well-established feature of consumer applications in domains such as fitness and learning, and maintaining one becomes a goal in itself [65]. Rewarding consecutive completion further increases commitment and persistence in work tasks [66]. The two minigames are shaped by needs of the setting rather than by the related work. The role raffle gamifies an organizational step that the meeting already requires, and the quiz incorporates the meeting's content into the time between instances.

The powerup system serves the explorers among the attendees, the player type the established elements leave unaddressed. Lootboxes and powerups provide the variety and surprise that this type seeks (DO5), and they realize element categories, such as chance and rarity, that the QCA found almost untouched by the related work. Finally, the coach function extends the dashboard from only showing metrics to suggesting which of them promise the largest improvement. This makes progress not only visible but attainable, and thereby supports the competence need (DO6). Table 6.2 traces each element to the related work it draws on and records how closely it follows that work.

Table 6.2: The composition of the concept's game elements (● *adopted directly*, ◐ *extended*, ◑ *inspired*, ○ *own contribution*).

Element	Source(s)	Adaptation	Note
Points	[54], [57], [58], [59], [60], [61], [62]	●	Based on performance metrics.
Individual leaderboard	[54], [58], [59]	●	Ranks attendees by their points.
Level system	[57], [62]	●	Advances attendees through levels primarily by points.
Dashboard	[60]	●	Presents each attendee's performance metrics.
Team leaderboard	[59], [60], [61]	◐	The sources rank groups by jointly collected points; this concept uses the sum or average of individual points.
Cooperative progress bar	[60], [61]	◐	The sources tie progress to group objectives; in this concept the bar fills from the sum of individual points.
Badges	[57], [58], [59], [60]	◐	The sources award badges for level-ups, top performers, or specific metrics; this concept allows awarding them for anything.
Quests	[57]	◐	The sources use quests for complex, long-term goals with prerequisites; this concept uses them for one-time organizational tasks.
Incentives	[58], [59]	◐	The sources award prizes by leaderboard position; this concept adds a group incentive released by the filled progress bar.
Stickers	[60]	◑	Inspired by the physical certificates used in related work.
Streak		○	Not used by the related work.
Minigames		○	The role raffle and quizzes differ substantially from minigames seen in related work.
Powerups		○	Not used by the related work.
Coach function		○	Not used by the related work.

7 Architecture

This chapter presents the architecture of the software artifact that implements the gamification concept. It is reported using the C4 model, a notation that communicates a software architecture as a sequence of views at increasing levels of detail. These views range from the system context through the containers that comprise the system to the components inside them [67]. The concept and its intended usage context impose requirements on the tool, from which the architecturally significant decisions follow.

7.1 Architectural Requirements

Using a dedicated application to accompany a workplace meeting is not a novel approach [68]. Related work provides gamification on devices with which attendees already work in their setting. If the gamification acts in or around a meeting, that device is mobile. Böhmer et al. [55] bring their meeting application to the smartphones attendees carry into the meeting anyway, Ahtinen et al. [68] mediate walking meetings through a mobile application, and Costa et al. [54] record arrival times on a tablet passed around the meeting room. If the gamified activity belongs to regular computer work, the elements are delivered through the browser instead. Lane et al. [61] integrate scoreboards into the electronic platforms through which the trial teams already work, and Jia et al. [59] gamify lessons held over web-based videoconferencing. The concept of this thesis spans both kinds of situations. Playful interactions between attendees, such as activating a powerup, may happen spontaneously during everyday work life, where often only the phone is available. The same holds true during meeting instances, in which laptops are often unavailable. In contrast, recording contributions and taking quizzes belong to the regular workday at the desk. Furthermore, during a meeting instance, the moderator may present leaderboards and other elements on their laptop. Therefore, the artifact must be equally usable on phones and desktops (AR1). Since the moderator is presenting live, whatever is displayed should reflect the current state (AR2).

According to RC7 of the problem identification, the gamification must not feel forced. For this reason, the concept leaves the decision to take part to each attendee (DO3). For the tool, this means that attending the meeting must not enroll anyone; taking part begins only when an attendee decides to use the tool. Since the effectiveness of the gamification depends on exactly this decision, any obstacles to using the tool, such as an installation or a separate account, make the decision less likely. Therefore, accessing the tool must be as effortless as possible (AR3).

The voluntary nature of its use also increases the importance of the tool's appearance. Because intrinsic motivation, as introduced in Section 2.2, arises from engaging in the activity itself, the concept's motivational effects can only unfold once attendees actually experience its elements, and they experience them through the tool. Whether a software invites that engagement depends on its appeal, and appeal does not follow from usability alone. In addition to the task-related ergonomic quality, non-task-related hedonic qualities, such as novelty and originality, influence how users experience a software [69], [70]. Hassenzahl et al. [69] found that both aspects contribute almost

equally to a software's appeal, so good usability can be canceled out by a lack of hedonic quality. For a tool that accompanies a workplace meeting, the tolerance for a poor User Experience (UX) is low. In the field study of Ahtinen et al. [68], participants rated a walking-meeting concept at 8.5 but the mobile application mediating it at only 6.8 on a scale from 4 to 10 (presumably the Finnish school grading scale), because the application drew attention away from the work discussion. Therefore, the tool must present an appealing and unobtrusive User Interface (UI) that does not deter attendees before the gamification ever takes effect (AR4).

The concept is designed to adapt to the meeting series that adopts it. Which performance metrics exist, what they are worth, and which elements are active is left to the adopter (DO4). Any tool that hard-codes these answers would limit the concept it supports. Consequently, everything the concept leaves open must be configurable at runtime (AR5). The same generality applies to the environment. The tool must avoid dependencies on the tooling of a specific setting and be simple to deploy elsewhere (AR6).

The tool's architecture is further shaped by the qualities it must exhibit beyond its basic functionality. ISO/IEC 25010 catalogs these qualities in a product quality model that groups characteristics such as interaction capability, security, maintainability, and flexibility, and breaks each of them into sub-characteristics [71]. This catalog is intended to be selected from rather than uniformly satisfied. Which of its characteristics carry weight follows from what a system does and from the setting in which it runs. The requirements stated so far already cover three of these characteristics. The demand for an appealing and unobtrusive interface (AR4) belongs to interaction capability. Runtime configurability and independence from the tooling of a specific setting (AR5, AR6) amount to adaptability, and deploying elsewhere without effort (AR6) adds installability. Two further characteristics follow from properties of the tool that these requirements leave untouched. The first is modifiability. Since the concept is deliberately open-ended, not all needs of an adopter can be anticipated in a configuration, so extending the tool must be inexpensive (AR7). The second is security. The tool records who contributes what, so its entire data set consists of personal, performance-related records about identifiable colleagues. Such records must remain accessible only to those authorized by the adopting meeting series, so confidentiality is required at every access point to the tool (AR8). Table 7.1 summarizes the eight architectural requirements.

Table 7.1: The architectural requirements of the supporting software artifact.

Label	Architectural Requirement
AR1	Equally usable on phones and desktops
AR2	Displays reflect the current state
AR3	Access as effortless as possible
AR4	Appealing and unobtrusive UI
AR5	Open concept decisions configurable at runtime
AR6	Setting-independent and simple to deploy
AR7	Inexpensive to extend
AR8	Confidentiality at every access point

The characteristics the architecture may treat as secondary follow from the scope of the artifact. It remains a prototype serving a single meeting series with a small number of attendees, and its development rests on the resources of a single person. At this scale, the load the tool must carry is small and known in advance, so performance efficiency and scalability place no demands on its structure. Structures that prioritize one quality characteristic usually cost another [72], and the

characteristics this tool can forgo are precisely those that a more elaborate structure would prioritize. Simplicity therefore acts as a constraint on the architecture. Wherever a simpler structure can meet the functional requirements, it is preferred.

7.2 System Context

Figure 7.1 shows the system context of the gamification tool. The context is intentionally limited to promote adaptability. Only two person roles interact with the tool, an external identity provider can be used for sign-in, and no other system is involved.

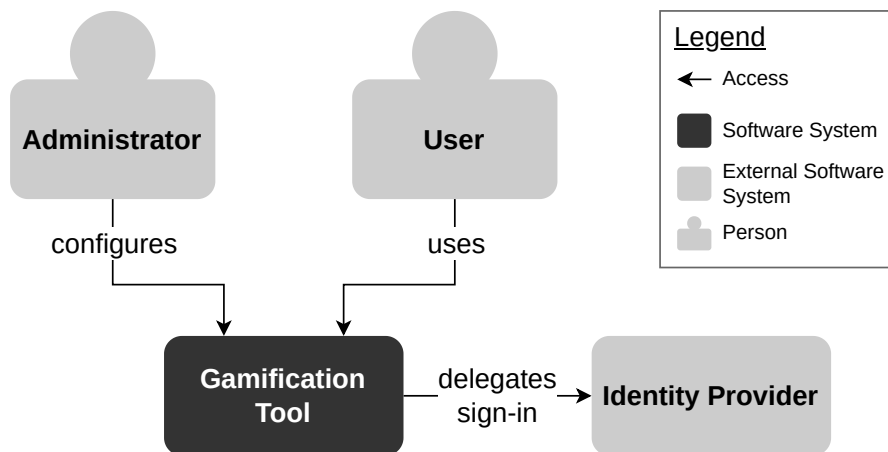


Figure 7.1: The C4 system context view of the gamification tool.

The absence of additional external systems follows from how the boundary is defined. The tool does not observe the meeting itself. Automatically capturing contributions would require bespoke integrations with the meeting tooling a given series uses, from the conferencing software to in-room hardware. This would tie the artifact to one environment, which goes against the adaptability requirement (AR6). Consequently, attendees self-report their contributions in the application, and there is no connection to the meeting or its tooling.

The two person roles reflect a deliberately minimal permission model. The tool distinguishes between administrators, who manage the gamification, and attendees, who use it. Since nothing in the tool requires finer-grained permissions, this single distinction suffices for a prototype.

Gamification Tool The software artifact itself. It records the self-reported contributions, derives points, and displays the elements built on them to the attendees. It adapts to the adopting meeting series through its runtime configuration. It does not observe the meeting, and it does not integrate with any meeting tooling.

User Any attendee who decides to use the tool assumes this role. Attending the meeting does not create a profile. Whether to sign in to the tool at all is each attendee's own decision, which realizes the voluntariness objective (DO3) at the point of entry. The first sign-in then leads to a mandatory registration step that must be completed before the application can be used. Attendees choose a username and have the option to add a profile picture and a profile description. Thus, opting in is a deliberate act, and the optional picture and description provide an initial opportunity for self-expression.

Administrator This person manages the gamification of a meeting series. Administrators define the performance metrics, enable, disable, and parameterize the features, and maintain content such as quiz questions.

Identity Provider An external system to which the tool delegates sign-in via Single Sign-On (SSO), following OpenID Connect (OIDC) [73]. Since authentication is the one obstacle on the way into the tool that cannot be eliminated, it is kept as small as possible (AR3). Sign-in is delegated to an identity provider that the attendees already use. Registering thus requires no additional account or password, and the tool blends into the work environment in which it is used. Though encouraged, enabling SSO is optional, as credential-based authentication is also supported.

7.3 Container View

Figure 7.2 depicts the container view of the software artifact. It consists of three containers: a *web frontend*, an *application server*, and a *relational database*. In the C4 model, containers are separately runnable units, such as an application or a data store [67], but they are not necessarily identical with containers of deployment technologies, such as Docker¹.

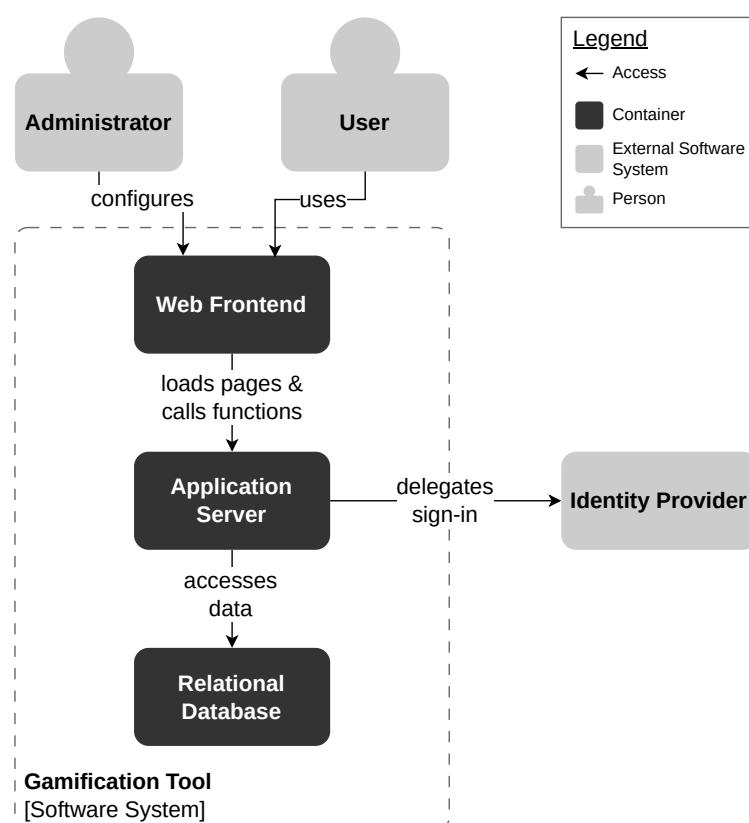


Figure 7.2: The C4 container view of the gamification tool.

¹<https://docs.docker.com/> (accessed on July 24, 2026)

The decision that shapes this view most is the delivery form. It could be a native mobile application, an installed desktop application, or a web application. The usage situations determine which is best suited. A native mobile application covers the phone-bound situations, but not the desk-bound ones, and an installed desktop application inverts this. A responsive web application serves all situations with one artifact (AR1), and it runs without any installation, keeping the barrier to entry low (AR3). Therefore, the artifact is designed as a responsive web application, delivered through the browser that displays the web frontend.

The tool's entire workload behind this frontend consists of recording contributions, deriving the element state, and displaying it. The simplicity constraint therefore favors the simplest shape that covers this workload: a single full-stack deployable. Within this one deployable, pages read data and render on the server, while data changes and most reads go through request-triggered server-side functions that the client invokes remotely. The drawback of this shape is the absence of background processing. There is no scheduler, so every server-side computation must be triggered by an incoming request. Other shapes, such as a separate frontend application with a dedicated backend service or a set of independently deployed microservices, could perform background work of this kind. However, they come with additional codebases and distributed complexity. This overhead is usually accepted if an application must be divided among multiple development teams or if its parts must scale independently [74], [75]. Neither condition applies to this tool. Its development is not divided among teams, and its workload does not require independent scaling. Therefore, the missing scheduler is accepted. The self-reported contributions keep this price low. Since attendees reporting contributions are signed in at that moment, deriving points and evaluating the elements can run within these requests.

The installability requirement (AR6) influences how the containers are deployed. The application server ships as a self-contained container image, now in the deployment sense of the word, and runs alongside a containerized database. Containerization provides the artifact an identical runtime environment on any host, making deployments reproducible and enabling other settings to adopt the tool without rebuilding its environment.

Web Frontend The part of the tool that runs in the attendee's browser. It loads the pages from the application server and calls server-side functions remotely. Its responsive layouts serve the phone-bound and the desk-bound usage situations alike (AR1). It holds no application logic or state of its own; everything it displays is delivered by the application server.

Application Server The single deployable in which the entire application logic runs. It renders pages and executes the request-triggered server-side functions. It is the only container that accesses the database. When an identity provider is attached, it is responsible for delegating sign-in.

Relational Database The tool's only persistent store. Data that exists in every deployment with fixed attributes, such as attendees, teams, and meeting instances, fits into relational tables. However, data whose shape depends on the configuration, such as the feature configuration itself, the tracked contributions, achievement criteria, and quiz content, does not. Its structure varies by adopter, and it is only ever read and written as a whole. These structures are therefore stored as schemaless documents inside the same relational database. This way, the configurability (AR5) is preserved with a far simpler schema, which results in a smaller database and potentially increased read performance as a side effect. The correctness guarantees are enforced by the database rather than by the application code. Key operations are kept idempotent, e.g., by admitting at most one tracked contribution per attendee and meeting instance.

7.4 Component View

Figure 7.3 depicts the component view of the application server container. It includes a *request guard* that validates each incoming request, the *pages* displayed in the web frontend, a *localization provider* filling them with text of the selected language, and two components concerned with application logic.

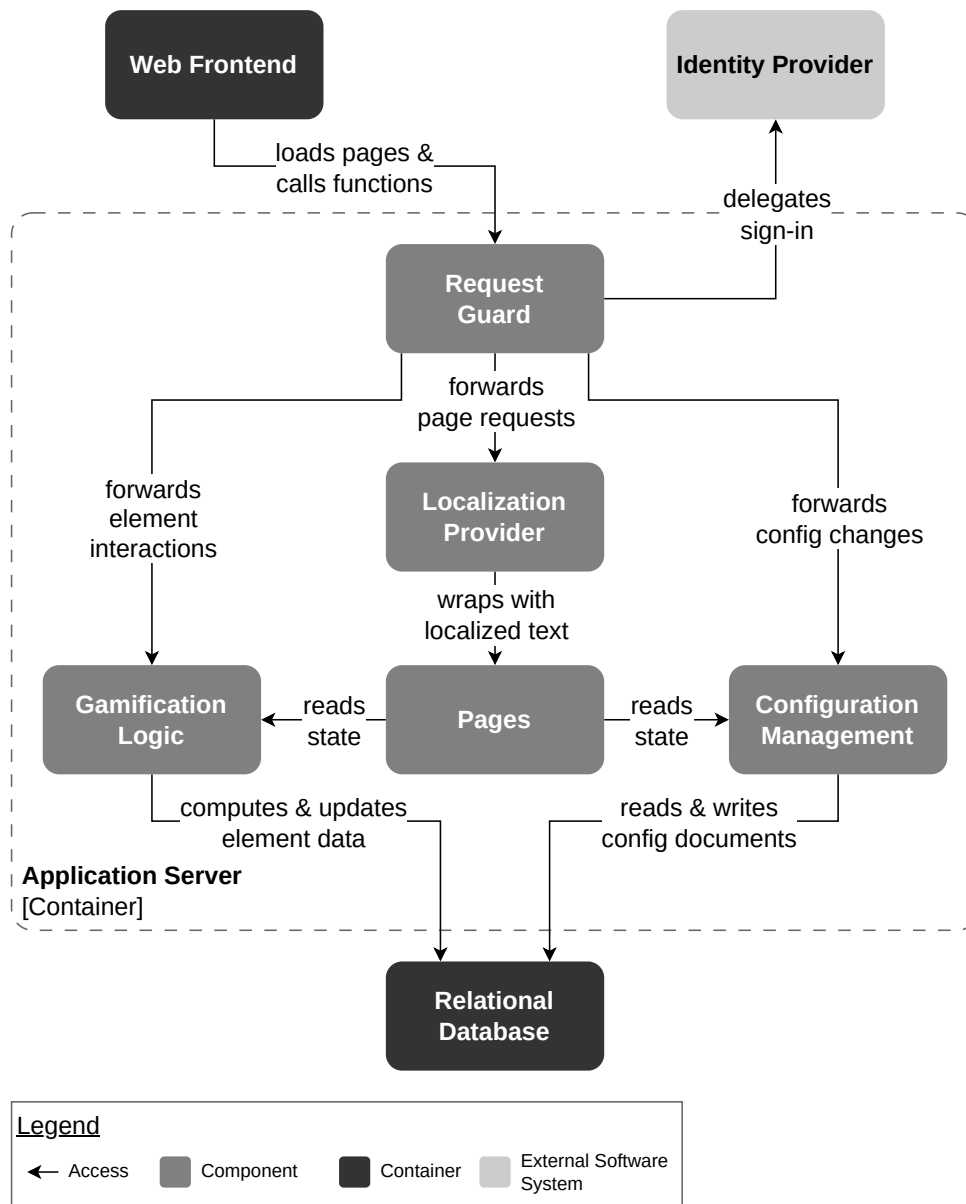


Figure 7.3: The C4 component view of the application server.

The application logic primarily consists of a set of remote functions, which are split into two components because some of them realize the gamification logic, while the others manage the application's configuration. Both components derive their state from the relational database and manipulate the data there when requested. The pages incorporate this state when they are rendered and load it from the two function components, ensuring consistency across all components.

Request Guard It applies authentication and access control to every incoming request, before delivering any page or executing any function (AR8). Unauthenticated requests are redirected to the sign-in page, where their sign-in is delegated to the identity provider and the one-time registration is enforced before the app can be accessed. Administrator functionality is only granted after validating that the requesting user actually has administrator privileges. Requests for disabled features are dropped by this component. Sessions rely on stateless signed tokens, which are validated by the request guard as well.

Localization Provider It supplies all user-facing text. The adaptability requirement (AR6) implies that attendees may work in another language, and a tool that greets them in a foreign language creates the kind of obstacle that the effortless-entry requirement (AR3) rules out. Since localization is difficult to retrofit into a finished application, it is designed here from the start. The component wraps every delivered page with the text of the selected language, and its bilingual dictionaries are the sole source of that text. This dictionary-based approach makes adding additional languages easy, which ensures modifiability (AR7).

Pages These are the server-rendered views of the tool. They present the state they read from the gamification logic and configuration management.

Gamification Logic It is responsible for all data that derives from attendee activity. This component records the reported contributions and the element interactions, and computes the element state built on them. Attendee point totals are never persisted. Tracked contributions store only the reported metric values. The number of points a value yields is defined solely by the metric configuration, and each total is derived on demand by combining the points from tracked contributions, manually awarded points, and quiz rewards. Every point-based surface, from the leaderboards and the level system to the cooperative progress bar and point-based achievements, reuses this computation. A single, shared definition cannot produce divergent point totals, and deriving instead of storing them keeps the point economy adjustable. When administrators change how many points a metric yields, every total follows immediately, which allows rebalancing when individual attendees move too far ahead of the group. There is no caching layer in front of this computation; every request recomputes the displayed values. The motivation for this is simplicity. Attendee counts of a single meeting series are small, so fresh computations are affordable, and a cache with invalidation logic would add unnecessary complexity at this scale. Consequently, attendees always see the current state during a live meeting instance, as demanded by the live presentation requirement (AR2). Levels and achievements, in contrast, are persisted. Reaching a new level grants a lootbox, so a level must not be revoked when the underlying points shift, and an earned achievement should not disappear because its criterion or the data changes. Furthermore, achievements awarded manually by administrators require persistence in any case.

Configuration Management This component is responsible for all data that is defined and managed directly. It realizes the concept's adaptability, as everything the concept leaves to the adopting meeting series is a runtime setting of this component (AR5). At its core are the performance metrics. Since the concept leaves open which contributions a meeting series rewards, the metrics cannot be hard-coded. Instead, administrators define at runtime which

performance metrics exist, whether a metric takes a numeric value or one of a set of predefined options, and how many points each value yields. Everything related to contributions derives from this definition. The form through which attendees record their contributions is generated from the configured metrics, the streak element is bound to one of them, and achievement criteria can refer to any of them. Beyond the metrics, every game element is exposed as a feature that administrators can enable, disable, and parameterize. These parameters include the points required per level, the probabilities of drawing specific powerups from a lootbox, and the goal of the cooperative progress bar. The feature system separates two layers. A source-controlled catalog defines which features and settings can exist, together with their defaults and validation rules. Thus, every change to what is configurable is reviewed and versioned with the code. The runtime configuration, in turn, is kept as a versioned history that records every change, who made it, and when. This history provides an auditable trail, and rolling back means nothing more than re-applying an earlier version. Some features depend on each other. Leaderboards, for example, presuppose the point system. Therefore, each feature declares its prerequisites in the catalog. Every configuration evaluation performs a fixed-point iteration on this prerequisite tree. Features whose prerequisites are unmet are treated as disabled, and the evaluation repeats until the state no longer changes. Enforcing the dependencies in this single place ensures that no invalid combination can become active, sparing the consumers of the configuration from re-checking prerequisites. Disabling a foundational feature automatically cascades to everything built on it. The application's UI follows the resulting configuration via the pages component, and disabled features are not shown to attendees.

8 Prototype

This chapter reports the prototype that turns the gamification concept and the architecture designed for it into a runnable tool: a web application named Guild Engine. The technology stack implements the architectural decisions, and most of the concept's game elements appear as configurable features.

8.1 Technology Stack

The technology stack instantiates the architectural requirements with concrete technologies. These technologies were selected because they are widely adopted in practice, well documented, and commonly used together. The web application framework Next.js¹, based on the UI library React² and used with TypeScript³, implements the single server-centric web application. Its server components render the pages, and its server actions carry the data changes. Drizzle⁴ is an object-relational mapper framework. Its schema is defined in TypeScript, and its database migrations are generated from that schema. Drizzle is used to connect the application to the database. The relational database container is realized by PostgreSQL⁵, which is able to store schemaless JavaScript Object Notation (JSON) documents inside relational tables. Thus the hybrid data model can be represented in a single database. The authentication library NextAuth⁶ contributes token validation and authentication (AR8), including both OIDC SSO, as well as credential-based authentication.

The rest of the stack provides the required appealing and unobtrusive UI (AR4). With Next.js's hybrid rendering, most of a page arrives pre-rendered from the server, and only small interactive components run in the browser. All pages draw their components from one component library: shadcn/ui⁷. These components are built on Base UI⁸ primitives and styled with the styling framework Tailwind CSS⁹, which keeps their appearance consistent throughout the application. The layouts respond to the screen size, so the same pages serve the phone-bound and the desk-bound usage situations (AR1). Light and dark themes allow users to choose their preferred appearance. The interface ships in English and German, each language backed by a dictionary that supplies all user-facing text, so a deployment in another setting is not bound to a single working language (AR6).

¹<https://nextjs.org/> (accessed on July 2, 2026)

²<https://react.dev/> (accessed on July 2, 2026)

³<https://www.typescriptlang.org/> (accessed on July 2, 2026)

⁴<https://orm.drizzle.team/> (accessed on July 2, 2026)

⁵<https://www.postgresql.org/> (accessed on July 2, 2026)

⁶<https://authjs.dev/> (accessed on July 2, 2026)

⁷<https://ui.shadcn.com/> (accessed on July 2, 2026)

⁸<https://base-ui.com/> (accessed on July 2, 2026)

⁹<https://tailwindcss.com/> (accessed on July 2, 2026)

8.2 Features

The prototype realizes each game element as its own page. A persistent app shell handles navigation and lists the pages for all enabled features.

Attendees report their contributions on the *track contributions* page. They select a meeting instance, either the previous one, the next one, or one picked by date, and answer the question posed by each configured performance metric. The form is generated from the metric configuration. Metrics with predefined answer options render as radio button groups, and numeric metrics render as number fields. Therefore, changing the metrics configuration changes the form without requiring any code changes. The form's responses are stored as one record per attendee and meeting instance, forcing any later updates to overwrite the previous response instead of creating duplicates. Figure 8.1 shows the generated form of the showcase configuration.

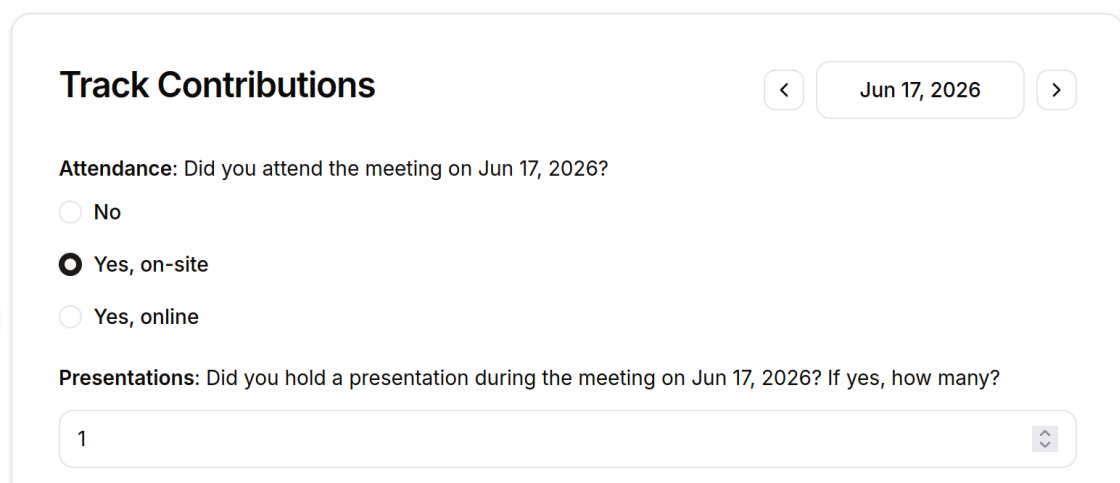


Figure 8.1: The *track contributions* page.

Four features consume the point calculation. The *individual leaderboard* page, depicted in Figure 8.2, lists all attendees, their level, streak, badges, and point total. Ties are ranked competitively, meaning attendees with equal points share a position and the following rank is skipped. The individual leaderboard feature's only parameter is an optional start date that excludes earlier contributions, which allows for a leaderboard to run in fixed intervals. Since the leaderboard condenses most features into one line per attendee, the page can also serve as the overview when the moderator presents the current state during a meeting instance (AR2). The team leaderboard applies a similar layout for teams instead of individual attendees, and aggregates a team's points as either a sum or an average. The level feature computes attendees' levels based on their points and two configurable parameters: the points required for the first level and the growth factor for each subsequent level. The growth factor defaults to one, realizing the evenly spaced variant of the concept. Reaching a new level automatically grants the attendee a lootbox. The cooperative progress bar fills toward a configurable point goal under a configurable title. If space allows, the progress bar itself is displayed in the title bar, and its own page shows the bar together with the top contributors.

The *profile* page displays each attendee's personal state: current level and the progress toward the next one, leaderboard placement, current streak, earned achievements, and the powerup inventory. The latter one allows for opening lootboxes and using powerups. The random draw from a lootbox

Individual Leaderboard						
1		GoldenEagle	1 	 1		120
2		MightyOak	0 	 2		93
3		PixelPilot	0 	 2		70
4		RapidFire	0 	 2		55
5		SwiftArrow	0 	 2		50

Figure 8.2: The *individual leaderboard* page.

is weighted by a configurable frequency per powerup type. The calculation of which powerup is drawn runs entirely on the server to prevent malicious users from exploiting this feature (AR8). Figure 8.3 shows a profile of the showcase instance.

TE

testuser 

Regular member account - see the guild engine like a normal participant.

Leaderboard placement

#2

Current streak

 1

Achievements



Show all achievements

Powerups

 1

 1

 0

 0

 0

 0

 0

Figure 8.3: The *profile* page.

The prototype makes the streak element configurable through two parameters: the performance metric the streak binds to and the metric values that qualify as fulfilling it. Whenever any user opens a page, the application evaluates the streaks of all attendees and consumes streak freezes wherever the criteria are met. Therefore, the protection does not depend on the owner opening the application.

The prototype delivers the badge element as achievements, which administrators define at runtime with a title, a description, an image, and a criterion. As criteria, the application accepts any configured performance metric or a threshold on a feature-derived value. The application automatically evaluates the criteria whenever the user enters it, and awards each achievement exactly once. Alternatively, administrators can reserve an achievement for manual awarding, e.g., if it binds to events outside of the application.

Both minigames of the concept are implemented. The role raffle spins a wheel-of-fortune component to assign a role to selected attendees. It is meant to serve as an aid during a live meeting instance (AR2), and therefore stores nothing itself and honors active role presents and role shields. Figure 8.4 shows the role raffle page. Quizzes are implemented as their own page in the UI. Administrators supply quiz questions as JSON documents through a built-in editor, together with a validity period and a flat point reward. Each attendee can take a quiz an unlimited number of times during the validity period, but receives points only upon the first completion.

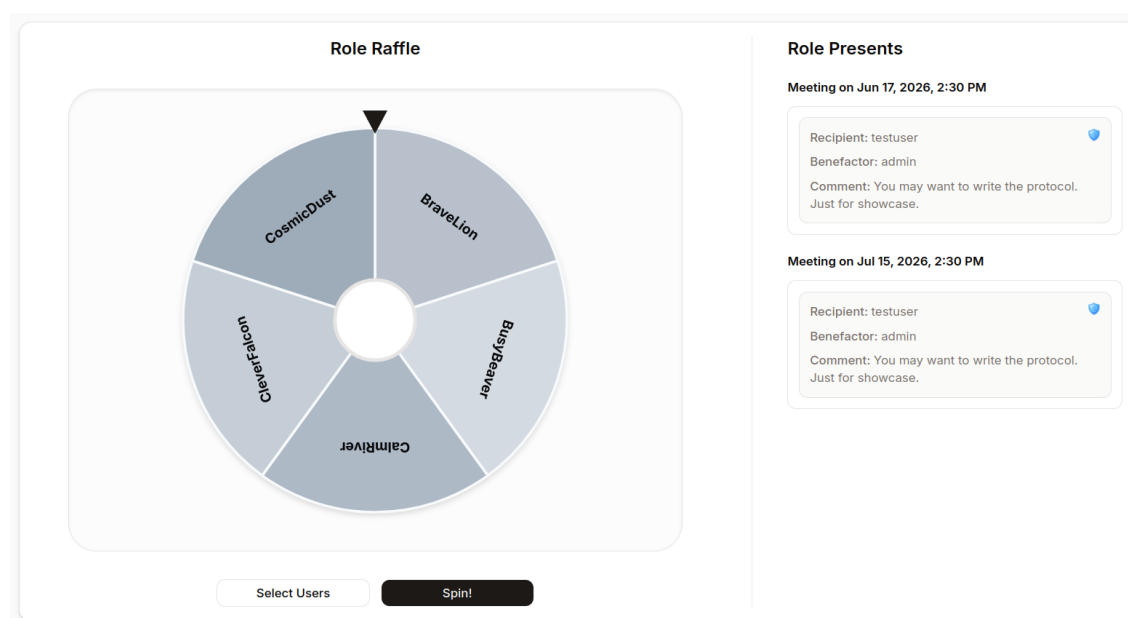


Figure 8.4: The *role raffle* page.

The features above cover the concept’s game elements with four exceptions. The dashboard, the coach function, quests, and the time travel ticket are not yet implemented in the prototype.

Two administration pages make the configurability (AR5) concrete. The *feature configuration* page enables, disables, and parameterizes every feature above and configures the landing page. Due to the ad hoc evaluation of the feature configuration on each request, changes take effect immediately. A disabled feature disappears from the navigation while requests for its pages return an Hypertext Transfer Protocol (HTTP) 404 response. The *performance metric configuration* page defines the metrics themselves, including the question the metric asks, its type, its answer options, and the points each answer yields. Figure 8.5 and Figure 8.6 show the two pages with the values of the showcase configuration.

Feature Configuration

Use this page to enable or disable all user-facing features the Guild Engine offers. When saved, changes take effect immediately and for all users.

☒ **Point System**
Translation of tracked performance metrics to a point value. Point distribution is configurable via its own admin page.

☒ **Individual Leaderboard**
Presenting the accumulated points of each user and ranking all users based on their total points.

Prerequisites

- Point System must be enabled.

Configuration

Start Date

01 / 01 / 2026

Points before this date are not taken into account. Leave empty for all time.

Figure 8.5: The *feature configuration* page.

Performance Metric Configuration +

Add performance metric

Short name

e.g. Attendance

Question

Pro tip: use "[date]" to show the currently selected meeting in the question

Type

Enum

Enum Possibilities

Possibility 1;Possibility 2;Possibility 3

Enum Points

Points for possibility 1;Points for possibility 2;Points for possibility 3

Cancel

Save

Figure 8.6: The *performance metric configuration* page.

The prototype, including the configuration shown in the screenshots, is reproducible. Its source code is publicly available¹⁰. The repository is organized for agentic software development. The AGENTS.md file documents the coding conventions and codebase for agent development, and large parts of the prototype were implemented with agentic coding under these conventions. The repository also contains a showcase setup¹¹ that starts the application together with a seeded demonstration database via Docker Compose¹². Two videos demonstrate the running prototype: a short walkthrough shows each feature in the UI, and a longer version additionally covers the configuration options and the design reasoning behind the features¹³.

¹⁰<https://github.com/preich21/guild-engine/tree/v1.1.2> (accessed on July 27, 2026). All repository links in this thesis point to the release tag v1.1.2, which preserves the state described here. The repository remains under open-source development and may receive contributions by others after submission. Up to and including this tag, it is solely the author's work.

¹¹<https://github.com/preich21/guild-engine/blob/v1.1.2/showcase/README.md> (accessed on July 27, 2026)

¹²<https://docs.docker.com/compose/> (accessed on July 2, 2026)

¹³The short walkthrough (about 2.5 minutes) is available at <https://www.youtube.com/watch?v=u8qIYGtVfRI>, the longer version (about 7.5 minutes) at <https://www.youtube.com/watch?v=u7akESYStAk> (both accessed on July 2, 2026).

9 Evaluation

This chapter evaluates the gamification concept against the RQ. It examines whether the concept achieves the intended increase in participation, preparation, and attendance. To this end, the concept is deployed in a case study of the meeting series it was designed for, in a configuration adapted to that setting. The effect on the attendees is measured via a survey conducted after two gamified meeting instances.

9.1 Case Study

Runeson and Höst [35, p. 134] define a case study as “an empirical method aimed at investigating contemporary phenomena in their context” and provide guidelines for the design, data collection, analysis, and reporting of case studies in software engineering, together with the validity considerations that apply to them. This method is suitable for evaluating phenomena that cannot be separated from the setting in which they occur. The gamification concept and its prototype can be generalized to other meeting series, but their effect on the attendees is only evident in the context of an actual meeting series, rather than under artificial conditions. Therefore, the demonstration and evaluation activities are carried out as a case study following these guidelines. Evaluation is the DSR activity that observes and measures how well an artifact supports a solution to the problem by comparing the solution objectives with the results observed when the artifact is used [11], [25]. The observational case study, in which an artifact is studied in depth in its environment, is among the evaluation methods Hevner et al. [11] list for DSR.

The evaluation targets the deployed gamification concept as a whole, rather than each game element in isolation. Empirical gamification research rarely isolates the effects of individual game elements, because deployed systems combine several elements into one experience [12].

Within the Framework for Evaluation in Design Science Research (FEDS) framework of Venable et al. [76], this places the evaluation on the naturalistic and summative side. The artifact is evaluated by real users in a real setting and after being fully implemented rather than to steer its ongoing design. The evaluation is conducted ex post, once a working instantiation of the concept exists [26].

The case study covered two consecutive instances of the meeting series, four weeks apart, which is the series’ usual rhythm. The prototype was made available to all potential attendees approximately one week before the first instance, so they could register and explore the tool before the first gamified meeting. Registration was voluntary. Of the 35 developers invited to the meeting series, 23 registered, two of whom attended neither of the two instances, which leaves 21 relevant registered attendees. The two instances drew 20 and 26 attendees, respectively, not all of whom were registered in the tool.

The evaluation survey was launched approximately one week after the second instance and remained open for one week.

9.2 Configuration

The concept was configured for the setting at hand: a series of monthly two-hour meetings. The exact deployed configuration is reproducible as the showcase setup of the prototype repository¹. The deployment used German labels; this chapter reports their English equivalents.

Five elements of the concept were excluded from the deployment, four of which the prototype therefore does not implement; the fifth, physical stickers, is not a software feature. Both the dashboard and the coach function require data from at least a few meeting instances. A dashboard showing zero for every metric and attendee provides no useful information, and the coach cannot derive recommendations from empty data. Quests gamify one-time doings, tasks that occur once for the meeting series or at irregular intervals. No such task arose during the case study, and longer-running tasks would have exceeded the two-instance window. The time travel ticket only becomes relevant once quizzes have expired during a longer deployment. Since no quiz expired within the case study window, the powerup would have been unusable. Physical stickers were not handed out, as the case company does not permit stickers on company equipment. All other elements of the concept were enabled.

The point values of the performance metrics were calibrated toward the contributions that the problem identification found most valuable. According to RC3, practical, broadly applicable content, delivered above all through presentations and TWL contributions, drives the most meeting value. Therefore, presentations carry the highest value of 50 points. A TWL contribution is similarly valuable but requires minimal effort. A single attendee may contribute several per instance, so each TWL contribution earns ten points. Moderation forms the second-highest metric at 30 to 40 points, since good moderation moves an instance through its agenda on time. The protocol is an unpopular role, and its 15 to 25 points are sized to attract voluntary sign-ups. Attending on-site yields noticeably more attention than attending remotely (RC3), so on-site attendance earns ten points and online five. Finally, working groups are necessary for the meeting series but generate little value of their own. Interviewee D called them “more of a necessary evil”. Contributing to a working group earns ten points.

The challenges and successes block carries no metric. Attendees record their own contributions in the tool. Since what counts as a contribution in this sharing block is open to interpretation even with a strict definition, the fairness of points granted on this basis cannot be ensured. Each deployed metric instantiates one of the concept’s metric types: attendance instantiates the attendance type, TWL contributions and working group updates the spontaneous contributions, protocol and moderation the role volunteering, and presentations the prepared contributions. Punctuality carries no metric because arriving late poses no problem in this meeting series. Follow-up actions carry none because only minor follow-up tasks arise, which the moderation role already covers. Table 9.1 lists the deployed metrics, their concept metric types, answer options, and point values.

The answer options for the protocol and moderation metric distinguish how the role was obtained. This splits into *voluntarily*, *forced* through the role raffle, or *gifted* through the role present powerup. The point values follow from that distinction. A role taken on voluntarily is worth more than one assigned through the role raffle, because voluntary sign-ups skip the raffle and save meeting time. A role received through the role present powerup is worth the most because it is imposed from outside and may be perceived as a punishment. According to self-determination theory, this kind of external control can undermine intrinsic motivation [17]. The additional points are meant to compensate for the imposition.

¹<https://github.com/preich21/guild-engine/blob/v1.1.2/showcase/README.md> (accessed on July 27, 2026)

Table 9.1: The performance metrics deployed in the case study.

Metric	Concept metric type	Type	Answer options and points
Attendance	Attendance	Enum	no 0; on-site 10; online 5
Working group updates	Spontaneous contributions	Enum	no 0; yes 10
Protocol	Role volunteering	Enum	no 0; voluntarily 20; forced 15; gifted 25
Moderation	Role volunteering	Enum	no 0; voluntarily 35; forced 30; gifted 40
TWL	Spontaneous contributions	Integer	10 points per contribution
Presentations	Prepared contributions	Integer	50 points per presentation

The teams on the team leaderboard mirror the company’s product teams, so developers who collaborate daily also compete as a unit in the tool. This assignment was meant to motivate team members to support each other in making time for the meeting. Since the product teams vary considerably in size, the team leaderboard ranks teams based on their members’ average points rather than sum.

Two elements are backed by real-world incentives. At the end of the year, the individual leaderboard awards the first-place attendee up to three days of paid attendance at a conference or comparable educational event, including the cost of the ticket and travel expenses. This incentive extends beyond the case study because the tool remains in use after it ends. The cooperative progress bar, once filled, unlocks a company-sponsored meal at an after-work event for all attendees of the meeting series. The team leaderboard carries no incentive.

The streak is tied to the attendance metric, and both on-site and online attendance sustain it. Quizzes cover the content of presentations, and presenters have to supply the questions. Creating a quiz earns ten points, which are then awarded as manual points by an administrator.

9.3 Survey

Survey research collects information from or about a group of people in order to describe, compare, or explain their knowledge, attitudes, and behavior [36]. This aligns with the evaluation’s objective of providing insight into the artifact’s effect on the entire group of attendees after they experience the deployed tool. A survey reaches every attendee instead of a small sample, as interviews would, and its anonymity encourages honest feedback in a workplace setting. Furthermore, its scaled ratings are comparable across respondents and can therefore be aggregated, which makes a divided opinion visible as a distribution rather than as isolated statements.

Concretely, the evaluation instrument is an anonymous online survey in German. It is designed for a completion time of about five to ten minutes. It opens with an exposure question asking whether the respondent attended both instances, one of them, or neither, followed by a registration gate. Those who did not register in the tool are only asked to provide a reason for not doing so.

Registered users rate the tool as a whole in a four-row matrix. Overall engagement is measured in one row, while the motivation in each of the three problem fields is measured in the remaining rows. They then rate eleven individual features in a table that asks per feature how it changed their motivation. Since the evaluation is of the entire concept, these ratings capture how attendees perceive the contribution of each feature within the deployed bundle, rather than its isolated effect [12]. Each rating block is followed by a free-text field for further clarification. The survey concludes with two open-ended questions on the improvements seen through the tool and on suggestions for improving

it, which allow for observations that the closed items do not anticipate. A screenshot of the tool with the visible features outlined and numbered serves as a recognition aid for the feature table. The point system and the incentive carry no visual marker and are referenced only by name.

The rating items adhere to established principles of survey design. Agree/disagree questions encourage acquiescence and produce lower-quality responses than questions with item-specific response options [77]. Therefore, every rating row is an item-specific sentence stem that the response options grammatically complete, on a scale ranging from *strongly decreased* to *strongly increased*. The scale is bipolar with five points and a true neutral midpoint, because a detrimental feature must be able to register as a negative mean, which a unipolar scale cannot express. The symmetric steps also allow for a numeric encoding of the answers. Each item asks for a retrospective comparison of the meetings with the tool against the meetings without any gamification tool. No baseline was measured before the deployment. Retrospective ratings of change are an established design for evaluating interventions [78]. Each row targets exactly one construct, and the feature table focuses on motivation rather than crossing every feature with every problem field. This keeps the table answerable at a glance.

Both rating blocks also offer responses outside the numeric scale. Whether to offer such no-opinion options is a deliberate and debated design decision [79]. The feature table separates respondents who cannot judge a feature's effect from respondents who did not perceive the feature at all. This is meant to distinguish substantive uncertainty from a lack of exposure, the latter of which indicates poor UI design. The whole-tool matrix only offers the former, since every respondent who reaches it has used the tool. Both kinds of answers are analyzed as findings on uncertainty and reach, rather than being discarded.

The questionnaire was developed in stages, following the established guidance for survey research, which includes pre-testing the instrument before it is fielded [36]. A literature-informed first draft was piloted with one person to test comprehension and completion time. The pilot's response was discarded, and the pilot respondent was not counted in the respondent group. The questionnaire was then revised based on the pilot feedback and passed an expert review. Only the approved version was deployed, and it was sent to all attendees of the meeting series. Respondents were incentivized to complete the survey with five points in the tool, and about ten respondents claimed this incentive informally outside of the anonymous survey data. Since the survey was deployed only after the case study completed, this did not distort the results. The full questionnaire, as deployed in German, is reproduced in Appendix D.

9.4 Results

To measure attendance, the numbers of attendees at the two gamified instances and, as a baseline, at the 15 instances held before the rollout were counted, using the recordings of each instance. These baseline instances drew between 13 and 23 attendees, with a mean of 17.7 and a standard deviation of 2.9. The first gamified instance with 20 attendees stayed within this range. The second instance had 26 attendees and exceeded every recorded baseline instance, lying almost three standard deviations above the baseline mean. The increase relative to the first gamified instance came entirely from online attendance, which doubled from 7 to 14, while on-site attendance decreased from 13 to 12. Over the entire recorded period, no developers were added to the meeting series' invitation list, so the invitee pool did not grow. Table 9.2 lists the recorded attendance of each instance.

Table 9.2: The recorded attendance of the meeting instances. No instance was held in August 2025.

Instance	Online	On-site	Total
January 2025	4	13	17
February 2025	8	10	18
March 2025	6	11	17
April 2025	5	8	13
May 2025	4	13	17
June 2025	5	8	13
July 2025	5	12	17
September 2025	11	9	20
October 2025	6	15	21
November 2025	5	11	16
December 2025	7	8	15
January 2026	8	11	19
February 2026	10	8	18
March 2026	15	8	23
April 2026	9	13	22
May 2026 (first gamified instance)	7	13	20
June 2026 (second gamified instance)	14	12	26

The survey received 15 responses within the one-week timeframe. Respondent 8 attended neither meeting instance and did not register in the tool. They stated that they are not a developer and therefore not part of the target audience of the meeting series. This response was excluded from the analysis. The remaining 14 respondents all registered in the tool and attended at least one of the two instances, and ten of them attended both. Since the two exposure groups are too small to compare separately, their answers were pooled. Measured against the 21 registered attendees, this amounts to a response rate of about 67 percent. The branch for unregistered attendees received no answers beyond the single excluded response. Thus, the survey collected no reasons from attendees who chose not to register. All responses, including the verbatim answers to the open-ended questions, are provided in Appendix E.

9.4.1 Closed-Ended Answers

For the analysis, the scale of the closed-ended questions is encoded from +2 for *strongly increased* to -2 for *strongly decreased*. Off-scale answers are excluded from the means and reported separately. The distributions of the scaled answers are reported as box plots, in which the box spans the interquartile range, the line inside it marks the median, and the diamond marks the mean. Conventional box plots truncate their whiskers at a fixed multiple of the interquartile range, usually 1.5, and plot more extreme observations individually as outliers [80]. However, due to the small number of respondents, the whiskers here indicate the true minimum and maximum.

Rated as a whole, the tool moved all four dimensions upward on average. Motivation to attend showed the strongest effect, with a mean of +1.00 and the only row whose interquartile range reaches +2. Overall engagement and the motivation to prepare follow with means of +0.64 each, and the motivation to participate with +0.57. The entire matrix contains a single negative answer. Figure 9.1 shows the four distributions.

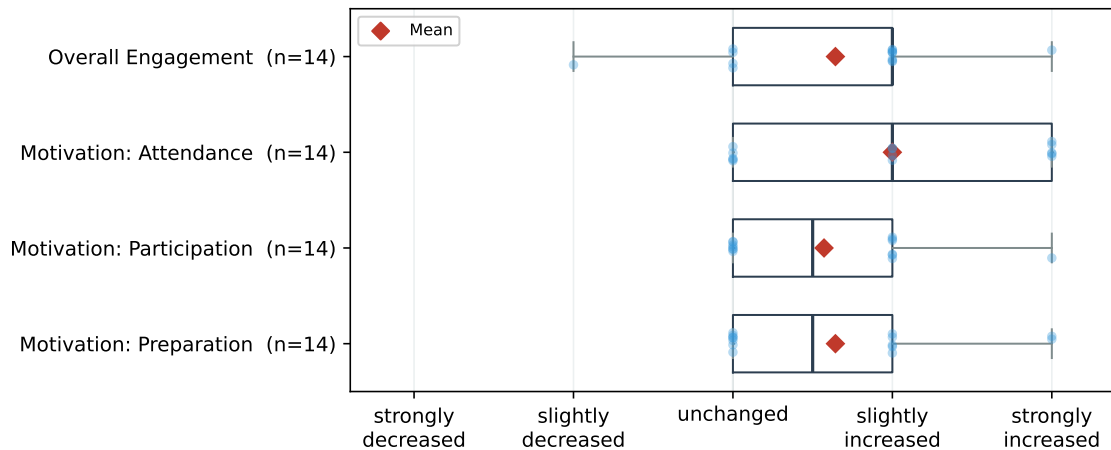


Figure 9.1: The boxplot of the whole-tool ratings.

Among the individual features, the individual leaderboard and achievements were rated strongest, each with a mean of +1.00 and without a single negative response. The streak follows with a mean of +0.79. The role raffle is the only feature with a negative mean (−0.15). It is also the most polarizing feature, with responses spanning the full scale from *strongly decreased* to *strongly increased*. The cooperative progress bar has the lowest positive mean (+0.18) and the weakest reach, as indicated by three off-scale responses. According to the records in the tool, the bar also never filled within the case-study window. Figure 9.2 shows the distributions of all eleven features, sorted by mean.

The off-scale answers clustered on the elements that remain in the background or develop slowly. The cooperative progress bar received the most off-scale answers, while the individual leaderboard, the achievements, and the streak received none. All three *not perceived* answers, concerning the cooperative progress bar, the level system, and the incentive, came from a single respondent who attended both instances. Table 9.3 lists the counts of both off-scale options per feature. The point system received an average rating of +0.67 with two *cannot judge* answers. Respondent 22 remarked in the open text that the points alone did nothing for their motivation and were only felt through the leaderboard.

Table 9.3: The off-scale answers per feature. The six remaining features drew none.

Feature	Cannot judge	Not perceived
Cooperative progress bar	2	1
Point system	2	0
Level system	1	1
Incentive	0	1
Role raffle	1	0

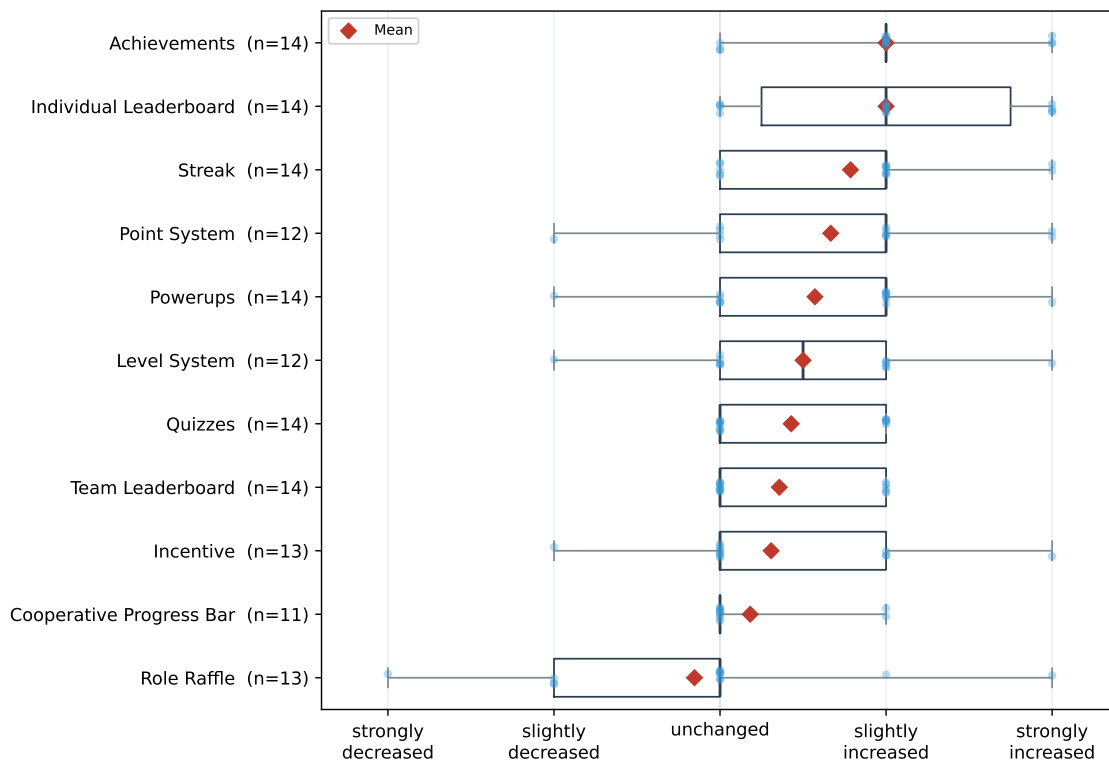


Figure 9.2: The boxplot of the per-feature motivation ratings.

9.4.2 Open-Ended Answers

The free-text answers from the two follow-up fields and the two open-ended questions were analyzed using QCA. Since the concerns the answers raise were not known in advance and had to emerge from the material, the same inductive category formation that condensed the interview scripts in Section 4.3 was applied [33]. The answers were split into meaningful segments, paraphrased, and translated, and the paraphrases were grouped into categories, without requiring a subsequent reduction step. Since short survey answers yield far fewer segments per respondent than interview scripts do, the number of respondents who raised a theme serves as the primary frequency of a category. The full extraction table is provided in Appendix F.

The coding yielded 42 segments from twelve respondents; the remaining two did not provide free text. The segments were condensed into seven categories, of which three collect praise and observed improvements and four collect criticism and suggestions. Table 9.4 lists the categories, their definitions, and their frequencies.

Seven of the twelve respondents reported improved motivation, more fun, or a better meeting execution (S1). Respondent 13 summarized that “motivation and attendance have increased. And fun as well.” Respondent 21 wrote that they “like this little competitive aspect, which really is implemented in a fun and playful way”, naming the leaderboard, the streaks, and the powerups. Beyond the motivational effects, Respondent 16 observed that “in general, the agenda is followed through more, [and] all agenda items are much better prepared”. Respondent 15, one of two respondents who rated nearly every closed-ended item as *unchanged*, wrote that they are not particularly receptive to this kind of motivation but still consider the tool a good instrument to motivate people.

Table 9.4: The category system of the open-ended survey answers. Seg. counts the coded segments and Resp. the distinct respondents per category.

Key	Category	Description	Seg.	Resp.
S1	Motivation, fun, and meeting execution improved	The perceived positive effects of the tool include improved motivation, a better group atmosphere, more fun, and a greater willingness to attend. They are accompanied by observed improvements in the meeting execution, such as better adherence to the agenda and more thoroughly prepared agenda items. The design of the competitive elements receives specific praise.	8	7
S2	Clear, low-friction design with minor refinement requests	Judgments of the tool's design and usability name a clear overview, speed, low friction, and praise for the existing features. Concrete suggestions ask for interface refinements or supporting features, such as renaming the point-entry field and enabling in-tool sign-up for the meeting roles.	9	8
S3	Role assignment became fairer and more relaxed	The raffle-based assignment of the protocol and moderation roles is described as less tedious than before, relieves the worry of being picked, and is perceived as fairer because the draw can hit everyone. It is accompanied by many voluntary sign-ups.	6	4
S4	Point and reward calibration needs adjustment	Criticism and suggestions target the calibration and distribution of points and rewards. The level and progress scaling is too slow in the early levels, points for the challenges and successes block and for oral contributions during online attendance are missing, the rewards favor those with the most time, and newcomers or long-absent attendees lack a bonus.	7	5
S5	Powerups are unevenly useful and the role present feels misplaced	The powerup types differ greatly in usefulness. Point multipliers are considered essential, while role shields are judged nearly useless. The role present feels like a punishment, so nobody dares to use it.	4	3
S6	The cooperative elements offer too little to cooperate on	The benefit and unlock requirement of the cooperative progress bar are unclear, and apart from the team leaderboard there is little to actually collaborate on. Respondents suggest cooperative powerup ideas and team tasks to strengthen cohesion.	5	2
S7	Integration into the meeting routine remains limited	The gamification approaches are well integrated into the meeting, although the tool itself could be integrated better as well. It currently falls by the wayside between instances and should be incorporated into the meeting flow more seamlessly, for example through automatic point awarding.	3	2

Eight respondents judged the design and usability of the tool (S2). Respondent 12 described it as clearly laid out and reported much less friction, adding that they happily check the current state every now and then. Respondent 14 found it to give a better overview of the point distribution and the leaderboard. Two refinement suggestions accompany this praise: Respondent 11 suggested renaming the point-entry field from *capture contributions* to *capture attendance*, and Respondent 13 asked for the option to sign up for moderation or protocol directly in the tool on a first-come, first-served basis.

Four respondents described the raffle-based assignment of the protocol and moderation roles as an improvement (S3). Respondent 22 reported the “very first voluntary sign-up for a protocol in the history of the meeting series”, and Respondent 18 noted that “[the] role raffle can hit everyone, not only those who have their laptop with them anyway, [which] makes it fairer”. Respondent 12 wrote that they “no longer worry about being picked” and found the new procedure much more relaxed. The records in the tool extend these reports on the moderation role, which was taken on voluntarily in both instances.

Five respondents asked for adjustments to the calibration and distribution of the points and rewards (S4). Respondent 20 and Respondent 21 found the level and progress scaling too slow in the early levels. According to the records in the tool, every attendee received the one lootbox granted upon registration, but only one attendee reached the second level within the case-study window. Since each lootbox yields a single random powerup, only a few powerups of each type entered circulation. Respondent 16 criticized the fact that the tool rewards those who already have the most time for the meeting series, while others fall behind. They further suggested offering higher rewards to first-time or long-absent attendees, and noted the absence of a reward for active involvement when attending online. Respondent 13 asked for points for the challenges and successes block as well, and Respondent 18 found rewards motivating in general, but the offered training budget not personally motivating.

Three respondents perceived the powerup types as unevenly useful (S5). Respondent 22 considered point multipliers far more useful than the other types, and Respondent 10 expected the role shield to be used in vain at present. The role present was judged to be out of place because, as Respondent 12 put it, “it feels more like a punishment”. The records in the tool show that one role present was drawn from a registration lootbox, but it was never used within the case-study window.

Two respondents addressed the cooperative elements (S6). They questioned the benefit and the unlock requirement of the cooperative progress bar and found that, apart from the team leaderboard, the tool offers little to actually collaborate on. Their suggestions include cooperative powerup ideas and tasks for the teams to strengthen cohesion.

The remaining category concerns the integration of the tool into the meeting routine, raised by two respondents (S7). Respondent 14 counted a better integration of the gamification approaches into the meeting among the improvements. However, the same respondent described the tool itself as one that “simply falls by the wayside again for the next four weeks” after each instance. Respondent 22 wished the tool were better integrated into the meeting flow, for example through automatic point awarding. The records in the tool add a related fact. Only one quiz was posted during the case study. It covered a presentation of the first instance, while the presentations of the second instance were not accompanied by quizzes, as their presenters did not create any.

10 Discussion

This chapter interprets the evaluation results, explaining why the observed changes might have occurred and what they mean. To this end, the whole-tool results are examined against the problem fields, the per-feature results against the game elements and the rationales of their composition, and the deployment as a whole against its adoption and calibration. The interpretations draw on motivational theory and related work and consider alternative explanations when the evidence is ambiguous. Threats to the validity of this evidence bound these interpretations.

10.1 Problem Fields

The evaluation results reproduce the context dependence that the empirical gamification literature reports. Gamification is effective, but not for every user and every element [12], [13]. The deployed tool raised all four surveyed dimensions, yet the per-feature means range from +1.00 down to -0.15, so the same deployment that motivated the group as a whole contains elements that barely registered or divided the attendees.

The strongest effect appears on the motivation to attend. A possible reason for this is the cost associated with the three surveyed behaviors. Attending costs the meeting time itself, but not necessarily attention; an attendee, online in particular, can follow an instance passively and even continue project work on the side. Participation requires engaging with the content during the meeting, and preparation additionally requires time and effort outside the scheduled meeting (RC5). The largest shift thus plausibly appears in the least costly behavior. The attendance record reported in Section 9.4 is consistent with the surveyed motivation, and its timing suggests that the pull works through experienced gameplay rather than the announcement of the tool. A streak to keep, accumulated points, and a leaderboard position to defend exist only after the first gamified instance. Therefore, this kind of effect can appear no earlier than the second instance, which is the one that set the record.

This reading is refined by how the gain is distributed across the attendance modes. The growth came entirely through the online channel, while on-site attendance declined slightly. This strengthens the cost argument since the growth appeared in the attendance mode requiring the least effort. However, it also rules out a purely point-driven explanation, because on-site attendance earns double the points, so attendees maximizing points should have shifted on-site. Two readings fit this pattern. For attendees who cannot or would not come on-site, the only remaining choice is between absence and online attendance. At this stage, five points versus zero still reward the change, so the points remain a possible driver. For attendees who can choose their mode, the points favor on-site. Yet no on-site growth occurred, so their increase more plausibly stems from elements indifferent to the mode. Two top-rated features are exactly such elements. Achievements reward attendance in either mode, and the streak was tied to the attendance metric with online attendance qualifying (see Section 9.2). Since maintaining a streak becomes a goal in itself [65], and the few streak freezes in circulation could rarely substitute for attending, the streak rewards precisely the behavior that grew: attending, in whichever mode is cheapest.

Beyond these readings, a novelty effect [12], ordinary fluctuation of the online count, and the unknown composition of the attendee group also remain possible explanations. Two further alternatives can be ruled out. First, the pool of invitees did not grow during the recorded period. Second, the instance held in the same month one year earlier had one of the lowest attendance counts on record, which speaks against a seasonal boost. The direction of the effect aligns with Costa et al. [54], who found gameful social comparison to drive punctuality improvements in workplace meetings, which this thesis treats as a subset of the attendance problem field. However, resting on a single instance above the range, the increase remains a signal rather than a trend.

Regarding the RQ, the attendance gain is particularly relevant. Since the meeting's value increases with the number of attendees (RC2), a record attendance count suggests a substantial quality gain. However, the growth came through the mode that the problem identification rated less valuable, as on-site attendance yields noticeably more attention than remote attendance (RC3). Weighted by the attention it brings, the quality gain is therefore smaller than it initially seems. Nevertheless, the quality improvement is reinforced by the improvements in meeting execution (S1) and role assignment (S3) qualitative evidence.

The motivation to participate shifted the least, ranking slightly below the motivation to prepare. Based on the cost interpretation above, this order is unexpected. Since participation demands less than preparation, it should rank second. The point calibration offers an explanation for the inversion. The deployed point values mirror the meeting's value hierarchy (RC3), not the effort hierarchy of the three behaviors. As a consequence, the behaviors that carry spontaneous participation are under-pointed or unpointed. The challenges and successes block deliberately carries no metric (see Section 9.2), spontaneous oral input while attending online earns nothing, and a TWL entry earns ten points against fifty for a presentation. That respondents asked for points on these exact behaviors (S4) suggests that the calibration was felt.

A second, less visible mechanism may have added to this. Since participation points rest on contributions that attendees judge and record themselves, claiming many of them could be interpreted as self-promotion in front of colleagues. This behavior risks the costly perception of bragging [81], a risk that weighs heavier because people tend to present themselves as modest toward audiences they know [82]. Attendees may therefore have left participation unreported, which would understate the measured effect, or even subconsciously held back the behavior itself to avoid the claiming dilemma. No respondent states this directly, so it remains a speculative interpretation.

The voluntary setting lacks the strongest lever that related work had available. The participation effect of Jia et al. [59], one of the strongest the related studies measured (see Table 5.2), rested on responses that the instructor assessed and graded. This type of external assessment solves both problems of self-assessment: the fairness problem that left the sharing block unpointed and the modesty problem of claiming one's own contributions. Since voluntary meetings offer no neutral assessor, however, the concept could not award sufficient points for participation behavior. Measurability, not importance, decided where the concept pulled.

Böhmer et al. [55] increased in-meeting engagement with a trivia game at the price of added distraction. The concept's quiz avoids this cost by running in the tool between the instances rather than in the meeting itself, but for the same reason it cannot increase in-meeting participation directly.

The motivation to prepare increased and the open answers provide concrete observations on this. Notably, the observed gains in agenda adherence and item preparation come from Respondent 16, the otherwise most critical respondent. The better prepared agenda items align with the point calibration: presentations, the highest-valued contribution, depend on preparation above all else.

The reported agenda adherence, in turn, points to the moderation role, which volunteers took on at both instances. A moderator who takes on the role by choice brings more motivation to it than one assigned through the raffle, because of the autonomy need of SDT [17]. This motivation extends to the preparation the role includes. A prepared moderator then keeps an instance on schedule. The problem identification traced low-value instances primarily to insufficient preparation (RC4), so improving this area acts on the most direct driver of meeting quality. For the preparation field, related studies offer no direct evidence in a meeting setting to compare against (see Table 5.2).

Together, the results across the three problem fields address the gap identified in the related work review. This case study provides direct evidence on all three fields simultaneously and indicates positive outcomes for each. The results also mirror the structures that the related work deemed effective. Lane et al. [61] and Majkowski et al. [60] showed that points can be layered onto a real work process to track real outcomes. This study applies this concept to meeting contributions. Furthermore, the chain of points, leaderboard, and reward that the students of Silva Júnior et al. [58] evaluated positively matches the chain deployed here. This convergence suggests that the observed effects stem from structures that have carried gamification in adjacent settings as well, not from an idiosyncratic design.

10.2 Game Elements and Composition

The feared element became the strongest. The interviews establish that gamification should not feel like external pressure or forced competition (RC7), and technologies that track and rank employees carry exactly that risk [64]. Nevertheless, the individual leaderboard and achievements were rated the strongest of all features, without a single negative response, and the competitive aspect drew explicit praise for its playful implementation (S1). Three interpretations of this reversal are possible. First, the mitigations may have worked. The opt-in (DO3) preserves the autonomy that SDT holds necessary for intrinsic motivation [17], so the leaderboard measures a competition that its members entered deliberately. The praise for the playful implementation supports this interpretation. Second, the constraint itself may reflect a minority preference, since it was raised only by two of the five interviewees. However, the opt-in works both ways, as competition-averse developers may be among the twelve who never registered and are therefore invisible to the survey. This reading is weakened, though, by the fact that at least the two interviewees who raised RC7 registered in the tool. Third, the window may be too short for the feared effect to manifest. The undermining documented by Deci et al. [18] concerns persistence and the withdrawal of rewards, which two instances cannot capture. Under this interpretation, the positive ratings do not contradict the concern behind RC7; they only show that it has not materialized within the window.

The motivational pathway that produced the top ratings remains unclear. Sailer et al. [20] found leaderboards to satisfy the competence need, while Mekler et al. [21] observed them acting as extrinsic incentives. A survey that measures the direction of a motivation change, not its type, cannot distinguish the two. This matches the conclusion of Section 2.2 that the pathway an element serves depends on the context. The direction itself is consistent with Costa et al. [54], who identified social comparison as the active ingredient behind improvements in punctuality.

At the other end of the scale is the role raffle, the only negatively rated and the most polarizing feature. At the same time, role assignment is the clearest behavioral success of the deployment. The survey answers report the first voluntary protocol sign-up in the series' history (S3), and the tool's records show that the moderation of both instances was taken on voluntarily. The motivation behind the volunteering is ambiguous, since a voluntary sign-up both avoids the raffle and secures guaranteed

points, even more than a raffled role would give. The data cannot distinguish the deterrence of the raffle from the certainty of the higher reward. Either way, attaching a visible price and a chance mechanism to an unpopular duty changed behavior.

The negative rating is noteworthy because the raffle did not introduce any new impositions. Before the deployment, a protocol keeper was appointed ad hoc by the moderator (see Section 4.1). The raffle formalized this procedure and, according to the respondents, made it fairer, precisely because the draw can hit everyone (S3). This fairer version of the same duty was nevertheless rated negatively. A possible explanation is that the raffle made the imposition more apparent. An explicit pool, a spinning wheel, and a formal moment leave no ambiguity about who can be drawn, whereas the informal appointment offered unnoticed escape routes, such as simply not bringing a laptop. Fairness and perceived pressure are not the same axis, and the formalization raised both at once.

The polarized ratings are explained by the background literature in two ways. Player-type heterogeneity predicts that the same element is perceived differently across motivational orientations [22], [23]. The barely correlated motivation components found by Yee [24] support the view that no single design pleases every attendee. The crowding frame of Frey and Jegen [19] explains the same split through perception. An external intervention crowds out intrinsic motivation when it is perceived as controlling, but not when it is perceived as supportive. Both explanations appear in the answers. Some respondents experience the rule-bound draw as a relief, since it prevents them from being singled out individually (S3), while for others an assigned role represents exactly the external control that undermines intrinsic motivation [17], [18]. Neither interpretation matches the composition's own rationale, which included the raffle to save meeting time and to create a moment of interaction (see Section 6.3). The observed value lies instead in fairness, relief, and deterrence-induced volunteering. Beyond the raffle, the gap between the worst rating and the clearest behavioral change provides a methodological insight. Ratings capture how well attendees like an element, not whether it changes their behavior, so where ratings and records diverge, the records reveal what the ratings miss.

The role present takes this issue even further. It was priced highest among the role points precisely to compensate the imposition it creates (see Section 9.2). Nevertheless, respondents describe it as feeling like a punishment, and nobody dares to use it (S5). Apparently, the compensation failed, which is consistent with the theory that rewards experienced as controlling can undermine motivation rather than restore it [18]. Thus, additional points cannot repair what the framing breaks. The unused element also marks a boundary of the game. The role present is the concept's only element through which one attendee exerts control over another, and it went unused, even though using it is rational in terms of points. The workplace's social norms superseded what the game's rules permit. A gamification layered onto a real social system inherits that system's norms, and elements that violate them go unused regardless of their in-game value. The role shield, deemed useless by the respondents (S5), confirms this from the other side, as it defends against an attack that nobody launches.

The point system received a positive rating, but with more hesitation than its surrounding features. The facts that two respondents cannot judge its effect and that one respondent feels the points only through the leaderboard precisely describe the role the concept assigns to them. The coding of the related work in Section 5.3 found that stats and points form the backbone that feeds the visible elements rather than providing an experience of their own. In the model of Yang et al. [62], points raise participation alongside immediate, visible performance feedback, which here is the leaderboard. Mekler et al. [21] observe that points function as extrinsic incentives, effective mainly

for promoting performance quantity. The fact that about ten respondents informally gave up part of their anonymity to claim the five survey points (see Section 9.3) can be interpreted as a subtle signal that the points themselves have some effect.

The cooperative elements underperform their design intent. They both sit in the bottom third of the feature ranking. The cooperative progress bar has the lowest mean and weakest reach of all the features. The team leaderboard has ratings that never exceed a slight increase. For this, two plausible causes exist. In terms of design, the objective of leaving the meeting untouched (DO2) ruled out joint tasks, so the composition derives the team scores from aggregated individual points (see Section 6.3). In contrast, the cooperative effects reported in the related work all rest on genuinely joint work, such as trial-site teams completing startup tasks [60], [61], team quests [57], and graded group responses [59]. On the deployment side, the teams mirrored the existing product teams, so membership was assigned rather than chosen. The method by which groups are formed influences group dynamics and attitudes toward the group. Self-selection promotes cohesion [83]. Self-formed teams might have made even aggregated point collection feel like a chosen, joint endeavor, whereas an assigned grouping adds little relatedness [17] beyond what daily collaboration already provides.

Some respondents mention that apart from the team leaderboard, there is little to actually collaborate on (S6). This exposes a tension between two objectives that the design phase did not recognize. Leaving the meeting untouched (DO2) and serving the sociable types through cooperative elements (DO5) collide wherever cooperation needs a shared task. The aggregation resolved every such conflict in favor of DO2, and the evaluation suggests that this resolution quietly sacrificed the substance of the cooperative elements. Therefore, an adopter who prioritizes cooperation must be willing to adapt the meeting itself. However, the weak showing weighs less for the thesis's objective than it might appear. The taxonomy adopted in this thesis lists cooperation as affecting motivation but not engagement [14], only two respondents raised the cooperative gap, and the composition weighed cooperation low anyway, which matches the low return.

Although the survey did not collect player-type data, the per-feature pattern can be interpreted in terms of player types. Achievers and competition seekers were served best, as the three top-rated features reward accumulation, comparison, and consistency, and reached every respondent. Explorers were served partially. The powerups received a solid rating, but their types were perceived as unevenly useful (S5), and their scarcity within the two-instance window left little to explore. Socializers were served the least, given the underperforming cooperative elements and the polarizing raffle. The fact that motivational preferences vary largely independently of each other [24] is evident even within this small group. Respondent 15 describes themselves as not particularly receptive to this kind of motivation, yet endorses the concept as an instrument for motivating others. While the premise of serving several player types (DO5) is supported, the ratings do suggest that the deployed configuration served the types unevenly.

Viewed against the rationales of the composition (see Section 6.3), most of its premises held. The decision to allow badges on any achievement is validated by the top rating and full reach of the achievements, although the driver appears to be acknowledgement and the competence need [20] rather than the flexibility and inclusivity the composition argued. The streak, as own contribution, ranks near the top without a single off-scale answer, indicating that the consumer and general work-task findings behind it [65], [66] transfer to a meeting context. It may, however, also have steered the mode of attendance, since attending online suffices to maintain it. Other premises were invalidated. The aggregation behind the team scores and the compensation behind the role present failed, and the raffle proved effective for reasons the composition did not anticipate.

10.3 Adoption and Configuration

The fact that the effects discussed above could arise at all means that the attendees adopted the tool. However, the adoption has clear limitations, as twelve of the 35 invited developers never registered (see Section 9.1). The unregistered third exposes a problem that the voluntariness objective (DO3) incorporates into the concept. Its incentives only affect those inside the game, and entering the game is a discretionary act of engagement. Therefore, an opt-in gamification presupposes a seed of the engagement it is meant to create. The attendance problem field thus splits in two, with the demonstrated effects concerning the reachable part of the population, and the disengaged remaining structurally out of an opt-in concept's reach. Technical barriers do not explain the gap, since the architecture makes access as effortless as possible (AR3) and respondents indeed describe the tool as clearly laid out and low-friction (S2). The remaining barrier is motivational. In the model of Venkatesh et al. [84], effort expectancy is only one of several determinants of technology use. The strongest determinant is the expected personal benefit, which a disengaged developer lacks before any element can exert its pull. Effortless entry is therefore necessary but not sufficient for adoption.

However, the numbers can also be interpreted the other way around. Two thirds of the invited developers registered voluntarily before a single gamified instance had taken place, which can be considered strong uptake for an opt-in workplace tool. Regarding the no-pressure condition (RC7), the open-ended responses also contain no complaints about pressure or forced competition. At the second instance, at least five attendees came unregistered, which indicates that the tool gates only the game, not the meeting. This is consistent with the voluntariness objective (DO3) and the meeting providing value independent of the game (RC1).

The objective to leave the meeting untouched (DO2) yielded two responses that, initially, point in opposite directions. One respondent wants the tool more present between the instances, while another would rather not operate it manually at all, yet also wishes it were better integrated into the meeting flow (S7). Both responses highlight the same issue. The tool sits beside the meeting rather than inside it, with little presence between the instances and manual capture around them. The concept deliberately accepts this gap, because manual capture keeps it independent of the tooling of any specific setting (AR6). The respondents' wish is one of convenience. Therefore, the criticism does not invalidate the decision but exposes its cost. A tool that touches nothing also has little that keeps it present.

The quiz feature was designed to bridge the gap, yet in the case study, it was barely present. Only one quiz existed, covering a presentation of the first instance, while the presentations of the second instance received none because their presenters did not create any. The modest quiz rating therefore reflects a supply failure at least as much as a concept failure. Creating a quiz earned ten points, but no streak or achievements. This reveals a second-order version of the problem the concept addresses. The gamification has a participation problem of its own. It gamifies contributions to the meeting, but it lives on contributions to itself, the quiz questions, which no element adequately rewards. Elements that depend on attendee-supplied content need to incentivize the supply side as much as the consumption side, which a higher reward or an additional achievement for quiz authors could provide. Quests could bridge the gap between instances as well, but they require one-time doings which not every meeting series generates.

The divide between the motivating features and those that barely registered follows the speed at which an element pays off. The off-scale answers trace this pattern as well. All three answers of a feature not being perceived target the progress bar, the level system, and the incentive. These are

the elements that build up slowly in the background, while the features paying off within a single instance reached every respondent. A monthly meeting produces one scoring event per attendee every four weeks, with usual points between fifteen and twenty-five, as only few attendees can take over high-pointed tasks. Any element whose feedback loop spans multiple instances stayed close to invisible within a two-instance window. The level system illustrates this, with a single attendee reaching the second level and the open answers judging the points required for a new level as too high for a monthly cadence (S4). This also affects the powerup feature, as powerups are only earned through leveling up. With only one attendee reaching the second level within the window, almost no powerups beyond those from the registration lootboxes were earned. The cooperative progress bar encountered the same issue, as its point goal remained out of reach within the window. The individual incentive follows the same logic. The conference budget is redeemed at the end of the year, far beyond the two-instance window. Therefore, its impact was weak within the window and may increase as the year closes.

The slow build-up parallels the accumulated-points level design of Gomes Fernandes Matsubara and Lima Corrêa Da Silva [57], whose students also did not reach the higher levels. According to goal-setting theory, goals motivate when their attainment appears feasible and progress toward them is visible [85], which leads to the conclusion that points per level must be fine-tuned to the cadence of the adopting meeting series.

The dashboard and the coach were withheld because they build up too slowly, and the ratings suggest that the deployed slow-building elements ran into a version of the same problem. The lesson for adopters is twofold. First, front-load early deployments with elements that pay off within a single instance. Second, derive level curves and collective point goals from the expected per-instance point flow and the deployment horizon, rather than adopting them from settings with a denser activity cadence.

The fact that three features went unperceived even by a respondent attending both instances could also show that their presentation in the tool did not carry them to every attendee. Therefore, their weak ratings could at least partially be a matter of visibility rather than a reflection of the elements themselves.

Attaching incentives to leaderboard positions drew no criticism of the attachment itself, as the criticism targets the type of prize and equity. The deployed concept supports two elements with tangible incentives, the reward type that the meta-analysis of Deci et al. [18] identifies as most likely to undermine intrinsic motivation. Within the case-study window, no such undermining is visible: the open answers mention fun without being asked for it, and the meeting roles found volunteers. One possible reason is that the rewards sit inside the balance of extrinsic and intrinsic support that DO6 demands, although the crowding-out question raised for the competitive elements remains open here as well. The incentive itself nevertheless earned one of the weakest ratings, and the composition anticipated part of the reason. Attaching fixed prizes knowingly traded the free choice of reward for budget predictability (see Section 6.3). That one respondent finds rewards motivating in general but the offered training budget not personally motivating (S4) is the empirical cost of exactly this trade-off. A fixed prize fails to account for heterogeneous preferences. This suggests that incentives attached to other elements may have been effective, but the type of prize did not match. In this case, offering a choice among a small fixed set of prizes could keep the payout count budgetable while returning some autonomy. Alternatively, an incentive with universal value, such as money, might have been more effective. However, money is precisely the kind of expected tangible reward the meta-analysis finds most detrimental to intrinsic motivation [18], so broader appeal would come at the expense of the balance DO6 protects. For the same reason, the point currency was rejected in Section 6.3.

The rewards further raise an equity concern, which Respondent 16 voices against attendees who already have the most time for the meeting series. This reflects that workplace tracking technologies can create negative competition between colleagues and lead them to internalize the tracked conditions, here the available time, as conditions of their worth [64]. The concept includes catch-up elements for exactly this case: the time travel ticket and leaderboard resets. However, neither was applicable within the case study, so their mitigating effect remains untested. The same respondent extends the concern to the hybrid setting. The configuration rewards on-site attendance twice as much as online attendance, grounded in the higher attention on-site (RC3), while active involvement when attending online earns nothing. Both positions are valid, as the point values reward what the problem identification found to create value, while the criticism defends equity for attendees who cannot be on-site.

At the deployment level, the composition's central premise held. The case study ran a configured subset with five excluded elements and still produced the effects discussed, which is what the generalization objective (DO4) and the runtime configurability of the architecture (AR5) aimed for. For the excluded elements themselves, the dashboard, the coach function, quests, and the time travel ticket, the case study provides no evidence either way.

10.4 Threats to Validity

The threats to the validity of this evidence are discussed along the four aspects Runeson and Höst [35] distinguish for case-study research: construct validity, internal validity, external validity, and reliability.

Construct validity concerns whether the measured constructs accurately reflect what the evaluation intends to measure [35]. Because the survey measures changes in motivation retrospectively by self-report, recall errors and socially desirable responses are possible. The three problem fields are not equally exposed to this threat. The attendance effect is corroborated by the objective attendance record, whereas the participation and preparation effects rely on self-report alone. Additionally, since the author both built the tool and administered the survey, demand effects, such as respondents answering more favorably toward the author, cannot be excluded. The survey was administered anonymously to mitigate this concern. However, given the small number of respondents and the high familiarity among co-workers, individual respondents may remain guessable, so the anonymity may not have fully removed this threat.

Internal validity asks whether the observed changes were actually caused by the deployment [35]. Two instances are too few to observe a trend, and the attendance gain rests on the single instance that exceeded the baseline range. The two instances held immediately before the rollout were already at the top of the range for unknown reasons, so an upward fluctuation preceded the deployment. A novelty effect cannot be excluded either. Hamari et al. [12] list short timeframes and novelty effects among the typical methodological weaknesses of gamification studies. Due to its short duration, this study cannot rule out either possibility.

Additionally, the attendance counts do not identify individuals. The invited pool did not grow during the recorded period, so the increase came from within the existing pool, but whether it stems from returning attendees or from more consistent attendance of the usual ones cannot be determined.

The survey responses represent 14 out of 35 invited developers, about 40 percent. This figure lies within one standard deviation of the average response rate of 52.7 percent reported by Baruch and Holtom [86] for organizational survey research collecting data from individuals. However,

Baruch and Holtom [86] argue that the rate matters less than whether the respondents represent the population. Here the survey incentive gives reason for doubt. Since five points are worthless to anyone indifferent to the tool, the incentive may have selectively raised the response rate of point-susceptible attendees, plausibly biasing the measured motivation changes upward. The fact that about ten respondents gave up part of their anonymity to claim the points supports this mechanism. However, the selection was partial at most, as the incentive was small and the survey attempted a census of all attendees. The two respondents whose ratings stayed flat show that less susceptible attendees also responded.

External validity refers to how far the findings can be generalized beyond the studied case [35]. The evidence comes from one meeting series at one company, with a developer audience and one concept configuration. The argument that the concept can be transferred to other settings rests on its configurability, rather than on empirical evidence. Additionally, the evaluation covers only the deployed subset of the concept. The elements that were not deployed remain unevaluated, so this study cannot draw any conclusions about them.

Some voices are missing from the data altogether. The problem identification only interviewed regular attendees, so the reasons of non-attending developers are known at best through second-hand accounts. The evaluation survey captured no non-attendee voice either. The branch for unregistered attendees received no valid responses, and no registered user who stayed away from both instances responded. Therefore, the adoption gap is invisible in the data. Finally, the assumption that the meeting benefits all developer roles rests on the statements of the five interviewees and was not separately tested in the case study.

Reliability examines whether the same results would be obtained if the analysis were repeated by another researcher [35]. In this thesis, all qualitative codings and ratings were performed by the author alone: the QCA of the interview data, the QCA of the game elements in the related work, the QCA of the open-ended survey answers, and the ordinal transfer ratings of Table 5.2. Although the rule-guided procedures, predefined codebook for deductive coding, and explicit criteria for transfer ratings were meant to mitigate rater bias, reproducibility remains limited.

11 Conclusion and Outlook

The value of voluntary corporate meetings is created through the discretionary engagement of their attendees, and sustaining this engagement is difficult. This thesis set out to address this problem with gamification, following the DSR process. During problem identification, semi-structured interviews with regular attendees, analyzed with QCA, traced the meeting's unused potential to the three problem fields participation, preparation, and attendance. The interviews also bounded the solution space. Attendees value the meeting as it is, so a gamification has to leave the meeting untouched and must not feel like external pressure or forced competition. A MLR gathered the game elements prior work has used to address comparable problems. The gamification concept composes these elements with own additions on configurable performance metrics, and the web application Guild Engine implements the concept as runtime-configurable features. For the evaluation, a configured subset was deployed in the meeting series the concept was designed for, and its effect after two gamified instances was measured with a survey among the attendees and the attendance record. The deployment raised every surveyed motivation dimension.

The effects followed the cost and the measurability of the targeted behaviors rather than their importance. The motivation to attend, tied to the least costly behavior, increased the most, and the attendance growth came through the online mode, the cheapest way of being present. The motivation to participate rose the least, plausibly because a voluntary meeting offers no neutral assessor. Thus, the concept could award substantial points only for behaviors it can measure fairly. Measurability, not importance, determined where the concept was effective. The motivation to prepare increased moderately, and respondents reported better-prepared agenda items and closer adherence to the agenda. Together, these results suggest an improvement to the meeting quality itself, tempered by the online growth carrying less attention than on-site presence. Since the observed effects rest on element structures that have carried gamification in adjacent settings, they suggest a transferable design rather than an idiosyncratic fit.

At the level of individual elements, a social boundary appeared. Gamification layered onto a real social system inherits that system's norms. Although using the role present would be rational in terms of points, its deliberately high pricing could not compensate for the imposition it creates, so it remained unused. Therefore, elements that violate workplace norms will not be embraced regardless of their in-game value. The fear of competition that surfaced during the interviews did not materialize, and the competitive features were among the highest-rated. Cooperation, in contrast, could not be produced by aggregating individual points. Since leaving the meeting unchanged ruled out the genuinely collaborative tasks on which the cooperative effects of related work rest, an adopter who prioritizes cooperation must be willing to adapt the meeting itself.

Opt-in gamification presupposes an initial level of the engagement it is meant to create. Its incentives affect only those inside the game, and entering the game is itself a discretionary act of engagement, so effortless access is necessary but not sufficient for adoption. In this case, however, the hurdle weighed little, since two thirds of the invited developers registered before a single gamified instance had taken place. The remaining third never entered the game and stayed structurally beyond its reach.

On this basis, the RQ can be answered. Gamification can be utilized as a voluntary, opt-in layer around the meeting rather than as a change to the meeting itself. In order to be effective, the layer has to offer every player type something to engage with, wrap its extrinsic rewards in support for autonomy, competence, and relatedness, and calibrate its point values deliberately, since they steer behavior on their own. When used in this manner, the gamification increased the motivation for the behaviors that determine the meeting's quality. The case study showed that most clearly for attendance, but also for preparation and participation, which no related work demonstrated simultaneously. The concept, the prototype, and the case-study evidence covering all three problem fields at once form the contribution of this thesis. In the DSR knowledge-contribution framework of Gregor and Hevner [27], this contribution constitutes an exaptation, as it extends elements proven in adjacent domains into a setting for which no ready solution existed. Beyond the exaptation, the evaluation produced its own design knowledge, such as the transfer of streaks to the meeting context and the dependence of element pacing on meeting cadence.

The cadence dependence also highlights a key limitation of this thesis, as the evaluation window was too short for the concept it evaluated. Since a monthly meeting lets each attendee score only once every four weeks, two gamified instances could reveal only the elements that pay off immediately. The slow-building elements remained nearly invisible, and the dashboard, the coach, quests, stickers, and the time travel ticket were withheld from the deployment altogether, so parts of the concept remain unevaluated. Whether the motivation survives the year-end redemption and withdrawal of the rewards lies beyond the window as well. Therefore, the observed effects mark a promising signal rather than an established trend, and a novelty effect cannot be excluded. Within these bounds, the case study suggests that an opt-in gamification layer of this kind is a viable answer to the engagement problem of voluntary meeting formats.

A future longitudinal study could extend the evaluation to the full concept. Deploying the withheld elements would close the evidence gap the configured subset left. The configuration could further be adjusted according to the survey feedback, and a follow-up could test whether the adjustment gains more than it loses. For example, removing the role raffle may please its critics, but it may also demotivate attendees who valued its fairness. Additionally, such a study could determine whether to reward on-site or online attendance more, the former being the channel through which more value is carried and the latter being the channel through which new attendees actually arrived in this case study.

Transfer studies could close the external validity gap by applying the concept elsewhere. This could involve meeting series with different purposes, other companies and audiences, or different meeting cadences.

The non-attendees that the collected data never reached deserve a dedicated study. Respondent 16 suggests offering higher rewards to first-time or long-absent attendees. Starting from such suggestions, a study could investigate why invited developers stay away and examine how gamification can motivate an initial attendance.

The deployed prototype remains in use in the studied meeting series beyond the case study. This allows for the reported results to be followed up on directly. Since the incentive is redeemed only at the end of the year, continued use could reveal whether the motivation survives the redemption of the reward. Monitoring registrations could show whether the unregistered third eventually enters the game. Repeating the survey after several months of continued deployment could test whether the reported effects persist. In particular, this could show whether the slow-building elements begin to take effect once levels and point goals come within reach, and whether the effect of the elements that pay out immediately continues beyond the novelty of the rollout.

List of Abbreviations

DSR Design Science Research. 2, 7, 10, 47, 67, 68

FEDS Framework for Evaluation in Design Science Research. 47

HTTP Hypertext Transfer Protocol. 44

JSON JavaScript Object Notation. 41, 44

MLR Multivocal Literature Review. 7, 17, 18, 19, 67

OCB Organizational Citizenship Behavior. 1

OIDC OpenID Connect. 36, 41

PRISMA Preferred Reporting Items for Systematic Reviews and Meta-Analyses. 17, 18

QCA Qualitative Content Analysis. 7, 9, 12, 22, 30, 31, 53, 65, 67

SDT Self-Determination Theory. 5, 26, 59

SLR Systematic Literature Review. 17

SSO Single Sign-On. 36, 41

TWL Today We Learned. 9, 13, 14, 48, 49, 58

UI User Interface. 34, 40, 41, 44, 46, 50

UX User Experience. 34

A Problem Identification Interview Guide

This appendix contains the guide of the five problem identification interviews described in Section 4.2. The interviews were conducted in German, and the guide is reproduced in its original language. Each section of the guide states its goal and time budget, and each main question is followed by the prompts used to probe further.

General Information

Goal	Identify the problems that lower the quality of the meeting series and could be mitigated with gamification
Interview type	Semi-structured, one-on-one
Interviewees	Two senior developers, one mid-level developer, two junior developers
Interviewer	Patrick Reich (thesis author)
Duration	30+ minutes per interview
Date	Early 2026
Place	Böblingen, Germany
Language	German

Einleitung

Ziel	Ein Profil der interviewten Person für die Auswertung erheben und eine offene Gesprächsatmosphäre für den Hauptteil schaffen.
Zeit	ca. 5 Minuten

1. Die interviewte Person begrüßen, mich vorstellen und den Zweck des Interviews erläutern.
2. Was ist dein primärer Job (Entwickler Junior/Senior, Tech Lead, Architekt, ...)?
3. Wie lange nimmst du schon an den Meetings teil?
4. Nimmst du meistens vor Ort oder remote teil?
5. Bist du eher passiv oder aktiv im Meeting?
6. Wie oft nimmst du teil?

Hauptteil

Ziel Informationen über Probleme erfassen, die die Qualität des Meetings mindern.

Zeit ca. 20 Minuten

1. Wie hoch ist aktuell der durchschnittliche Mehrwert des Meetings für dich (1-10)?
 - Warum?
 - Welche Form nimmt der Mehrwert an?
 - Welche Bausteine im Meeting liefern dir den meisten Mehrwert?
2. Wie viel % der Meetingzeit bringen dir echten Mehrwert?
 - Warum?
 - Könntest du die Zeit anders wertvoller nutzen?
 - Welche Zeit/Bausteine im Meeting liefert keinen Mehrwert?
3. Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir im Arbeitsalltag geholfen hat?
 - Wissen über eine Technologie / ein Vorgehen; Wissen, dass eine Person Ansprechpartner für etwas sein könnte
 - Beispiele + Woher kam es (Vortrag, TWL Beitrag, Open Session, ...)?
 - Wie oft entsteht Mehrwert für dich?
4. Würdest du das Meeting vermissen, wenn es ...
 - Komplett abgesagt werden würde?
 - Durch asynchrone Kommunikation vollständig ersetzt werden würde?
5. Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?
 - Warum?
6. Was ist deiner Meinung nach der Unterschied zwischen vor Ort und online dabei sein?
 - Was ist sinnvoller?
 - Warum?
7. Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
 - Worauf würde der Fokus liegen (Fachlicher Wissensaustausch, Networking, Sichtbarkeit, Inspiration, ...)?
 - Was müsste wegfallen / beschleunigt werden?
8. Gab es schon Meetings, an denen du im Nachhinein lieber nicht teilgenommen hättest?
 - Wenn ja, warum?

Abschluss

Ziel Weitere Informationen und Probleme erfassen, die im Hauptteil nicht zur Sprache kamen.

Zeit ca. 5+ Minuten

1. Hast du Ergänzungen?
 - Themen, die während des Interviews nicht abgedeckt wurden?
 - Weitere Dinge, die du mir mitgeben möchtest?
2. Der interviewten Person für ihre Zeit danken und über die weiteren Schritte informieren.

B Problem Identification Interview Scripts

This appendix contains the full interview scripts of the five problem identification interviews, one section per interviewee. The interviews were conducted in German, and each script reconstructs the conversation in its original language from the notes taken during the interview. Each turn is numbered, and these turn numbers are the references used by the coding tables in Appendix C.

B.1 Interviewee A

1. Moderator: Danke, dass du dir die Zeit nimmst. Ich würde dir jetzt ein paar Fragen zu deiner Person stellen, damit ich dich später in der Thesis einordnen kann. Danach machen wir dann die fachlichen Fragen.

2. Interviewee A: Jo, passt.

3. Moderator: Was ist denn aktuell deine primäre Rolle?

4. Interviewee A: Junior Entwickler.

5. Moderator: Und wie lange bist du jetzt schon bei den Meetings dabei?

6. Interviewee A: So ungefähr ein Jahr.

7. Moderator: Meistens vor Ort oder remote?

8. Interviewee A: Immer vor Ort eigentlich.

9. Moderator: Würdest du dich eher als aktiv oder passiv im Meeting beschreiben?

10. Interviewee A: Eher passiv.

11. Moderator: Und wie oft nimmst du teil?

12. Interviewee A: Eigentlich immer.

13. Moderator: Dann starten wir jetzt mit den eigentlichen Fragen. Wie hoch ist aktuell der durchschnittliche Mehrwert vom Meeting für dich, wenn du jetzt von eins bis zehn bewerten müsstest?

14. Interviewee A: Ich würde sagen acht.

15. Moderator: Warum relativ hoch?

16. Interviewee A: Also ich finde es schon extrem interessant zu sehen, was andere Teams machen. Das ist eigentlich einer der größten Mehrwerte.

17. Moderator: Welche Form nimmt dieser Mehrwert für dich an?

18. Interviewee A: Hauptsächlich Einblicke in Technologien oder Themen, mit denen andere sich beschäftigen. Oft auch Sachen, mit denen Leute privat rumexperimentieren.

19. Moderator: Gibt es bestimmte Bausteine im Meeting, die dir besonders viel bringen?

20. Interviewee A: Ja, Open Session auf jeden Fall, wenn eine da ist. Und Today We Learned finde ich meistens auch gut.

21. Moderator: Warum gerade die beiden?

22. Interviewee A: Weil da meistens praxisnahe Sachen kommen. Also eher Technologien, Probleme oder Lösungen.

23. Moderator: Und welche Teile bringen dir eher wenig?

24. Interviewee A: Reine Projektvorstellungen oft. Wenn einfach nur erklärt wird, was das Projekt macht, bringt mir das meistens wenig. Sobald es mehr um die Technologien geht, wird's interessant.

25. Moderator: Würdest du sagen, das eingebrachte Wissen ist manchmal zu projektspezifisch?

26. Interviewee A: Ja definitiv. Das passiert schon oft.

27. Moderator: Wie viel Prozent der Meetingzeit bringen dir denn echten Mehrwert?

28. Interviewee A: Vielleicht so fünfzig bis sechzig Prozent.

29. Moderator: Woran liegt's, dass es nicht mehr ist?

30. Interviewee A: Einiges zieht sich einfach unnötig.

31. Moderator: Zum Beispiel?

32. Interviewee A: Der Anfang mit den AGs meistens. Da ist oft viel dabei, was eigentlich irrelevant ist.

33. Moderator: Was genau meinst du mit irrelevant?

34. Interviewee A: Also mich interessieren eher die effektiven Ergebnisse. Nicht unbedingt dieses „wir haben jetzt darüber geredet“ oder „das haben wir gemacht“.

35. Moderator: Würde da irgendwas helfen?

36. Interviewee A: Ja, wahrscheinlich bessere Vorbereitung. Oder dass man manche Sachen einfach schon vorher irgendwo hinschreibt.

37. Moderator: Zum Beispiel?

38. Interviewee A: Protokollverteilung zum Beispiel. Wenn das weniger Zeit brauchen würde, wäre schon gut.

39. Moderator: Glaubst du, die Zeit könnte anderweitig sinnvoller investiert werden?

40. **Interviewee A:** Vermutlich nicht wirklich.
41. **Moderator:** Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir später geholfen hat?
42. **Interviewee A:** Also direkt geholfen eher selten.
43. **Moderator:** Gab es trotzdem Dinge, die hängen geblieben sind?
44. **Interviewee A:** Ja schon. Oft eher so als Anstoß, sich etwas mal genauer anzuschauen.
45. **Moderator:** Hast du Beispiele?
46. **Interviewee A:** Kubernetes oder Docker zum Beispiel.
47. **Moderator:** Wo kamen die Themen her?
48. **Interviewee A:** Unterschiedlich. Teilweise Vorträge in der Open Session, teilweise Today We Learned.
49. **Moderator:** Was genau war dann der Mehrwert daran?
50. **Interviewee A:** Nicht unbedingt das vermittelte Wissen direkt. Eher dieses „okay, das könnte relevant sein, das schaue ich mir mal an“.
51. **Moderator:** Gab es auch Negativbeispiele?
52. **Interviewee A:** Ja, diese Go-Vorstellung damals.
53. **Moderator:** Was war da das Problem?
54. **Interviewee A:** Das waren irgendwie dreißig Minuten Vorstellung von etwas, das der Präsentator selbst überhaupt nicht verstanden hat. Und es gab auch keinen praktischen Anwendungsfall dazu.
55. **Moderator:** Also zu abstrakt?
56. **Interviewee A:** Ja genau. Einfach ohne Kontext.
57. **Moderator:** Gab es auch Projektvorstellungen, die hilfreich waren?
58. **Interviewee A:** Ja, die Vorstellung von dem Projekt, bei dem ich später selbst angefangen habe.
59. **Moderator:** Warum war das hilfreich?
60. **Interviewee A:** Weil man dadurch schon grob wusste, wie das Ganze funktioniert und woran gearbeitet wird.
61. **Moderator:** Wie oft entsteht denn insgesamt so ein Mehrwert für dich?
62. **Interviewee A:** Vielleicht jedes zweite oder dritte Meeting, dass man wirklich einen guten Anstoß bekommt für irgendwas, das man sich anschauen will.
63. **Moderator:** Würdest du das Meeting vermissen, wenn es komplett abgesagt werden würde?
64. **Interviewee A:** Ja schon.
65. **Moderator:** Warum?
66. **Interviewee A:** Vor allem wegen dem sozialen Aspekt. Dass man sich mal mit Leuten austauscht, die nicht im eigenen Projekt sind.
67. **Moderator:** Also eher Networking?
68. **Interviewee A:** Ja genau.
69. **Moderator:** Und wenn das Ganze komplett asynchron wäre?
70. **Interviewee A:** Würde ich auch nicht gut finden.
71. **Moderator:** Warum?
72. **Interviewee A:** Das würde komplett untergehen glaube ich. Keiner würde dann noch wirklich Zeit investieren.
73. **Moderator:** Sonst noch Gründe?
74. **Interviewee A:** Der soziale Effekt würde halt auch wegfallen.
75. **Moderator:** Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?
76. **Interviewee A:** Wahrscheinlich für Junior- und Mid-Level Entwickler am meisten.
77. **Moderator:** Warum gerade für die?
78. **Interviewee A:** Wegen Wissensaufbau hauptsächlich.
79. **Moderator:** Und für wen eher weniger?
80. **Interviewee A:** Für Leads wahrscheinlich.
81. **Moderator:** Warum?
82. **Interviewee A:** Die haben meistens eh schon die meiste Knowledge und sind sowieso bei vielen Entscheidungen oder Projekten beteiligt.
83. **Moderator:** Du warst ja immer vor Ort dabei. Was glaubst du ist der Unterschied zwischen vor Ort und online?
84. **Interviewee A:** Online macht man halt safe nebenbei noch andere Sachen.
85. **Moderator:** Was ist sinnvoller?
86. **Interviewee A:** Kommt drauf an. Aus Produktivitätssicht wahrscheinlich online. Aber sozial gesehen definitiv vor Ort.
87. **Moderator:** Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
88. **Interviewee A:** Also erstmal müsste vieles besser vorbereitet sein.
89. **Moderator:** Was genau?
90. **Interviewee A:** Leitung und Protokoll vorher klären zum Beispiel.
91. **Moderator:** Noch andere Dinge?
92. **Interviewee A:** AG-Zusammenfassungen vorbereiten.
93. **Moderator:** Wie meinst du das?
94. **Interviewee A:** Nicht erst im Meeting überlegen „hab ich was vergessen?“ oder sowas. Lieber vorher Stichpunkte in die Agenda schreiben.
95. **Moderator:** Würde auch eine asynchrone Variante für AGs funktionieren?
96. **Interviewee A:** Ja eigentlich schon. Man könnte das komplett irgendwo runterschreiben.
97. **Moderator:** Was sollte auf jeden Fall bleiben?
98. **Interviewee A:** Today We Learned würde ich genau so lassen. Eigentlich sogar direkt damit anfangen.
99. **Moderator:** Und die Open Session?
100. **Interviewee A:** Auch genau so lassen.
101. **Moderator:** Würdest du mehr Vorträge wollen?
102. **Interviewee A:** Nee eher nicht. Irgendwann nimmt man eh nichts mehr auf.

103. **Moderator:** Gibt es da ein sinnvolles Limit?
104. **Interviewee A:** Maximal zwei Vorträge à dreißig Minuten ungefähr.
105. **Moderator:** Was macht einen guten Vortrag aus?
106. **Interviewee A:** Dass auch auf Technologien, Probleme und Lösungen eingegangen wird. Nicht nur auf das Projekt selbst.
107. **Moderator:** Wie siehst du die Planung fürs nächste Meeting?
108. **Interviewee A:** Ist halt notwendiges Übel.
109. **Moderator:** Gab es schon Meetings, bei denen du im Nachhinein lieber nicht teilgenommen hättest?
110. **Interviewee A:** Ja, eins auf jeden Fall.
111. **Moderator:** Was war da das Problem?
112. **Interviewee A:** Zu wenig Vorbereitung insgesamt.
113. **Moderator:** Woran hat man das gemerkt?
114. **Interviewee A:** Die Go-Präsentation war irgendwie komplett useless. Die AG-Vorstellung hat ewig gedauert, weil keiner wusste, was Sache ist. Protokoll verteilen hat zehn Minuten gebraucht. Und diese Planung fürs nächste Mal war auch ineffektiv, weil niemand wusste, wann überhaupt das nächste Meeting ist.
115. **Moderator:** Was hält dich persönlich davon ab, Dinge vorzubereiten oder dich mehr einzubringen?
116. **Interviewee A:** Aktuell eigentlich nichts mehr.
117. **Moderator:** Hast du sonst noch irgendwelche Ergänzungen?
118. **Interviewee A:** Nee eigentlich nicht.

-
119. **Moderator:** Alles klar, perfekt. Dann danke dir auf jeden Fall für deine Zeit und die ganzen Einblicke.

B.2 Interviewee B

1. **Moderator:** Danke, dass du dich bereit erklärt hast, mir ein paar Fragen zur Gilde zu beantworten. Ich würde erstmal kurz mit ein paar allgemeinen Fragen zu deiner Person anfangen, einfach damit ich das später in der Thesis bisschen besser einordnen kann. Danach gehen wir dann auf das Meeting ein.
2. **Interviewee B:** Ja, passt.
3. **Moderator:** Was ist denn aktuell so deine primäre Rolle? Junior? Senior? Mid?
4. **Interviewee B:** Mid-Level Entwicklerin.
5. **Moderator:** Und wie lange bist du jetzt schon bei den Meetings dabei?
6. **Interviewee B:** Vier Jahre ungefähr.
7. **Moderator:** Meistens vor Ort oder remote?
8. **Interviewee B:** Vor Ort eigentlich.
9. **Moderator:** Würdest du dich als eher aktiv oder eher passiv im Meeting beschreiben?
10. **Interviewee B:** Schon eher aktiv. Also ich melde mich schon hin und wieder zu Wort.
11. **Moderator:** Und wie oft nimmst du teil?
12. **Interviewee B:** Schon an den meisten Meetings. Außer halt Urlaub und so oder ich hab einen Paralleltermin mit dem Kunden.

-
13. **Moderator:** Dann gehen wir mal in die fachlichen Fragen rein. Wie hoch ist aktuell so der durchschnittliche Mehrwert vom Meeting für dich, wenn du eine Zahl zwischen eins und zehn geben müsstest?
14. **Interviewee B:** Schwierig. Das schwankt schon extrem. Manchmal ist es eher so eine zwei von zehn und manchmal eher eine acht. Im Durchschnitt wahrscheinlich ungefähr eine sechs.
15. **Moderator:** Wovon hängt das für dich ab?
16. **Interviewee B:** Hauptsächlich von den Vorträgen und Themen. Technische Vorträge oder wenn jemand irgendwas ausprobiert hat, finde ich eigentlich fast immer gut.
17. **Moderator:** Ok.
18. **Interviewee B:** Da nimmt man halt oft direkt mit, wer sich womit auskennt. Also man hat gleich Ansprechpartner im Kopf für bestimmte Technologien oder Themen.
19. **Moderator:** Das heißt eher Wissensaustausch und Vernetzung?
20. **Interviewee B:** Genau. Auch einfach dieser Austausch darüber, was andere Teams gerade machen. Und generell der Austausch untereinander.
21. **Moderator:** Welche Bausteine bringen dir dabei am meisten?
22. **Interviewee B:** Vorträge und TWL auf jeden Fall. Probleme und Erfolge finde ich aber auch oft überraschend gut, weil daraus manchmal direkt Lösungsansätze entstehen.
23. **Moderator:** Ok.
24. **Moderator:** Wie viel Prozent der Meetingzeit bringen dir denn echten Mehrwert?
25. **Interviewee B:** Ich würde schon sagen neunzig Prozent ungefähr.
26. **Moderator:** Das ist deutlich höher als bei vielen anderen. Warum so hoch?
27. **Interviewee B:** Ja, aber für mich ist halt schon dieser allgemeine Austausch mit allen Entwicklern sinnvoll. Gerade projektübergreifend. Man hat Berührungspunkte mit Leuten, mit denen man sonst nie zusammenarbeiten würde.
28. **Moderator:** Mhm.
29. **Interviewee B:** Und es gibt halt auch Möglichkeiten zur Weiterentwicklung. Wenn man hört „das Team macht jetzt das und das“, dann weiß man direkt, wer Ansprechpartner ist oder welche Themen es intern überhaupt gibt.
30. **Moderator:** Also auch bisschen Horizonsweiterung?

- 31. Interviewee B:** Ja voll. Man kommt mal raus aus seinem Projektunnel. Projekttechnisch könnte die Zeit natürlich manchmal sinnvoller investiert werden, aber diese eine Stunde alle vier Wochen bringt halt einfach frischen Wind rein.
- 32. Moderator:** Ok.
- 33. Interviewee B:** Man zieht da schon Motivation raus. Auch einfach neue Ideen oder Perspektiven.
- 34. Moderator:** Inwiefern Motivation?
- 35. Interviewee B:** Dass man wieder Lust bekommt, mehr zu machen als nur das, was direkt fürs Projekt notwendig ist.
- 36. Moderator:** Ah ok.
- 37. Interviewee B:** Und man bekommt halt auch mit, wohin man sich intern entwickeln könnte. Also wenn man mal unzufrieden im Projekt ist, sieht man eher Möglichkeiten innerhalb der Firma, statt direkt zu denken man müsste wechseln.
- 38. Moderator:** Gibt es auch Teile, die dir weniger bringen?
- 39. Interviewee B:** Manche Bausteine werden halt einfach geskippt oder nicht richtig genutzt, weil niemand was vorbereitet hat. Die könnten eigentlich sinnvoll sein, werden's aber manchmal nicht.
- 40. Moderator:** Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir im Arbeitsalltag geholfen hat?
- 41. Interviewee B:** Ja, schon. Zum Beispiel dieses ganze Thema Entwicklung mit KI.
- 42. Moderator:** Hast du da ein konkretes Beispiel?
- 43. Interviewee B:** Das Continue Plugin zum Beispiel. Solche Sachen.
- 44. Moderator:** Ok.
- 45. Interviewee B:** Allgemein entsteht konkreter Mehrwert wahrscheinlich so jedes zweite oder dritte Meeting.
- 46. Moderator:** Würdest du das Meeting vermissen, wenn es komplett abgesagt werden würde?
- 47. Interviewee B:** Ja definitiv.
- 48. Moderator:** Warum?
- 49. Interviewee B:** Weil der allgemeine Austausch fehlen würde.
- 50. Moderator:** Und wenn das Ganze komplett asynchron wäre?
- 51. Interviewee B:** Würde auch viel verlieren.
- 52. Moderator:** Inwiefern?
- 53. Interviewee B:** Das Persönliche fehlt dann einfach komplett. Gemeinschaft und dieses ganze Sozializing funktioniert halt nur live richtig.
- 54. Moderator:** Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?
- 55. Interviewee B:** Für Juniors wahrscheinlich am meisten.
- 56. Moderator:** Warum gerade für die?
- 57. Interviewee B:** Weil man extrem viele Leute und Technologien kennenlernt. Einfach generell viel Input bekommt.
- 58. Moderator:** Und Mid-Level?
- 59. Interviewee B:** Auch sehr wertvoll. Gerade für explorative Weiterentwicklung oder gegenseitige Förderung.
- 60. Moderator:** Und Seniors oder Leads?
- 61. Interviewee B:** Die geben wahrscheinlich eher Wissen weiter. Wobei sie untereinander natürlich trotzdem auch noch voneinander lernen.
- 62. Moderator:** Was ist deiner Meinung nach der Unterschied zwischen vor Ort und online teilnehmen?
- 63. Interviewee B:** Präsenz ist viel besser fürs Sozializing.
- 64. Moderator:** Ok.
- 65. Interviewee B:** Online wird das Meeting schnell nur noch so Hintergrundrauschen. Man hört halb zu und macht nebenbei noch irgendwas anderes.
- 66. Moderator:** Also eher passiver Konsum?
- 67. Interviewee B:** Genau. Vor Ort kann man sich viel besser drauf einlassen.
- 68. Moderator:** Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
- 69. Interviewee B:** Also grundsätzlich würde ich viele Sachen genauso lassen wie jetzt. AG-Vorstellungen, TWL, Erfolge und Herausforderungen finde ich gut.
- 70. Moderator:** Ok.
- 71. Interviewee B:** Aber die zwei Stunden sollten schon komplett genutzt werden.
- 72. Moderator:** Wie meinst du das?
- 73. Interviewee B:** Mehr offene Diskussionen in der Open Session zum Beispiel. Dass man ein oder zwei Themen wirklich gemeinsam ausarbeitet oder diskutiert.
- 74. Moderator:** Was würde das bringen?
- 75. Interviewee B:** Ich glaube das würde die Leute nochmal deutlich näher zusammenbringen und projektübergreifend Wissen aufbauen.
- 76. Moderator:** Warum passiert das aktuell nicht so?
- 77. Interviewee B:** Weil niemand die Open Session vorbereitet. Niemand nimmt sich wirklich die Zeit dafür.
- 78. Moderator:** Gibt es organisatorische Dinge, die verbessert werden könnten?
- 79. Interviewee B:** Ja, bisschen Optimierung wäre schon drin. Manche organisatorischen Sachen könnte man wahrscheinlich vorher einfach im Chat klären.
- 80. Moderator:** Gab es schon Meetings, bei denen du im Nachhinein lieber nicht teilgenommen hättest?
- 81. Interviewee B:** Bestimmt, ja.
- 82. Moderator:** Was war da das Problem? Also kannst du mir ein konkretes Meeting sagen?
- 83. Interviewee B:** Konkret fällt mir grade keins ein. Aber das war eher vor der Umstrukturierung. Mittlerweile läuft das geordneter.
- 84. Moderator:** Inwiefern?
- 85. Interviewee B:** Man hat jetzt einen roten Faden. Das ist eigentlich gut so, wie es aktuell ist.
- 86. Moderator:** Hast du sonst noch irgendwelche Ergänzungen?
- 87. Interviewee B:** Vielleicht... ne eigentlich haben wir alles besprochen.

88. Moderator: Ok, perfekt, dann sind wir durch. Danke dir nochmal für deine Antworten und deine Zeit.

B.3 Interviewee C

1. Moderator: Vielen Dank, dass du dir die Zeit genommen hast. Zunächst würde ich dich jetzt ein paar Fragen zu deiner Person fragen, sodass ich dein anonymes ich in meiner Thesis nachher gut einkategorisieren kann. Danach gehen wir dann in die fachlichen Fragen rein.

2. Interviewee C: Alles klar.

3. Moderator: Was ist denn aktuell so deine primäre Rolle bei uns? Also eher Junior Entwickler, Senior, Tech Lead oder sowas?

4. Interviewee C: Junior.

5. Moderator: Und wie lange nimmst du schon an den Meetings teil?

6. Interviewee C: So ungefähr dreieinhalb Jahre.

7. Moderator: Nimmst du meistens vor Ort oder remote teil?

8. Interviewee C: Eigentlich fast immer vor Ort.

9. Moderator: Eher aktiv oder eher passiv im Meeting?

10. Interviewee C: Eher passiv würde ich sagen.

11. Moderator: Und wie oft bist du überhaupt dabei?

12. Interviewee C: Fast immer eigentlich.

13. Moderator: Dann starten wir mal mit den fachlichen Fragen. Wie hoch ist denn aktuell so der durchschnittliche Mehrwert von dem Meeting für dich, wenn du jetzt eine Zahl von eins bis zehn geben müsstest?

14. Interviewee C: Ich glaub so eine sechs.

15. Moderator: Warum gerade eine sechs?

16. Interviewee C: Also man kriegt halt schon mit, was die anderen machen. Gerade so Informationsaustausch über interne Projekte oder auch KI-Themen finde ich schon interessant.

17. Moderator: Was genau bringt dir daran den Mehrwert?

18. Interviewee C: Vor allem die Vorträge eigentlich. Die sind für mich so die wichtigsten Mehrwertsgeneratoren.

19. Moderator: Was macht die Vorträge so wertvoll für dich?

20. Interviewee C: Man bekommt halt Einblicke in Themen, die man sonst vielleicht gar nicht mitkriegen würde. Gerade bei KI oder allgemein neuen Technologien.

21. Moderator: Gibt es auch Dinge, die dir eher wenig bringen?

22. Interviewee C: Ja, viele Infos sind halt zu speziell. Also dann sehr projektspezifisch oder tief in Technologien drin, die man im eigenen Projektkontext gar nicht anwenden kann.

23. Moderator: Würdest du sagen, das liegt eher am Meeting oder eher an der aktuellen Projektsituation?

24. Interviewee C: Eher an den Projekten tatsächlich, nicht am Meeting selber.

25. Moderator: Wie viel Prozent der Meetingzeit bringen dir denn echten Mehrwert?

26. Interviewee C: Vielleicht so fünfzig Prozent.

27. Moderator: Warum nur ungefähr die Hälfte?

28. Interviewee C: Also ich glaube halt auch ehrlich gesagt nicht, dass irgendein Meeting jemals hundert Prozent sinnvoll genutzte Zeit hat.

29. Moderator: Fair. Was sind denn die Teile, die dir weniger bringen?

30. Interviewee C: Häufig halt Sachen, wo einem einfach die Projekte fehlen, um das Erlernte wirklich anzuwenden. Dann bleibt es halt eher theoretisch.

31. Moderator: Würdest du sagen, du könntest die Zeit anderweitig wertvoller nutzen?

32. Interviewee C: Nee eigentlich nicht. Also ich glaube nicht, dass die Zeit jetzt irgendwie besser investierbar wäre.

33. Moderator: Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir im Arbeitsalltag geholfen hat?

34. Interviewee C: Ja, zum Beispiel ein Vortrag über LLMs und solche Themen.

35. Moderator: Was genau hast du daraus mitgenommen?

36. Interviewee C: Vor allem ein besseres Verständnis für das Thema und auch so Anhaltspunkte für Informationsquellen, die man dann fürs eigene Projekt nutzen kann.

37. Moderator: Also weniger direkt technische Umsetzung, sondern eher Orientierung?

38. Interviewee C: Ja genau.

39. Moderator: Noch andere Beispiele?

40. Interviewee C: Ja, es gab auch mal eine Vorstellung von einem internen Projekt, zu dem ich später gewechselt bin.

41. Moderator: Ah okay. Hat dir das dann später geholfen?

42. Interviewee C: Ja schon. Vor allem weil die Aufzeichnung von dem Vortrag dann genutzt werden konnte, um nochmal ins Projekt einzusteigen.

43. Moderator: War der Vortrag vor Ort trotzdem sinnvoll, obwohl es die Aufzeichnung gab?

44. Interviewee C: Ja schon. Einfach damit man das aktiv im Kopf hat. Und die Fragen vom Publikum geben dem Video später auch nochmal Mehrwert.

45. Moderator: Gibt es sonst noch konkrete Beispiele?

46. Interviewee C: Nee, gerade nicht wirklich.

47. Moderator: Würdest du das Meeting vermissen, wenn es komplett abgesagt werden würde?

48. Interviewee C: Ja schon. Also es ist schon interessant insgesamt.

49. Moderator: Was genau würdest du vermissen?

50. Interviewee C: Vor allem die Gemeinschaft und dieses Networking.

51. **Moderator:** Warum ist das wichtig für dich?
52. **Interviewee C:** Einfach der Austausch mit anderen Leuten. Das gehört halt schon dazu.
53. **Moderator:** Und wenn das Meeting komplett asynchron ersetzt werden würde? Also nur noch Chat, Beiträge oder Videos?
54. **Interviewee C:** Würde ich auch vermissen.
55. **Moderator:** Warum?
56. **Interviewee C:** Weil der persönliche Austausch dann trotzdem fehlt. Mündlich ist vieles einfach angenehmer und einfacher.
57. **Moderator:** Siehst du irgendwelche Vorteile an einer asynchronen Variante?
58. **Interviewee C:** Eigentlich nicht wirklich, weil das Meeting ja eh schon aufgezeichnet wird.
59. **Moderator:** Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?
60. **Interviewee C:** Eigentlich für alle Entwickler.
61. **Moderator:** Warum für alle?
62. **Interviewee C:** Weil Austausch halt allen etwas bringt. Auch andere Seniors können einem Senior nochmal irgendwas Neues erzählen.
63. **Moderator:** Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
64. **Interviewee C:** Also ehrlich gesagt würde ich es gar nicht groß umstrukturieren.
65. **Moderator:** Was sollte auf jeden Fall bleiben?
66. **Interviewee C:** Vorträge und gerade KI-Themen finde ich extrem sinnvoll.
67. **Moderator:** Warum speziell KI-Themen?
68. **Interviewee C:** Weil das halt allgemein neue Technologien oder Themenfelder sind, die grob vorgestellt werden. Das finde ich hilfreicher als super spezielle Technologien direkt im Detail.
69. **Moderator:** Warum bringen dir die speziellen Technologien weniger?
70. **Interviewee C:** Weil das oft zu tief reingeht und einem einfach das Grundwissen oder der Projektbezug fehlt.
71. **Moderator:** Wie sieht es mit den Erfolgen und Herausforderungen aus dem Meeting aus?
72. **Interviewee C:** Die sind oft bisschen zu high-level.
73. **Moderator:** Inwiefern?
74. **Interviewee C:** Man kennt halt die Projekte oder Technologien dahinter nicht gut genug, deshalb bringt das oft nicht super viel.
75. **Moderator:** Gibt es noch andere Probleme mit dem Teil?
76. **Interviewee C:** Ja, das zieht sich manchmal auch bisschen. Erst sagt keiner was und irgendwann haben dann doch alle noch irgendwas.
77. **Moderator:** Liegt das auch daran, dass es oft sehr projektspezifisch ist?
78. **Interviewee C:** Ja genau. Häufig halt sehr spezifisch und unbekannt.
79. **Moderator:** Könnte der Teil trotzdem anderen etwas bringen?
80. **Interviewee C:** Ja schon. Eigentlich ähnlich wie bei TWL. Also dieses „das habe ich gemacht und daraus gelernt“.
81. **Moderator:** Und wie ist das für dich selber? Würdest du gerne eigene Erfolge teilen?
82. **Interviewee C:** Eigentlich nicht wirklich.
83. **Moderator:** Warum nicht?
84. **Interviewee C:** Anerkennung ist mir da ziemlich egal ehrlich gesagt. Wenn dann würde ich eher was teilen, damit andere aus meinen Fehlern lernen können.
85. **Moderator:** Gab es schon Meetings, bei denen du im Nachhinein lieber nicht teilgenommen hättest?
86. **Interviewee C:** Nee eigentlich nicht.
87. **Moderator:** Warum nicht?
88. **Interviewee C:** Weil man mindestens Networking immer irgendwie mitnimmt.
89. **Moderator:** Gibt es Dinge, die dafür sorgen, dass das Meeting trotzdem fast immer sinnvoll bleibt?
90. **Interviewee C:** Ja, dass eigentlich jedes Mal mindestens ein Vortrag existiert. Das hilft extrem.
91. **Moderator:** Was wäre denn, wenn es keine Vorträge oder Open Session gäbe?
92. **Interviewee C:** Dann würde das Meeting schon recht wenig Sinn machen glaube ich.
93. **Moderator:** Gibt es sonst noch irgendwelche Ergänzungen oder Dinge, die dir wichtig wären?
94. **Interviewee C:** Ja, wenn es mehr Projekte gäbe, um die ganzen Sachen anzuwenden, dann würde das Meeting nochmal deutlich mehr bringen.
95. **Moderator:** Warum?
96. **Interviewee C:** Weil dann nicht mehr alles komplett neu wäre und man hier und da mehr Wiedererkennungswert hätte.
97. **Moderator:** Gibt es Unterschiede zwischen remote und vor Ort?
98. **Interviewee C:** Ja definitiv. Online macht man halt immer irgendwas nebenher. Vor Ort ist man deutlich aufmerksamer.

99. **Moderator:** Gut, dann wär's das von meiner Seite. Vielen Dank für deine Zeit, das hat mir echt weitergeholfen.

B.4 Interviewee D

1. **Moderator:** So, dankeschön, dass du hier bist. Ich würde erstmal kurz paar allgemeine Fragen zu deiner Rolle und so stellen, einfach damit ich das später für die Thesis hab. Danach gehen wir dann auf die eigentlichen Fragen zum Meeting ein.
2. **Interviewee D:** Alles klar, passt.
3. **Moderator:** Was ist aktuell so deine Rollenbezeichnung?
4. **Interviewee D:** Also ich bin ja einer von den drei Lead Experts. Aber ich mach auch noch Architektur.
5. **Moderator:** Und wie lange bist du schon bei den Meetings dabei?
6. **Interviewee D:** Seit Anfang eigentlich, also sechs Jahre.
7. **Moderator:** Meistens vor Ort oder remote?

8. Interviewee D: Ich meine ich bin immer im Büro, also...

9. Moderator: Würdest du dich eher als aktiv oder eher passiv beschreiben im Meeting?

10. Interviewee D: Ja, doch schon aktiv.

11. Moderator: Und wie oft nimmst du teil?

12. Interviewee D: Außer Urlaub und wenn wir in [Stadt] sind, immer.

13. Moderator: Dann gehen wir mal in die eigentlichen Fragen rein. Wie hoch ist aktuell der durchschnittliche Mehrwert des Meetings für dich, wenn du jetzt so eine Zahl zwischen eins und zehn geben müsstest?

14. Interviewee D: Wahrscheinlich irgendwo sechs bis sieben.

15. Moderator: Warum nicht höher?

16. Interviewee D: Also generell erreichen wir schon alle Ziele, die das Meeting eigentlich haben soll. Nur halt nicht so schnell oder effizient, wie es theoretisch möglich wäre.

17. Moderator: Was sind denn für dich diese Ziele?

18. Interviewee D: Hauptsächlich Austausch und Standardisierung über Teams hinweg. Dass man überhaupt mitbekommt, was andere machen.

19. Moderator: Ok.

20. Interviewee D: Gerade als Architekt ist das extrem wertvoll. Sonst hast du halt oft gar keinen Kontakt zu anderen Projekten oder Technologien.

21. Moderator: Welche Bausteine liefern dir dabei den größten Mehrwert?

22. Interviewee D: Projektvorstellungen, Today We Learned und dieses ganze Erfolge-feiern-Thema eigentlich.

23. Moderator: Warum gerade die?

24. Interviewee D: Weil man da am meisten von anderen Teams mitbekommt. Also wie die arbeiten, welche Probleme die haben, welche Technologien die einsetzen.

25. Moderator: Und die Arbeitsgruppen?

26. Interviewee D: Sind eher notwendiges Übel.

27. Moderator: Inwiefern?

28. Interviewee D: Müssen halt gemacht werden, aber sind jetzt selten der Teil, wo man rausgeht und sagt „wow, das war heute super hilfreich“.

29. Moderator: Wie viel Prozent der Meetingzeit bringen dir denn echten Mehrwert?

30. Interviewee D: Vielleicht fünfundsiebzig Prozent ungefähr.

31. Moderator: Was sorgt dafür, dass die restliche Zeit weniger wertvoll ist?

32. Interviewee D: Effizienz hauptsächlich. Es wird halt schon viel gelabert.

33. Moderator: Also eher ineffiziente Diskussionen?

34. Interviewee D: Ja, aber gleichzeitig gehört das Gelaber halt auch irgendwie dazu. Networking ist ja auch sinnvoll genutzte Zeit.

35. Moderator: Ok.

36. Interviewee D: Wenn man jetzt rein kurzfristig aufs Projekt schaut, könnte man die Zeit wahrscheinlich sinnvoller investieren. Aber langfristig ist das Ziel vom Meeting schon extrem sinnvoll.

37. Moderator: Gibt es bestimmte Agendapunkte, die dir gar nichts bringen?

38. Interviewee D: Eigentlich nicht wirklich. Alle Punkte bringen grundsätzlich was.

39. Moderator: Also eher ein Effizienzproblem innerhalb der Punkte?

40. Interviewee D: Genau. Weniger „falsche Inhalte“, mehr „das könnte strukturierter oder schneller laufen“.

41. Moderator: Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir später im Arbeitsalltag geholfen hat?

42. Interviewee D: Ja. Docker Builds in GitLab zum Beispiel.

43. Moderator: Was genau?

44. Interviewee D: Da hatte jemand ein Template vorgestellt, das wir später übernommen haben.

45. Moderator: Weißt du noch, wo das herkam? Vortrag oder eher Today We Learned?

46. Interviewee D: Ich glaube eher so eine normale Vorstellung oder Diskussion. Da ging's darum, dass vorher irgendwelche technischen User und manuelle Logins in der Pipeline verwendet wurden und das dann alles über Includes gelöst wurde.

47. Moderator: Gab es sonst noch konkrete Beispiele?

48. Interviewee D: Also sowas direkt Anwendbares passiert eher selten ehrlich gesagt.

49. Moderator: Ok.

50. Interviewee D: Aber man hat halt Ansprechpartner im Kopf. Das ist fast wichtiger.

51. Moderator: Hast du dafür konkrete Beispiele?

52. Interviewee D: Nicht direkt konkrete Personen gerade. Aber man weiß halt irgendwann „ah okay, der macht viel Kubernetes“, „die Person kennt sich mit CI/CD aus“ und so weiter.

53. Moderator: Würdest du das Meeting vermissen, wenn es komplett abgesagt werden würde?

54. Interviewee D: Ja definitiv.

55. Moderator: Warum?

56. Interviewee D: Networking hauptsächlich. Und ehrlich gesagt macht's ja auch einfach Spaß teilweise. Gibt auch Motivation.

57. Moderator: Und wenn man das Ganze komplett asynchron machen würde?

58. Interviewee D: Funktioniert erfahrungsgemäß einfach nicht.

59. Moderator: Warum glaubst du das?

60. Interviewee D: Wir haben ja jetzt schon Aufzeichnungen und Protokolle. Die schaut sich halt auch keiner an.

61. Moderator: Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?

62. Interviewee D: Eigentlich für jede Rolle, aber aus unterschiedlichen Gründen.

63. Moderator: Wie meinst du das?

64. Interviewee D: Architekten profitieren extrem von der Übersicht über Projekte und Technologien. Ganz neue Juniors eher vom Networking.

- 65. Moderator:** Und normale Juniors?
- 66. Interviewee D:** Die lernen halt viel über Standardisierung oder ISO-Leitfäden und sowas. Davon profitieren dann später auch neue Projekte.
- 67. Moderator:** Was ist deiner Meinung nach der Unterschied zwischen vor Ort und online teilnehmen?
- 68. Interviewee D:** Vor Ort ist deutlich besser.
- 69. Moderator:** Warum?
- 70. Interviewee D:** Remote kannst du halt geistig komplett abwesend sein und nebenher arbeiten.
- 71. Moderator:** Ok.
- 72. Interviewee D:** Und das Ziel des Meetings ist ja eigentlich schon, dass die Leute auch wirklich geistig anwesend sind.
- 73. Moderator:** Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
- 74. Interviewee D:** Effizienter wahrscheinlich.
- 75. Moderator:** Was konkret müsste effizienter werden?
- 76. Interviewee D:** Mehr aktive Beteiligung wäre gut. Gerade bei Today We Learned reden gefühlt immer dieselben drei Leute.
- 77. Moderator:** Hast du eine Idee, warum das so ist?
- 78. Interviewee D:** Wahrscheinlich weil viele nichts vorbereiten oder sich nicht trauen spontan was zu erzählen.
- 79. Moderator:** Würdest du dann eher mehr Struktur reinbringen?
- 80. Interviewee D:** Teilweise schon. Aber man darf auch nicht alles kaputtoptimieren. Dieses Gelaber und Späße machen gehört halt auch dazu.
- 81. Moderator:** Also bisschen Balance zwischen Effizienz und sozialem Aspekt?
- 82. Interviewee D:** Genau.
- 83. Moderator:** Gibt es sonst organisatorische Probleme?
- 84. Interviewee D:** Innerhalb der Arbeitsgruppen wird halt oft zurückgesteckt, wenn im Projekt gerade irgendwas wichtig ist.
- 85. Moderator:** Und das ist wahrscheinlich... oft?
- 86. Interviewee D:** Ja, eigentlich immer.
- 87. Moderator:** Hast du dafür eine Lösungsidee?
- 88. Interviewee D:** Vielleicht irgendeine Art Priorisierung oder Sichtbarkeit dafür.
- 89. Moderator:** Noch andere Punkte?
- 90. Interviewee D:** Vorträge werden manchmal sehr kurzfristig verschoben. Das ist nervig.
- 91. Moderator:** Warum genau?
- 92. Interviewee D:** Weil man dann plötzlich Lücken im Meeting hat. Wenn man das früher wüsste, könnte man Ersatz organisieren.
- 93. Moderator:** Wer müsste das deiner Meinung nach treiben?
- 94. Interviewee D:** Wahrscheinlich der **Moderator** oder Organisator. Einfach eine Woche vorher nochmal aktiv auf die Präsenztierenden zugehen.
- 95. Moderator:** Gab es schon Meetings, bei denen du im Nachhinein lieber nicht teilgenommen hättest?
- 96. Interviewee D:** Nee eigentlich nicht.
- 97. Moderator:** Gar keine?
- 98. Interviewee D:** Also manchmal kam außer Networking nicht viel rum. Aber selbst das ist ja schon wertvoll.
- 99. Moderator:** Woran lag's dann, dass sonst wenig rumkam?
- 100. Interviewee D:** Meistens einfach fehlende Vorbereitung.
- 101. Moderator:** Gibt es sonst noch irgendwas, das dir wichtig wäre?
- 102. Interviewee D:** Ja, bei Gamification hätte ich bisschen Sorge, dass das zu pushy wird.
- 103. Moderator:** Inwiefern?
- 104. Interviewee D:** Dass die Leute das Gefühl bekommen, sie müssten sich ständig vergleichen oder irgendwie kompetitiv sein.
- 105. Moderator:** Also eher Gefahr von Trotzreaktionen?
- 106. Interviewee D:** Genau. Gamification muss halt intrinsisch funktionieren. Die Leute müssen einfach Bock drauf haben.
- 107. Moderator:** Ok.
- 108. Interviewee D:** Und ein großes Ziel des Meetings ist für mich generell auch, Dinge fürs Projekt hinzubekommen, die man alleine im eigenen Team gar nicht hinbekommen würde.

109. Moderator: Alles klar. Vielen Dank, dass du dir die Zeit genommen hast und für die ganzen Insights.

B.5 Interviewee E

- 1. Moderator:** Super, danke, dass ich dich ein wenig zur Gilde löchern darf. Ich würde erstmal kurz mit ein paar allgemeinen Fragen anfangen. Dann kann ich das in der Thesis anonymisiert besser einordnen später. Danach machen wir dann die eigentlichen Fragen zum Meeting.
- 2. Interviewee E:** Passt für mich.
- 3. Moderator:** Was ist denn aktuell deine primäre Rolle?
- 4. Interviewee E:** Senior Entwickler.
- 5. Moderator:** Und wie lange nimmst du schon an den Meetings teil?
- 6. Interviewee E:** Sechs Jahre ungefähr.
- 7. Moderator:** Meistens vor Ort oder remote?
- 8. Interviewee E:** Eigentlich immer remote.
- 9. Moderator:** Würdest du dich eher als aktiv oder passiv im Meeting beschreiben?
- 10. Interviewee E:** Eher passiv würde ich sagen.
- 11. Moderator:** Und wie oft nimmst du teil?
- 12. Interviewee E:** Ich bin immer da. Außer wenn ich im Urlaub bin natürlich.

- 13. Moderator:** Gut, danke. Dann schauen wir uns doch mal in die richtigen Fragen an. Wie hoch ist aktuell so der durchschnittliche Mehrwert vom Meeting für dich, so auf einer Skala von eins bis zehn?
- 14. Interviewee E:** Ich würde sagen so eine sieben.
- 15. Moderator:** Warum sieben?
- 16. Interviewee E:** Weil man schon relativ viel mitnimmt, mit dem man vorher eigentlich gar nicht gerechnet hat. Also oft sind das gar nicht die Themen, wo man vorher denkt „das wird heute relevant für mich“, sondern eher Sachen, die man zufällig mitbekommt und später irgendwann nochmal im Kopf hat.
- 17. Moderator:** Hast du dafür ein Beispiel?
- 18. Interviewee E:** Nicht direkt gerade. Aber zum Beispiel irgendwelche Technologien oder Vorgehensweisen, wo du erstmal denkst „betrifft mich jetzt eigentlich gar nicht“, und ein halbes Jahr später taucht genau das Thema dann doch irgendwo wieder auf. Dann erinnert man sich zumindest grob dran, dass da mal jemand was erzählt hat oder wer sich damit auskennt.
- 19. Moderator:** Welche Agenda-Bausteine liefern dir denn den meisten Mehrwert?
- 20. Interviewee E:** Vorträge auf jeden Fall. Today We Learned auch. Und tatsächlich Erfolge und Herausforderungen teilweise.
- 21. Moderator:** Ok.
- 22. Interviewee E:** Gerade wenn Leute erzählen, wo sie Probleme hatten oder wie sie irgendwas gelöst haben, ist das oft interessanter als irgendein komplett vorbereiteter Vortrag.
- 23. Moderator:** Wie viel Prozent der Meetingzeit bringen dir echten Mehrwert?
- 24. Interviewee E:** Wahrscheinlich ungefähr fünfzig.
- 25. Moderator:** Das klingt jetzt erstmal deutlich niedriger als die sieben von zehn davor.
- 26. Interviewee E:** Ja, aber das widerspricht sich gar nicht unbedingt finde ich. Vieles betrifft einen halt einfach nicht direkt.
- 27. Moderator:** Mhm.
- 28. Interviewee E:** Also gerade Vorträge. Da sind manchmal Themen dabei, die in der täglichen Arbeit überhaupt keinen Unterschied machen für einen selbst. Aber trotzdem ist es gut, das mal gehört zu haben.
- 29. Moderator:** Gibt es auch Dinge, die dir eher wenig bringen?
- 30. Interviewee E:** Vorträge übers eigene Projekt finde ich meistens eher irrelevant.
- 31. Moderator:** Warum?
- 32. Interviewee E:** Weil man das Projekt ja eh schon kennt oder zumindest den Kontext versteht. Spannender wird's eigentlich immer dann, wenn andere Teams irgendwas erzählen.
- 33. Moderator:** Ok.
- 34. Interviewee E:** Organisatorische Sachen wie Protokoll oder so sind halt notwendiges Übel. Aber das dauert jetzt auch nicht ewig, deswegen stört's mich auch nicht groß.
- 35. Moderator:** Würdest du sagen, die Zeit könnte anderweitig sinnvoller genutzt werden?
- 36. Interviewee E:** Nee eigentlich nicht. Also wenn ich das Gefühl hätte, das wäre sinnloses Zeit verbraten, dann würde ich halt einfach nicht hingehen.
- 37. Moderator:** Fair.
- 38. Interviewee E:** Ist ja freiwillig. Und selbst wenn nur die Hälfte wirklich direkten Mehrwert bringt, ist das für so ein Meeting eigentlich völlig okay finde ich.
- 39. Moderator:** Hast du schonmal etwas Konkretes aus einem Meeting mitgenommen, was dir im Arbeitsalltag geholfen hat?
- 40. Interviewee E:** Hauptsächlich aus Today We Learned eigentlich.
- 41. Moderator:** Hast du konkrete Beispiele?
- 42. Interviewee E:** Nicht mehr wirklich. Das Problem ist eher, dass die Sachen oft so Kleinigkeiten sind. Also keine riesigen „das hat jetzt mein Projekt verändert“-Momente, sondern eher so kleine Impulse.
- 43. Moderator:** Wie oft entsteht denn solcher Mehrwert ungefähr?
- 44. Interviewee E:** Vielleicht alle sechs Meetings mal irgendwas, wo ich wirklich sage „okay, das nehme ich jetzt konkret mit“.
- 45. Moderator:** Würdest du das Meeting vermissen, wenn es komplett abgesagt werden würde?
- 46. Interviewee E:** Ja schon.
- 47. Moderator:** Warum?
- 48. Interviewee E:** Weil dieser teamübergreifende Informationsaustausch dann einfach weg wäre. Und ich glaube das merkt man erst richtig, wenn's nicht mehr da ist.
- 49. Moderator:** Was meinst du damit?
- 50. Interviewee E:** Naja, aktuell kriegt man halt automatisch mit, was in anderen Teams passiert. Wenn das wegfällt, arbeitet irgendwann jeder wieder nur noch in seiner eigenen kleinen Bubble.
- 51. Moderator:** Und wenn das Ganze komplett asynchron laufen würde?
- 52. Interviewee E:** Glaube ich nicht, dass das gut funktionieren würde.
- 53. Moderator:** Warum nicht?
- 54. Interviewee E:** Weil sowas im Arbeitsalltag einfach hinten runterfällt. Die Informationen wären wahrscheinlich schon irgendwo da, aber niemand würde sie wirklich konsumieren.
- 55. Moderator:** Also eher fehlende Aufmerksamkeit?
- 56. Interviewee E:** Genau. Das kennst du ja jetzt schon mit irgendwelchen Aufzeichnungen oder langen Chatverläufen. Theoretisch existiert alles, praktisch schaut's halt keiner an.
- 57. Moderator:** Für welche Rollen ist das Meeting deiner Meinung nach besonders wertvoll?
- 58. Interviewee E:** Eigentlich für alle Softwareentwickler.
- 59. Moderator:** Gibt es Unterschiede zwischen den Rollen?
- 60. Interviewee E:** Juniors nehmen wahrscheinlich mehr komplett neue Sachen mit als Seniors.
- 61. Moderator:** Und Seniors?
- 62. Interviewee E:** Für Seniors ist es vielleicht weniger dieses „ich lerne jetzt eine komplett neue Technologie kennen“, sondern eher Überblick behalten oder mal andere Perspektiven mitbekommen.
- 63. Moderator:** Was ist deiner Meinung nach der Unterschied zwischen vor Ort und online teilnehmen?

- 64. Interviewee E:** Vor Ort vereinfacht Kommunikation schon deutlich.
- 65. Moderator:** Warum bist du dann trotzdem meistens online dabei?
- 66. Interviewee E:** Einfach persönliche Convenience ehrlich gesagt.
- 67. Moderator:** Also eher pragmatische Gründe?
- 68. Interviewee E:** Ja genau. Vor Ort ist wahrscheinlich sinnvoller, aber remote ist halt entspannter für mich.
- 69. Moderator:** Wie müsste das Meeting aussehen, damit es für dich maximalen Mehrwert liefert?
- 70. Interviewee E:** Ehrlich gesagt würde ich die Agenda fast genau so lassen.
- 71. Moderator:** Also keine großen Änderungen?
- 72. Interviewee E:** Nee. Informationsaustausch passt eigentlich genau so. Arbeitsgruppen-Austausch auch.
- 73. Moderator:** Und die Länge?
- 74. Interviewee E:** Passt auch. Zu viele Vorträge hintereinander sind irgendwann einfach Overload.
- 75. Moderator:** Ok.
- 76. Interviewee E:** Wenn sich gute Diskussionen entwickeln, kann man die zwei Stunden natürlich nutzen. Aber ich finde auch nicht, dass man die Zeit mit Gewalt vollmachen muss.
- 77. Moderator:** Würdest du versuchen, Leute stärker zur Beteiligung zu motivieren?
- 78. Interviewee E:** Schwierig. Selbst mit Gamification oder sowas fände ich das schnell zu gewollt.
- 79. Moderator:** Inwiefern?
- 80. Interviewee E:** Naja, wenn man merkt „jetzt sollen wir hier künstlich motiviert werden“, dann kann das auch schnell unangenehm werden.
- 81. Moderator:** Gab es schon Meetings, bei denen du im Nachhinein lieber nicht teilgenommen hättest?
- 82. Interviewee E:** Nee eigentlich nicht.
- 83. Moderator:** Gar keine?
- 84. Interviewee E:** Nee. Es gab immer zumindest diesen Informationsaustausch zwischen den Teams. Und selbst wenn mal kein super spannender Vortrag dabei war, nimmt man trotzdem meistens irgendwas mit.
- 85. Moderator:** Hast du sonst noch irgendwelche Ergänzungen?
- 86. Interviewee E:** Ich glaube das Hauptziel von Gamification sollte eher sein, neue Leute ins Meeting zu bekommen.
- 87. Moderator:** Warum gerade das?
- 88. Interviewee E:** Normalerweise wird Kosten-Nutzen bei Meetings ja schlechter, je mehr Leute drin sitzen. Aber hier ist das eigentlich andersrum.
- 89. Moderator:** Inwiefern?
- 90. Interviewee E:** Weil's konkret um Wissensaustausch geht. Mehr Leute heißt potentiell mehr Erfahrungen, mehr Themen, mehr Perspektiven. Also eigentlich profitieren alle davon, wenn mehr Leute aktiv teilnehmen.

91. Moderator: Super, danke dir.

C Problem Identification Interview Coding

This appendix contains the full coding tables produced by the qualitative content analysis described in Section 4.3. Table C.1 lists every coded segment with its original German phrase, English paraphrase, and assigned intermediate category. Table C.2 lists the intermediate category system and shows, for each intermediate category, the reduced category it was merged into.

C.1 Citations and Paraphrases

Table C.1: Full extraction table of the problem identification interview coding: each coded segment with its German phrasing from the interview scripts, English paraphrase, and assigned intermediate category.

Interview	Turns	Phrase	Paraphrase	Category
A	14	[Durchschnittlicher Mehrwert 1-10?] Ich würde sagen acht.	Rates average meeting value at 8 out of 10.	C1
A	16	Also ich finde es schon extrem interessant zu sehen, was andere Teams machen. Das ist eigentlich einer der größten Mehrwerte.	Seeing what other teams do is one of the biggest values of the meeting.	C2
A	18	Hauptsächlich Einblicke in Technologien oder Themen, mit denen andere sich beschäftigen. Oft auch Sachen, mit denen Leute privat rumexperimentieren.	Main value comes from insights into technologies and topics others work on, including private experiments.	C2
A	20	[Besonders wertvolle Bausteine?] Ja. Open Session auf jeden Fall, wenn eine da ist. Und Today We Learned finde ich meistens auch gut.	Open Session and Today We Learned are the most valuable meeting elements.	C6
A	22	Weil da meistens praxisnahe Sachen kommen. Also eher Technologien, Probleme oder Lösungen.	These elements provide more practical content about technologies, problems, and solutions.	C3
A	24	[Welche Teile bringen wenig?] Reine Projektvorstellungen oft. Wenn einfach nur erklärt wird, was das Projekt macht, bringt mir das meistens wenig. Sobald es mehr um die Technologien geht, wird's interessant.	Pure project descriptions that only explain what a project does provide little value; they become interesting only when covering technologies.	C3
A	26	[Ist das Wissen manchmal zu projektspezifisch?] Ja definitiv. Das passiert schon oft.	Shared knowledge is frequently too project-specific.	C3
A	28	[Wie viel Prozent der Meetingzeit bringen echten Mehrwert?] Vielleicht so fünfzig bis sechzig Prozent.	About 50–60% of meeting time provides real value.	C1
A	30, 32	Einiges zieht sich einfach unnötig. Der Anfang mit den AGs meistens. Da ist oft viel dabei, was eigentlich irrelevant ist.	Some parts drag on unnecessarily, especially working group updates at the beginning, which often contain irrelevant content.	C11
A	34	Also mich interessieren eher die effektiven Ergebnisse. Nicht unbedingt dieses „wir haben jetzt darüber geredet“ oder „das haben wir gemacht“.	Prefers hearing about effective results rather than process updates about what was discussed or done.	C11
A	36	[Würde etwas helfen?] Ja, wahrscheinlich bessere Vorbereitung. Oder dass man manche Sachen einfach schon vorher irgendwo hinschreibt.	Better preparation or writing things down beforehand would help reduce inefficiency.	C4
A	40	[Könnte die Zeit anderweitig sinnvoller investiert werden?] Vermutlich nicht wirklich.	Time could probably not be more valuably invested elsewhere.	C1

Increasing Engagement in Voluntary Corporate Meetings through Gamification

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
A	42, 44	[Konkrete Mitnahmen?] Also direkt geholfen eher selten. Oft eher so als Anstoß, sich etwas mal genauer anzuschauen.	Direct practical help from meetings is rare; value comes mostly as an impulse to explore topics further.	C12
A	50	Nicht unbedingt das vermittelte Wissen direkt. Eher dieses „okay, das könnte relevant sein, das schaue ich mir mal an“.	The value is not in the directly transmitted knowledge but in becoming aware that something could be relevant.	C12
A	52, 54	[Negativbeispiele?] Ja, diese Go-Vorstellung damals. Das waren irgendwie dreißig Minuten Vorstellung von etwas, das der Präsentator selbst überhaupt nicht verstanden hat. Und es gab auch keinen praktischen Anwendungsfall dazu.	A 30-minute Go presentation was a negative example because the presenter lacked understanding and showed no practical use case.	C4
A	58, 60	[Hilfreiche Projektvorstellungen?] Ja, die Vorstellung von dem Projekt, bei dem ich später selbst angefangen habe. Weil man dadurch schon grob wusste, wie das Ganze funktioniert und woran gearbeitet wird.	A project presentation was helpful because it provided prior knowledge before joining that project.	C13
A	62	Vielleicht jedes zweite oder dritte Meeting, dass man wirklich einen guten Anstoß bekommt für irgendwas, das man sich anschauen will.	A good impulse to explore something new occurs about every 2nd or 3rd meeting.	C12
A	66	[Würdest du das Meeting vermissen?] Vor allem wegen dem sozialen Aspekt. Dass man sich mal mit Leuten austauscht, die nicht im eigenen Projekt sind.	Would miss the meeting mainly for the social aspect of exchanging with people outside own project.	C8
A	72	[Warum nicht komplett asynchron?] Das würde komplett untergehen glaube ich. Keiner würde dann noch wirklich Zeit investieren.	A fully async format would fail because nobody would invest time in it.	C14
A	74	Der soziale Effekt würde halt auch wegfallen.	The social effect would also disappear in an async format.	C8
A	76, 78	[Für welche Rollen besonders wertvoll?] Wahrscheinlich für Junior- und Mid-Level Entwickler am meisten. Wegen Wissensaufbau hauptsächlich.	Most valuable for junior and mid-level developers, primarily because of knowledge building.	C5
A	80, 82	[Für wen weniger?] Für Leads wahrscheinlich. Die haben meistens eh schon die meiste Knowledge und sind sowieso bei vielen Entscheidungen oder Projekten beteiligt.	Less valuable for leads because they already have the most knowledge and are involved in many decisions and projects.	C5
A	84	[Unterschied vor Ort vs. online?] Online macht man halt safe nebenbei noch andere Sachen.	When attending online, attendees definitely do other things on the side.	C7
A	88, 90, 92, 94	[Ideales Meeting?] Also erstmal müsste vieles besser vorbereitet sein. Leitung und Protokoll vorher klären. AG-Zusammenfassungen vorbereiten. Lieber vorher Stichpunkte in die Agenda schreiben.	Many things need better preparation: meeting lead, protocol, and AG summaries should be prepared beforehand with bullet points in the agenda.	C4
A	96	[Würde eine asynchrone Variante für AGs funktionieren?] Ja eigentlich schon. Man könnte das komplett irgendwo runterschreiben.	Working group updates could be fully handled asynchronously in written form.	C11
A	102, 104	[Mehr Vorträge?] Nee eher nicht. Irgendwann nimmt man eh nichts mehr auf. Maximal zwei Vorträge à dreißig Minuten ungefähr.	Does not want more Presentations due to absorption limits; maximum two Presentations of about 30 minutes each.	C9
A	106	[Was macht einen guten Vortrag aus?] Dass auch auf Technologien, Probleme und Lösungen eingegangen wird. Nicht nur auf das Projekt selbst.	A good Presentation covers technologies, problems, and solutions, not just the project itself.	C3
A	112, 114	[Meeting, bei dem du lieber nicht teilgenommen hättest?] Zu wenig Vorbereitung insgesamt. Die Go-Präsentation war komplett useless. Die AG-Vorstellung hat ewig gedauert. Protokoll verteilen hat zehn Minuten gebraucht. Planung fürs nächste Mal war ineffektiv.	One meeting was particularly bad due to overall poor preparation: useless presentation, lengthy AG updates, slow protocol distribution, and ineffective planning.	C4
A	116	[Was hält dich davon ab, dich mehr einzubringen?] Aktuell eigentlich nichts mehr.	Currently nothing holds back from contributing or preparing more.	C15
B	14	[Durchschnittlicher Mehrwert 1-10?] Schwierig. Das schwankt schon extrem. Manchmal ist es eher so eine zwei von zehn und manchmal eher eine acht. Im Durchschnitt wahrscheinlich ungefähr eine sechs.	Meeting value fluctuates extremely between 2 and 8, averaging about 6 out of 10.	C1

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
B	16	[Wovon hängt der Mehrwert ab?] Hauptsächlich von den Vorträgen und Themen. Technische Vorträge oder wenn jemand irgendwas ausprobiert hat, finde ich eigentlich fast immer gut.	Value depends mainly on the Presentations and topics; technical talks or personal experiments are almost always good.	C6
B	18	Da nimmt man halt oft direkt mit, wer sich womit auskennt. Also man hat gleich Ansprechpartner im Kopf für bestimmte Technologien oder Themen.	Presentations help directly identify who has expertise in what, providing contact persons for specific technologies.	C2
B	20	Auch einfach dieser Austausch darüber, was andere Teams gerade machen. Und generell der Austausch untereinander.	Value in exchanging about what other teams are doing and general exchange among colleagues.	C2
B	22	[Welche Bausteine bringen am meisten?] Vorträge und TWL auf jeden Fall. Probleme und Erfolge finde ich aber auch oft überraschend gut, weil daraus manchmal direkt Lösungsansätze entstehen.	Presentations and TWL are most valuable; Successes and Challenges are surprisingly good because they sometimes directly lead to solution approaches.	C6
B	25	[Wie viel Prozent der Meetingzeit bringen echten Mehrwert?] Ich würde schon sagen neunzig Prozent ungefähr.	About 90% of meeting time provides real value.	C1
B	27	Ja, aber für mich ist halt schon dieser allgemeine Austausch mit allen Entwicklern sinnvoll. Gerade projektübergreifend. Man hat Berührungspunkte mit Leuten, mit denen man sonst nie zusammenarbeiten würde.	General exchange with all developers is valuable; creates touchpoints with people you'd otherwise never work with.	C2
B	29	Und es gibt halt auch Möglichkeiten zur Weiterentwicklung. Wenn man hört „das Team macht jetzt das und das“, dann weiß man direkt, wer Ansprechpartner ist oder welche Themen es intern überhaupt gibt.	Meeting creates opportunities for professional development by revealing internal topics and contact persons.	C10
B	31	Man kommt mal raus aus seinem Projektunnel. Projekttechnisch könnte die Zeit natürlich manchmal sinnvoller investiert werden, aber diese eine Stunde alle vier Wochen bringt halt einfach frischen Wind rein.	Meeting provides escape from the project tunnel; one hour every four weeks brings fresh perspectives despite competing with project time.	C10
B	33, 35	Man zieht da schon Motivation raus. Auch einfach neue Ideen oder Perspektiven. Dass man wieder Lust bekommt, mehr zu machen als nur das, was direkt fürs Projekt notwendig ist.	Meeting provides motivation, new ideas, and perspectives; regains desire to do more than just project necessities.	C10
B	37	Und man bekommt halt auch mit, wohin man sich intern entwickeln könnte. Also wenn man mal unzufrieden im Projekt ist, sieht man eher Möglichkeiten innerhalb der Firma, statt direkt zu denken man müsste wechseln.	Meeting reveals internal development opportunities, reducing thoughts about leaving the company when dissatisfied.	C10
B	39	[Teile mit weniger Mehrwert?] Manche Bausteine werden halt einfach geskippt oder nicht richtig genutzt, weil niemand was vorbereitet hat. Die könnten eigentlich sinnvoll sein, werden's aber manchmal nicht.	Some meeting elements get skipped or underutilized because nobody prepares, despite their potential value.	C4
B	41, 43	[Konkrete Mitnahmen?] Ja, schon. Zum Beispiel dieses ganze Thema Entwicklung mit KI. Das Continue Plugin zum Beispiel.	Concrete takeaway: learned about AI-assisted development and the Continue Plugin through the meeting.	C13
B	45	Allgemein entsteht konkreter Mehrwert wahrscheinlich so jedes zweite oder dritte Meeting.	Concrete value arises about every 2nd or 3rd meeting.	C13
B	49	[Würdest du das Meeting vermissen?] Weil der allgemeine Austausch fehlen würde.	Would miss the meeting because the general exchange would be lacking.	C8
B	53	[Asynchron?] Das Persönliche fehlt dann einfach komplett. Gemeinschaft und dieses ganze Sozializing funktioniert halt nur live richtig.	Async would lose the personal element completely; community and socializing only work properly in person.	C8
B	55, 57	[Für welche Rollen besonders wertvoll?] Für Juniors wahrscheinlich am meisten. Weil man extrem viele Leute und Technologien kennenlernt. Einfach generell viel Input bekommt.	Most valuable for juniors because they meet many people and technologies, receiving lots of input overall.	C5
B	59	[Mid-Level?] Auch sehr wertvoll. Gerade für explorative Weiterentwicklung oder gegenseitige Förderung.	Also very valuable for mid-level developers for explorative development and mutual support.	C5

Increasing Engagement in Voluntary Corporate Meetings through Gamification

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
B	61	[Seniors/Leads?] Die geben wahrscheinlich eher Wissen weiter. Wobei sie untereinander natürlich trotzdem auch noch voneinander lernen.	Seniors and leads primarily give rather than receive knowledge, though they still learn from each other.	C5
B	63, 65	Präsenz ist viel besser fürs Sozializing. Online wird das Meeting schnell nur noch so Hintergrundauschen. Man hört halb zu und macht nebenbei noch irgendwas anderes.	Physical presence is much better for socializing; online, the meeting becomes background noise with half-listening and multitasking.	C7
B	69, 71, 73	[Ideales Meeting?] Grundsätzlich würde ich viele Sachen genauso lassen. Aber die zwei Stunden sollten schon komplett genutzt werden. Mehr offene Diskussionen in der Open Session zum Beispiel.	Would keep most elements but wants the full two hours utilized with more open discussions in the Open Session.	C9
B	75, 77	Ich glaube das würde die Leute nochmal deutlich näher zusammenbringen und projektübergreifend Wissen aufbauen. Aber niemand bereitet die Open Session vor.	Collaborative discussions would build cross-project knowledge and bring people closer, but nobody prepares the Open Session.	C4
B	79	[Organisatorische Verbesserungen?] Ja, bisschen Optimierung wäre schon drin. Manche organisatorischen Sachen könnte man wahrscheinlich vorher einfach im Chat klären.	Some organizational matters could be handled via chat beforehand to save meeting time.	C11
B	83, 85	[Schlechte Meetings?] Das war eher vor der Umstrukturierung. Mittlerweile läuft das geordneter. Man hat jetzt einen roten Faden.	Bad experiences occurred mainly before the restructuring; the meeting now has a common thread and runs more orderly.	C15
C	14	[Durchschnittlicher Mehrwert 1-10?] Ich glaub so eine sechs.	Rates average meeting value at 6 out of 10.	C1
C	16	Also man kriegt halt schon mit, was die anderen machen. Gerade so Informationsaustausch über interne Projekte oder auch KI-Themen finde ich schon interessant.	Value comes from learning what others do, especially information exchange about internal projects and AI topics.	C2
C	18	[Was bringt den Mehrwert?] Vor allem die Vorträge eigentlich. Die sind für mich so die wichtigsten Mehrwertsgeneratoren.	Presentations are the most important value generators in the meeting.	C6
C	20	Man bekommt halt Einblicke in Themen, die man sonst vielleicht gar nicht mitkriegen würde. Gerade bei KI oder allgemein neuen Technologien.	Presentations provide insights into topics you'd otherwise never encounter, especially AI and new technologies.	C2
C	22	[Was bringt wenig?] Ja, viele Infos sind halt zu speziell. Also dann sehr projektspezifisch oder tief in Technologien drin, die man im eigenen Projektkontext gar nicht anwenden kann.	Much information is too specialized: either too project-specific or deep in technologies that cannot be applied in one's own project context.	C3
C	24	[Liegt das am Meeting oder an der Projektsituation?] Eher an den Projekten tatsächlich, nicht am Meeting selber.	The relevance gap is due to project assignments, not the meeting format itself.	C3
C	26	[Wie viel Prozent echten Mehrwert?] Vielleicht so fünfzig Prozent.	About 50% of meeting time provides real value.	C1
C	28	Also ich glaube halt auch ehrlich gesagt nicht, dass irgendein Meeting jemals hundert Prozent sinnvoll genutzte Zeit hat.	No meeting can ever have 100% usefully spent time; that is a realistic expectation.	C1
C	30	[Teile mit weniger Mehrwert?] Häufig halt Sachen, wo einem einfach die Projekte fehlen, um das Erlernte wirklich anzuwenden. Dann bleibt es halt eher theoretisch.	Often lacks projects to apply learned content, so knowledge stays theoretical.	C3
C	32	[Könnte die Zeit besser genutzt werden?] Nee eigentlich nicht. Ich glaube nicht, dass die Zeit irgendwie besser investierbar wäre.	Time could not be better invested elsewhere.	C1
C	34, 36	[Konkrete Mitnahmen?] Ja, zum Beispiel ein Vortrag über LLMs. Vor allem ein besseres Verständnis für das Thema und Anhaltspunkte für Informationsquellen, die man fürs eigene Projekt nutzen kann.	A talk about LLMs provided better understanding and pointers to information sources applicable to own project.	C13
C	40, 42	Es gab auch mal eine Vorstellung von einem internen Projekt, zu dem ich später gewechselt bin. Vor allem weil die Aufzeichnung von dem Vortrag dann genutzt werden konnte, um nochmal ins Projekt einzusteigen.	A project presentation helped with later onboarding; the recording was used to revisit the project.	C13

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
C	44	[War der Vortrag vor Ort trotzdem sinnvoll trotz Aufzeichnung?] Ja schon. Einfach damit man das aktiv im Kopf hat. Und die Fragen vom Publikum geben dem Video später auch nochmal Mehrwert.	On-site attendance keeps content active in mind; audience questions also add value to the recording for later use.	C7
C	48, 50	[Würdest du das Meeting vermissen?] Ja schon. Vor allem die Gemeinschaft und dieses Networking.	Would miss the meeting, mainly for community and networking.	C8
C	54, 56	[Asynchron?] Würde ich auch vermissen. Weil der persönliche Austausch dann trotzdem fehlt. Mündlich ist vieles einfach angenehmer und einfacher.	Would miss the meeting if async because personal exchange would be lacking; verbal communication is more pleasant and easier.	C8
C	58	[Vorteile einer asynchronen Variante?] Eigentlich nicht wirklich, weil das Meeting ja eh schon aufgezeichnet wird.	No advantages to async since the meeting is already recorded anyway.	C14
C	60, 62	[Für welche Rollen besonders wertvoll?] Eigentlich für alle Entwickler. Weil Austausch halt allen etwas bringt. Auch andere Seniors können einem Senior nochmal irgendwas Neues erzählen.	Valuable for all developers because exchange benefits everyone; even seniors can learn new things from other seniors.	C5
C	64	[Ideales Meeting?] Also ehrlich gesagt würde ich es gar nicht groß umstrukturieren.	Would not significantly restructure the meeting format.	C15
C	66, 68	[Was sollte bleiben?] Vorträge und gerade KI-Themen finde ich extrem sinnvoll. Weil das allgemein neue Technologien oder Themenfelder sind, die grob vorgestellt werden. Hilfreicher als super spezielle Technologien direkt im Detail.	Presentations on broad technology topics like AI are extremely valuable; broad overviews are more helpful than deep dives into specialized technologies.	C3
C	70	[Warum bringen spezialisierte Technologien weniger?] Weil das oft zu tief reingeht und einem einfach das Grundwissen oder der Projektbezug fehlt.	Specialized content often goes too deep; attendees lack the basic knowledge or project context to follow.	C3
C	72, 74	[Erfolge und Herausforderungen?] Die sind oft bisschen zu high-level. Man kennt halt die Projekte oder Technologien dahinter nicht gut genug, deshalb bringt das oft nicht super viel.	The Successes and Challenges section is often too high-level; attendees don't know the underlying projects or technologies well enough for it to be valuable.	C3
C	80	[Könnte der Teil trotzdem anderen etwas bringen?] Ja schon. Eigentlich ähnlich wie bei TWL. Also dieses „das habe ich gemacht und daraus gelernt“.	The section could be valuable if framed like TWL: sharing what was done and what was learned from it.	C17
C	84	[Würdest du eigene Erfolge teilen?] Anerkennung ist mir da ziemlich egal ehrlich gesagt. Wenn dann würde ich eher was teilen, damit andere aus meinen Fehlern lernen können.	Not motivated by recognition; would rather share to help others learn from mistakes.	C17
C	88	[Meetings, an denen du lieber nicht teilgenommen hättest?] Nee. Weil man mindestens Networking immer irgendwie mitnimmt.	Never regretted attending because networking is always a guaranteed minimum takeaway.	C1
C	90, 92	Ja, dass eigentlich jedes Mal mindestens ein Vortrag existiert. Das hilft extrem. Ohne Vorträge oder Open Session würde das Meeting recht wenig Sinn machen.	Having at least one Presentation each meeting helps extremely; without Presentations or Open Session, the meeting would make little sense.	C6
C	94, 96	[Ergänzungen?] Wenn es mehr Projekte gäbe, um die Sachen anzuwenden, würde das Meeting nochmal deutlich mehr bringen. Weil dann nicht mehr alles komplett neu wäre und man mehr Wiedererkennungswert hätte.	More project variety would increase meeting value because content would have more familiarity and applicability.	C3
C	98	[Remote vs. vor Ort?] Ja definitiv. Online macht man halt immer irgendwas nebenher. Vor Ort ist man deutlich aufmerksamer.	Online attendees always do something on the side; on-site attendance leads to noticeably more attention.	C7
D	14	[Durchschnittlicher Mehrwert 1-10?] Wahrscheinlich irgendwo sechs bis sieben.	Rates average meeting value at 6–7 out of 10.	C1
D	16	[Warum nicht höher?] Also generell erreichen wir schon alle Ziele, die das Meeting eigentlich haben soll. Nur halt nicht so schnell oder effizient, wie es theoretisch möglich wäre.	All meeting goals are achieved, but not as quickly or efficiently as theoretically possible.	C9
D	18	[Was sind diese Ziele?] Hauptsächlich Austausch und Standardisierung über Teams hinweg. Dass man überhaupt mitbekommt, was andere machen.	Main meeting goals are cross-team exchange, standardization, and awareness of what others do.	C2

Increasing Engagement in Voluntary Corporate Meetings through Gamification

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
D	20	Gerade als Architekt ist das extrem wertvoll. Sonst hast du halt oft gar keinen Kontakt zu anderen Projekten oder Technologien.	As an architect, cross-team visibility is extremely valuable because otherwise there is no contact with other projects or technologies.	C2
D	22	[Welche Bausteine liefern den größten Mehrwert?] Projektvorstellungen, Today We Learned und dieses ganze Erfolge-feiern-Thema eigentlich.	Project presentations, TWL, and celebrating successes are the most valuable meeting elements.	C6
D	24	Weil man da am meisten von anderen Teams mitbekommt. Also wie die arbeiten, welche Probleme die haben, welche Technologien die einsetzen.	These elements provide the most insight into other teams' work methods, problems, and technologies.	C2
D	26, 28	[Arbeitsgruppen?] Sind eher notwendiges Übel. Müssen halt gemacht werden, aber sind jetzt selten der Teil, wo man rausgeht und sagt „wow, das war heute super hilfreich“.	Working groups are a necessary evil, required but rarely felt to be particularly helpful.	C11
D	30	[Wie viel Prozent echten Mehrwert?] Vielleicht fünfundsechzig Prozent ungefähr.	About 75% of meeting time provides real value.	C1
D	32, 34	[Warum nicht mehr?] Effizienz hauptsächlich. Es wird halt schon viel gelabert. Aber gleichzeitig gehört das Gelaber halt auch irgendwie dazu. Networking ist ja auch sinnvoll genutzte Zeit.	Main issue is efficiency with lots of informal talking, but that chatting is also part of the value: networking is time well spent.	C9
D	36	Wenn man rein kurzfristig aufs Projekt schaut, könnte man die Zeit wahrscheinlich sinnvoller investieren. Aber langfristig ist das Ziel vom Meeting schon extrem sinnvoll.	Time could be used more efficiently for short-term project goals, but the meeting's long-term goals are extremely valuable.	C1
D	38, 40	[Agendapunkte die nichts bringen?] Eigentlich nicht. Alle Punkte bringen grundsätzlich was. Weniger „falsche Inhalte“, mehr „das könnte strukturierter oder schneller laufen“.	All agenda items bring some value; the issue is not wrong content but that things could run more structured and faster.	C9
D	42, 44	[Konkrete Mitnahmen?] Ja. Docker Builds in GitLab zum Beispiel. Da hatte jemand ein Template vorgestellt, das wir später übernommen haben.	Concrete takeaway: a Docker Builds template for GitLab was presented and later adopted by the team.	C13
D	48	[Weitere Beispiele?] Also sowas direkt Anwendbares passiert eher selten ehrlich gesagt.	Directly applicable knowledge transfer happens rather rarely.	C12
D	50, 52	Aber man hat halt Ansprechpartner im Kopf. Das ist fast wichtiger. Man weiß halt irgendwann „der macht viel Kubernetes“, „die Person kennt sich mit CI/CD aus“.	Knowing who to contact for specific technologies is almost more important than directly applicable knowledge.	C2
D	56	[Würdest du das Meeting vermissen?] Networking hauptsächlich. Und ehrlich gesagt macht's ja auch einfach Spaß teilweise. Gibt auch Motivation.	Would miss the meeting for networking, fun, and motivation.	C8
D	58, 60	[Komplett asynchron?] Funktioniert erfahrungsgemäß einfach nicht. Wir haben ja jetzt schon Aufzeichnungen und Protokolle. Die schaut sich halt auch keiner an.	Async doesn't work based on experience; existing recordings and protocols are already not being consumed by anyone.	C14
D	62, 64	[Für welche Rollen besonders wertvoll?] Eigentlich für jede Rolle, aber aus unterschiedlichen Gründen. Architekten profitieren extrem von der Übersicht. Ganz neue Juniors eher vom Networking.	Every role benefits but for different reasons: architects from project/technology overview, new juniors from networking.	C5
D	68, 70	[Vor Ort vs. online?] Vor Ort ist deutlich besser. Remote kannst du halt geistig komplett abwesend sein und nebenher arbeiten.	On-site is noticeably better because remote attendees can be mentally absent and work on other things.	C7
D	76	[Was müsste effizienter werden?] Mehr aktive Beteiligung wäre gut. Gerade bei Today We Learned reden gefühlt immer dieselben drei Leute.	More active participation is needed; at TWL, it always feels like the same three people talking.	C16
D	78	[Warum immer dieselben?] Wahrscheinlich weil viele nichts vorbereiten oder sich nicht trauen spontan was zu erzählen.	Many attendees don't prepare or are afraid to speak spontaneously.	C16
D	80	[Mehr Struktur?] Teilweise schon. Aber man darf auch nicht alles kaputt optimieren. Dieses Gelaber und Späße machen gehört halt auch dazu.	Some more structure is needed, but over-optimization would ruin the social element: informal chat and fun are part of the experience.	C9

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
D	84, 86	[Organisatorische Probleme?] Innerhalb der Arbeitsgruppen wird halt oft zurückgesteckt, wenn im Projekt gerade irgendwas wichtig ist. Ja, eigentlich immer.	Working group contributions are constantly deprioritized when project work is urgent, which is essentially always the case.	C4
D	88	[Lösungsidee?] Vielleicht irgendeine Art Priorisierung oder Sichtbarkeit dafür.	Some form of prioritization or visibility for working group contributions could help.	C16
D	90, 92	Vorträge werden manchmal sehr kurzfristig verschoben. Das ist nervig. Weil man dann plötzlich Lücken im Meeting hat. Wenn man das früher wüsste, könnte man Ersatz organisieren.	Talks are sometimes postponed very short-term, creating gaps in the meeting; earlier notice would allow organizing replacements.	C4
D	100	[Woran lag's, wenn wenig rumkam?] Meistens einfach fehlende Vorbereitung.	Low-value meetings usually resulted from lacking preparation.	C4
D	102, 104	[Ergänzungen?] Bei Gamification hätte ich bisschen Sorge, dass das zu pushy wird. Dass die Leute das Gefühl bekommen, sie müssten sich ständig vergleichen oder irgendwie kompetitiv sein.	Concern that gamification might feel too pushy, creating pressure to constantly compare or compete with others.	C18
D	106	Gamification muss halt intrinsisch funktionieren. Die Leute müssen einfach Bock drauf haben.	Gamification must work through intrinsic motivation: people need to genuinely want to participate.	C18
D	108	Und ein großes Ziel des Meetings ist für mich generell auch, Dinge fürs Projekt hinzubekommen, die man alleine im eigenen Team gar nicht hinbekommen würde.	A major meeting goal is achieving things for the project that couldn't be accomplished within one's own team alone.	C2
E	14	[Durchschnittlicher Mehrwert 1-10?] Ich würde sagen so eine sieben.	Rates average meeting value at 7 out of 10.	C1
E	16	[Warum sieben?] Weil man schon relativ viel mitnimmt, mit dem man vorher eigentlich gar nicht gerechnet hat. Oft eher Sachen, die man zufällig mitbekommt und später irgendwann nochmal im Kopf hat.	Value often comes from unexpected topics: things you didn't think would be relevant but later recall and use.	C10
E	18	Zum Beispiel Technologien oder Vorgehensweisen, wo du erstmal denkst „betrifft mich gar nicht“, und ein halbes Jahr später taucht das Thema doch wieder auf. Dann erinnert man sich, dass da mal jemand was erzählt hat oder wer sich damit auskennt.	Technologies that seem irrelevant at first resurface months later; you then remember who presented and can reach out to them.	C10
E	20	[Welche Bausteine liefern den meisten Mehrwert?] Vorträge auf jeden Fall. Today We Learned auch. Und tatsächlich Erfolge und Herausforderungen teilweise.	Presentations, TWL, and partially Successes and Challenges are the most valuable meeting elements.	C6
E	22	Gerade wenn Leute erzählen, wo sie Probleme hatten oder wie sie irgendwas gelöst haben, ist das oft interessanter als irgendein komplett vorbereiteter Vortrag.	People sharing about their problems and solutions is often more interesting than a fully prepared Presentation.	C17
E	24	[Wie viel Prozent echten Mehrwert?] Wahrscheinlich ungefähr fünfzig.	About 50% of meeting time provides real value.	C1
E	26, 28	Ja, aber das widerspricht sich gar nicht unbedingt. Vieles betrifft einen halt einfach nicht direkt. Manchmal Themen, die in der täglichen Arbeit keinen Unterschied machen. Aber trotzdem ist es gut, das mal gehört zu haben.	Not contradictory to rate overall value high but only have 50% direct value: some topics make no difference in daily work but are still worth hearing about.	C1
E	30, 32	[Was bringt wenig?] Vorträge übers eigene Projekt finde ich meistens eher irrelevant. Weil man das Projekt ja eh schon kennt. Spannender wird's wenn andere Teams irgendwas erzählen.	Talks about one's own project are mostly irrelevant since the context is already known; talks from other teams are more interesting.	C2
E	34	Organisatorische Sachen wie Protokoll oder so sind halt notwendiges Übel. Aber das dauert jetzt auch nicht ewig, deswegen stört's mich auch nicht groß.	Organizational tasks like protocol distribution are a necessary evil but don't take long enough to be bothersome.	C11
E	36, 38	[Könnte die Zeit besser genutzt werden?] Nee. Ist ja freiwillig. Und selbst wenn nur die Hälfte wirklich direkten Mehrwert bringt, ist das für so ein Meeting eigentlich völlig okay.	Time is not wasted; as a voluntary meeting, even 50% direct value is considered perfectly acceptable.	C1
E	42	[Konkrete Beispiele?] Die Sachen sind oft so Kleinigkeiten. Also keine riesigen „das hat jetzt mein Projekt verändert“-Momente, sondern eher so kleine Impulse.	Takeaways are usually small impulses rather than project-changing moments.	C12

Increasing Engagement in Voluntary Corporate Meetings through Gamification

Table C.1 (continued)

Interview	Turns	Phrase	Paraphrase	Category
E	44	[Wie oft entsteht solcher Mehrwert?] Vielleicht alle sechs Meetings mal irgendwas, wo ich wirklich sage „okay, das nehme ich jetzt konkret mit“.	Truly concrete takeaways happen about every 6 meetings.	C12
E	48	[Würdest du das Meeting vermissen?] Weil dieser teamübergreifende Informationsaustausch dann einfach weg wäre. Und ich glaube das merkt man erst richtig, wenn's nicht mehr da ist.	Would miss the meeting because cross-team information exchange would disappear; its absence would only be truly noticed once it is gone.	C2
E	50	Aktuell kriegt man halt automatisch mit, was in anderen Teams passiert. Wenn das wegfällt, arbeitet irgendwann jeder wieder nur noch in seiner eigenen kleinen Bubble.	Currently, you automatically learn what other teams are doing; without it, everyone would return to working in their own bubble.	C2
E	52, 54	[Komplett asynchron?] Glaube ich nicht, dass das gut funktionieren würde. Weil sowas im Arbeitsalltag einfach hinten runterfällt. Die Informationen wären da, aber niemand würde sie wirklich konsumieren.	Async wouldn't work because it falls behind in daily work; information would exist but nobody would actually consume it.	C14
E	56	Das kennst du ja mit irgendwelchen Aufzeichnungen oder langen Chatverläufen. Theoretisch existiert alles, praktisch schaut's halt keiner an.	Existing recordings and long chat histories demonstrate this: everything exists theoretically but nobody looks at it in practice.	C14
E	58, 60	[Für welche Rollen wertvoll?] Eigentlich für alle Softwareentwickler. Juniors nehmen wahrscheinlich mehr komplett neue Sachen mit als Seniors.	Valuable for all software developers; juniors take away more completely new things than seniors.	C5
E	62	[Seniors?] Für Seniors ist es vielleicht weniger dieses „ich lerne jetzt eine komplett neue Technologie kennen“, sondern eher Überblick behalten oder mal andere Perspektiven mitbekommen.	For seniors, value is less about learning new technologies and more about maintaining overview and gaining different perspectives.	C5
E	64	[Vor Ort vs. online?] Vor Ort vereinfacht Kommunikation schon deutlich.	On-site noticeably simplifies communication.	C7
E	66, 68	[Warum dann trotzdem remote?] Einfach persönliche Convenience. Vor Ort ist wahrscheinlich sinnvoller, aber remote ist halt entspannter für mich.	Chooses remote for personal convenience despite acknowledging on-site is probably more useful.	C7
E	70, 72	[Ideales Meeting?] Ehrlich gesagt würde ich die Agenda fast genau so lassen. Informationsaustausch passt. Arbeitsgruppen-Austausch auch.	Would keep the agenda almost exactly as is; both information exchange and working group exchange fit well.	C15
E	74	[Länge?] Passt auch. Zu viele Vorträge hintereinander sind irgendwann einfach Overload.	Meeting length fits; too many talks in a row create information overload.	C15
E	78, 80	[Mehr Beteiligung durch Gamification?] Schwierig. Selbst mit Gamification fände ich das schnell zu gewollt. Wenn man merkt „jetzt sollen wir hier künstlich motiviert werden“, kann das schnell unangenehm werden.	Even gamification could quickly feel forced; if people notice artificial motivation attempts, it can become uncomfortable.	C18
E	84	[Meetings, an denen du lieber nicht teilgenommen hättest?] Nee. Es gab immer zumindest Informationsaustausch zwischen den Teams. Selbst ohne spannenden Vortrag nimmt man meistens irgendwas mit.	Never regretted attending; there is always at least cross-team information exchange and some takeaway.	C1
E	86	[Ergänzungen?] Ich glaube das Hauptziel von Gamification sollte eher sein, neue Leute ins Meeting zu bekommen.	Main gamification goal should be attracting new people to the meeting rather than optimizing existing participation.	C19
E	88, 90	Normalerweise wird Kosten-Nutzen bei Meetings schlechter, je mehr Leute drin sitzen. Aber hier ist das andersrum. Weil's um Wissensaustausch geht. Mehr Leute heißt mehr Erfahrungen, Themen, Perspektiven.	Unlike typical meetings, cost-benefit improves with more attendees in a knowledge sharing context because more people bring more experiences, topics, and perspectives.	C19

C.2 Intermediate Category System

Table C.2: Full intermediate category system of the problem identification interview coding. The *Reduced Into* column shows the reduced category each intermediate category was merged into.

Key	Category	Description	Freq.	Reduced Into
C1	Meeting Provides Good Overall Value	Interviewees rate the meeting positively (6–8/10), consider the time well spent, and accept that partial direct value is realistic for this type of meeting.	18	RC1
C2	Cross-Team Knowledge Exchange Is the Central Benefit	Learning what other teams do, identifying experts, and gaining awareness of technologies across the organization is seen as the meeting's core purpose and value.	15	RC2
C3	Content Should Be Broadly Applicable, Not Too Specific	Content that is too project-specific or too deep fails to provide value; broad, practical overviews of technologies and topics are preferred.	11	RC3
C4	Insufficient Preparation Reduces Meeting Quality	Lack of preparation (for talks, working groups, roles, protocol) is the primary driver of low-value meetings.	9	RC4
C5	Meeting Benefits All Developer Roles	The meeting is valuable for all developer roles, though for different reasons: juniors for knowledge building, seniors for overview and perspectives.	9	RC2
C6	Presentations and TWL Are the Most Valuable Elements	Presentations, Today We Learned, and Open Session are consistently rated as the highest-value meeting elements across all interviewees. Some also mention Successes and Challenges.	7	RC3
C7	On-Site Attendance Enables Better Engagement	On-site attendance leads to noticeably more attention and engagement; remote attendance invites multitasking and reduced focus.	7	RC3
C8	Social and Networking Value Is Essential	The social aspect (community, networking, and personal exchange beyond one's own project) is a core, irreplaceable value of the meeting.	7	RC6
C9	Meeting Efficiency Could Be Improved	Meeting goals are achieved but not efficiently; pacing and time utilization have room for improvement without over-optimizing.	6	RC5
C10	Meeting Provides Motivation, Fresh Perspectives, and Career Visibility	The meeting provides motivation, fresh ideas, escape from the project tunnel, serendipitous discovery, and visibility into career development opportunities.	6	RC6
C11	Organizational and Administrative Overhead Should Be Minimized	Working group updates, protocol distribution, and other organizational tasks are necessary but low-value and could partly be handled asynchronously.	6	RC5
C12	Knowledge Transfer Is Primarily Indirect	Direct knowledge application is rare; the meeting's value lies in impulses for further exploration, awareness building, and serendipitous discovery.	6	RC6
C13	Concrete Knowledge Transfer Does Occur	Specific, directly applicable knowledge or tools are occasionally gained (e.g., AI tools, CI/CD templates, project onboarding), roughly every 2–3 meetings.	6	RC6
C14	Async Format Would Not Work	A fully asynchronous format would fail because content would be ignored in daily work; existing async materials (recordings, protocols) are already underused.	5	RC3
C15	Current Meeting Format Is Satisfactory	The current agenda, structure, and format are considered good overall and do not need major changes.	5	RC1
C16	Active Participation Needs Improvement	Active contribution is concentrated among a few; many attendees don't prepare or are reluctant to speak spontaneously, and visibility for contributions is lacking.	3	RC5
C17	Learning from Others' Problems and Solutions Is Valued	Hearing about others' real problems, mistakes, and solutions is highly valued, sometimes even more than prepared talks; sharing is motivated by helping, not recognition.	3	RC3
C18	Gamification Must Be Intrinsic and Not Feel Forced	Gamification risks feeling pushy, artificial, or uncomfortable; it must work through intrinsic motivation, not competition or external pressure.	3	RC7
C19	Gamification Should Attract New Attendees	The primary gamification goal should be attracting new attendees; unlike typical meetings, more attendees increase value in a knowledge sharing context.	2	RC2

D Evaluation Survey Questionnaire

This appendix contains the full questionnaire of the evaluation survey described in Section 9.3. The survey was deployed in German and is reproduced here.

Guild Engine Evaluation ☹

Vielen Dank, dass du dir kurz Zeit nimmst. Diese Umfrage ist anonym und dauert nur wenige Minuten. Es geht um das Gamification-Tool (die "Guild Engine"), das in den letzten beiden Gildentreffs eingesetzt wurde.

Bitte antworte spontan aus dem Bauch heraus, es gibt keine richtigen oder falschen Antworten. Auch kritische und negative Rückmeldungen sind ausdrücklich erwünscht und helfen am meisten.

Die Teilnahme ist selbstverständlich freiwillig, die Antworten werden anonym ausgewertet und ausschließlich im Rahmen meiner Masterarbeit verwendet.

* Required

Zu dir

1

Hast du an den letzten beiden Gildentreffs (Mai & Juni) teilgenommen? *

- ☐ Ja, an beiden
- ☐ Ja, an einem der beiden
- ☐ Nein, an keinem der beiden

Gamification-Tool als Ganzes

2

Hast du dich bereits im Gamification Tool registriert? *

- ☐ Ja
- ☐ Nein

Increasing Engagement in Voluntary Corporate Meetings through Gamification

3

Aus welchem Grund hast du dich (noch) nicht im Gamification Tool registriert? *

4

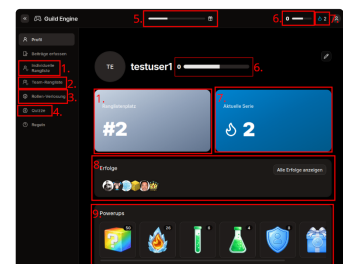
Wie haben sich die folgenden Punkte für dich mit dem Gamification Tool verändert (im Vergleich zu ohne irgendein Gamification Tool)? *

	stark gesunken	leicht gesunken	unverändert	leicht gestiegen	stark gestiegen	Kann ich nicht eindeutig beantworten
Mein Engagement im Gildentreff insgesamt ist durch das Tool...	☐	☐	☐	☐	☐	☐
Meine Motivation , beim Gildentreff dabei zu sein ist durch das Tool...	☐	☐	☐	☐	☐	☐
Meine Motivation , mich aktiv einzubringen (z. B. TWL, Protokoll, Moderation) ist durch das Tool...	☐	☐	☐	☐	☐	☐
Meine Motivation , etwas für den Gildentreff vorzubereiten (z. B. Vortrag, Open Session) ist durch das Tool...	☐	☐	☐	☐	☐	☐

5

Falls du einen Punkt nicht eindeutig beantworten konntest: Möchtest du weiter ausführen?

Einzelne Features



Falls du bei einem Feature nicht weißt, was gemeint ist, sind hier im Screenshot alle sichtbaren Features markiert.

6

Wie hat sich deine Motivation im Gildentreff durch das jeweilige Feature verändert (im Vergleich zu ohne das Feature)? *

	stark gesunken	leicht gesunken	unverändert	leicht gestiegen	stark gestiegen	Kann ich nicht eindeutig beantworten	Das Feature habe ich nicht wahrgenom- men
Durch die Individuelle Rangliste (1.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Team- Rangliste (2.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Rollen- Verlosung (3) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Quizze (4.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch den Gildenstammi- sch- Fortschrittsbal- ken (5.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch das Levelsystem (6.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Streak / Serie (7.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Achievements (8.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch die Powerups (9.) ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐
Durch das Punktesystem i st meine Motivation...	☐	☐	☐	☐	☐	☐	☐

Increasing Engagement in Voluntary Corporate Meetings through Gamification

	stark gesunken	leicht gesunken	unverändert	leicht gestiegen	stark gestiegen	Kann ich nicht eindeutig beantworten	Das Feature habe ich nicht wahrgenom men
Durch die Belohnung "Weiterbildungsbudget für Ranglistenerste:n" ist meine Motivation...	☐	☐	☐	☐	☐	☐	☐

7

Falls du ein Feature nicht eindeutig beantworten konntest: Möchtest du weiter ausführen?

Offenes Feedback

Gleich hast du es geschafft! Das sind die letzten zwei Fragen :)

8

Welche Verbesserungen siehst du durch die Einführung des Gamification Tools?

9

Welche Verbesserungsvorschläge hast du für das Gamification Tool?

E Evaluation Survey Results

This appendix contains all 15 responses returned by the evaluation survey analyzed in Section 9.4, including response 8, which is excluded from the analysis. Table E.1 lists the closed-ended answers of every response; the free-text answers follow, reproduced verbatim in German and grouped by question. The response IDs are the identifiers assigned by the survey platform. Responses 1 to 7 were made for testing and the pilot, and therefore are not reproduced here. Timestamps and contact fields are omitted, and two personal names as well as the name of a company-internal tool are replaced by bracketed placeholders.

E.1 Closed-Ended Answers

Table E.1: Closed-ended answers of the evaluation survey. Scale abbreviations: ++ *stark gestiegen*, + *leicht gestiegen*, 0 *unverändert*, – *leicht gesunken*, -- *stark gesunken*, ? *Kann ich nicht eindeutig beantworten*, × *Das Feature habe ich nicht wahrgenommen*.

ID	Attended	Registered	Whole tool				Features										
			Engagement	Attendance	Participation	Preparation	Individual leaderboard	Team leaderboard	Role raffle	Quizzes	Progress bar	Level system	Streak	Achievements	Powerups	Point system	Incentive
8	none	no															
9	one	yes	+	+	0	0	+	0	0	0	0	0	0	+	+	0	0
10	both	yes	+	+	+	+	+	+	0	+	0	–	+	+	–	+	+
11	one	yes	0	0	0	0	0	0	0	0	0	0	+	+	+	0	0
12	both	yes	+	++	++	++	0	+	?	0	0	+	++	+	0	+	0
13	both	yes	+	++	+	+	++	+	+	+	×	×	+	0	+	++	×
14	one	yes	+	+	0	0	+	0	–	+	0	+	0	++	+	+	0
15	one	yes	0	0	0	0	+	0	0	0	0	0	0	0	0	0	0
16	both	yes	–	0	0	+	0	0	--	0	0	+	0	+	+	–	–
17	both	yes	0	0	+	0	0	0	0	0	0	0	0	0	0	0	0
18	both	yes	0	++	+	0	++	0	–	+	?	0	+	+	+	+	0
19	both	yes	+	0	0	+	++	0	–	0	+	+	+	++	0	+	0
20	both	yes	+	+	+	+	+	+	0	0	?	?	+	+	0	?	+
21	both	yes	+	++	0	0	+	+	0	+	0	+	++	+	+	++	+
22	both	yes	++	++	+	++	++	0	++	+	+	++	+	++	++	?	++

E.2 Free-Text Answers

Question 2.2: Reason for Not Registering

Aus welchem Grund hast du dich (noch) nicht im Gamification Tool registriert?

Response 8 Ich bin kein Entwickler und nehme nicht an der Gilde teil :-D

Question 2.4: Follow-Up on the Whole-Tool Ratings

Falls du einen Punkt nicht eindeutig beantworten konntest: Möchtest du weiter ausführen?

Response 16 Personen die an sich schon immer mehr Zeit für die Gilde hatten/sich genommen haben, sind noch mehr Beteiligt und werden dafür "Belohnt". Im Vergleich dazu bin ich persönlich etwas mehr abgehangen, da ich an sich wenig Luft außerhalb meiner produktiven Projekte habe.

Question 3.2: Follow-Up on the Feature Ratings

Falls du ein Feature nicht eindeutig beantworten konntest: Möchtest du weiter ausführen?

Response 12 Jetzt mach ich mir keine Sorgen mehr ausgewählt zu werden. Finde ich viel entspannter so.

Response 18 Bin nicht ganz davon überzeugt, dass man den Stammtisch freischalten muss.

Zum Weiterbildungsbudget: Eine Belohnung generell finde ich motivierend, aber spezifisch diese Belohnung für mich persönlich nicht.

Response 20 Fortschrittbalken wie auch Levelsystem sind in den Anfangsleveln etwas zu langsam, um da ein Bonding zu erzeugen, würde ich vermuten. Dadurch, dass es nur eine bestimmte Anzahl an offenen "Posten" gibt die ne gute Menge an Punkten geben sind die Gildentreffs für die viele Teilnehmer automatisch sehr Punkte arm. Wenn das Skaling etwas angepasst werden würde, wären diese Features denke ich präsenter und könnten Impakt haben.

Response 22 Das Punktesystem für sich hat mit meiner Motivation nichts gemacht. Man kriegt davon ja nur durch die Rangliste und so was mit.

Question 4.1: Improvements Seen

Welche Verbesserungen siehst du durch die Einführung des Gamification Tools?

Response 10 - motiviertere Gruppe allgemein

- Verlosung der Modi und Vergabe vom Protokoll ist nicht mehr ganz so zäh
- lustige/nette Achievements -> hebt die Laune und macht neugierig
- Erfassen der Punkte -> schnell und übersichtlich

Response 12 Es ist alles übersichtlich. Da guckt man gerne mal rein um den Stand zu checken. Es ist viel weniger reibung da.

Response 13 Motivation und Teilnahme sind gestiegen. Und Spaß auch.

Response 14 - Bessere Übersicht über Punkteverteilung, Ranglisten, etc. für alle

- Bessere Einbindung der Gamification-Ansätze in den Gildentreff
- Hoffentlich mehr Anreiz für Mitarbeiter an der Gilde teilzunehmen, auch wenn anfangs nur passiv

Response 15 Nur, weil ich nicht besonders empfänglich für solche Motivation bin, heißt das ja nicht, dass ich nicht glaube, dass es insgesamt keine gute Idee ist ;) Ich denke schon, dass es ein gutes Werkzeug ist, Leute zu motivieren, sich mehr in der Gilde zu engagieren.

Response 16 Allgemein wird der Tagesplan mehr durchgezogen, alle Tagespunkte sind viel besser vorbereitet.

Response 17 Deutlich angenehmer nutzbar und schneller als [internes Tool]

Response 18 Mehr freiwillige Meldungen für Protokoll und Moderation; Rollenverlosung kann alle treffen, nicht nur die, die eh ihren Laptop dabei haben. Dadurch ist es fairer.

Response 21 Ich mag diesen kleinen kompetitiven Aspekt, der halt wirklich auch ne lustige und spielerische Art umgesetzt wird. Sei es das Leaderbord, die Streaks oder die PowerUps. Das Tool fühlt sich auch gut bedienbar an. Natürlich ist es noch ein "Self-Service" Tool weil wie soll das tracking auch automatisiert gehen, aber gerade da es self-service ist fühlt es sich für uns "Enduser" sehr clean und gut an.

Response 22 Allererste freiwillige Meldung für ein Protokoll in der Geschichte des Gildentreffs. Protokoll-Verteilung ist deutlich spaßiger als wenn [Name] oder [Name] den/die Protokollant/in bestimmen.

Question 4.2: Improvement Suggestions

Welche Verbesserungsvorschläge hast du für das Gamification Tool?

Response 10 - Fortschrittsbalken für Stammtisch -> Nutzen bisher nicht so klar bzw. welchen Benefit haben wir dadurch?

- besseres Balancing zwischen den unterschiedlichen Items?
- Schild setzt man sehr wahrscheinlich umsonst ein, zum jetzigen Zeitpunkt. Wenn man es wenigstens einsetzen könnte, wenn man weiß man wäre eigentlich gelost worden...
- Eventuell mehr kooperative Ideen, um Mitglieder zu supporten/schützen durch Items und diese nicht nur zu "beschenken"
- Allgemein gibt es bis auf die GruppenListe nicht wirklich was zum Zusammenarbeiten (Gemeinschaftsaspekt)

Response 11 Ich würde das Feld zum erfassen der neuen Punkte für den Gilden treff umbenennen von "Beiträge erfassen" zu Anwesenheit erfassen o.ä.

Response 12 Ich glaub das Rollengeschenk ist ein wenig fehl am Platz. Das fühlt sich mehr nach bestrafen an.

Response 13 Die vorhandene Feature sind toll. Neue features: Punkte auch für Herausforderungen/Erfolge; im Tool sich für Moderation oder Protokoll anmelden zu können, first comes first served.

Response 14 Aktuell dient das Tool hauptsächlich der Übersicht. Das heißt das Tool fällt nach einem Gildentreff für die nächsten 4 Wochen einfach wieder unter den Tisch, bis man dann wieder seine Punkte eintragen kann bzw. man im nächsten Gildentreff auf die Rangliste schaut/Rollen ausrollt. Ich fände es schon, wenn das Tool nicht nur so ein One-Time-Use-Ding alle 4 Wochen ist, eine konkrete Idee dafür habe ich aber leider keine.

Response 15 Ich finde es gut so, wie es ist

Response 16 Eine höherwertige Art Boni für Personen, die noch nie oder schon Lange nicht mehr dabei gewesen sind. (evtl. Sichtweise: Jemand der noch nie teilgenommen hat sieht das Leaderboard und denkt sich, das werde ich eh nicht erreichen weil die anderen zu viel Vorsprung haben?)

Es fehlt etwas das die Teilnahme online mehr motiviert (Aktuell kann man mute, Kamera aus den ganzen Gildentermin verbringen ohne was zu sagen) - Viele würden sagen einfach vor Ort teilnehmen - würde aber evtl. mündliche Beiträge auch Belohnen (Aktuell gibt es nur Punkte für einen Post vor der Gilde)

Response 18 Aufgaben für die Teams, um die Teamrangliste besser zu nutzen und den Zusammenhalt zu stärken.

Response 21 Tool ist eigentlich sehr gut, einziger kleiner Kritikpunkt: Ich finde man braucht schon sehr viele Punkte um nur ein Level aufzusteigen (100 für level 2), wenn das Tool natürlich mehrere Jahre sogar im Einsatz ist, ist das wahrscheinlich aber auch kein Problem mehr. Dachte mir nur das es eventuell etwas viel ist, da man mindestens 3-4 Gildenmeetings braucht um ein Level zu schaffen in Vorort Anwesenheit (viertel bis halbes Jahr, da nur einmal pro Monat Gildenmeeting) (ich bin zusätzlich auch nicht in einer Arbeitsgruppe drin und bin jetzt glaube ich nach dem 2. oder 3. Gilden Meeting bei 60 Punkten). Also für mich ist das nicht so wild, aber eventuell für andere maybe etwas demotivierend (?)

Response 22 Wäre cool wenn es besser in den Flow vom Meeting eingebunden wäre => automatische Punktevergabe (wie auch immer :D)

Bei den Powerups gibt es krasse Unterschiede wie gut die sind => Punktemultiplikatoren sind super wichtig weil alles auf Punkten aufbaut; Streakfreezes und Rollenschilder sind irgendwie bisschen witzlos und Rollengeschenke traut sich keiner einzusetzen

F Evaluation Survey Coding

This appendix contains the complete extraction table resulting from the qualitative content analysis of the open-ended survey responses. Table F.1 lists every coded segment alongside its response and question of origin, its original German phrase, its English paraphrase, its direction, and its assigned category. The *Direction* column classifies a segment as praise or an observed improvement (*positive*), as *criticism*, as a *suggestion*, or as an explanatory remark without valuation (*neutral*).

Table F.1: Extraction table of the evaluation survey coding.

Response	Question	Phrase	Paraphrase	Direction	Category
10	4.1	motiviertere Gruppe allgemein	The group is generally more motivated.	positive	S1
10	4.1	Verlosung der Modi und Vergabe vom Protokoll ist nicht mehr ganz so zäh	The raffle of the session modes and the assignment of the protocol are no longer as sluggish as before.	positive	S3
10	4.1	lustige/nette Achievements -> hebt die Laune und macht neugierig	The funny and likeable achievements lift the mood and spark curiosity.	positive	S1
10	4.1	Erfassen der Punkte -> schnell und übersichtlich	Capturing points is quick and clearly laid out.	positive	S2
10	4.2	Fortschrittsbalken für Stammtisch -> Nutzen bisher nicht so klar bzw. welchen Benefit haben wir dadurch?	The benefit of the progress bar for the get-together is not clear so far.	criticism	S6
10	4.2	besseres Balancing zwischen den unterschiedlichen Items?	Asks for better balancing between the different items.	suggestion	S5
10	4.2	Schild setzt man sehr wahrscheinlich umsonst ein, zum jetzigen Zeitpunkt. Wenn man es wenigstens einsetzen könnte, wenn man weiß man wäre eigentlich gelost worden...	The role shield is most likely used in vain at present; wishes it could at least be used when one knows one would actually have been drawn.	criticism	S5
10	4.2	Eventuell mehr kooperative Ideen, um Mitglieder zu supporten/schützen durch Items und diese nicht nur zu "beschenken"	Suggests more cooperative ideas for supporting or protecting members through items instead of only gifting them.	suggestion	S6
10	4.2	Allgemein gibt es bis auf die GruppenListe nicht wirklich was zum Zusammenarbeiten (Gemeinschaftsaspekt)	Apart from the team leaderboard, there is not really anything to work on together (community aspect).	criticism	S6
11	4.2	Ich würde das Feld zum erfassen der neuen Punkte für den Gilden treff umbenennen von "Beiträge erfassen" zu Anwesenheit erfassen o.ä.	Suggests renaming the point-entry field from <i>capture contributions</i> to <i>capture attendance</i> or similar.	suggestion	S2
12	3.2	Jetzt mach ich mir keine Sorgen mehr ausgewählt zu werden. Finde ich viel entspannter so.	No longer worries about being picked and finds the new procedure much more relaxed.	positive	S3
12	4.1	Es ist alles übersichtlich. Da guckt man gerne mal rein um den Stand zu checken. Es ist viel weniger reibung da.	Everything is clearly laid out, one gladly checks the current state, and there is much less friction.	positive	S2
12	4.2	Ich glaub das Rollengeschenk ist ein wenig fehl am Platz. Das fühlt sich mehr nach bestrafen an.	The role present is a little out of place and feels more like a punishment.	criticism	S5
13	4.1	Motivation und Teilnahme sind gestiegen. Und Spaß auch.	Motivation and attendance have increased, and so has fun.	positive	S1
13	4.2	Die vorhandene Feature sind toll.	The existing features are great.	positive	S2
13	4.2	Neue features: Punkte auch für Herausforderungen/Erfolge	Suggests points also for the challenges and successes block.	suggestion	S4

Increasing Engagement in Voluntary Corporate Meetings through Gamification

Table F.1 (continued)

Response	Question	Phrase	Paraphrase	Direction	Category
13	4.2	im Tool sich für Moderation oder Protokoll anmelden zu können, first comes first served.	Suggests being able to sign up for moderation or protocol in the tool, first come, first served.	suggestion	S2
14	4.1	Bessere Übersicht über Punkteverteilung, Ranglisten, etc. für alle	Better overview of the point distribution, leaderboards, and so on for everyone.	positive	S2
14	4.1	Bessere Einbindung der Gamification-Ansätze in den Gildentreff	The gamification approaches are better integrated into the meeting.	positive	S7
14	4.1	Hoffentlich mehr Anreiz für Mitarbeiter an der Gilde teilzunehmen, auch wenn anfangs nur passiv	Hopes for more incentive for employees to attend the meeting series, even if only passively at first.	positive	S1
14	4.2	Aktuell dient das Tool hauptsächlich der Übersicht. Das heißt das Tool fällt nach einem Gildentreff für die nächsten 4 Wochen einfach wieder unter den Tisch, bis man dann wieder seine Punkte eintragen kann bzw. man im nächsten Gildentreff auf die Rangliste schaut/Rollen ausrollt. Ich fände es schon, wenn das Tool nicht nur so ein One-Time-Use-Ding alle 4 Wochen ist, eine konkrete Idee dafür habe ich aber leider keine.	The tool currently mainly serves as an overview and simply falls by the wayside for the four weeks after each instance; wishes it were not a one-time-use thing every four weeks, but has no concrete idea for changing that.	criticism	S7
15	4.1	Nur, weil ich nicht besonders empfänglich für solche Motivation bin, heißt das ja nicht, dass ich nicht glaube, dass es insgesamt keine gute Idee ist :) Ich denke schon, dass es ein gutes Werkzeug ist, Leute zu motivieren, sich mehr in der Gilde zu engagieren.	Is not personally receptive to this kind of motivation, but still considers the tool a good instrument to motivate people to engage more in the guild.	positive	S1
15	4.2	Ich finde es gut so, wie es ist	Finds the tool good as it is.	positive	S2
16	2.4	Personen die an sich schon immer mehr Zeit für die Gilde hatten/sich genommen haben, sind noch mehr Beteiligt und werden dafür "Belohnt". Im Vergleich dazu bin ich persönlich etwas mehr abgehängt, da ich an sich wenig Luft außerhalb meiner produktiven Projekte habe.	People who always had or took more time for the guild are now even more involved and get rewarded for it, while the respondent personally falls behind for lack of slack outside productive project work.	criticism	S4
16	4.1	Allgemein wird der Tagesplan mehr durchgezogen, alle Tagespunkte sind viel besser vorbereitet.	In general, the agenda is followed through more, and all agenda items are much better prepared.	positive	S1
16	4.2	Eine höherwertige Art Boni für Personen, die noch nie oder schon Lange nicht mehr dabei gewesen sind. (evtl. Sichtweise: Jemand der noch nie teilgenommen hat sieht das Leaderboard und denkt sich, das werde ich eh nicht erreichen weil die anderen zu viel Vorsprung haben?)	Suggests a higher-value kind of bonus for people who have never attended or have long been absent, since a newcomer may see the leaderboard lead of others as unreachable.	suggestion	S4
16	4.2	Es fehlt etwas das die Teilnahme online mehr motiviert (Aktuell kann man mute, Kamera aus den ganzen Gildentermin verbringen ohne was zu sagen) - Viele würden sagen einfach vor Ort teilnehmen - würde aber evtl. mündliche Beiträge auch Belohnen (Aktuell gibt es nur Punkte für einen Post vor der Gilde)	Something is missing that motivates attending online more, since one can currently stay muted with the camera off for the whole instance; suggests also rewarding oral contributions, as only a post before the meeting earns points at the moment.	criticism	S4
17	4.1	Deutlich angenehmer nutzbar und schneller als [internes Tool]	Clearly more pleasant to use and faster than the previously used internal tool.	positive	S2
18	3.2	Bin nicht ganz davon überzeugt, dass man den Stammtisch freischalten muss.	Is not fully convinced that the get-together has to be unlocked.	criticism	S6
18	3.2	Zum Weiterbildungsbudget: Eine Belohnung generell finde ich motivierend, aber spezifisch diese Belohnung für mich persönlich nicht.	Finds a reward motivating in general, but this specific reward, the training budget, not personally motivating.	criticism	S4
18	4.1	Mehr freiwillige Meldungen für Protokoll und Moderation	More voluntary sign-ups for protocol and moderation.	positive	S3

Table F.1 (continued)

Response	Question	Phrase	Paraphrase	Direction	Category
18	4.1	Rollenverlosung kann alle treffen, nicht nur die, die eh ihren Laptop dabei haben. Dadurch ist es fairer.	The role raffle can hit everyone, not only those who have their laptop with them anyway, which makes it fairer.	positive	S3
18	4.2	Aufgaben für die Teams, um die Teamrangliste besser zu nutzen und den Zusammenhalt zu stärken.	Suggests tasks for the teams to make better use of the team leaderboard and to strengthen cohesion.	suggestion	S6
20	3.2	Fortschrittbalken wie auch Levelsystem sind in den Anfangsleveln etwas zu langsam, um da ein Bonding zu erzeugen, würde ich vermuten. Dadurch, dass es nur eine bestimmte Anzahl an offenen "Posten" gibt die ne gute Menge an Punkten geben sind die Gildentreffs für die viele Teilnehmer automatisch sehr Punkte arm. Wenn das Skaling etwas angepasst werden würde, wären diese Features denke ich präsenter und könnten Impakt haben.	The progress bar and the level system build up too slowly in the early levels to create a bond; because only a limited number of open posts grant a good amount of points, the instances are point-poor for many attendees; with adjusted scaling these features would be more present and could have impact.	criticism	S4
21	4.1	Ich mag diesen kleinen kompetitiven Aspekt, der halt wirklich auch ne lustige und spielerische Art umgesetzt wird. Sei es das Leaderbord, die Streaks oder die PowerUps.	Likes the little competitive aspect, which really is implemented in a fun and playful way, be it the leaderboard, the streaks, or the powerups.	positive	S1
21	4.1	Das Tool fühlt sich auch gut bedienbar an. Natürlich ist es noch ein "Self-Service" Tool weil wie soll das tracking auch automatisiert gehen, aber gerade da es self-service ist fühlt es sich für uns "Enduser" sehr clean und gut an.	The tool feels well usable; although it is a self-service tool, precisely because of that it feels very clean and good for the end users.	positive	S2
21	4.2	Tool ist eigentlich sehr gut, einziger kleiner Kritikpunkt: Ich finde man braucht schon sehr viele Punkte um nur ein Level aufzusteigen (100 für level 2), wenn das Tool natürlich mehrere Jahre sogar im Einsatz ist, ist das wahrscheinlich aber auch kein Problem mehr. Dachte mir nur das es eventuell etwas viel ist, da man mindestens 3-4 Gildenmeetings braucht um ein Level zu schaffen in Vorort Anwesenheit (viertel bis halbes Jahr, da nur einmal pro Monat Gildenmeeting) (ich bin zusätzlich auch nicht in einer Arbeitsgruppe drin und bin jetzt glaube ich nach dem 2. oder 3. Gilden Meeting bei 60 Punkten). Also für mich ist das nicht so wild, aber eventuell für andere maybe etwas demotivierend (?)	Considers the tool very good overall, with one small point of criticism: advancing a level requires very many points (100 for level two), which takes at least three to four instances of on-site attendance; not a problem personally, but possibly somewhat demotivating for others.	criticism	S4
22	3.2	Das Punktesystem für sich hat mit meiner Motivation nichts gemacht. Man kriegt davon ja nur durch die Rangliste und so was mit.	The point system by itself did nothing for their motivation; one only notices it through the leaderboard and similar elements.	neutral	S1
22	4.1	Allererste freiwillige Meldung für ein Protokoll in der Geschichte des Gildentreffs.	Very first voluntary sign-up for a protocol in the history of the meeting series.	positive	S3
22	4.1	Protokoll-Verteilung ist deutlich spaßiger als wenn [Name] oder [Name] den/die Protokollant/in bestimmen.	The protocol distribution is clearly more fun than when the moderators determine the protocol keeper.	positive	S3
22	4.2	Wäre cool wenn es besser in den Flow vom Meeting eingebunden wäre => automatische Punktevergabe (wie auch immer :D)	Wishes the tool were better integrated into the flow of the meeting, for example through automatic point awarding.	suggestion	S7

Table F.1 (continued)

Response	Question	Phrase	Paraphrase	Direction	Category
22	4.2	Bei den Powerups gibt es krasse Unterschiede wie gut die sind => Punktemultiplikatoren sind super wichtig weil alles auf Punkten aufbaut; Streakfreezes und Rollenschilder sind irgendwie bisschen witzlos und Rollengeschenke traut sich keiner einzusetzen	There are stark differences in how good the powerups are: point multipliers are super important because everything builds on points, streak freezes and role shields are somewhat pointless, and nobody dares to use role presents.	criticism	S5

List of Figures

2.1	Bartle's Player Types	6
3.1	Research Design	8
5.1	PRISMA Flow Diagram	19
5.2	Game Element Frequencies	23
6.1	Gamification Concept	27
7.1	C4 System Context View	35
7.2	C4 Container View	36
7.3	C4 Component View	38
8.1	Track Contributions Page	42
8.2	Individual Leaderboard Page	43
8.3	Profile Page	43
8.4	Role Raffle Page	44
8.5	Admin Feature Configuration Page	45
8.6	Admin Performance Metric Configuration Page	45
9.1	Whole-Tool Ratings	52
9.2	Feature Ratings	53

List of Tables

2.1	Game Element Taxonomy	4
4.1	Meeting Agenda Blocks	9
4.2	Interviewee Metadata	10
4.3	Reduced Categories	13
4.4	Reduced Categories Classification	13
5.1	Literature Review Inclusion Criteria	18
5.2	Related Work Transferability	21
5.3	Related Work Game Element Coding	24
6.1	Design Objectives	26
6.2	Gamification Concept Composition	32
7.1	Architectural Requirements	34
9.1	Configured Performance Metrics	49
9.2	Attendance Record	51
9.3	Off-Scale Responses	52
9.4	Survey Categories	54
C.1	Phrase Extraction	85
C.2	Intermediate Category System	93
E.1	Closed-Ended Survey Responses	99
F.1	Survey Phrase Extraction	103

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Name, Vorname: Reich, Patrick

dass ich die vorliegende Arbeit

Titel der Arbeit: Increasing Engagement in Voluntary Corporate Meetings through Gamification

Studienfach: Professional Software Engineering

Prüfer*in: Prof. Dr. Uwe Breitenbücher

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