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Article

The Convergence of Gamification and Interactive Multimedia Experiences in Promoting a Culture of Recognition: A Wizeline Case Study

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Abstract

Gamification is a powerful approach to enhance employee interaction and cultivate a culture of recognition. Interactive multimedia experiences captivate employees by incorporating engaging narratives, stimulating multiple senses, and offering diverse interaction styles. Building on these benefits, an interdisciplinary team from academia and industry developed a gamification strategy tailored to employees' needs. The components of the gamification strategy are enjoyment, visibility, gratification, and professional growth, which were defined based on the employees' characterization. This strategy was integrated into the WizeLand multimedia system and designed to recognize employee achievements and encourage participation in recognition and training programs. The Thinking-aloud and Single-Ease Question methods were used to understand employees' perceived usefulness and their general perceptions of the components of the gamification strategy integrated into WizeLand. The validation of this approach yielded promising results, demonstrating that the gamification strategy positively impacts recognition culture, employee attitudes, and behaviors. Participation in WizeLand's mission-based activities reshaped employees' perceptions of performance management, fostering a sense of fairness that enhances organizational commitment and overall job performance. Future work will expand WizeLand with qualification-focused missions and analytics modules for managerial decision-making, and will explore its potential as a scalable solution for other organizations.

1. Introduction

Companies operate in a competitive and dynamic world where employees must continually expand and update their skills and knowledge, and foster a culture of recognition and

participation, which are essential to maintaining a positive, productive, and collaborative work environment. With this in mind, Wizeline and the Universidad Autónoma de Occidente (UAO) collaborated to create a multimedia system to increase employee participation in recognition programs offered by the company, make each employee's achievements more visible, reinforce the company's values and align individual contributions with organizational objectives.

A Multimedia System (MS) is a platform designed to create value for stakeholders by delivering an Interactive Multimedia Experience (IME). Developed through a value-sensitive design approach, an IME addresses users' interests, needs, and expectations, shaping their sensory perceptions through narratives conveyed across various digital media [1]. The design process for an IME focuses on effectively delivering value to stakeholders, tailored to its intended purpose and context. While IMEs have proven successful in educational settings [2][3], companies like Wizeline—renowned for their dedication to innovation and the professional development of their employees—emphasize the importance of offering effective and engaging experiences.

Gamification motivated this research by demonstrating how MS can be designed to offer engaging experiences and game-like motivations. Gamification has shown potential as an innovative approach to improving certain organizational processes [4][5][6]. The literature review [7] highlights that analyzing the effects of gamification in the workplace is challenging and underlines that gamification in performance management increases employee motivation and engagement by making everyday tasks more engaging and rewarding. Gamification not only boosts intrinsic motivation—through fun challenges—but also generates extrinsic motivation through tangible and intangible rewards that reinforce positive behaviors and promote greater participation [8].

Consequently, the work team identified an opportunity for innovation by strengthening its employees' recognition culture, where a gamification strategy integrated into an IME can be an effective formula that provides employees with value, increasing their participation, visibility, and commitment to the company's recognition programs. This initiative seeks to transform the experience of giving recognition into one that is more interactive, entertaining, and motivating. The IME is expressed through a story and narrative universe so that users can experience the game's atmosphere, produce emotional connections, and cultivate a sense of recognition. This reveals the importance of narrative, story, emotions, interaction modalities, and other aspects that define an IME. Thus, understanding the progression of gamification is increasingly relevant in the business context [9].

This article presents the design of the multimedia system WizeLand as an integrative digital solution for Wizeline's recognition programs, providing employees with an IME through a gamification strategy to increase visibility of actions and achievements within the company's recognition programs. WizeLand recreates a narrative universe to foster a sense of belonging and a more active and connected recognition culture. It is based on a city where the user, represented by a customizable avatar, can explore houses in the territory that correspond to each program. In contrast to related applications, WizeLand is designed to integrate recognition programs, allowing Wizeliners (the company's collaborators are called) to have fun and feel immersed in a narrative that unfolds in a city. Its stability depends on participation in recognition programs and on addressing a series of strategic missions of the territory, both individual and collaborative, that motivate employee participation and qualification.

Considering the fundamentals of gamification, the gamification strategy is based on four components: (1) Enjoyment of the experience through elements such as missions, narrative, and notifications, among others, which allow employees to participate in recognition programs in a fun and motivating way. (2) Visibility of individual and team achievements by company colleagues. This visibility increases motivation and fosters a sense of community and healthy competition. (3) Gratification through rewards to employees for their participation and achievements to sustain commitment and raise satisfaction and a sense of belonging. Finally,

(4) Professional growth from the skills, competencies, and knowledge gained in the multimedia experience's different missions reinforces the idea of actively participating in recognition programs.

The validation of the gamification strategy implemented at WizeLand provides optimistic evidence of the benefits of gamification for the visibility of achievements, participation in recognition programs, and employee attitudes and behaviors, indicating that the components of the gamification strategy achieve the expected results. By converting activities such as mentoring, course completion, mobility, and participation in marketing campaigns, among others, into fun missions, not only is participation increased, but the visibility of employee achievements is reinforced, fostering a greater connection between them and promoting a dynamic, motivated, and professional growth-oriented work environment.

This article consists of the following sections: introduction, background, methodology, IME stakeholders, proposed gamification strategy, creation of the IME, validation of the experience, discussion, conclusions, and references.

2. Background

The definition of gamification, which refers to using game design elements in non-game contexts [10], will continue to be a guiding principle in the business world. Gamification is based on two complementary theoretical frameworks. Self-Determination Theory (SDT) [11] explains that intrinsic motivation arises when three psychological needs are met: autonomy (control over one's actions), competence (mastery of challenging tasks), and social relatedness (connection with others). Meanwhile, Flow Theory [12] establishes that optimal engagement requires a balance between the task's challenge and the user's skills, along with clear objectives and immediate feedback.

Gamification has emerged as a powerful tool for encouraging active employee participation and engagement in professional growth within companies [3]. Gamification in performance management has drawn the attention of information technology (IT) managers [13] for applying typical game features, elements, and techniques in the work context to influence how employees perform tasks.

Gamification has become a relevant topic in business research due to its impact on employee attitudes and behaviors [4]. Literature identifies opportunities to enhance training and build a recognition culture through strategies that promote enjoyment and increase the visibility and immediacy of performance data [7]. A gamification strategy should persuade employees that the IME is easy to use, useful for skill development, and not burdensome. The literature highlights that enjoyment is essential, with challenges and narratives being the most effective elements [14]. To enhance the user experience, multimedia content should be presented within a narrative context that offers multisensory feedback.

Visibility and fairness are key foundations of gamification in the business context. Employee participation in gamified experiences shapes their perception of fairness in performance management [15]. Gamification systems contribute to fairness by clearly communicating rules and evaluation criteria that apply equally to all. This transparency ensures that employees perceive rewards and evaluations as consistent, impartial, and accurate. As employees engage more with the IME, they better understand how recognition programs operate, reinforcing a sense of procedural fairness. Thus, greater involvement in the IME leads to stronger perceptions of equity and trust in the company’s performance management system.

Users’ participation in gamification influences their perception of achievements and challenges as contributing to personal growth and achieving valuable goals. The explicit, specific, and verifiable rules of gamification systems enhance about what individuals should do, focus their efforts, and increase gratification [4]. Gamification provides employees with

challenges by creating a competition with predetermined rules for success. The competition fostered by gamification incentivizes employees to work hard to achieve their goals [16].

Participation in gamification influences employee perceptions of organizational support and affects employees' attitudinal responses toward the organization [17]. Perceived organizational support measures the degree to which employees perceive that the organization values people's contributions and cares about their well-being [18]. Employees perceive high organizational support when organizations develop policies or systems demonstrating that management cares about them.

Taking into account these theoretical concepts and the opportunities identified in the literature on gamification in organizational contexts, this study focuses on the design and validation of an IME that integrates a gamification strategy. The next sections present the methodology adopted for the collaborative conception, implementation, and specification of the IME between academia and industry, ensuring that the multimedia system addresses both the theoretical principles of motivation and engagement and the specific needs identified by Wizeline's stakeholders.

3. Methodology

This study used a *method for preproduction of multimedia systems* [19] because it provides a set of practices, work routes, techniques, and tools for the conception, concretion, and specification of the IME. The proposed method allows timely identification of the value proposition. The system transversal through each stage ensures that the final system meets the needs of interested parties and generates value for them. The method consists of a first practice, *Multimedia System Stakeholders*, composed of a genesis route that aims to identify the direct and indirect stakeholders of the MS, identify the business and innovation opportunities that clients and sponsors foresee to carry out the development of the IME, and define the needs of the users. Within the framework of this practice, a survey of stakeholders, user characterization, and prioritization of needs were conducted. This information is a key input for defining the components of the gamification strategy. The *Multimedia Experience Creation* practice, composed of creativity and responsible design routes, was carried out in permanent collaboration with the company team, following an iterative and incremental approach and integrating communication and design tools. The iterative approach allowed us to adapt to changes, socialize with stakeholders, and deliver an IME concept with a clear value proposition. This combination of work between academia and the company enabled a comprehensive and collaborative approach to creating the IME, focusing on its potential users.

4. Multimedia system stakeholders

At Wizeline, it is a priority to recognize people who live according to the company's values: a sense of belonging, innovation, and community. Therefore, the company offers recognition programs that reward employees and highlight the great things they do every day. The company employs nearly 1,400 employees from different countries who work remotely or in person at its headquarters. Surveys and interviews were conducted to identify stakeholder needs. Based on the demographic data, three user profiles were defined to describe the general characteristics of the key project stakeholders. For example, one of the profiles was defined as Wizeliners from the engineering, project management, operations, technology, and UX departments, at levels 1-3, with less than 3 years of experience at the company, from Colombia or Mexico.

First, a survey was conducted to diagnose Wizeliners' general perception of recognition and gamification programs. Second, interviews were conducted to delve deeper into the motivations behind participants' participation in recognition dynamics and to learn about the possible

functions and characteristics the multimedia system should possess. Additionally, interviews were conducted with managers and team leaders to gain detailed insights into Wizeline's recognition and professional promotion dynamics.

The inquiry process with employees and managers revealed opportunities to improve recognition programs by centralizing information, automating the process, gamifying recognition, and using AI to enhance efficiency and personalization. These improvements would increase the visibility and fairness of recognition and foster a more inclusive and motivating culture.

After characterizing the Wizeliners, studying the software tools ecosystem, and analyzing the results of the inquiry with managers and Wizeliners, a set of 5 needs was identified for each user group. Considering the alignment of managers' and Wizeliners' needs, the work team reached consensus to address these needs regarding visibility, knowledge, and participation in recognition programs for the multimedia system's creativity, concretion, and specification.

5. Gamification strategy

Based on the literature review, stakeholder surveys, and needs definition, a work session was held with Wizeline leaders to discuss the components of the gamification strategy, focusing on visibility, awareness, and participation in recognition programs. Wizeline, recognized for its commitment to innovation and employees' work, underscores the importance of providing effective and engaging employee experiences. In this sense, gamification, as a mechanism for transforming any activity, system, service, product, or organizational structure [20], provides relevant elements for the design of the IME that can influence the attitudes and behaviors of Wizeliners.

The components of the gamification strategy to be included in the design of the IME, with a series of particular elements, are as follows: (1) enjoyment, (2) visibility, (3) gratification, and (4) professional growth, as shown in figure 1. These components were defined as thinking about the dynamics of the company's recognition in such a way that it increases the visibility of the achievements and results of employees and their motivation to participate in said dynamics. The strategy seeks to help employees know that their contributions are recognized and appreciated by the company by demonstrating that they can go further, achieve different results, or achieve the behavior desired by the company.

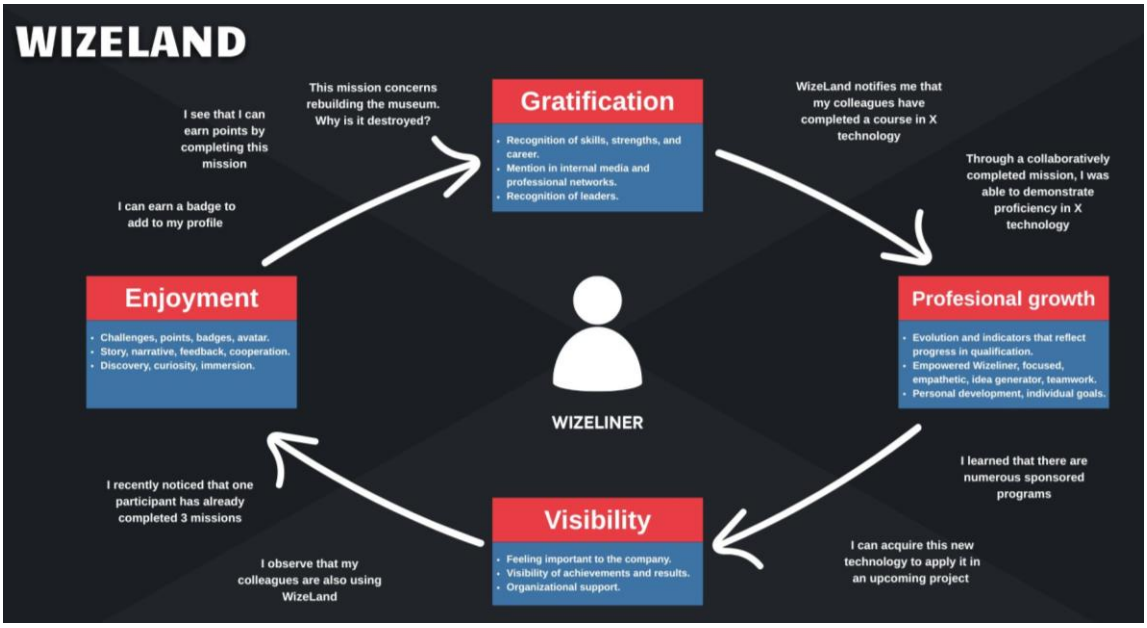

Figure 1. Components of the gamification strategy.

SDT and Flow Theory principles provide a relevant foundation for the four components of the gamification strategy, in which enjoyment and gratification primarily serve intrinsic motivation (SDT). At the same time, visibility and professional growth facilitate flow states by providing clear feedback on progress.

Regarding the first component, enjoyment, the IME must deliver joy, pleasure, and emotional connection to Wizeliners. Considering Malone's theory [21] and the discussion in [7], game elements and mechanics that serve as motivational drivers include challenges, narratives, clear objectives, and feedback, which are emotionally appealing and engage users in activities [22]. Enjoyment creates a positive experience for users, increasing their commitment and motivation to interact with the system. When users enjoy IME, they are more inclined to actively participate, explore the content more deeply, and reuse it. Thus, the enjoyment component is crucial for successful IME in the context of corporate recognition.

According to Bizzi [4], enjoyment centers on satisfying employees' experiences. According to the author, gamification can increase intrinsic motivation by making tasks more enjoyable and engaging. Elements such as challenges, narrative, and discovery introduce a sense of fun and accomplishment, which motivates employees to participate because they enjoy the process, not just the outcome. Findings from the inquiry process with company stakeholders allow the following gamification elements to be proposed regarding the enjoyment component:

- Offer missions and rewards—such as points and badges—aligned with the company's objectives and talent development strategies. Challenges should be framed as win-win opportunities: they empower skilled employees, promote expertise in emerging topics, foster mentorship, and boost organizational productivity and innovation. Users are represented by customizable avatars, enhancing their emotional connection to the IME. As users accumulate points by completing missions, they can personalize their avatars according to their preferences, reinforcing engagement.
- Including a story and narrative universe makes employees feel part of something bigger, increasing their emotional connection to the experience. Through the gamification strategy, we want to encourage work on cooperative and collaborative challenges to strengthen a sense of belonging and camaraderie, thereby increasing commitment through social interaction and encouraging continued participation.
- Discovery involves allowing users to explore the multimedia system freely, become curious about the elements related to recognition programs, unlock new missions, and learn new things along the way. Discovery, curiosity, and the ability to capture the user's attention, allowing them to feel part of the digital environment, are key to creating an attractive and sustainable IME over time.

To the extent that employees actively participate in IME, the second component can be achieved: the visibility of their achievements, results, skills, activities, and projects, which can contribute to the comparability and immediacy of performance information [23]. The visibility of achievements affects intrinsic and extrinsic motivation [24]. By gaining greater visibility into their contributions, employees feel valued and that their contributions are significant, which reinforces internal motivation. At the same time, public visibility provides a social reward that enhances extrinsic motivation and enables employees to build new collaborate networks based on their achievements.

Visibility allows an employee's achievements to be recognized by peers and leaders [25]. This recognition is a powerful motivator because employees must feel important and valued in the company for their contributions. Hence, they tend to be more committed and motivated to perform well [26]. The public recognition of achievements strengthens employee self-esteem and can drive a positive performance cycle. Making activities and achievements visible fosters a collaborative culture in which employees can learn from one another. Healthy competition

can also be promoted, where employees strive to improve and excel, knowing their efforts will be visible and valued [27].

The third element, reward, reinforces employee commitment to the company. Employees who feel appreciated and satisfied will likely develop a sense of loyalty to the organization [28]. As their skills, strengths, and track record are recognized, they may be more willing to put in effort, overcome challenges, and remain with the company long-term, thereby reducing employee turnover. Bizzi [4] notes that explicit recognition of achievements and rewards can enhance extrinsic motivation by providing clear incentives for continued participation. The reward components offer tangible and intangible rewards that reinforce the desired behavior.

This proposal prioritizes the generation of intrinsic motivation, which can motivate employees to work with enthusiasm and dedication, improve their performance, and contribute to achieving company objectives [29]. While Wizeline provides its employees with elements that contribute to job satisfaction, the gamification strategy suggests posing challenges that promote achievement and give visibility to employees' actions. When employees feel gratified, they are more likely to feel aligned with the company's values and mission [30]. This alignment is crucial for employees to fulfill their responsibilities and feel integral to the organization's purpose and vision.

Finally, incorporating career growth into recognition gamification strengthens employee engagement. The career growth component is directly linked to intrinsic motivation because it fosters personal development and learning, which are key to maintaining long-term engagement [4][31]. By offering clear growth paths, employees perceive tangible progress in their qualifications, which motivates them to continue investing in their development.

When employees see that their efforts are recognized and that it allows them to advance in their careers, they feel more motivated to contribute meaningfully. This tangible recognition of professional progress is a powerful incentive that drives productivity and loyalty to a company [32]. From the inquiry process, it is evident that employees need to see their evolution through indicators that reflect progress in their technical qualifications and soft skills, highlighting colleagues who are empowered, focused, empathetic, and idea generators, among others. Employees who feel they are growing professionally and that their development is valued and recognized are less likely to look for opportunities elsewhere [33].

6. Multimedia Experience Creation

6.1 The narrative concept

In this section, we present the IME called WizeLand, which integrates the previously defined gamification strategy (see section 5) and can be deployed in a web browser, preferably on desktop computers. The solution focuses on the following hypothesis: designing an IME that integrates a gamification strategy increases employee participation in recognition programs and expands connections between Wizeliners by making their achievements and strengths more visible, creating a fun and interactive environment.

WizeLand is an interactive adventure where each "house" represents a company recognition program. Employees, known as Wizeliners, explore the territory and complete missions to maintain the stability of the houses. An urban narrative universe inspires the experience and integrates with the company's software systems to deliver dynamic digital content and quests. Guided by messages from the fictional "WizeLand Council," employees face progressively challenging tasks and receive rewards. As they complete missions, they earn badges, customize their avatars, and unlock new skills, reflecting their growth. This system boosts program visibility and fosters an emotional connection between users and the recognition culture.

6.2 Structure of the IME

WizeLand is structured as an IME, with each component contributing to fostering a culture of recognition within the organization. The experience begins with a dynamic map of WizeLand, where each house represents a different recognition program. Employees, referred to as Wizeliners, can navigate the map to explore any house and access detailed information about its associated rewards, achievements, missions, decision-makers, eligible participants, and software links.

Employees are encouraged to explore each house and complete missions to earn diamonds and badges. These missions, designed with progressive difficulty levels, may be individual or team-based and are directly linked to one or more recognition programs. Successful completion of these missions rewards employees with items to customize their avatars and enhances the visibility of their accomplishments. For example, a territorial mission may involve collecting objects representing company values, while a house-specific mission may require collaboration to solve a technical challenge.

The system also provides a continuous stream of notifications. Employees receive updates about completed or pending missions, earned rewards, and congratulatory messages for program achievements. These notifications maintain user engagement and encourage sustained interaction with the system.

WizeLand includes several key interactive options. The Map offers geographic access to all houses and their respective data. The Missions section lists all available quests. The News panel highlights colleagues' recent achievements. The Profile section displays user-specific information, including name, avatar, birthday, email, accumulated diamonds, badges, and completed missions. Settings allow users to adjust the background sound, volume, and language. The Wizeliners section shows other employees, enabling collaborative interactions. Finally, the Store presents items and accessories for avatar customization, purchasable with earned diamonds.

As employees accumulate rewards and badges, their avatars evolve, symbolizing growth and achievement. This personalized progression increases their motivation to explore all recognition programs and reinforces their emotional connection to the platform.

Based on the concept of narrative and the structure of the experience, the key milestones of the IME were defined in a journey map, which describes the digital media, sensory perceptions, interaction modalities, and physical and virtual environments. As a result, a journey map comprises 12 milestones (e.g., contextualizing the story, creating an avatar, exploring a house on the map, consulting recent achievements, and consulting the quest list). Due to the length restrictions, two milestones (map navigation and user profile) of the journey map are described below.

For the WizeLand experience design, complementary tools were used to create a high-fidelity visual and functional prototype. Figma was used as the primary tool to structure the interface, navigation flows, and visual components of the system. Additionally, a plugin on this platform, Anima, enabled these prototypes to be transformed into interactive simulations, facilitating user testing. Spline 3D was used to model and animate three-dimensional elements of the landscape and houses, adding visual depth. Finally, Sketchfab served as a source of 3D models used to expedite prototyping, which were later integrated into the multimedia experience to enhance immersion.

6.2.1 Milestone 1. Map navigation

Description: The user is immersed in a 3D world where he can see his previously created avatar move through the territory (see Figure 2). The user can move using the arrow keys to explore houses in the territory and other interactive elements within it. In addition, users can view options at the top and bottom of the interface, which piques interest in what each option can do.

Figure 2. Map of the territory.

Digital media: This is a 3D model of a city map that the user can move around in. The text also indicates the names of houses and sound effects accompanying the avatar's actions. The graphic elements presented to the user will reflect an animated or cartoon style.

Sensory perceptions: the user observes the avatar's movements across the territory in response to the keys pressed, paying attention to the system's sound effects. Visual, auditory, and tactile sensory perceptions are involved.

Interaction mode: the Wizeliner can move around the territory by pressing the keyboard arrows, depending on the map area he wants to explore.

Emotions: the user feels happy and curious about discovering the interactions in the virtual environment.

6.2.2 Milestone 2. User profile

Description: Users can select the "Profile" option to view personal data, accumulated diamonds, badges earned, missions in progress, and completed missions (see Figure 3). A bar displays the percentage of progress for missions in progress.

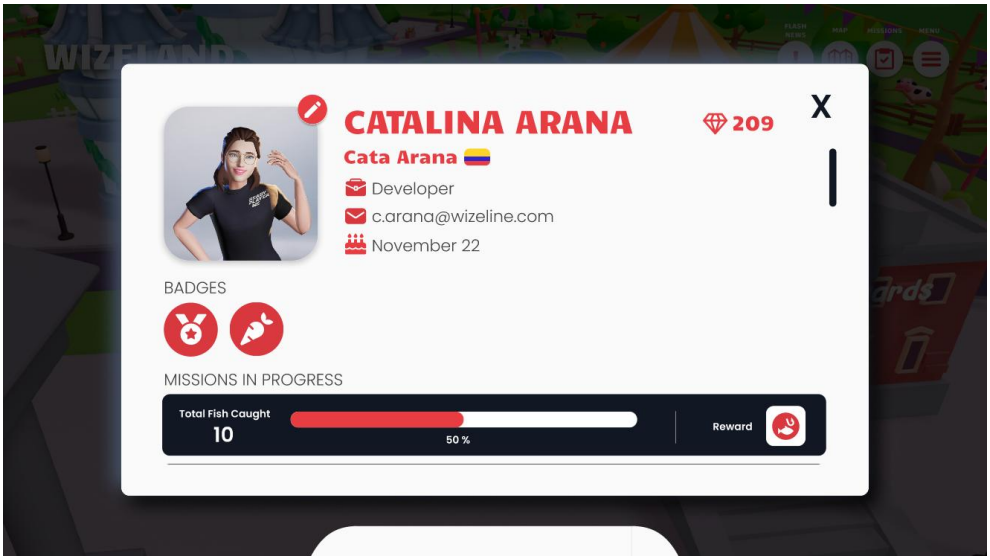

Figure 3. User profile.

Digital media: This feature uses text, images, and sound (background). The graphic elements presented to the user will reflect an animated or cartoon style. The panels and sections are red and white, in line with Wizeline's brand identity.

Sensory perception: the user observes information of interest while listening to background sounds.

Interaction mode: the user can use the middle mouse button to scroll between different panels that contain their profile information.

Emotions: Users' joy when seeing the badges they have earned and missions they have completed, which reflect their achievements in WizeLand, which implies a certain career path in the company.

6.3 Responsible design

In creating the IME, regulations that ensure confidentiality and proper handling of information were considered, as well as the law on transparency and access to personal information. The law to prevent and eliminate discrimination was also considered, ensuring that recognition programs and the gamified experience do not exclude or discriminate against any group. All missions are designed universally without identifying specific skills or characteristics that may exclude certain groups. On the other hand, rewards value employee achievements differently, recognizing only certain types of results. With regulations on transparency in recognition and ethics of gamification, it is guaranteed that all employees have equal access to growth missions and rewards. The IME design ensures that all employees can participate and be recognized for their skills and achievements in a transparent and fair manner.

Regarding privacy and data protection, given that the IME involves the collection and handling of employees' personal data, it is essential to comply with regulations that ensure confidentiality and proper handling of information. In this regard, ISO/IEC 27001 (information security) is taken into account. This standard establishes the requirements for managing information security and protecting employees' personal data from unauthorized access, ensuring the protection of the systems used in the IME. In this regard, a database hosted on a company server will be used to implement WizeLand, in compliance with the security standards defined by the WizeLand technical team.

Furthermore, regarding the law on transparency and access to information, it is important to clearly inform employees about how their data will be used in the IME, ensuring transparency in the handling of personal information. In this regard, when a user logs into WizeLand, they are informed about the processing of their personal data and data generated from their interaction with the IME.

6.4 Minimum viable product

In the exercise of concretizing the IME, the scope of the Minimum Viable Multimedia System (MVMS) [34] was defined, and the Wizeline team put it into production without losing features that provide value to potential users. In this sense, the scope of WizeLand is limited in such a way that it includes a fragment of the map of the territory, detailed information on two houses, a territory mission, and a mission for each selected house, a set of elements to personalize the avatar, and basic data of the user profile.

The main competitive advantages that WizeLand offers compared to related solutions, which constitute its unique value proposition, are as follows:

- Integration of recognition programs without affecting related software systems: WizeLand is a multimedia experience that serves as an integration mechanism for recognition programs within Wizeline's corporate governance, without affecting the software systems that support them.

- WizeLand provides a series of conditions that promote employees' sense of belonging to the company: it implements a narrative inspired by a city with different houses, where each corresponds to a recognition program, and sustainability depends on Wizeliners' participation. The narrative inspires a series of missions that employees must undertake to maintain the territory's and its houses' stability. In this sense, we want to foster a sense of belonging and active participation in programs so that the territory and its houses remain intact, as people's current lack of involvement threatens them.
- Missions aligned with the company's governance: WizeLand offers a variety of missions aligned with participatory governance, where employees not only complete individual or collaborative tasks but can also actively influence organizational decision-making. This is achieved by turning certain challenges into opportunities for employees to participate in consultations, proposals, and drive strategic improvements that directly impact the company's internal processes. Transparency is strengthened by involving employees in decision-making through strategic missions, and company decisions are legitimized. Missions motivate participation and qualification and empower employees, giving them opportunities to speak in internal processes.

7. Validation

To determine the general perception of the Wizeliners (with $n = 5$) about the WizeLand multimedia experience that integrates the gamification strategy, the following methods were used: thinking out loud and a single-ease question (SEQ) questionnaire. The thinking-aloud method consists of the user expressing their thoughts, feelings, and opinions (on aspects such as design, functionality, etc.) while interacting with the system [35]. Therefore, it allows for the collection of qualitative information about the user's perceptions during the interaction. The user verbalizes their interpretations of the system and the benefits, problems, and difficulties they experience. The principle is that users perform defined tasks and express all impressions generated during interaction with the interface. At the same time, the evaluators recorded all relevant impressions for subsequent analysis. This test method allows evaluators to understand how the user approaches the objective with the proposed interface and the considerations they take into account when using it [36].

In addition, the SEQ was administered at the end of each task in each test session [37]. In this case, the user must rate the task's perceived difficulty on a 7-point scale. The selection of these methods enables the work team to obtain qualitative and quantitative information, providing adequate support for decision-making in the face of possible changes in the IME and for confirming the previously raised hypothesis.

7.1 Analysis of qualitative information

To evaluate the value contribution of the IME that integrates a gamification strategy for Wizeline employees, a validation process focused on two main aspects: perceived usefulness and the components of the gamification strategy. Qualitative information was collected from the comments, suggestions, reactions, and answers to the final questions regarding the system's perception in each test.

The test recordings were transcribed and tokenized into individual words for detailed analysis. A data frame was created to organize these tokens, facilitating efficient handling [38]. Data cleaning involved removing stop words, irrelevant numbers, markers, NA values [39], and empty strings to ensure a high-quality dataset for analysis.

The thematic analysis approach also identified Recurring patterns and themes in user responses [40]. The validation of the qualitative analysis was executed through methodological triangulation, integrating (i) the emergent patterns discerned from transcript coding, (ii) the observational notes collected during the system interaction sessions, and (iii) the quantitative assessments obtained from the SEQ. This convergence of data sources enabled the validation of the semantic stability of the codes and the internal coherence of the interpretations, functioning as a reliability mechanism in the absence of a formal inter-rater agreement coefficient. This analysis provided a deep understanding of how users interacted with WizeLand, their challenges, and the features they perceived as most valuable.

Overall, Wizeliners perceive WizeLand as an innovative experience combining gamification elements and engaging storytelling to encourage recognition and participation in the company's programs. The most relevant aspects of this perception are as follows:

- Initial interest and curiosity: Users see the virtual territory of WizeLand as an exciting adventure, evoking a sense of exploration akin that of fictional worlds in video games or fantasy stories.
- Interactive experience and narrative: WizeLand's narrative, focused on maintaining the stability of the territory and the houses through active participation, is perceived as a creative way to become involved in recognition programs. The opportunity to explore the city and complete missions in different houses helps create an immersive experience. The combination of exploration, missions, and rewards makes the recognition system a positive, distinct experience, perceived as an opportunity to connect with the company's values. Although the perception was mostly positive, some users suggested that the usability could be improved to make it even more intuitive and accessible, thereby enhancing its impact and engagement.
- Motivation: Missions are perceived as continuous motivators, and obtaining rewards (diamonds and badges) reinforces users' sense of achievement. WizeLand gives visibility to people's achievements that they value, and it contributes to creating a culture of recognition within the company.

This analysis reveals that IME provides value to employees, with each test participant achieving a positive overall perception. IME is particularly strong in providing a range of elements that contribute to enjoyment, visibility, and gratification. While a set of usability issues was identified, the findings from this validation can guide future iterations to refine the IME's design, ensuring it continues to meet user needs and potentially increasing its scalability when deployed across the enterprise.

The perceived usefulness of WizeLand is high because users find practical value in the IME both in improving the visibility of their achievements and in fostering a culture of active recognition and collaboration within the company. Key components, such as narrative, mission, and the exploration of recognition programs organized into "houses", contribute to employees perceiving WizeLand as a tool that consistently makes their efforts visible.

WizeLand's narrative, grounded in the territory's stability and employee participation, reinforces this perceived utility by connecting individual actions to collective well-being, increasing a sense of belonging and organizational commitment. WizeLand is perceived as a strategic tool facilitating professional development, interaction, and continuous recognition, adding value to the work experience.

One finding that warrants critical reflection is the positive perception of avatar customization compared to the perception of missions by house. The gamification literature suggests that challenge-related elements (such as missions) should generate greater engagement than cosmetic elements like avatars [41]. This apparent contradiction could be explained by two factors: (1) avatar customization satisfies the need for autonomy and identity immediately and tangibly, while (2) the missions evaluated correspond to the initial phase of

the MVMS, with limited complexity and variety. This finding suggests that in corporate contexts, elements of personal expression can have equal or greater motivational value than challenges when the latter are not yet fully developed.

7.2 Analysis of emotions

The exploratory data analysis examined word frequencies and calculated each as a percentage of the total [42]. Words exceeding a set threshold (e.g., 1%) were filtered to highlight relevant terms. The bar graph (see Figure 4) depicts the most common words in stakeholder feedback. An emotion analysis was conducted using R version 4.1.1 [43, 44] to identify the texts' emotional tones: positive, negative, or neutral. This approach captured both explicit emotions and subtle nuances, providing an objective, quantifiable understanding of interviewees' attitudes and feelings.

Analyzing user qualitative responses provides directions for future iterations and scalability of the MVMS to improve its usability and user experience. The identified usability problems have been resolved, so incorporating these improvements can make the IME more effective at strengthening the recognition culture.

We used the NRC Emotion Lexicon [45] to look at the emotions. This is a computational resource whose validity has been well-documented in the literature through crowdsourced annotation studies that show high inter-annotator reliability. This lexicon creates a standard way to classify emotions into ten groups (eight basic emotions and two sentiment dimensions) for natural language processing. It also makes sure that affective assignment is always the same during automated analysis. Figure 4 presents the results of emotion analysis based on qualitative information.

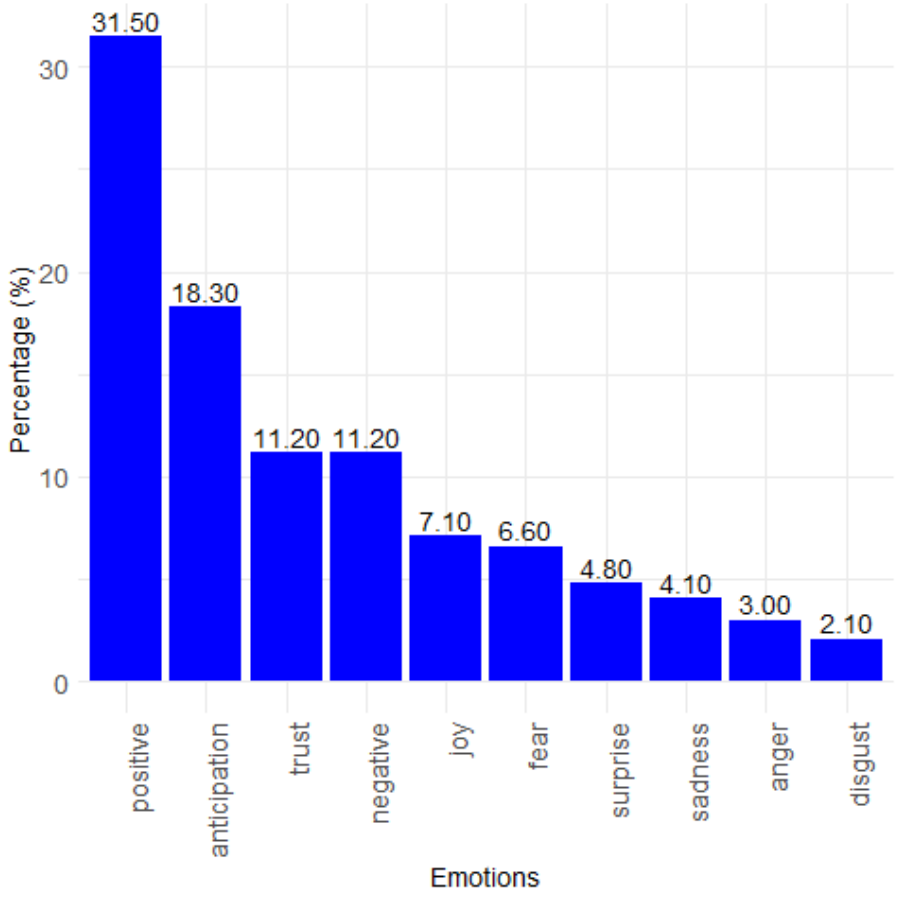

Figure 4. Distribution of emotions.

Figure 4 presents an analysis of the emotions participants reported, highlighting a significant predominance of positive emotions. Positive (31.50%) was the most represented emotion, indicating a favorable overall perception of the strategy. This result suggests that users associate proposals with beneficial experiences that foster acceptance and emotional engagement.

Similarly, the strong presence of Anticipation (18.30%) reinforces the idea that participants perceive the environment positively and hold positive expectations for its future implementation. This finding suggests that the proposal generates interest, trust, and an optimistic outlook—key elements for the success of new initiatives. Additionally, emotions such as Trust (11.20%) reinforce confidence in the proposed strategy, a critical factor in promoting active and sustained participation.

On the other hand, emotions such as Negative (11.20%) and Fear (6.60%), which are less prominent, indicate certain aspects that could generate uncertainty or concern. These emotions highlight specific areas where adjustments are necessary to mitigate friction. The moderate presence of Joy (7.10%) and Surprise (4.80%) suggests that, although the proposal is well received, there are opportunities to further optimize the user experience and enhance overall satisfaction.

In summary, less frequent emotions such as Anger (3.00%) and Disgust (2.10%) are positive indicators, as their low prevalence reflects a predominantly positive environment with minimal rejection. However, these residual emotions underscore the importance of addressing potentially contentious elements to avoid adverse effects on the overall perception.

7.3 Analysis of quantitative information

Table 1 presents the participants' ratings for the functionalities under study. According to the SEQ questions, the ease-of-use ranges from *Very easy* (1) to *Very difficult* (7).

Table 1. User ratings.

Functionality	Users					Average	Standard deviation
	U1	U2	U3	U4	U5		
Customize avatar	1	1	1	1	1	1	0
View user profile	1	2	1	1	2	1,4	0,547
Visit houses	2	2	2	2	1	1,8	0,447
Territory mission	3	1	2	1	1	1,6	0,894
Missions by house	3	2	2	2	2	2,2	0,447
Check news	2	1	2	1	1	1,4	0,547

The quantitative analysis supports user ease of use and the perceived value of WizeLand. The results indicate that the functionalities under study are perceived as clear, entertaining, and useful, given the need to give visibility to the achievements of recognition programs and promote participation. In the previous qualitative analysis, it was shown that users' enjoyment positively influences their perceptions of ease of use and perceived usefulness of the IME. Likewise, perceived ease of use positively influences employee attitudes toward recognition culture.

Regarding avatar customization, there is high satisfaction and consistency; all users rated this feature with the highest ease-of-use score, indicating general acceptance without variation.

This suggests that the proposed feature meets expectations and is highly rated for usability and enjoyment.

The user profile query showed good acceptance, but some variability. While the functionality was viewed positively, some users could have given higher ease-of-use scores; thus, we identified aspects of the experience that require improvement.

The house visit was moderately accepted. Although the functionality meets the expectations of several users, a lower score suggests that improving the visual design or narrative of the houses could make it more attractive.

In the case of missions, territory missions demonstrate significant variability in satisfaction. Some users found value in daily missions; however, the high standard deviation indicates divided opinions. Therefore, improving instruction clarity or the variety of daily missions can increase satisfaction. On the other hand, the house's missions are consistent. The scores reflect moderate acceptance, with room to add more detail to each house's missions, making them more attractive and challenging. The missions evaluated are part of the project's first phase, which aims to make houses visible. In contrast, qualification-related missions are included in later stages.

The proposed feature check news is accepted with slight variations. Users value this functionality; however, some consider it could benefit from improvements in organization and filtering to maximize its usefulness.

Based on the average data in Table 1, there are opportunities for improvement in some functionalities, especially those that generated mixed responses, such as territory and home missions, to enhance user satisfaction with the experience. The testing process with users revealed that they recognize the benefits of gamification and the changes that can occur in their behaviors and attitudes toward recognition programs, work, and organization, because IME can eventually motivate them to perform better.

7.4 Limitations

The study makes a valuable contribution; however, it is important to acknowledge the limitations imposed by the small sample size ($n = 5$). While small sample sizes are common in human-computer interaction and user experience (UX) research, they limit the potential for statistical inferences and the generalizability of the findings. Therefore, the results should be interpreted with caution, as they represent preliminary evidence and not definitive conclusions. This limitation highlights the need to implement new evaluation methods in the future as the MVMS expands its reach to include larger, more diverse groups of Wizeliners, to draw more general conclusions about the usefulness and usability of Wizeland.

Another limitation relates to the scope of the gamification strategy, particularly the professional development component. This aspect was partially addressed in mission design and conceptual validation, and its full integration requires the involvement of other company departments and alignment with internal promotion and qualification processes. Additionally, the lack of a functional version of WizeLand limited the ability to analyze its impact on user behavior.

Finally, a significant limitation was the high turnover of key personnel within the company, including decision-makers involved in the project. This situation caused schedule delays, as it was necessary to present the proposal to new managers repeatedly and to redefine priorities to align them with the objectives. This situation strengthened WizeLand's value proposition; however, it limited the ability to conduct further testing iterations.

8. Discussion

Overall, the elements of WizeLand positively influence user enjoyment. Users appreciate the customization, quests, city exploration, and rewards, and express that the IME is entertaining and motivates active participation. Users' enjoyment of the IME led them to perceive the solution as easy to use and useful, despite the identified usability issues, several of which stem from the tool's limitations in simulated interaction in the MVMS. The narrative of territory stability adds an emotional layer that also increases enjoyment by connecting individual participation with collective well-being. In that sense, users can enjoy the IME even more after making adjustments, which makes WizeLand an even more attractive and motivating employee experience.

This enjoyment translates into greater participation and engagement, as users find value in the experience and return to WizeLand to interact on an ongoing basis, thereby consolidating WizeLand as an innovative tool that not only recognizes achievements but also provides a positive, meaningful experience in employees' day-to-day lives.

The findings in the validation of WizeLand align with previous research on gamification in organizational contexts, but also reveal important differences. Hamari et al. [46] found that the positive effects of gamification are mostly psychological and that the implementation context is crucial for success. WizeLand confirms this premise by demonstrating that integrating the territorial narrative into existing recognition programs enhances engagement among Wizeliners. However, unlike the findings of Koivisto and Hamari [47], who reported that the novelty of gamification can diminish over time, our narrative proposal based on 'territorial stability' seeks to maintain long-term interest by connecting individual participation with collective organizational well-being.

Regarding the achievement visibility component, WizeLand strengthens the company's recognition culture by enabling employees to make their contributions and progress visible, thereby increasing motivation and a sense of belonging. Users value the ability to see their achievements reflected in real time across different recognition programs and to receive rewards for completing missions in the IME, which also contributes to their well-being and professional growth. WizeLand highlights employee efforts and connects them to the company's objectives, facilitates access to achievements, and allows employees to feel appreciated for their contributions, individually or as a team. This component also encourages healthy competition and collaboration by publicizing accomplishments, thereby motivating others to participate in the programs actively.

As for the rewards component in WizeLand, by offering points, badges, and visible notifications, IME provides positive, immediate feedback that users appreciate, allowing them to experience recognition of their achievements in a concrete, accessible way. This component makes employees feel valued as rewards reflect skills, specific efforts, and achievements in recognition programs. Furthermore, the reward system inspires employees to actively participate and set personal goals, fostering a work environment focused on collective development and success.

The professional growth component in WizeLand, through missions and achievements related to mentoring programs, is perceived as driving the development of relevant skills and competencies for employees. In addition, users see opportunities for growth, qualification, and community building by identifying other employees who have completed certifications or studies of interest, thereby strengthening communities around specific topics within the company. The missions to be implemented in later phases of the project are focused on the qualification, development, and strengthening of skills that users value significantly for their careers.

Wizeline, as a technology company focused on innovation and professional development, offers a favorable context for gamified enterprises. As [13] point out, the success of corporate

gamification depends heavily on the organization's pre-existing culture. In this sense, although further research is needed, there is theoretical and empirical support for anticipating that the components of a gamification strategy can be successfully adapted to organizations with similar corporate profiles and values.

9. Conclusions

In this study, a gamification strategy was defined through an inquiry and analysis of the characterization of Wizeliners. The four components of the gamification strategy are enjoyment, visibility, gratification, and professional growth. The components were defined based on the company's recognition dynamics, and through the validation process, optimistic evidence was obtained that they contribute to increasing the visibility of employees' achievements and results, as well as their motivation to participate in these dynamics.

The preproduction of the WizeLand multimedia experience successfully integrated a gamification strategy tailored to Wizeline's stakeholders' needs. Designed as a unifying platform for the company's recognition programs, WizeLand combines narrative elements and multisensory digital content to enhance visibility and participation. Its validation with employees yielded positive results, particularly in terms of ease of use and perceived usefulness. Both qualitative and quantitative analyses support the hypothesis that the solution's design effectively meets its intended objectives.

A multidisciplinary team, guided by multimedia systems preproduction methods and agile practices at Wizeline, achieved unified planning using tools and techniques that aligned stakeholder interests and met end-user expectations for usability and experience. Collaboration between academia and industry enabled the development of communication, negotiation, and decision-making skills, while also fostering innovation and knowledge transfer. This partnership combined theoretical and methodological academic insights with practical business experience, creating synergies that enhanced both the quality and impact of the project.

The results obtained from the MVMS validation process provide satisfactory evidence of the effectiveness of the components defined in the gamification strategy. Additionally, these results provide valuable data on the impact of recognition culture on employee intrinsic motivation. Preliminarily, we can assume a relevant contribution to the training of collaborators. These findings will benefit not only Wizeline but also its employees. Nevertheless, they also contribute knowledge to corporate training, enriching the understanding of how gamification strategies can successfully improve skills and expertise acquisition in the work environment.

Future work focuses on expanding WizeLand's capabilities to maximize its long-term value and impact. The next phase will involve developing skills-oriented missions aligned with the company's training initiatives, ensuring that the IME evolves with employee development needs. Additionally, we plan to implement an analytics module that will enable managers to access data on employee engagement and achievements, transforming it into strategic information for decision-making in human resources management. One potentially interesting aspect is defining metrics for employee qualities based on peer feedback and recognition patterns, thereby facilitating the identification of talent for specific projects and supporting corporate award decisions.

Conflicts of interest

The authors declare no conflicts of interest.

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