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TECHNOLOGY AS A BRIDGE FOR SOCIAL INTERACTION: DEVELOPMENT AND DESIGN ANALYSIS OF THE PLAYZENHA PLATFORM FOR IN-PERSON GAMES

TECNOLOGIA COMO PONTE PARA A INTERAÇÃO SOCIAL: DESENVOLVIMENTO E ANÁLISE DO DESIGN DA PLATAFORMA PLAYZENHA PARA JOGOS PRESENCIAIS

LA TECNOLOGÍA COMO PUENTE PARA LA INTERACCIÓN SOCIAL: DESARROLLO Y ANÁLISIS DEL DISEÑO DE LA PLATAFORMA PLAYZENHA PARA JUEGOS PRESENCIALES

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ABSTRACT

The widespread presence of smartphones in social gatherings is frequently associated with distraction, yet research in Human-Computer Interaction also shows that technology can facilitate interaction among people sharing the same physical space. This article presents the development and design analysis of Playzenha, a web platform for in-person social games. The study asks how a shared-device platform can organize a game while preserving people, rather than the screen, as the main focus of the experience. The work is characterized as applied technological research guided by design science and iterative prototyping. Playzenha was implemented with React and TypeScript on the frontend, NestJS on the backend, PostgreSQL and Prisma for persistence, JWT transported through HttpOnly cookies for authentication, Google login support, and deployment on Railway. The platform centralizes game selection, player registration, role distribution, round control, transitions, and final results through one shared smartphone. Informal product-use sessions with adult friends were used during development as formative input for interface refinement. Participants were verbally informed that their suggestions could be used to improve the project and support its academic description. The developer recorded brief notes after the sessions; no standardized questionnaire, audio or video recording, personal data collection, or statistical analysis was performed. These notes are used only to document design changes, such as improvements to result and score screens, and are not treated as evidence of social outcomes. The analysis suggests that digital technology can enrich pre-existing face-to-face encounters when designed as a temporary facilitator rather than as the destination of attention.

KEYWORDS: *Collocated Interaction. Social Gaming. Human-Computer Interaction. Web Platform. User Experience.*

RESUMO

A presença de celulares em encontros sociais é frequentemente associada à distração. Entretanto, pesquisas em Interação Humano-Computador mostram que a tecnologia também pode facilitar a interação entre pessoas no mesmo espaço físico. Este artigo apresenta o desenvolvimento e a análise do design do Playzenha, plataforma web para jogos sociais presenciais. Investiga-se como um dispositivo compartilhado pode organizar uma partida mantendo as pessoas, e não a tela, como foco principal da experiência.

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O trabalho caracteriza-se como pesquisa aplicada de desenvolvimento tecnológico, orientada pela ciência do design e pela prototipação iterativa. O Playzenha utiliza React e TypeScript no *frontend*, NestJS no *backend*, PostgreSQL e Prisma para persistência, autenticação com JWT em cookies HttpOnly, *login* Google e implantação na Railway. A plataforma centraliza seleção de jogos, cadastro de jogadores, distribuição de papéis, rodadas, transições e resultados em um único celular. Durante o desenvolvimento, sessões informais de uso com amigos adultos forneceram apenas *feedback* formativo para aprimorar a interface. Os participantes foram informados verbalmente de que suas sugestões poderiam contribuir para melhorias do projeto e sua descrição acadêmica. O desenvolvedor fez anotações breves após as sessões; não foram aplicados questionários padronizados, realizadas gravações, coletados dados pessoais ou executadas análises estatísticas. As anotações documentam somente mudanças de design, como melhorias nas telas de resultado e placar, e não constituem evidência de efeitos sociais. A análise sugere que a tecnologia pode enriquecer encontros presenciais quando atua como facilitadora temporária, e não como destino da atenção.

PALAVRAS-CHAVE: Interação Presencial. Jogos Sociais. Interação Humano-Computador. Plataforma *Web*. Experiência do Usuário.

RESUMEN

La presencia de teléfonos móviles en reuniones sociales suele asociarse con la distracción. Sin embargo, la investigación en Interacción Humano-Computadora muestra que la tecnología también puede facilitar la interacción entre personas en el mismo espacio físico. Este artículo presenta el desarrollo y el análisis del diseño de Playzenha, plataforma web para juegos sociales presenciales. Se investiga cómo un dispositivo compartido puede organizar una partida manteniendo a las personas, y no a la pantalla, como foco principal de la experiencia. El trabajo se caracteriza como investigación aplicada de desarrollo tecnológico, guiada por la ciencia del diseño y el prototipado iterativo. Playzenha utiliza React y TypeScript en el frontend, NestJS en el backend, PostgreSQL y Prisma para persistencia, autenticación con JWT, acceso con Google y despliegue en Railway. La plataforma centraliza selección de juegos, registro de jugadores, distribución de roles, rondas, transiciones y resultados mediante un único teléfono. Durante el desarrollo, sesiones informales con amigos adultos proporcionaron retroalimentación formativa para mejorar la interfaz. Los participantes fueron informados verbalmente de que sus sugerencias podían contribuir a mejorar el proyecto y su descripción académica. El desarrollador escribió notas breves después de las sesiones; no se aplicaron cuestionarios estandarizados, no se realizaron grabaciones, no se recopilaron datos personales ni se efectuaron análisis estadísticos. Las notas documentan cambios de diseño, como mejoras en las pantallas de resultados, y no constituyen evidencia de efectos sociales. El análisis sugiere que la tecnología puede enriquecer encuentros presenciales cuando actúa como facilitadora temporal y no como destino de la atención.

PALABRAS CLAVE: *Interacción Presencial. Juegos Sociales. Interacción Humano-Computadora. Plataforma Web. Experiencia de Usuario.*

1. INTRODUCTION

Mobile devices have become ordinary objects in social gatherings, enabling communication across distance while also competing for attention in face-to-face situations.

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Experimental evidence indicates that the mere presence of a mobile phone can reduce perceived closeness, trust, empathy, and conversation quality, particularly when people discuss meaningful topics (Przybylski; Weinstein, 2013). This finding supports a common concern: technology designed for connection may, in some circumstances, weaken the interaction occurring between people who are already together.

This effect, however, is not an unavoidable property of digital technology. Human-Computer Interaction (HCI) research distinguishes systems that disrupt a social situation from systems deliberately designed to enhance collocated interaction. A review of 92 technological prototypes identified three broad roles for technology in this context: facilitating interaction, inviting people to participate, and encouraging forms of interpersonal exchange (Olsson *et al.*, 2020). The relevant question is therefore not whether technology is intrinsically isolating, but how its role, timing, interface, and distribution of attention are designed.

Games provide a particularly relevant context for investigating this alternative role. Digital games are often shared activities through which people communicate, coordinate, compete, cooperate, observe, and construct common experiences. A systematic review of 263 publications describes social gaming as a multifaceted phenomenon whose outcomes depend on the players, the game structure, and the physical or mediated context in which play occurs (Gonçalves *et al.*, 2023). Earlier work also proposed that digital games can function as social-presence technologies because they support remote interaction and augment communication in collocated settings (De Kort; IJsselsteijn; Poels, 2007).

Despite the availability of game ideas on the internet, groups of friends may still experience practical friction when they want to play together. They need to search for an appropriate activity, understand rules, define roles, register participants, control turns, manage hidden information, and determine the final result. These organizational tasks can discourage spontaneous play, especially when the group does not own specific physical materials or when no participant wants to act permanently as moderator.

Playzenha emerged from this problem during a conversation between friends at an in-person gathering. The project was conceived as a web-based hub that concentrates different group games in one accessible environment. A user creates an account, selects a game from the library, enters the names of the participants, and follows a guided flow until the final result. The current version contains Impostor, Contact, Who Am I, and Last Night, while additional games remain under development. One smartphone is shared by the group and operates as a moderator, whereas the central actions of play occur through speech, observation, debate, guessing, and negotiation among the participants.

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Based on this context, the study addresses the following research question: How can a shared-device web platform mediate the organization of social games while keeping face-to-face interaction as the primary focus of the experience?

The general objective is to develop and analyze Playzenha as a digital platform for mediating in-person social games. The specific objectives are: (a) to identify design principles that allow technology to support rather than replace collocated interaction; (b) to implement a mobile-first platform that centralizes game selection, player management, rounds, roles, and results; (c) to describe the software architecture used to deliver the platform in production; and (d) to analyze how the interaction flow and iterative design decisions support bounded screen attention during in-person play.

The study is justified academically by the intersection of software development, HCI, social gaming, and collocated interaction. Its practical contribution is an operational artifact intended for parties, home gatherings, trips, and other situations in which young adults and adults seek accessible group entertainment. The article first presents the theoretical framework, then explains the methodology and architecture, discusses the developed artifact and its design principles, and concludes with limitations and future research directions.

2. THEORETICAL FRAMEWORK

This section establishes the concepts used to analyze Playzenha. The discussion focuses on collocated interaction, social gaming, motivational needs, human-centered design, and the role of technology as a mediator whose presence is intentionally bounded during play.

2.1. Technology and collocated social interaction

Collocated interaction refers to synchronous interaction among people who are physically close to one another. In these settings, human-human communication and human-computer interaction frequently coexist: participants may look at a screen, manipulate an interface, speak, gesture, observe reactions, and coordinate actions within the same activity. The design challenge is to determine whether the artifact becomes a competing object of attention or a shared resource that supports the encounter.

Olsson *et al.* (2020) argue that technology can take an active role in improving the quality, value, or extent of collocated interaction. Their review categorizes this role as facilitating, inviting, or encouraging. Facilitating technologies reduce practical barriers and provide resources for interaction; inviting technologies help initiate an encounter or activity; and encouraging technologies structure conditions that make interpersonal participation more likely. These

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categories are useful for Playzenha because the platform is intended to reduce organizational friction, invite a group to choose an activity, and guide rounds that require participants to communicate directly.

The negative effects reported for ordinary phone presence do not necessarily contradict this design goal. In Przybylski and Weinstein (2013), the mobile device was unrelated to the shared conversation and represented an alternative channel of attention. In Playzenha, the smartphone has an explicit collective purpose, is shared rather than individually consumed, and is consulted at defined moments. The project therefore investigates whether changing the function of the device—from personal distraction to common facilitator—can change its position within the social situation.

2.2. Social gaming and collocated play

Social gaming includes experiences involving more than one participant, whether players are remote or physically together. The systematic review by Gonçalves *et al.* (2023) shows that social games involve not only players but also spectators, different social roles, communication patterns, cooperative and competitive structures, and contextual factors. The authors also identify methodological gaps, including limited in-the-wild evaluation and inconsistent measurement of social outcomes. These gaps define an important limit for the present work, which focuses on technological development and design analysis rather than on measuring social outcomes.

De Kort, IJsselsteijn, and Poels (2007) describe digital gaming as social-presence technology and emphasize that game systems can augment communication in collocated settings. From this perspective, the social value of a game is not restricted to the content displayed on the screen. It also emerges from mutual awareness, behavioral interdependence, psychological involvement, and the ways players respond to one another during play.

Research on game-control distribution reinforces the importance of interdependence. Rozendaal, Braat, and Wensveen (2010) found that distributing control among multiple players increased experienced sociality, while partial distribution produced high engagement by balancing social dependence and individual autonomy. Playzenha adopts a related principle at the level of the overall activity: the smartphone centralizes administrative control, but the actions required for success are distributed among participants through speaking, interpreting, persuading, remembering, and reacting.

Márquez Segura and Isbister (2015) propose that co-located physical social play should be evaluated through the complete interaction ecology, including bodies, spatial arrangement, social cues, spectators, and the relationship between digital and physical actions. This approach

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supports analyzing Playzenha as more than a website. The artifact is one component in a broader social system composed of the device, the players, the room, the rules, turn-taking, and the verbal or embodied responses that occur between rounds.

2.3. Motivation, enjoyment, and relatedness

Self-Determination Theory explains motivation through the psychological needs for autonomy, competence, and relatedness. In game research, Ryan, Rigby, and Przybylski (2006) found that perceived autonomy and competence were associated with enjoyment and that relatedness independently predicted enjoyment and future play in multiplayer contexts. These concepts help connect interface decisions to the intended social experience.

Within Playzenha, autonomy is supported by allowing the group to choose among multiple games and configure the participants. Competence is supported by clear instructions, visible progression, controlled transitions, and understandable final results. Relatedness, however, is not produced by an isolated interface element. It depends on the game requiring attention to other people. Secret information, verbal clues, accusations, collective interpretation, and reactions create opportunities for participants to acknowledge one another as part of a shared activity.

This distinction is important because an attractive interface alone does not guarantee social interaction. The platform must make the human exchange functionally necessary to play. The intended experience therefore combines low-friction digital coordination with rules that produce conversation, uncertainty, humor, and reciprocal attention.

2.4. Human-centered design and game approachability

ISO 9241-210:2019 defines human-centered design as a set of principles and activities applied throughout the lifecycle of interactive systems. The process is based on understanding users, tasks, and environments; involving users in design and evaluation; iterating solutions; and addressing the complete user experience (ISO, 2019). These principles are compatible with the development of a platform intended for informal and dynamic social settings.

Approachability is especially relevant because a group game can fail before it begins if setup is lengthy or instructions are difficult to interpret. Playzenha was designed with a mobile-first interface, a visible game library, guided steps, and one shared device. The objective is not to eliminate all interaction with the interface, but to make each digital interaction understandable enough that the group quickly returns to the shared activity.

The iterative use of the platform with friends also reflects the human-centered principle that feedback should influence subsequent versions. In the project, confusion around result and

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score presentation led to interface changes. This type of concrete revision illustrates the role of formative product feedback in the iterative development process.

2.5. Technology as a temporary mediator

The conceptual thesis of this work is that technology can enrich encounters that already occur when its role is temporary, shared, and subordinated to human interaction. Playzenha does not seek to create a virtual substitute for the gathering. It provides a structure that helps an existing group transform available time into a playable social activity.

The proposed mediation cycle contains three phases. During setup, the device receives most of the attention because the group selects a game and registers participants. During social play, attention shifts to the people because the game requires discussion, interpretation, performance, or decision-making. During transitions and results, the device briefly resumes the role of moderator to provide the next instruction, update the round, or reveal an outcome. The cycle then repeats. This alternating distribution of attention is central to the design contribution of Playzenha and is illustrated in Figure 1.

Figure 1. Proposed mediation cycle between digital coordination and face-to-face interaction



Source: Authors (2026).

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3. METHODOLOGY

This section describes the research approach, development process, functional requirements, software architecture, interface design, and the role of informal product feedback in the iterative refinement of the Playzenha platform.

3.1. Research type and approach

The study is classified as applied research with a technological-development and exploratory design-analysis approach. Its central output is a functional software artifact designed to address a practical problem: the difficulty of quickly organizing accessible games for groups of people who are physically together.

The research is aligned with Design Science Research (DSR). Hevner *et al.* (2004) describe design science as a paradigm in which knowledge about a problem and its solution is developed through the construction and application of an artifact. Peffers *et al.* (2007) organize the process into six activities: problem identification and motivation, definition of solution objectives, design and development, demonstration, evaluation, and communication.

These stages were adapted to Playzenha. The problem was identified through experience in social gatherings; the objective was defined as a unified and easy-to-use game hub; the platform was designed and implemented; the artifact was demonstrated during informal product-use situations; feedback informed iterative changes; and the present article communicates the development process, design rationale, and resulting artifact.

3.2. Problem identification and solution objectives

The initial problem was observed at the beginning of 2026 during a meeting between friends. Although the group was interested in a collective activity, no convenient tool concentrated several game options and guided them from preparation to the final result. Searching independently for rules or adapting physical games created delays and transferred organizational responsibility to one participant.

Five solution objectives were established. First, the platform should operate as a hub containing different games in a single library. Second, it should be optimized for smartphones because the intended contexts include homes, parties, bars, and trips. Third, one device should be sufficient for the whole group. Fourth, the system should guide names, roles, rounds, hidden information, and outcomes whenever required by the selected game. Fifth, the interface should reduce interpretation effort and allow the social interaction to remain outside the screen.

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3.3. Iterative development process

Development followed an iterative sequence consisting of concept definition, platform structuring, visual design, implementation, internal validation with friends, infrastructure construction, production deployment, and continuous refinement. The Playzenha platform was developed by the first author.

Generative AI Use Declaration. ChatGPT was used as an auxiliary ideation tool to generate development ideas and help structure the step-by-step construction process of the Playzenha platform. All implementation decisions, technical analysis, interpretation, and final validation remained under the responsibility of the author.

The main technical challenge was not limited to implementing individual screens. It involved understanding the complete route from local development to production, including frontend build, backend services, relational persistence, authentication, environment configuration, database migrations, deployment, and maintenance. This process expanded the artifact from a collection of game screens into a complete web platform.

3.4. Functional flow and game library

The user journey begins with account authentication. After entering the platform, the user accesses a library of games and selects the desired activity. The system then requests the names of the participants and presents the configuration required for that game. Once the match begins, the same smartphone guides the group through role distribution, turns, rounds, debate periods, or other transitions until the final result is displayed.

The currently available games are Impostor, Contact, Who Am I, and Last Night. They represent different forms of group interaction, including hidden roles, verbal association, guessing, social deduction, discussion, and interpretation. Additional games are under development, which means the library is treated as an evolving product rather than a closed collection.

The platform controls the procedural elements that would otherwise require a human moderator. Nevertheless, it does not automate the social content of the match. Participants must still speak, listen, observe reactions, defend interpretations, build clues, or vote. This separation between procedural automation and human performance is a deliberate functional requirement.

3.5. Software architecture and technology stack

Playzenha uses a separated frontend, API, and persistence architecture. The frontend was developed with React and TypeScript, Vite is used for development and production builds, and Tailwind CSS supports responsive interface styling (React, 2026; Microsoft, 2026; Vite, 2026;

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Tailwind Labs, 2026). The backend is implemented with NestJS on Node.js, organizing application logic in a modular API (NestJS, 2026).

PostgreSQL stores persistent application data, while Prisma ORM manages the schema, migrations, and typed database access (PostgreSQL Global Development Group, 2026; Prisma Data, 2026). Authentication uses JSON Web Tokens based on RFC 7519, transported through HttpOnly cookies, with support for Google login (Jones; Bradley; Sakimura, 2015). Docker Compose is used to provision PostgreSQL in the local environment. The production services are deployed on Railway, which hosts the application and database infrastructure (Railway, 2026).

Table 1. Core technologies and responsibilities in Playzenha

Layer	Technology	Responsibility
Frontend	React + TypeScript	Component-based and type-safe user interface
Build tooling	Vite	Development server and production build
Styling	Tailwind CSS	Responsive, mobile-first interface design
Backend/API	NestJS (Node.js)	Business rules, authentication, and service endpoints
Database	PostgreSQL	Persistent application and account data
ORM	Prisma	Schema definition, migrations, and typed data access
Authentication	JWT + HttpOnly cookies + Google login	Authenticated sessions and protected access
Local infrastructure	Docker Compose	Local PostgreSQL provisioning
Production	Railway	Application and database deployment

Source: Authors (2026).

3.6. Interface design and formative product feedback

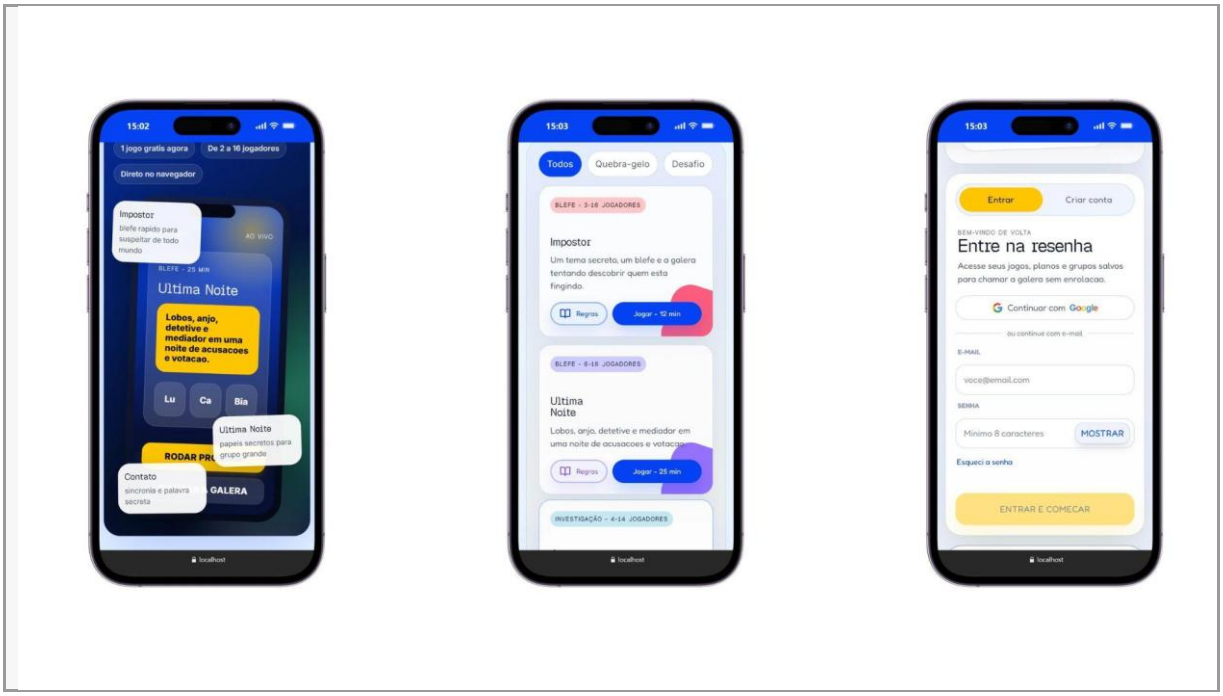
The interface was designed primarily for smartphone use. Visual hierarchy, readable typography, contrast, cards, feedback states, and guided navigation were used to make the game flow understandable to people with different levels of technical familiarity. During development, the interface was repeatedly used and shown to adult friends so that points of confusion could be identified before additional features were added.

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Informal product-use sessions occurred during ordinary gatherings with adult friends. The available games were used through one shared device, and verbal comments or suggestions emerged naturally during use. Instead of applying a standardized instrument, the developer wrote brief notes after the sessions summarizing remembered usability issues, questions, and improvement suggestions. These notes were used as development input to identify points of confusion and guide interface revisions.

The informal notes were not treated as a formal participant dataset, were not coded or statistically analyzed, and were used only to document the evolution of the artifact. No audio or video was recorded, and no personal or sensitive participant data was stored. One concrete outcome of this process was the redesign of result and score screens to make the conclusion of a match easier to understand. Representative interface screens are presented in Figure 2.

Figure 2. Main screens of Playzenha: hero screen, game library, and authentication screen



Source: Authors (2026).

3.7. Ethical considerations and scope of informal feedback

All individuals who provided informal feedback were 18 years of age or older. They were verbally informed that their suggestions could be used to improve Playzenha and could be described in the academic presentation of the project. The development activities were not submitted to a Research Ethics Committee because they were conducted as informal product-

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development tests rather than as a formal research protocol involving a structured participant sample.

To preserve this distinction, the manuscript uses the informal notes only to explain design changes and does not present participant-level results, statistical analyses, or causal claims about social outcomes. Any future study intended to formally measure usability, social presence, attention, or relationship outcomes should be preceded by appropriate ethics review and formal informed-consent procedures in accordance with applicable institutional and journal requirements.

4. RESULTS AND DISCUSSION

The results are organized around the completed artifact, the interaction model embedded in the platform, the design changes produced during iterative development, the design principles derived from the artifact, and the limitations of the present analysis.

4.1. Functional result of the artifact

The project resulted in a production-deployed web platform capable of supporting the complete path from authentication to the end of a match. The platform provides an integrated library, receives player names, configures the selected game, controls procedural states, and presents the final outcome. This result addresses the original practical problem by eliminating the need to combine independent rule pages, manual lists, randomizers, timers, and score sheets.

The hub model also supports product evolution. New games can be incorporated without changing the core proposition presented to the user: select an activity, configure the group, and follow a guided experience. The architecture separates presentation, API logic, and persistence, which supports incremental maintenance. However, scalability and high-load performance were not formally tested and should not be inferred from the architectural description alone.

4.2. Distribution of attention by design

The interaction flow is designed to alternate between screen-centered and person-centered moments. During login, game selection, and player registration, the smartphone is the main shared object. Once a round begins, the platform presents only the information necessary to initiate the next social action, while the game rules require debate, guessing, accusation, clue construction, interpretation, or voting among participants. At transitions, the device briefly returns to its moderator role.

This behavior is consistent with the proposed mediation cycle. The platform does not attempt to maximize continuous screen engagement, a common objective in conventional digital

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products. Instead, its usefulness depends on being absent from the center of attention during the most socially significant moments. In design terms, the screen performs backstage coordination so that interpersonal performance can occur in the foreground.

The choice of one shared smartphone is intended to support this distribution of attention. Requiring every participant to use a personal device could fragment the experience and create parallel individual interactions. A shared device establishes a common reference point and reduces the number of active screens. It may also create limitations, such as waiting during private role distribution, but the trade-off is coherent with the goal of maintaining a single guided social space.

4.3. Formative product feedback and design changes

Post-session development notes were used to capture usability problems and verbal suggestions that emerged during informal use. Because the notes were written after the sessions and were not collected through a structured instrument, they are treated as product-development records rather than as behavioral research data. Their role in this article is limited to explaining how particular interface decisions evolved.

The clearest practical outcome of the formative feedback was the identification of interface ambiguity. Comments about the final result and scoreboard indicated that the conclusion of a match needed to communicate winners, scores, or next actions more clearly. The relevant screens were modified to improve comprehension. This revision demonstrates the value of testing the artifact in the context for which it was designed, where interruptions and group conversation can affect how information is interpreted.

The post-session notes also recorded situations in which the developer needed to clarify interface steps verbally. These situations were treated as usability problems because the artifact was not fully performing its moderator role. This criterion became a practical design principle: a successful flow should allow the group to proceed through visible instructions and feedback without depending on the creator of the platform.

4.4. Design principles derived from Playzenha

The development process and formative product feedback produced a set of design principles that summarize how a digital artifact can support in-person games. These principles are analytical contributions derived from the artifact and should be tested in future comparative studies.

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Table 2. Playzenha design principles and intended social contributions

Design principle	Implementation in Playzenha	Intended contribution
Centralize logistics	One hub manages games, players, rounds, roles, and results	Reduces setup friction and moderator burden
Share the device	One smartphone guides the whole group	Creates a common reference and limits parallel screen use
Bound screen attention	The interface is central only during setup and transitions	Returns the main activity to face-to-face exchange
Make social action necessary	Rules require speaking, interpreting, persuading, guessing, or voting	Prevents the interface from replacing interpersonal play
Guide the complete journey	Visible steps connect selection, configuration, rounds, and outcome	Reduces uncertainty and the need for external explanations
Iterate in context	Feedback from real gatherings modifies confusing screens	Aligns the interface with noisy, dynamic social environments

Source: Authors (2026).

4.5. Relationship with the theoretical framework

Playzenha can be interpreted through the categories proposed by Olsson *et al.* (2020). It facilitates interaction by concentrating procedural resources; it invites interaction by presenting a library of accessible activities; and it encourages interaction by establishing rounds in which the next system state depends on human communication. The artifact is therefore not only an enabling platform. Its rules deliberately attempt to increase the extent of focused interpersonal activity during the gathering.

The designed alternation of attention also provides a response to the concerns raised by Przybylski and Weinstein (2013). The project does not challenge the evidence that unrelated phone presence may damage conversation. Instead, it treats that evidence as a design constraint. The shared phone must have a transparent purpose, avoid private competing content, and disappear from the center of attention whenever the game can proceed through direct interaction.

The social-gaming literature further supports analyzing the complete context rather than the interface alone. Gonçalves *et al.* (2023) emphasize that social outcomes are influenced by players, roles, spectators, and context. Playzenha therefore cannot guarantee the same

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interaction in every group. Familiarity, group size, willingness to participate, game choice, and the social atmosphere may all change the result.

From the perspective of Self-Determination Theory, game choice and configuration support autonomy, clear progression supports competence, and the required exchange among participants provides opportunities for relatedness (Ryan; Rigby; Przybylski, 2006). Nevertheless, relatedness remains a psychological outcome that should be measured rather than assumed. In this article, it is therefore treated as a design objective rather than as a measured result.

4.6. Technical and research limitations

The project is operational but remains in continuous evolution. The main product limitations are the time available to a single developer, the limited number of games compared with the intended future library, and the absence of payment features required for the planned commercial model. Additional accessibility work and broader device testing may also be necessary as the user base expands.

The research limitations are more significant because no formal participant study was conducted. Informal development notes were not standardized, recorded, coded, or analyzed statistically, and they cannot support conclusions about usability rates, social presence, attention, relationship quality, or comparison with other forms of entertainment. The present work therefore evaluates the artifact primarily through its implemented functionality, architecture, and design rationale.

A further limitation is researcher-developer bias. The first author designed, implemented, and interpreted the development of the platform. Decisions about which usability issues to prioritize and how to relate the artifact to the theoretical framework may therefore reflect the author's own assumptions. For these reasons, the article presents the social effects of the platform as design potential rather than as demonstrated outcomes.

5. CONCLUSION

This study presented Playzenha, a web platform designed to mediate in-person social games through one shared smartphone. The research question asked how a digital platform can organize play while maintaining face-to-face interaction as the primary focus. The developed artifact suggests a practical answer: technology can centralize logistical work, structure turn-taking, manage hidden information, and communicate results while deliberately limiting its own prominence during debate, guessing, negotiation, and other human-centered actions.

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The principal contribution is the concept of temporary mediation. The device is not removed from the gathering, nor is it allowed to dominate the entire experience. It alternates between an active moderator role and a background role according to the needs of the match. This cycle supports the broader thesis that technology may enrich encounters that already happen when it is shared, purposeful, and designed to return attention to the people present.

The platform also represents an applied software-development contribution. It integrates a mobile-first React interface, a NestJS API, PostgreSQL persistence, Prisma migrations, authenticated sessions, local containerized infrastructure, and cloud deployment. The complete architecture enabled the project to move from an informal idea to a production artifact capable of receiving new games and future commercial features.

Informal product feedback during development generated concrete interface improvements, particularly in result and score presentation. Because these activities were not designed as a formal research protocol, they are not treated as evidence of a causal social effect. The contribution of the present study therefore lies in the developed artifact, its interaction model, and the design rationale connecting digital coordination with face-to-face play.

Future work should conduct a formal evaluation, preceded by appropriate ethics review and informed-consent procedures, with a larger and more diverse sample, standardized usability and social-presence instruments, comparison with unmediated games or multi-device alternatives, and systematic observation of conversation, participation, and attention. Longitudinal studies could examine whether repeated use affects group engagement beyond novelty. Product development should expand the game library, improve accessibility, implement payment features, and evaluate performance at scale. Through these steps, Playzenha can be assessed not only as a functioning platform but as a reproducible design approach for technology that supports physical social life.

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