

From Board to Screen and Back: Exploring Continuous Transmedial Play

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Fig. 1. Study structure where players play first a physical session, followed by a digital session and another physical session with an interview. To ensure continuity, game elements such as character cards, new items and narrative transition between sessions.

Hybrid games typically combine physical and digital mediums within a single play session, aiming to leverage the strengths of each. Yet, this often causes one medium to assume a more supportive and mandatory role, which can disrupt the experience rather than enrich it. In this work, we present a novel hybrid approach in which players can engage in medium-specific play sessions (i.e., physical and digital play sessions), while preserving a sense of continuity between them. To explore medium hybridity beyond a single play session, we designed and developed a transmedial game prototype that extends the mechanics and progression of an existing board game into digital play sessions. We conducted a user study with 16 participants, in groups of two or three, each engaging in an initial in-person session, followed by in-the-field digital sessions and a final in-person session with interviews. This structure allowed us to examine how gameplay, social dynamics, and progression unfolded across mediums and over time. Our findings highlight how continuity shapes transmedial play, for example by tightly linking narrative and mechanics, supporting flexible progression, and balancing individual and group agency to maintain player engagement.

CCS Concepts: • **Applied computing** → **Computer games**; • **Human-centered computing** → **Empirical studies in HCI**.

Additional Key Words and Phrases: Transmedial Play, Continuity, Hybrid Games, Digital Games, Board Games

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1 Introduction

Over the years, research has explored the tradeoffs of blending analog and digital mediums in the play experience, leveraging the unique affordances of both through hybrid games [30, 35]. Examples of this include board games that integrate a companion app that is able to automate more complex tasks for players [13, 40], or even increase immersion by providing sounds or animations [13]. Usually, hybrid games require both analog and digital mediums to be used in the same play session, and are regularly designed with the digital medium in a supportive, synchronous role, which can also lead players to think that connections between game elements are not meaningful [7, 34].

Previous work highlights how play can be associated with transmedial experiences, where engagement extends beyond a single medium or session, with players often engaging with content related to play outside the session in another medium (e.g., exploring new strategies digitally) or feeling encouraged to participate in events related to the game (e.g., game conventions) [26, 33]. Building on this, prior exploratory work [8, 38] has highlighted the potential for leveraging the benefits of analog and digital play when each medium is played independently (i.e., in separate play sessions) while still contributing to a single perceived continuous play experience. This sense of continuity in games (i.e. how players perceive they are continuing a game through multiple play sessions) has been associated with bringing benefits to the player experience, such as extended engagement [8, 16, 36], or creating meaningful moments as players progress through a shared journey [8]. Importantly, these works also highlight the link between continuity and the sense of progression, skill improvement, and group play [8, 16].

As a first exploration of *continuous transmedial play* in practice (i.e. multi-session experience across analog and digital play), we created a digital game prototype inspired by the first chapter of the campaign board game *Tidal Blades 2: Rise of the Unfolders* [37]. The prototype was designed to be a continuation of the campaign, allowing players to upgrade their characters (e.g., buying cards), train using a similar scenario to the board game and share the experience by collaborating on tasks with another player.

We then conducted a user study with 16 participants (players of both digital and board games), who engaged with our prototype across physical and digital sessions to explore their perceptions of the experience and identify benefits, limitations, and tradeoffs of the approach. We focused on understanding how players' engagement, sense of continuity and group play was affected, while uncovering insights to inform the design of continuous play experiences. We aimed to answer the following research questions:

- **RQ1.** What design choices contribute to (or hinder) player engagement in a continuous gaming experience in transmedial play?
- **RQ2.** How can narrative and progression support a continuous player experience in transmedial play?
- **RQ3.** How is group play affected by a continuous gaming experience in transmedial play?

Through a thematic analysis of interview data we identify four themes that describe how continuous transmedial play can affect the player experience, its tradeoffs and how it can offer new opportunities in game design, namely: 1) how the game can adapt to group decisions to strengthen the sense of continuity; 2) ways to advance through different forms of play; 3) how the digital

medium can help bridge time between physical sessions; and 4) balancing individual and group progression. We reflect on these themes in the discussion, where we identify three dimensions that shape continuity in transmedial play experiences: **Interdependence**, which reflects the extent to which actions in one medium influence experiences in another; **Similarity**, that concerns the degree to which mediums align through shared narratives, progression systems, and gameplay mechanics; and **Asynchronicity**, which captures how engagement unfolds across both mediums and over time. Here we also discuss how these dimensions may impact design goals, including flexibility of participation, immersion, sustained engagement, and balancing progression in group play when players differ in availability, or preferred medium of participation.

We contribute to an understanding of continuous transmedial play in multi-session experiences by characterizing how continuity can be maintained across mediums through narrative, progression, and persistent game elements. Our findings highlight key tradeoffs in designing asynchronous and transmedial interactions, particularly regarding the balance between flexibility and interdependence, as well as their implications for sustaining sociality and group cohesion across play sessions.

2 Related Work

We first review the identified opportunities, benefits and recurring challenges that arise when incorporating the digital and analog mediums in hybrid games, activities that extend the play experience, and transmedial play. Then we investigate research on continuity in both analog and digital mediums, and across mediums.

2.1 Hybrid Games

The benefits of gaming have been extensively researched in the past, with various studies highlighting its distinct positive outcomes, such as deepening social bonds [9, 29], increasing motivation [10], and improving perceived learning outcomes [25, 27]. However, while many of these benefits are present for both analog and digital play, each medium has its own particularities. Digital games leverage technology in order to create dynamic interactions between players, and more accessible environments through remote play and automation of features [2, 5]. In contrast, the social experience of board games is enhanced by their inherent physicality and spontaneous interactions emerging from player-driven norms [32].

Hybrid gaming (i.e., an analog game with digital elements, or a digital game with tangible or physical elements [13, 34]) can present new opportunities in game design and offer experiences that neither digital or analog games can achieve independently [13, 23, 35]. Research has also examined how hybrid configurations can support remote board game play scenarios [23, 35]. Some studies focus on how verbal and non-verbal communication, as well as elements of tangibility, can be translated or approximated through the digital medium to sustain social interaction at a distance [23]. Other works highlight how digital components can enhance the replayability and scalability of board games by enabling randomization and regular updates with the addition of new content such as expansions [31, 34, 40]. Digital tools can also introduce features difficult to achieve in purely analog formats, including pre-recorded instructions (e.g., audio prompts that guide players through setup), automated rule enforcement and player statistics [31]. In hybrid games, the digital medium can also support player-driven customization by enabling the creation of new content or persistent changes across play sessions [36].

Challenges. Despite these opportunities, prior work highlights challenges in hybrid games that may limit their ability to fully leverage the strengths of each medium [7, 34]. When analog and digital elements are required to coexist within a single play session, the added integration complexity can constrain how each medium is used and, result in players gravitating toward fully analog or

digital experiences [7, 34]. Further, when digital elements are superficially integrated in an analog experience it leads to the digital medium not being perceived as a meaningful part of the experience [7, 13, 34].

2.2 Extended and Transmedial Play

While the hybridity in hybrid games typically combines the analog and digital mediums within a single session [13, 34], transmediality has been associated with multi-session experiences, where each media can be engaged independently across separate sessions [18, 20, 21]. Therefore, in this paper, we use the concept of transmedial play to refer to a multi-session experience that unfolds across both analog and digital mediums, in which player actions, progression, and engagement extend beyond a single play session. Previous studies [16, 18, 20, 21] have explored how play-related activities can shift between analog and digital formats and how they can intersect, with some activities surrounding the core of a game (e.g., players recur to the digitized version of the game to optimize strategies between play sessions) [16, 31, 34] and others emerging from the periphery of gameplay (e.g., painting miniatures from the board game) [16, 20, 22]. Previous works have also suggested how engaging with these activities such as reading books or playing a game from the same franchise, can increase player engagement [16, 38]. Stemasov et al. [36] further investigate how the digital medium can be used to personalize analog play experiences (e.g., by customizing characters with a 3D printing pen) that persist over multiple sessions.

Rather than being confined to a single play session, these activities have been understood to belong to a continuum of practices that extend the experience [14]. Research on tabletop and digital gaming highlights how players engage in a range of metagame and paratextual activities, including discussing strategies, sharing knowledge, and preparing for future play sessions [26]. Online platforms such as Steam¹ or BoardGameGeek² are examples of this, supporting practices such as researching new games, cataloging collections, tracking play statistics, and participating in community discussions.

Research [38] shows how the inherent materiality of toys can also be used in combination with digital features to create engaging experiences by carrying information that links to a digital game. Gil et al. [8] further explore the sense of continuity across mediums (analog and digital), giving insights into how it could be achieved in a play experience that employ this setting, for example by connecting the same theme (e.g., characters) across mediums or, by allowing players to practice through digital play sessions as they wait for the next physical session. This work further highlights benefits and design opportunities of such experiences, particularly in supporting engagement by affording players greater flexibility in how they engage with the game (e.g., playing individually through digital sessions or collectively in physical sessions).

2.3 Understanding Continuity in Games

While many board and digital games are designed around single-session play, others are intentionally structured to unfold across multiple sessions (e.g., campaign-based games), using evolving narratives, and meaningful goals to support continuity and sustained player engagement across play sessions [9, 39, 41].

Past work has suggested that some players may experience a sense of continuity (associated with theme) when playing tabletop and digital games from the same franchise [16] or using digital platforms as an auxiliary tool to generate scenarios for a board game [21, 36]. Past literature on analog games has mentioned this sense of continuity in association with campaign scenarios

¹Steam. <https://store.steampowered.com/>

²A Popular board game review website - BoardGameGeek. <https://boardgamegeek.com/>

(e.g., games with multiple chapters where progress is carried over between sessions)[1, 8, 36] and miniature painting between tabletop sessions [22].

Some campaign series board games already make use of customization elements to enable subsequent sessions to follow up from previous ones, making each board game unique as not all gaming groups will follow the same path. Gil et al. [8] have further linked this aspect of the player experience to game elements such as narrative and character progression, skill practice, and group dynamics that persist across sessions. Engaging with online content between play sessions and talking with other players about the game has also been highlighted as having the potential to foster this sense of continuity [8, 15].

While both single and multi-session games can elicit a sense of continuity through a variety of transmedial engagement, skill progression and other elements, in this paper we focus on multi-session games.

2.4 Summary and Research Gap

The tradeoffs of combining multiple mediums are well established within the literature, with hybrid approaches at times able to increase engagement and provide novel ways for users to interact with a game [13, 23, 34–36]. When hybrid games are designed without treating the integration of analog and digital media as a core concern from the outset or force mediums to coexist in the same session their potential could be constrained [7, 34]. Mediums may feel like afterthoughts (e.g., background music or narration) rather than meaningful components that shape gameplay, which can reduce engagement and contribute to negative player perceptions [7, 34].

Expanding the play experience beyond a single session (and at times in different mediums) can increase engagement and prolonged game longevity, particularly when players more deeply engage with the game (e.g., discussing a new strategy in online forums) [16, 33].

Within this context, a sense of continuity between mediums (through consistency of characters, gameplay, and awareness of prior progress) has been shown to strengthen engagement and sustain the experience across play sessions [8, 16]. Yet, it can face challenges such as balancing progression for players with varying availability or, if advancing in the game depends on using a specific medium [8]. This paper presents a first exploration of this concept in practice further understanding the impact of player engagement, continuity and group play in such an experience, and what design choices may hinder or promote these aspects.

3 Design for Continuous Transmedial Play

In this paper, we seek to understand how the analog and digital mediums can be incorporated across multiple play sessions to leverage their unique affordances in a continuous experience. To explore this approach we designed and developed a game prototype by expanding an existing board game with a digital component that incorporates its original mechanics, narrative and progression system. Our goal was to create an experience that allows players to engage with the game in physical and digital sessions, providing a continuation of play.

In the following sections, we detail the choice of the board game, the design and development of the digital component, medium transitions, and continuity, along with a brief description of the gameplay.

3.1 Choosing the Board Game

We chose to design a transmedial experience based on an existing commercial board game. This decision allowed us to focus on designing connections between physical and digital play, rather than creating and balancing a new game. We selected the board game *Tidal Blades 2: Rise of the Unfolders* [37] for three main motives: 1) it is a moderately complex game (weight of 3.0 in

BoardGameGeek³) which offered a good design space to explore how game elements carry over between sessions without becoming too complex for most board gamers; 2) has high user rating (average rating of 8.6 in BoardGameGeek³); and 3) is a campaign game, with continuous progress across sessions (e.g., both narratively or through character upgrades).

The game was also easily adjusted to integrate digital play sessions, as it features two different types of scenarios: adventure and interlude chapters—we adapted interlude scenarios to be played digitally. The selection and design process was done through over a month of regular meetings discussing possible games and attempting to design the flow between sessions (e.g., identifying elements that transition between the analog play and digital play, and how).

3.2 Description of the Board Game

Tidal Blades 2: Rise of the Unfolders (Tidal) [37] is a cooperative, chapter-based board game in which 1 to 4 players choose a character hero that they will play throughout eighteen chapters (each typically associated with one play session). The game difficulty and content is adjusted depending on the player count, however, mechanics do not change substantially when an additional character or player is introduced (e.g., only the number of enemies on the map increases). Players travel to different locations, defeat enemies, and complete objectives. Most chapters consist of combat and objectives (adventure chapter), sometimes followed by an Interlude phase where players can upgrade their characters (e.g., purchasing new cards or items), and deepen their understanding of the universe through *Encounters* (i.e. cards with two narrative options which give players additional lore and rewards).

Adventure Chapters (approximately 60–120 minutes). Players take turns to act in a shared play area (hexagonal grid), with their character miniatures, enemy figures, and other tokens tied to the chapter's objectives. Each chapter is defined by an objective (e.g., defeating all enemies) that must be completed within a set number of rounds, while also rewarding players with bonuses if they finish the chapter with leftover resources. Each character is defined by a unique deck of cards and a combination of traits, both of which players can upgrade in interlude chapters. Each turn, players choose a card and draw one for the enemy, then all cards are revealed simultaneously, and the player's actions (e.g. move, attack, gain resources) are resolved by placing the card into a personal player grid. At the end of a chapter, players gain XP, Fame, and other rewards based on their performance.

Interlude Chapters (approximately 15–30 minutes). At the end of certain chapters, players return to town and can upgrade their characters by purchasing new cards, items and interacting with *Encounters*. Each visit unfolds over three days (rounds), during which players take actions by placing their character miniature in an action space. At the beginning of each round (day), players reveal a new narrative card (reaching a total of 3 cards in each Interlude chapter).

3.3 Design of the digital game

We designed and developed a mobile application (built in Godot and available on Android) for short bursts of independent play (approximately 30 minutes) that can be accessed anytime, and support two individual players.

This digital component was designed as an Interlude chapter between the first and third chapter of the game. In the first chapter, players must protect their home town from invading enemies. In the third chapter, players venture outside town to find Takaro, a character who is first mentioned in the digital chapter. In between these chapters, players can train, earn rewards, and learn more

³A Popular board game review website - BoardGameGeek.<https://boardgamegeek.com/>

about the game universe through our mobile play experience, which mimics, and extends, rewards and narrative engagement from the Interlude Chapter. Previous work on the digitization of board games [31] highlights how digital adaptations can alter game elements to support particular player experiences (e.g., the Puerto Rico Evolver [24], which re-implements the original board game in a spreadsheet format, prioritizing mechanical efficiency over visual presentation). Based on this, *Encounter* cards were re-imagined to support the feel of a digital game. All elements of the prototype were developed with the board game aesthetic to further maintain the sense of continuity.

The digital component is played in three installments over three days, separated by a 24-hour timer. The first time a player logs in, a 24-hour timer begins. This timer was intentionally integrated into the game design to help balance progression (limit the amount of rewards a player can get in a day), and support the feel that players are playing the same part of the narrative, at the same time.

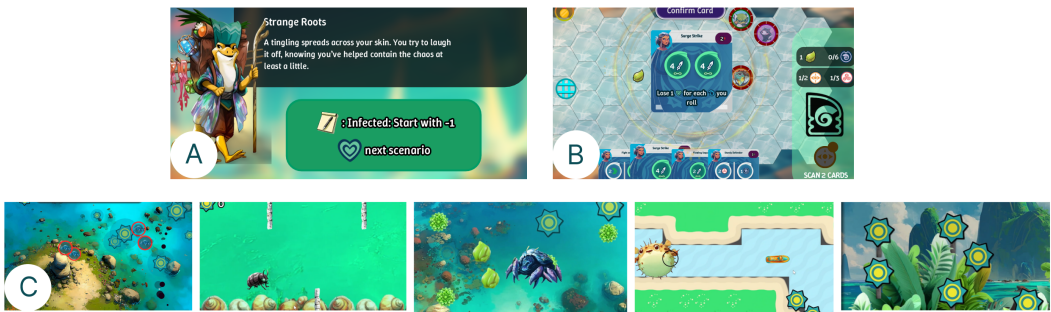


Fig. 2. The interface shown to players when interacting with different locations: A) Encounters: when players collect the reward after selecting one of the narrative options; B) Arena: when players select a card to play from their hand; and C) Challenges: which players could complete to gain daily experience, from left to right: Meditation Spring, Temple of The Breaking Wave, Floating Gardens, Race, and Citadel.

A day is represented by a branching path with locations on a world map, that can be *Challenges* or *Encounters*. Players can complete various **Challenges** (e.g., dragging a shell to collect rewards while dodging enemies, with limited time) to reach daily objectives. Players when playing the same *Challenge*, contribute with individual scores to a team score, which rewards both with additional daily experience. One of the *Challenges* (Arena) had players use their decks to combat enemies, playing according to the board game rules. This *Challenge* allowed players to practice for the next adventure chapter, by having them use new cards and train against enemies with different strategies. Players also had to face multiple **Encounters**, where they interact with non-playable characters, choose between two narrative options, and receive rewards accordingly. Some *Encounters* made callbacks to the first chapter while others foreshadowed events in the third one. Players unlocked new *Encounters* for one another and could see each other's decisions within those events. In order to increase flexibility, *Encounters* and *Challenges* were first resolved individually before players could unlock them for the other player (allowing players to progress independently within the same day).

Players can also purchase new cards and items from the **Market**, which remains accessible throughout the day until players make a purchase. Cards purchased digitally can be used in the *Arena* and are carried over to the next physical play session. Any card or item bought by one player becomes unavailable for the other.

All design decisions were informed by past work [8, 16], which emphasizes how continuity is shaped by evolving narrative, ongoing progression, self-improvement, and players' ability to shape their path with narrative and strategic decisions.

Balancing Progression. In the board game, players are only introduced to Interlude chapters after chapter five, as they typically lack enough XP to purchase cards earlier. To address this, we introduced Coins which take place after XP and players can collect daily. Additionally, we also introduced Daily Experience as a way for players to progress and then collect rewards. The prototype also underwent multiple play-testing cycles (both during and after active development) with several pairs of volunteers, which helped refine gameplay mechanics and progression balancing. This included lowering the daily experience awarded for completing *Challenges* or *Encounters*, as well as adjustments to the pacing of Arena turns (e.g., the time each character spent in movement animations).

Positionality. Our research focuses on understanding player experiences and game design across both board and digital contexts. Our experience teaching, designing, and developing both board and digital games (i.e. primarily for research) informed how we approached and interpreted design decisions in the prototype (e.g., limiting daily progression). We also actively engage with both forms of play through regular gameplay and by following industry developments, including new releases and trends. We do not view any play experience as superior, rather we view analog, digital, or hybrid games as having different tradeoffs, each enabling different types of player experiences and design opportunities. From this perspective, we approach a design space capable of supporting new forms of interaction and give new perspectives on continuity between mediums.

4 User Study

In order to understand the impact of engagement, continuity and group play in continuous transmedia play, we conducted two in-person play sessions with each group in a room at our faculty, where participants played a scenario of the board game (i.e. each 60-120 minutes). In between sessions, participants had access to the mobile digital component where two of the players could continue to play. At the end of the second in-person play session we conducted a group semi-structured interview lasting approximately 45 minutes. Across all groups, the second session took place one to two weeks after the first.

4.1 Procedure

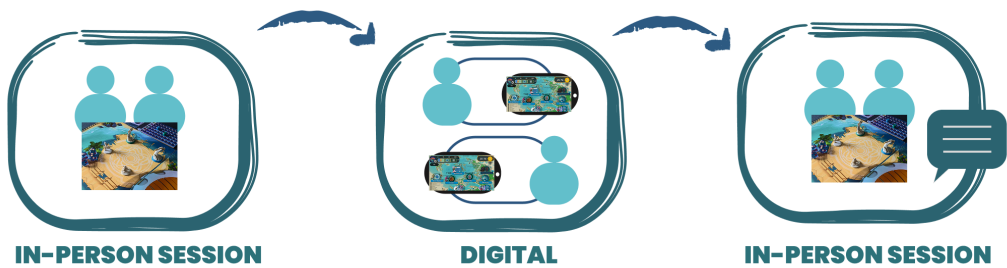


Fig. 3. Study structure

4.1.1 In-person sessions. Before the first play session, participants completed a questionnaire about their demographics and gaming habits (e.g., frequency of board game play, level of intimacy with other members of the group). During the session one researcher was present throughout to explain (or recap) the game rules and clarify any doubts. Participants were tasked with completing the first scenario of the campaign. The game was pre-arranged on a table before participants arrived at the room.

Chapter description. The board game requires players to complete all phases of a chapter before proceeding to the next one and receiving rewards, however for this study our goal was for players to get a good sense of the gameplay and narrative to engage with the prototype after, therefore, participants could stop the session after the first phase of the scenario and still receive rewards.

End of the scenario. When finishing the scenario participants wrote their progress into the respective Character Sheet, marking Wounds, Fame, Experience and others, which influenced their starting resources in the digital prototype. One researcher would then show a QR code for participants to scan and install the game on their smartphones, which could be accessed through a given ID and password. Participants were also asked to only interact with the application after leaving the room. Sessions lasted between 60 and 90 minutes, depending on whether participants stopped during the first phase of the chapter.

4.1.2 Digital sessions. Participants were invited to continue the game in-the-wild over the following one to two weeks using the digital game prototype. The prototype was designed to span three days, which could be played with intervals between them.

4.1.3 Second-in-person session. The second in-person followed the same structure as the first in-person session, however it had participants play the third chapter of the game. During character setup, participants who engaged with the prototype received a new Character Sheet detailing the components earned while playing digitally (e.g., gain the card “Honored by Mansiki” (G24) or increase your Focus by 1). A researcher then assisted them in retrieving the obtained components from the physical game materials and updating their original Character Sheet. After this, participants played the next scenario (Chapter 3). Sessions lasted between 120 and 240 minutes.

Interview. At the conclusion of the second session we conducted a semi-structured interview, focused on participants’ experiences with the prototype and their perspectives on continuous transmedial play. Topics included , perceptions of player engagement (e.g., how participants chose to engage with the experience and what they enjoyed or not), sense of continuity (e.g., whether it was interrupted, transitions between mediums), and group play (e.g., how they shared the experience, interactions in the digital component).

4.2 Participants

To reach volunteers, we relied on word of mouth and open calls shared in gaming communities (e.g., Telegram groups). To participate in the study, participants had to be 18 years or older, be familiar with digital and board games and play them regularly (i.e., play either a digital or board game once a week), and participate with a gaming group consisting of two to three players (who also fit these criteria). While digital sessions were designed for up to two players, allowing for groups of more than two enabled us to capture scenarios where one participant did not engage with the game between physical play sessions. Participants needed to understand English (as the game was in English) and own an Android smartphone. Volunteers applied in groups by filling the application form, which included a briefing of the study, participation terms, and informed consent. All groups were informed that only two players would be able to interact with the digital prototype.

Table 1. Details of the participants, including gender, age, digital gaming frequency (DF) and analog gaming frequency (AF), digital gaming frequency with group (DFG) and analog gaming frequency with group (AFG) and progress achieved in digital sessions in day 1, 2 and 3 (PD1, PD2, PD3) 0–100 scale, where “-” represents the participant who did not engage with the app in a group of three. Gaming frequencies of participants almost everyday (AE), once per week (W), once per month (M).

ID	Gender	Age	DF	AF	DFG	AFG	PD1	PD2	PD3
P1	F	25	W	W	(P2/W) (P3/W)	(P2/W) (P3/W)	100	100	33
P2	M	24	AE	W	(P1/W) (P3/W)	(P1/W) (P3/W)	73	35	55
P3	M	24	AE	W	(P1/W) (P2/W)	(P1/W) (P2/W)	-	-	-
P4	M	26	AE	W	(P5/M)	(P5/M)	100	0	100
P5	M	32	W	M	(P4/M)	(P4/M)	100	0	79
P6	M	24	AE	W	(P7/W) (P8/W)	(P7/W) (P8/M)	2	100	100
P7	M	24	AE	M	(P6/W) (P8/M)	(P6/M) (P8/M)	100	6	100
P8	M	27	AE	M	(P6/W) (P7/W)	(P6/AE) (P7/M)	-	-	-
P9	F	53	W	M	(P10/M)	(P10/M)	100	9	100
P10	M	20	AE	M	(P9/M)	(P9/M)	100	100	66
P11	M	21	W	M	(P12/M)	(P12/M)	100	79	100
P12	F	20	AE	M	(P11/M)	(P11/M)	100	0	100
P13	F	43	AE	AE	(P14/M)	(P14/W)	25	0	0
P14	M	48	M	W	(P13/M)	(P13/W)	34	0	0
P15	F	30	M	M	(P16/M)	(P16/M)	1	0	0
P16	M	30	AE	M	(P15/M)	(P15/M)	96	0	0

In total, 16 participants (five pairs, two groups of three) participated in the study, including 11 male and 5 female participants, with ages ranging from 20 to 53 years ($M=29.4$, $SD=9.98$). The frequency of board and digital game sessions varied among participants, as did their progression in the digital sessions (with no group collecting all rewards across all 3 days). Four groups (group 1, 5, 6, 7) included romantic partners (group 1 with a third member who was a friend), one consisted of family members living in the same household and two were friends (Table 1). One group was not able to schedule the second in-person session, so we conducted a remote interview, focusing on their experience with only one chapter and the digital experience.

Group Engagement with the Prototype. Participants engaged with the prototype in a variety of ways across groups. Group 1 (P1, P2, and P3) primarily played asynchronously, occasionally coordinating via *Discord*⁴ to share experiences, including with the third member of the group (P3). Groups 2 (P4, P5) and 3 (P6, P7, and P8) also played while apart, with Group 2 communicating minimally (e.g., indicating when to start a new day). Groups 4 (P9, P10), 6 (P13, P14), and 7 (P15, P16) shared a household; Group 4 (mother and child) played at different times of day (day/night) and talked to each other about the app, while Groups 6 and 7 reported having limited time, with Group 6 engaging only when being together. Group 5 (P11, P12) engaged with the app both together and while apart, communicating between them, and with Group 4.

4.3 Data collection and Analysis

Interview durations ranged from 60 to 120 minutes. Data was collected through questionnaires, note-taking, logging of digital play interactions and the audio recorded interview. Logs from digital play such as daily progression in the app, measured by the amount of Daily Experience collected (0–100

⁴Discord. <https://discord.com/>

scale), were used to support interviews, for example to prompt discussion of progress discrepancies between participants or inactivity in one or more days. To analyze qualitative data, we adopted a codebook thematic analysis approach, combining the general interpretative framework outlined by Braun and Clarke [6] with a structured coding procedure, based on template analysis [17]. As we had pre-established research questions, the process began with generating codes deductively, informed by those questions (e.g., Engagement, Continuity and Group Play). After transcription, the interviews were reviewed multiple times to support familiarization with the dataset. We then started generating new inductive codes grounded in the interview data. To establish the coding structure, two authors independently analyzed an initial subset of interviews before collaboratively discussing and refining their codes. The first author then used these codes to annotate the remaining interviews, refining the codebook through revision, consolidation, and removal of codes, and meeting regularly with the second author to discuss new codes and patterns. These two authors outlined initial themes based on recurring patterns, which were then discussed among the team.

5 Findings

Below we present our themes (Table 2) supported by participant quotes, highlighting insights into how continuous transmedial play can affect the player experience, its tradeoffs and how it can offer new opportunities in game design.

Table 2. Summary of findings, organized into the resulting themes (T)

T1. Connecting Lore to Mechanical Progression. Adapting the game to group decisions (e.g., allowing the aftermath of one session to mechanically influence the beginning of the next) can strengthen narrative continuity and immersion.
T2. Advancing Through Different Forms of Play. Flexible participation in continuous transmedial play can support progression across both board and digital play, while also introducing challenges such as the fear of missing out on important moments.
T3. Bridging the Gap Between Sessions. The digital medium can foster continuity between sessions, and motivate engagement for future play sessions. This can be achieved through multiple elements such as: 1) enable players to train and improving game skill and knowledge, 2) engaging with narrative (e.g. recalls)
T4. Balancing Individual and Group Progression. Balancing progression in continuous transmedial play may involve adapting tasks and rewards according to player availability and preferred medium. This can lead to potential high asymmetric player contributions to the experience which need to be carefully designed for balancing autonomy and interdependence to maintain the sense of continuity and shared play.

5.1 Connecting Lore to Mechanical Progression

When first logging into the app, participants were presented with a zoomed out world map with various locations and a welcome message through the daily *Encounter*. This initial connection was valued by participants as it allowed them to perceive the digital medium as a continuation of the previous session:

“As soon as I opened the application, it said “Oh, you saved that situation that you played here [physical session], and now you are in the aftermath”. So the idea that things are crossing from one thing to the other was a good initial contact I enjoyed” – P5

By presenting a different view of the world (i.e. world map), new map locations, and new characters, the digital medium increased participants' sense of immersion, allowing them to capture a better overview of the world: *"The map has locations with different names and characters which we have not seen"* (P2). To some participants the value of the digital medium in continuous transmedial play laid in the way they could continue to engage with the game universe through *"narrative bits"* (P16), or by how it could potentially adapt its narrative based on group decisions: *"having freedom to modify things, or improvise"* (P8).

While *Encounters* in digital sessions made general callbacks to the aftermath of the physical session (e.g., characters speak about the battle from the first chapter), P4 and P5 (motivated to play the digital session due to the additional narrative) noted how the narrative lacked context of what happened in the physical session such as *"the village they were protecting"* (P8) not appearing in the map or *"the amount of enemies defeated"* (P4) not creating changes in digital gameplay. Similarly, other groups mentioned how group actions or decisions from the physical session could be used to create impact in the digital session and increase the connection between mediums by altering gameplay, such as *"open a new space to train"* (P6) and *"hide parts of the map"* (P1) to reflect the introduction of the blind trainer Takaro.

Some participants felt that the connection between mediums could be achieved primarily through theme and narrative. Although participants recognized the value of the Arena in providing gameplay experiences more closely aligned with the board game, some suggested that each medium could instead support distinct gameplay. For instance, physical sessions could focus primarily on combat, while digital sessions could emphasize activities such as exploration, or *"the city stuff, like city building"* (P7). This perspective, however, generated discussion within several groups, as some participants expressed concern that this divergence could reduce the cohesiveness of the experience, making it feel more like two separate games:

"If I want to play this, I probably don't want to play something that is different. I want to play this, and because of that the digital part has to be the same thing, but digital" – P5

Some participants expressed this sense of disconnection regarding the Challenges, noting that despite using the same visual elements, their gameplay *"did not have much relation with the game"* (P7). When mentioning this aspect of their experience, participants suggested ways this feeling could be avoided by transitioning elements that feel important to the physical session to the digital medium, such as *"the player grid"* (P4) as a way to affect Challenges, or using Fame gained during physical sessions to *"influence NPC's and the rewards they give"* (P4).

5.2 Advancing Through Different Forms of Play

The flexibility provided by the digital medium was seen as a way to progress whenever it is not possible for the group to meet in-person in physical sessions. Participants discussed different ways to create shared progression, such as by having each scenario played in the board game *"unlocking exclusive areas"* (P2) in digital sessions, or completing a chapter through either a physical or digital session *"using checkpoints"* (P1). In groups without enough time to complete a chapter during physical sessions, the app could serve as a saving mechanic which recognizes the state of the board and lets players continue gameplay through digital sessions to *"allow progression in campaigns without forcing everyone to be seated every week to play it"* (P14). This was especially valued by P14 and P15, who noted that their work and family routines made it more difficult to bring campaign-based games to the table.

However, the feasibility of capturing the board and transitioning to digital sessions may depend on game genre. Games characterized by open information and social negotiation could be more easily suited, as the digital medium can facilitate communication over longer periods (e.g., through

chat) without losing the essence of the physical experience as “*you can continue the experience exactly as it is with no unbalances*” (P14).

Progressing could also happen by splitting group members across digital and physical sessions according to their availability, and leveraging the asynchronous capabilities of digital play: “*People join in a session all together and then split [...] you have parts of the group getting together in some moments and the whole group in others*” (P2), or preference: “*I have a group of friends [...] but one does not like board games and likes digital games so here we can unite people who are usually not playing the same type of game*” (P1).

Many groups (P1-P10) primarily played asynchronously and enjoyed being able to play at different times during the day. Yet, the fear of missing out on part of the game led participants to feel pressured to play. This was reported by P10, stating that, by triggering the start of a day (24-hour countdown), he felt as forcing P9 to complete that day within a strict time window, or risk missing rewards. For players who did not engage with the app (i.e. due to the lack of time, or when forced by the study design in groups of three) appeared less invested during the third session, particularly when groups discussed or interacted with rewards earned through the digital experience. While this outcome is expected, it highlights how investing through asynchronous engagement may negatively affect the play experience of those unable to participate. Impactful moments in gameplay need to be carefully considered when creating a continuous experience that supports individual play. Participants expressed a reluctance to miss what they perceived as meaningful moments which may restrict design options, reserving more impactful progression for synchronous or physical play sessions while assigning lighter, opportunistic interactions to digital play: “*Increase our relationships [...] with various characters, but not something significant in terms of gameplay*” (P4). Given the choice of using a mobile app, the digital medium was associated with the potential to fulfill small, and opportunist times to engage with the game:

“If I know I will play this [points at the board] at home, I’m on the bus and I remember ‘Oh, they have an app’ that gives me the rules [...] and [...] unlocks new stuff here [physical session] [...] The time you invest outside of the game is rewarding” – P5

P13 and P14 (which live in the same household) made an effort to only play digital sessions next to each other in order to not miss out on impactful moments and feel like they were sharing the experience. As suggested by participants, players could be assigned different tasks depending on their availability, with more impactful tasks requiring the whole group to be present: “*Maybe someone that has more responsibility to do specific tasks in the app, would have a different progression with their character. The part of fighting monsters could be more collaborative*” (P12).

5.3 Bridging the Gap Between Sessions

The flexibility aspect mentioned previously was also seen as a way to not lose track of what happened between sessions, especially if there is a longer time gap between sessions. Participants imagined how the digital medium could help bridge this gap by being aware of the progression done by other members of the group in the game, or by reminding players of what happened in previous sessions, letting them revisit past events through “*recaps[...] of past dialogue*” (P12) or look through achievements in the digital session, such as a “*trophy track*” (P15) of boss kills. We observed that participants who did not engage with the app had more difficulty remembering the rules over those who did. The *Arena* was seen as a key aspect for reminding players of the gameplay or rules of physical sessions, and as a motivator for anticipating future challenges, due to its potential for training through procedurally generated challenges “*like chess puzzles, where the map is set up in a certain way, and you have three moves to solve it*” (P2).

Remembering the events and gameplay of the previous physical session can serve as a motivator to do physical sessions, especially for groups who usually play board games that require multiple sessions (e.g., campaign games): *“Whoever likes board games always wants to finish the campaign. And this digital part [...] doesn’t let you forget the game. It makes you more willing to play [...] when sometimes we don’t group up so much maybe”* (P9). For some participants, unlocking content they could use in the next physical sessions (e.g., new cards) also helped fostering curiosity and building motivation. Further, having additional content apart from the main story (e.g., exploring other parts of the map, or having other Arenas to train) was seen as a way to sustain momentum between sessions and help *“not lose the rhythm”* (P1). The way players transition from one medium to the other (especially after a longer time gap) was seen as an important step in maintaining the experience cohesive, which could be facilitated by the digital medium, saving time and making it easier for players to retrieve the correct components from the game box, by *“generating a character sheet [...] with what players earned”* (P11). While registering progress and rewards in physical character sheets ensured this transition, some expressed a desire for the digital app to play a more active role during physical sessions: *“Maybe a random buff in the middle because you did something before”* (P6).

When game elements transition between mediums, maintaining their meaning and purpose can also be essential. While games often have items and currency with multiple purposes, when dividing them between mediums it can be difficult for players to understand their effects. Certain game elements obtained in the digital medium were clearly perceived as something that would influence the next session, however, this was not always the case: *“Here we saved the people [...] there is a direct continuity, the story. The problem for me was that these elements were too identical [...] the fruit... I didn’t know where I was gaining this, if it was for the phone or the physical”* (P5). To support character progression within the digital session, particularly when players had not accumulate sufficient experience from completing a single chapter, we introduced Coins as a digital-only currency used to purchase upgrades. Coins acted as a currency for purchasing cards or items in the market, and were anchored in a single medium, which made their function easier to understand but lacked thematic integration for some:

“The cards I knew because [...] here, while there were cards in the Arena, they belonged to my deck, which is part of the game [...] The coins I understood as being only a part of the digital, because there is no financial component here [physical]” – P5

5.4 Balancing Individual and Group Progression

The digital medium allowed players to play asynchronously, without requiring each other to progress, (promoting player autonomy) and supporting some groups to discuss decisions outside the game, such as which cards to buy in the market or comparing scores in a competitive fashion.

However, by design, there were no mechanics that required high coordination (i.e. interdependence) and, as such, players could fully engage with the digital part of the play experience without engaging with others at any point. For some participants this meant the digital play experience did not do enough to promote social interactions, particularly while playing apart, even for close groups who spent significant time together. *“We didn’t talk much [...] there was the novelty thing [...] in the beginning we were discovering the game, but after the second or third day I noticed that... well, everyone does their own thing [...] I forgot it”* (P2). To mitigate this, the digital medium could include mechanics which emphasize the social aspect of play, such as shared rewards or shared goals:

“This is what we brought and then we distribute it among us. I think it’s interesting because maybe I have a lot of availability and I play a lot this week, but next week I don’t [...] it allows for that dynamic and lets us talk about it outside [the session]” – P1

Designing for game moments that allows players to feel epic and empowered as a team could also encourage discussion between sessions among the players: *“The interaction outside the game is about the epic plays or epic things that might happen. I think things like making clips of the game itself generate a lot of interaction”* (P2).

The flexibility present in the digital medium also created different levels of progression between members of the same group. While participants cherished this individuality, it could also come with the challenge of balancing progression as it was linked to additional rewards influencing the difficulty of the next session (e.g., cards). This is common to games with drop-in/drop-out mechanics, especially those in which characters persist across multiple sessions (e.g., Gloomhaven [4]). While particularly emphasized in groups of three players (where one player did not engage in digital sessions, participants felt that an unbalanced progression could negatively impact the experience, leading some players to lose motivation to play: *“Everyone invests their time sometimes even with lack of availability but they did and you couldn’t [...] you... feel a bit left out right? You didn’t contribute to the game session as maybe the rest of the group did”* (P2).

To balance progression, finding a way to mitigate the acquisition of rewards in the digital medium (which directly influence gameplay of physical sessions) could be key. Yet, whatever actions or decisions a player does during a digital session should still feel impactful. Participants mentioned how acquiring knowledge that gives the group advantage over a specific chapter during physical sessions could be a solution to this: *“I could say to the group, I read that he [an enemy] has a weakness to fire, and then I’m influencing the session”* (P4). Making rewards shareable was also seen as a way to achieve balance, though this could also diminish the feeling of agency in individual progress. In order for the player to also feel included and have a *“sense of ownership”* (P1) over rewards, they should have the final saying about what happens with the reward after receiving it: *“I collected the card but ultimately the one who chooses what happens [...] is the person who is going to use it”* (P1).

6 Discussion

We find including more than one medium in the play experience and playing them independently has several benefits, such as allowing players to more regularly engage with the game world, but also some drawbacks, especially in areas where flexibility and the weight of time invested meet.

We first discuss how continuous transmedial play affects player **engagement** (RQ1) and identify elements which could motivate players to continue playing, such as adjusting the impact of each medium and their interdependence according to design intentions and player preferences. We then delve into how players perceive **continuity** between mediums, including how connections between narrative, gameplay elements and progression can be designed to maintain this continuity, as well as the implications of transitions between mediums (RQ2). Finally, we discuss **group play**, advantages and challenges associated with balance as the gameplay progresses across mediums (RQ3).

6.1 Engagement through Medium Complementarity (RQ1)

Continuous transmedial play was seen as an effective way to leverage the affordances of each medium and as an opportunity for players to contribute to a shared game experience through their preferred way.

Participants felt that the most significant decisions occurred during physical sessions, where the group could meet in person to discuss the outcomes of the digital session, such as achievements (e.g., cards and items). While this echoes previous findings on the central effect of physical components during hybrid game play (such as miniatures and the game board) [13, 22], design choices, such as assigning the digital session an optional role, employing a board game of moderate complexity, and the structure of the study (i.e, two physical sessions, and one digital session) may also have

Table 3. Summary of design considerations derived from our results

(RQ1) Supporting Flexible Participation Across Mediums. To support flexible participation, designers could allow groups or individual players to adjust the relative importance of each medium within the experience, enabling meaningful contribution through their preferred form of play.
(RQ1) Balancing Medium Dependency. To reduce participation pressure and the risk of players feeling excluded from the shared experience, designers should consider decoupling cross-medium content (e.g., chapter progression, narrative lore) by carefully calibrating their dependencies, allowing individual progress without disrupting the shared group experience.
(RQ2) Preserving Continuity Through Persistent Elements. To maintain the connection between mediums, and the sense of continuity (especially when gameplay diverges between mediums), elements that feel important within a gameplay session should remain entangled in parts of a game (e.g., the shape of the player grid in the board game becomes the field where crops are planted in the digital session), preserving the sense of familiarity of players.
(RQ2) Leveraging Asynchronicity to Expand the Experience. Designing transmedial play experiences that leverage digital capabilities (e.g., record player actions, and using them to alter subsequent play sessions), can motivate players to engage with both mediums, and enhance the overall experience.
(RQ3) Balancing Progression Between Mediums. Allowing players to share rewards between mediums can help balance progression. However, rewards should not feel overly impactful, as this may reduce players' sense of ownership and demotivate participation. Instead of directly affecting gameplay (e.g., through powerful cards), rewards should be designed to encourage discussion and interaction within the group.

contributed to this perception. Within this context, participants expressed a desire for the digital medium to assume a similarly meaningful role as the physical session, for example, by enabling them to progress through chapters in a digital fashion.

Depending on player motivations, continuous transmedial designs that wish to achieve continuous engagement (e.g., players only engaging through only analog or digital sessions) should consider adjusting the weight of each medium for each player. This aligns with past work discussing how players with different roles can exert agency over a shared game state [9, 12], suggesting that when players prefer to engage digitally (e.g., due to limited availability for in-person sessions), they should be able to continue and meaningfully progress the game in that medium (e.g., completing individual chapters to unlock new content for the group).

Degrees of Medium Interdependence. While we aimed for an optional design, our findings reflect that the mediums in continuous transmedial play could be linked to **different degrees of interdependence**. Some participants envisioned how mediums could be **independent** by having the digital medium merely act as a way to learn more about the lore of the game or rules without necessarily impacting gameplay. Another perspective emphasized how mediums could be **more dependent** and impactful, for example by allowing player actions in digital sessions to directly shape the narrative or gameplay of physical sessions (e.g., meeting a new character in physical sessions, unlocks new areas in digital sessions).

Aligning with past work [19], we note that while a higher degree of dependency between mediums can feel more impactful in gameplay (e.g., gameplay changes depending on player decisions when

playing in the other medium), it could also risk making players feel forced to play or left out of the experience when playing is not possible.

In this context, different degrees of interdependence may be better suited to the experience designers aim to create. Lower dependency between mediums may support more flexible forms of engagement by allowing players to explore additional aspects of the game without significantly impacting group progression. In contrast, higher dependency may foster a stronger sense of continuity and immersion by enabling players to experience how their actions in one medium meaningfully influence gameplay in the other.

As a way to support an experience that balances these aspects while ensuring that players feel included, one could consider **balancing dependency** between mediums depending on the type of game content, or group composition. For example, having parts of a session (not needed to progress in the game) which could be unlocked through the other medium, such as, exclusive missions or chapters in physical sessions, which would require players to unlock them through digital sessions. Further research is needed to understand how different degrees of interdependence can be applied to specific parts of both digital and physical sessions (i.e., which game elements should be more dependent or independent), and how this affects the player experience.

6.2 Continuity through Narrative, Progression and Persistence (RQ2)

Continuous transmedial play was seen as an opportunity to **create unique play experiences**, offering multiple ways for players to shape the game world (e.g., improving the narrative through actions done outside of physical play sessions), creating a notion of persistence of player decisions across sessions.

This is consistent with previous work exploring how a player's own narrative can help shape persistent digital game worlds to make them more meaningful [11], and how this can have a positive impact by increasing immersion and player agency in how the game world is changing. The value of persistent states in board games has also been leveraged by enabling further customization of board game pieces [3, 36].

While our study structure only included three play sessions, and therefore it may not have been sufficient to achieve the same level of persistence found in more complex games (e.g., MMORPG's), participants envisioned continuous transmedial play to leverage persistent states of both physical and digital forms, by maintaining narrative threads across mediums (e.g., using the digital session to convey a character's voice through voice-overs and increasing immersion) or reflecting player actions from digital sessions on physical components.

Similarities in gameplay. However, while persistent states provide a foundation for board games [7] and continuous transmedial play, our findings highlight that a sense of continuity may depend heavily on the **degree of similarity in gameplay** between the mediums. We designed the digital game with ways to support the different types of continuity with some elements feeling closer to the physical experience, such as the Arena, while others such as Challenges that adopt gameplay more typical of mobile applications, such as sliding and clicking interactions. While we opted to create a more close look to the physical session in the Arena, participants described different ways digital sessions could allow a player to practice or learn more about the next session moving further away from the physical session, for example through "chess puzzles" which foreshadow the next chapter (i.e., the players need to make a combination of specific moves to solve the puzzle). The gameplay from the Challenges led some participants to feel a disconnection and consequently a break in continuity (causing players to perceive play sessions as different games), when they could be more closely connected to the story and elements from the physical session. While breaks in continuity have also been connected to positive aspects, such as creating excitement and suspense [8], in

continuous transmedial play we find a need for them to be tightly connected to game elements from previous sessions to avoid a negative impact while also making sense to players, especially if changes in gameplay from one session to the other are further apart (e.g., the shape of the player grid in the board game becomes the field where crops are planted in the digital session).

To separate mediums, we opted for a study design structured around three different play sessions, in which players interacted with each medium independently. Participants mentioned how the digital medium could aid in transitions (e.g., during the setup of a physical session, by creating a digital character sheet with the progress and achievements from digital sessions) or during the physical session by prompting specific events during a physical session based on what on players did during the digital session. This could be an indicator that the interaction between mediums in continuous transmedial play could be associated with **different levels of synchronicity**, where mediums **blend to improve or expand** the player experience during physical sessions.

Players could be more willing to interact with technology during board game play by making the digital medium invisible (e.g., hiding it in the components of the game) or making it meaningfully integrated into the experience [7, 34]. In this perspective, continuity in transmedial play could also be seen as a **motivator for blending mediums** in a single play session, using the digital medium as an opportunity to capture data (during and in-between sessions) and to create meaningful connections between sessions (e.g., being aware of the progress done by one player during digital sessions and highlight his achievements in specific moments of a physical session).

6.3 Preserving Social Play Across Mediums (RQ3)

One recognized challenge in board game play is the need for players to align their schedules to play together [8, 32]. Some board games implement mechanics to allow a group to continue the game if one member cannot play for the session, such as “drop in” and “drop out” mechanics, which balance gameplay (i.e., changing difficulty) based on the other players’ levels. Previous work [31, 40] has also suggested how digitizing board games can be a strategy that allows players to play without having to meet in-person, giving them more flexibility in when they take their turn (which could be hours or even days apart).

Digital sessions were designed to **achieve this flexibility**, enabling players to individually progress and contributing to shared unlocks. While some participants valued the ability to progress without requiring the group to be together, this also raised challenges, such as creating a sense of little interaction among group members and difficulty balancing progression when achievements directly influence gameplay (e.g., acquiring new powerful cards).

By introducing the 24-hour timer between days, we aimed to also achieve some balance between different player progresses, limiting the progression for players who were further ahead and giving a chance for players behind to complete the day. While introducing a timer gave players a window to balance their progression, it became ineffective when a player had no availability to play. In our design it also limited how much a player could explore as they needed to wait for the other player to unlock new content. This highlights the need to consider **alternative strategies for balancing progression** and fairness within the group, particularly if the goal is for all players to reach a **similar level of progression** by the next session.

Balancing progression between mediums. Participants described several strategies for balancing progression across play sessions, such as enabling the sharing of rewards and quests, limiting the progression of players who are further ahead and attributing tasks depending on availability or preference (e.g., tasks with higher responsibility linked to players with higher availability). However, these approaches highlight a tension in personal ownership (e.g., when players arrive to the session and play with stronger equipment gathered by other members of the group), requiring

an understanding on how to design collaborative progression systems that feel meaningful to all players (those who contribute to a goal, and the ones receiving rewards). Previous work [28] has shown that progression may need to adapt over time and can be influenced by multiple factors, including party size, player equipment, and class composition. Building on this, our results suggest that in continuous transmedial play experiences, progression systems should also account for player availability and preferences while preserving a sense of ownership.

Through carefully designed individual rewards, designers may choose to affect only an individual's journey (e.g., acquiring a new hat for a character) but risk others feeling left out. Or choose to design for group wide effects from shareable information given to individual players (e.g. boss weakness) to unlocking new content for the group. In particular, rewards that directly or indirectly influence subsequent gameplay (e.g., cards or items) may be more appropriately tied to collaborative aspects of the experience, such as physical sessions, where their effects are collectively negotiated. In contrast, elements such as knowledge acquisition (e.g., learning a boss's weakness) and customization may be better suited to individual progression within the digital medium. Each decision will result in a **tradeoff between rewarding individual progression and ensuring progression balance** among the group.

7 Limitations and Future Work

This study provides an in-depth analysis on continuous transmedial play from players who play both analog and digital games. We recruited players with experience playing both board and digital games, but with low experience in hybrid games. The study was conducted using a single board game, which may have an impact on the study findings. Furthermore, we choose a campaign game that already emphasized a sense of continuity, allowing us to more easily map what elements could transit between sessions to further emphasize this sense (e.g., character progression). Our exploration focuses on multi-session games with progression systems, for single-session games without progression, it is less clear whether extending gameplay across mediums would provide similar benefits, beyond increasing the availability of the experience.

The decision to build upon an already existent highly rated board game increased the ecological validity of our study, with the tradeoff of potentially affecting the participants perceptions and expectations of the digital medium created. While the study included player groups of up to three participants, digital sessions were designed to support only two players, with additional players able to participate in analogue sessions only. This was a deliberate decision aimed at: 1) understanding the perspective of players who do not engage with the app, and 2) promoting discussion around how to achieve a balanced experience of progression in such groups.

Although this may not fully reflect natural play conditions since players may be unable to participate for various reasons (e.g., scheduling constraints), it allowed us to capture this perspective. Furthermore, while our player groups consisted of two to three players, we acknowledge that groups of different sizes (e.g., solo players) may also provide valuable insights into continuous transmedial play in other contexts.

We emphasize that the design of the digital medium to support players in achieving daily goals (particularly Challenges) could have taken multiple directions, including closer alignment with the Interlude chapters of the original board game (e.g., through mechanics such as Action Spaces), which could offer different perspectives on continuous transmedial play. In this work, we intentionally did not directly replicate these mechanics, instead aiming to align digital game affordances (such as increased flexibility and immersion through animations and sounds) within continuous transmedial play. To support this, Challenges were designed with short gameplay (maximum 2 minutes), and requiring simple interactions such as *tapping* and *sliding*. Designing a continuous transmedial play experience for mobile devices allowed us to further explore the flexibility aspect inherent from

the devices, but other platforms (e.g., Virtual Reality) could have been used to achieve other types of experiences, such as increased immersion when meeting characters introduced in a previous physical session.

The asynchronicity between mediums could also be leveraged in future designs to better support groups with different preferences to still share and enjoy the experience together. While appealing to both analog and digital players was seen as an advantage of continuous transmedial play, enabling players to interact using only one medium requires a deeper understanding of how player actions and decisions are represented and made visible across each play session, so that players can still experience a sense of shared play (e. g., understanding what another player did in a previous session). At the start of each session we made an effort to increase the visibility of how the game was affected by elements from the previous session, such as through the narrative in digital sessions, or by physically showing participants what they unlocked from the digital session. However, visibility between mediums was not the primary focus of the study and could be explored further in future designs.

Finally, while this work started from a board game to transmedial play, an approach that starts from a digital game may uncover other insights when the relative perceived contribution of each medium to the experience is different.

8 Conclusion

Our work contributes to the design and evaluation of continuous transmedial play, focusing on understanding the impact of engagement, continuity and group play in shaping such experiences. For this, we conducted a study supported by a prototype which implements previously found elements of continuity such as progression, mastery and sociality and aims to tackle challenges associated with the sense of continuity, such as progression imbalances and medium dependency.

Continuous transmedial play can allow groups to engage with the game world beyond physically co-located sessions, increase narrative engagement, and support diverse player preferences and availability. Our work reflects how we can design physical and digital sessions to match individual demands, while carefully considering the impact of design choices in the group.

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