Gameful disconnection: how digital detox and productivity apps blend play, work, and profit

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ABSTRACT

Excessive use of smartphones has prompted the development of digital detox and productivity apps that incorporate gamification affordances to encourage users to regulate their smartphone use. Similarly, certain smartphone games are explicitly designed to enhance productivity. This study analyzes three smartphone apps, Plantie, Hatch, and Habitica, to investigate their gamified affordances and their ontological characteristics as technology that draws on elements from games and productivity tools. The analysis employs the walkthrough method and utilizes theoretical frameworks from disconnection studies, gamification research, and game studies. It focuses on affordances and discusses the dilemmas inherent in technologies that enhances both productivity and playfulness; technologies that simultaneously aim to reduce and encourage smartphone use, combining rewarding and punishing affordances.

Keywords

Digital detox, productivity, gamification, games, apps, monetization,

INTRODUCTION

More recent concerns regarding intrusive media technologies have prompted individuals to regulate their own media consumption through various digital detox practices (Syvertsen and Karlsen 2024, Syvertsen 2020). According to Radke et al. (2022), a digital detox can be defined as a "voluntary abstinence from digital devices," distinguished from involuntary abstention or random situations where digital disconnection occurs, such as during a flight, or instances where disconnection is enforced by others, such as school or employer restrictions (Chun, 2018). Digital detox might involve different situation where people refrain from using specific devices, apps, or social media platforms and might have different temporal implications. Digital detox is also part of trends where the individual is managing their well-being, through means such as mindfullness, self-leadership and digital time management (Madsen 2015, Syvertsen 2020, Newport 2020). The concept has also evolved over time alongside an increasingly digitalized society. While going on a "digital detox" might have implied living without the internet for six months in 2010, more recently it might mean not using social media for a weekend (Syvertsen, 2020).

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In a commercial context, the concept digital detox is mobilized across a wide range of services and products, including digital free holidays and camps (Karlsen 2023, Syvertsen and Karlsen 2024, Jorge 2019, Hesselberth 2018), 'dumb' phones (Ghita and Thorén 2021), boxes for storing the smartphone (Fast and Syvertsen 2024), self-help books such as *How to Break Up with Your Phone* (Price 2018) and *The Big Activity Book for Digital Detox* (Reid and Williams 2020), physical card decks offering tips for digital detox activites (Bocci 2019), and various online guides for undertaking a digital detox (Karlsen and Syvertsen 2016, Syvertsen and Enli 2019).

One emerging market targeting smartphone use specifically is digital detox and productivity apps designed to help users restrict their usage. Smartphone regulation is relevant in many areas of everyday life, whether the object is training, studying, work, social interactions, or sleeping habits. Many of these digital detox apps address these contexts explicitly but often promote more general benefits across contexts, for example enhancing mindfulness, reducing stress, increasing capacity for focus, productivity and well-being.

Concerning design, common for digital detox apps are blocking affordances that prevent users from accessing their smartphones at set times and other affordances aimed to discorage or limit use. Some of the apps also *encourage* use by employing gamification design, game mechanics and game convention, in some cases to the extent that renders them indistinguishable from games. One example is the the app *Forest*, where users "grow" a tree during an abstention session and are rewarded with virtual gold, of which they can purchase additional trees or plants to cultivate, much like a casual farming game (You and Karlsen 2024).

Productivity apps is a broader and more general term than digital detox apps. It belongs to a rapidly expanding category of digital tools designed to streamline everyday tasks and to enhance efficiency at work. They share many of the same affordances as digital detox apps and the categories are overlapping. Productivity apps are also closely linked to business applications, which often include to-do and goal-setting functionalities, habit and activity trackers, and a wide range of related utilities. Popular apps include Todoist, Akiflow, and RescueTime, the latter typically available on various platforms, targeting both individuals and team work.

While digital detox and productivity apps have been analysed through the lens of gamification (You and Karlsen 2024), how such apps may foster gamefulness and playfulness has received less attention. This paper therefore fills this gap by including perspectives from game studies, analysing the apps as boundary objects intertwined with both productivity and play, as captured in the concept playbour and the broader notion of the ludification of culture (Raessens 2006; Fizek 2022).

The basis for the analysis is the apps *Plantie*, *Hatch*, and *Habitica*, with a focus on their affordances, their ontological status as hybrid objects, and their monetization models. The study is exploratory, and the apps constitute a variety sample, enabling a comparative analysis of different design choices, indicating how they might structure user practices. The following research questions direct the analysis:

RQ1: What affordances and game conventions are implemented in these productivity and digital detox apps?

RQ2: How does the apps mediate the tension between sustainable monetization and redused smartphone use?

LITERATURE REVIEW

This paper is situated at the intersection of several complementary research traditions. It builds foremost on the rapidly developing field of disconnection studies (Lomborg and Ytre-Arne 2021; Albris et al. 2024), which focuses on norms and practices of resisting, regulating, or reconfiguring digital engagement. In addition, it draws on research on gamification **(**Huotari and Hamari 2012, Walz and Deterding 2015), which highlights how motivational design affordances may shape everyday technologies. Finally, it engages central debates within game studies concerning how play and game-like structures migrate beyond traditional game contexts. The relevance and contribution of each of these bodies of scholarship are elaborated in the sections that follow.

Disconnection research

Over the course of just a few years, public perception of digitalization has shifted from optimism to a more skeptical view of how media technologies shape society and individual lives. Major tech companies have been accused of designing technologies that encourage overuse and exploit users (Hornstrup and Albris, 2024). We are also witnessing a broader technological backlash, in which digital media technologies are now subject to regulations that would have been almost unimaginable only a few years ago. Examples includae the rollback of tablets in schools in Scandinavian countries, for instance Norway which issued national guidelines concerning restriction of digital technology in the school sector in 2024 (Udir 2024). The world spanning debate concerning higher age limits on social media grows out of a similar concern. National regulations aimed at protecting employees from being constantly connected and available for work have also been on the rise. Recognized as a pioneer in this respect, France enacted a legislation known as “Right to Disconnect” in 2016 (Müller 2020). The law requires companies with 50 or more employees to negotiate policies that define when workers may be unreachable outside working hours. Similar legislation and regulations have since been adopted in a growing number of countries, including Belgium, Portugal, Spain, Italy, and Greece, often in the context of new norms around online work introduced during and after the Covid-19 pandemic. (Bateman 2022, European Labour Authority 2024).

There is also growing skepticism among the general population towards digital technology more broadly, along with expressions of a desire to disengage from media technologies. A recent large-scale survey of 9,524 individuals found that passive and solitary forms of digital media use (e.g. passive scrolling, solitary entertainment) are especially associated with dissatisfaction and predict both a desire to reduce digital use and a propensity to disconnect (Jespersen et al. 2025). A systematic review of the “voluntary digital disconnection” literature recently mapped over 100 empirical and theoretical studies, shows that people share underlying motivations to disconnects including concerns over autonomy, and demands for structural, not just individual, change (Nassan et al. 2023). The emerging field of disconnection studies centers on this shift in norms and practices, exploring the personal, societal, political, and commercial aspects of disconnection (Jansson and Adams 2021; Albris et al. 2024, Lomborg and Ytre-Arne 2021).

Digital detox and productivity apps represent a technological manufacture of smartphone abstention and disconnection, and a subset of disconnection research (Beattie 2020). These apps commonly offer various strategies to help users reduce their smartphone use and have been studied from multiple angles: as remedies for problematic smartphone use (Radtke et al. 2022), in relation to mental well-being (Setia et al. 2024), and as social media interventions (Galvan and Newman 2025). Their affordances have also been examined from a design perspective. One study shows that the apps often rely on a broad number of gamification features while affordances that support actual usage reduction are relatively limited. This finding may seem counterintuitive, given their stated purpose of helping users disconnect (You and Karlsen 2024). This tension becomes more understandable when viewed through the lens of the attention economy, in which capturing and retaining user attention is a key source of value (Terranova 2012). Even apps designed to restrain usage operate within this economic paradigm, leading to design solutions that must simultaneously encourage disconnection while maintaining the engagement necessary for commercial viability.

Gamification research

The core idea behind gamification is to transfer the engagement and playfulness people experience in games to other contexts (Deterding et al. 2011). The goal is typically to achieve something beyond the technology itself, for instance to improve health, learning outcomes, or work life (Schöbel et al., 2020), which is one reason gamification was embraced early on by marketers: it helps attract and retain users' attention in order to achieve external goals, such as selling services and commodities (Zichermann and Linder 2010).

Ideally, implementing gamified affordances into information systems means designing for "similar experiences and motivations as games do, and consequently, attempting to affect user behavior" (Koivisto and Hamari, 2019). The challenge, however, lies in transferring a game experience that is hedonic in nature to a utilitarian tool aimed at achieving external goals. A related conceptual challenge is to identify which aspects of games are transferable and whether affordances is the most appropriate focus. Elements like "rewards", for instance, are often discussed at varying levels of abstraction. It can refer to the combination of positive feedback affordances within a given technology, but also to specific elements such as points, badges, or virtual goods (Schöbel et al., 2020). Affordances are also sometimes discussed interchangeably with the terms game mechanics and game dynamics. Alternatively, some definitions of gamification emphasize the psychological experience and its conceptual resemblance to games, rather than focusing exclusively on affordances (Huotari and Hamari, 2012).

In the context of productivity or digital detox apps, there has been few studies with a gamification perspective. One exception is You and Karlsen (2024) who mapped affordances most typically found in digital detox apps. A relevant study on mindfulness apps indicate that users generally favor features such as progress tracking, levels, and goals, while leaderboards and avatars are not highly rated (Hu et al., 2023). Most participants emphasized the importance of feedback for maintaining engagement, as it signals personal improvement and provides a sense of accomplishment that helps them persevere when motivation is low (p. 1120). This study is relevant to productivity and digital detox apps, as these apps are not only designed to offer external rewards or utilitarian goals of becoming more efficiently,

but also goals of personal value, by helping users alter habits to become more productive and less distracted.

Game Studies

Since the emergence of game studies as a recognizable field, questions concerning game ontology have played a central role; not only in defining the object of study but also in distinguishing games from other media and identifying their specific characteristics as an academic object (Aarseth 2001). One well-known definition of games is Jesper Juul's (2004), who states that a game is "a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels attached to the outcome, and the consequences of the activity are optional and negotiable." Salen and Zimmerman (2004) offer a more concise formulation: "A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome".

These definitions predominately refer the games as formal, rule-based systems that define what players can do and how the game operates. Such definitions are inevitably contested, as games span diverse genres, conventions, and practices, making them difficult to confine within a unified set of criteria. A more productive approach, in the context of this paper, is to combine an ontological, media-centric definition of games and gamification affordances with a concept of games as borderland phenomena, "contingent on technological, cultural, and experiential contexts" (Fizek, 2022). This perspective allows for a broader understanding of games, extending beyond game mechanisms and affordances, to include conventions, genres, and cultural practices. Game conventions are here understood as culturally recognizable design patterns and interaction norms that players learn to identify across games, shaping expectations of what constitutes a game-like experience (Wolf and Perron 2013)

METHOD

This study applies the app walkthrough method, which guides researchers through a systematic analysis of apps from the perspective of the user (Light et al., 2018). The walkthrough begins with the onboarding process, documenting the information provided by the producers as well as the installation steps. The main part of the analysis involves recording everyday use, with attention to interface design, core features, in-app prompts, interactions with other users, and monetization models. In the context of the current analysis, particular attention was paid to affordances that encourage or discourage use, design and functionalities that draw on gamification and game conventions, and features that aim to enhance productivity.

The selection of apps began with an App Store search using the terms "digital detox," "productivity," "focus," "disconnecting," "work," and combinations of these. Additional searches were conducted on Google to identify reviews of relevant apps. These searches generated several hundred potential options. Based on description of the apps in App store, several relevant candidates were subsequently downloaded and tested. The final sample of apps—Plantie**,** Habitica**,** and Hatch—was chosen to represent a range of affordances and functions related to gamification, gaming, and productivity, in line with the research questions and focus of the study. Each apps were used for approximately two weeks during the spring of 2025 and the data

collection consists of screen shots and notes showing and describing different functionalities and affordances of the apps.

ANALYSIS OF HABITICA, HATCH, AND PLANTIE

In the following section the apps will be analyzed with a focus on the most relevant affordances. Some of the apps include many affordances, mechanics and options, and parts of their functionality will be omitted for the sake of brevity. The monetization forms will be described and analyzed separately below. The analysis is spit in two parts, one concerning the first research question, focusing on affordances and game conventions, and a second addresses monetization and reduced smartphone use.

Part 1: affordances and game conventions

Habitica

Habitica is a combination of a role-playing game and a productivity app, in which users level up an avatar through completing tasks and other activities. During the onboarding process, the player chooses a name and a class (warrior, healer, rogue, or mage) and customizes the appearance of their avatar. The player has access to virtual gold coins—and later, gems—which can be spent on weapons and armor that increase the avatar's strength, intelligence, and perception. Players can also acquire pets and mounts.

The app does not contain a graphical game world to explore, and progression, quests, and activities are presented primarily through text and pictures. The avatar icon updates visually when new weapons or armor are equipped, or when pets or mounts are selected. The aesthetic of the game is inspired by medieval fantasy worlds and features a pixelated, nostalgic style reminiscent of computer games from the 1980s and 1990s (see Figure 1).

In contrast to ordinary role playing games, the leveling process in Habitica not only involves executing activities in the game, such as questing and boss fighting, it also relies on accomplishing tasks in real life, which is where the productivity aspect comes into play. The player, or user, can set themselves various tasks related to work, exercise, creativity and other aspects of life. Another option is to create daily tasks and define habits that are persued to become more efficient (Figure 1-a) Completing these on time, rewards the player with experience points and gold needed to level up and buy accessories (Figure 1-c). One "punishing" affordance is linked to the avatar's health bar, which starts at 50 points. If the player fails to complete tasks they have planned or break any of the inhibitions they have defined, such as not using social media during work hours or banning specific web pages, they lose health. You can also spend gold on "rewarding" yourself, for instanse spending 20 gold to watch TV.

The game also has a multiplayer option, where you group up with other players and solve quests, battle monsters, and create challenges (Figure 1-b). These actions don't involve any direct input or skill on behalf of the player. A boss fight, for instance, is initiated by one member of the party, while the rest accepts the quest. The following battle is a calculation of the joints strength, or stats, of the party. Unfinished daily chores from either of the players will affect the calculation negative and can increase

the bosses rage meter and deal extra damage. The outcome of the battle – how much damage has been inflicted on the monster, is revealed at next reset after midnight.

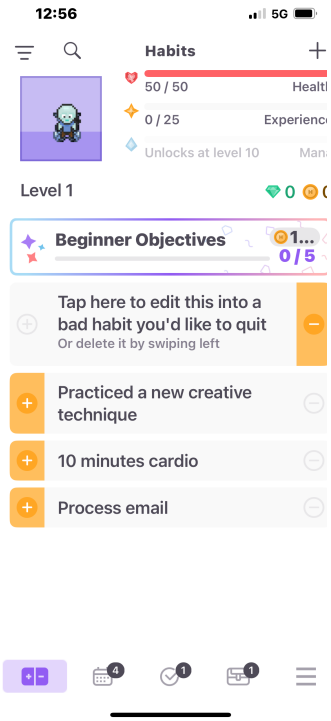

Figure 1-a: User define new habits to persue.

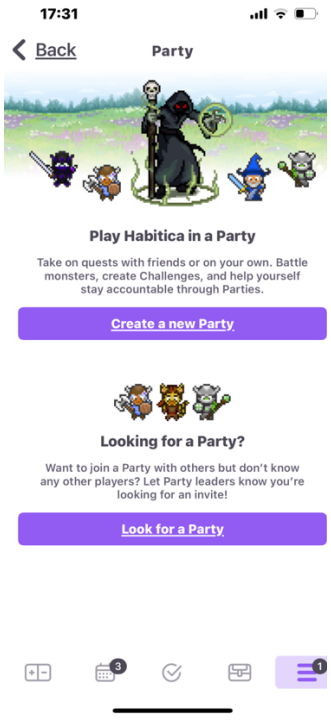

Figure 1-b: Multiplayer option.

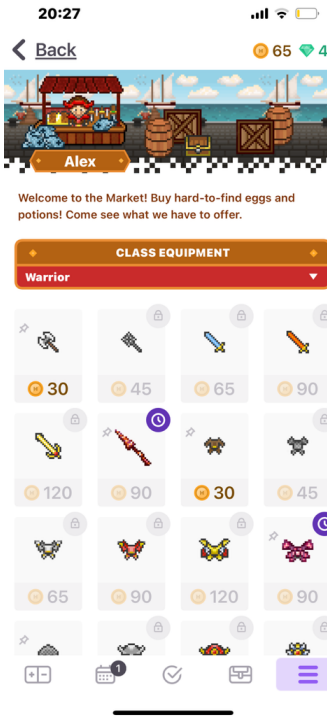

Figure 1-c: Market place for equipment. Clocks indicate limited availability.

The games' mechanics, theme, and rulesets fall squarely within the roleplaying genre. This stylised and automised quest mechanics, however, does not demand that "the player exerts effort in order to influence the outcome", which is one element of Juul's definition of a game. In a sense, the quest structure resembles the computer game simulation *Progress Quest* which mimics and parodies the basic game mechanics of the MMORPG EverQuest (Fredricksen 2002). The game simulation consists of a text interface that informs the player about the name and progress on quests, the amount of gold being acquired, what loot is gathered etc. without any input from the "player". The aim with the simulation is to illustrate the simple and predictable game mechanics underpinning the leveling process.

Another parallel is the genre *idle games,* which also represents a borderline phenomenon in relation to games. One example is *Idle Heroes* (2016) which also is a blend between an idle game and a role-playing game, where the player choses a leveling strategy that is progressing even when the player is away. In more basic idle games, such as *Clicker Heroes* (2014), the core mechanics consists of clicking on monsters to kill them; clicking that can eventually be automated without any input from the player (Karlsen 2019). This kind of automated processes, which continues without player interaction, is also found in casual games, such as farming games, where crops grow without the player needing to intervene.

To sum up, in addition to the more obvious affordances and game mechanics related to role-playing games and productivity apps, the app incorporates affordances key to digital detox apps, such as enabling users to set restraints on their own use. Distinct from common digital detox apps, however, it does not include any affordances that directly block access to the smartphone. Beyond its role-playing elements, the app also adopts affordances and conventions typical of idle games and casual farming games, where the user initiates a process that continues without requiring further effort. This design and these affordances arguably cater both to the goal of reducing smartphone use and to promoting focus on activities other than the smartphone.

Hatch

Hatch is a digital detox app featuring a timer that can block access to your phone. This is a common affordance among productivity and digital detox apps and is inspired by the Pomodoro technique, a method in which users focus on a task in 25-minute intervals followed by 5-minute breaks, repeated in cycles (You 2025). *Pomodoro* means "tomato" in Italian, and the name originates from the tomato-shaped kitchen timer popular in the 1970s when the technique was first developed. Most productivity and detox apps allow users to choose the length of their sessions, and in Hatch, sessions can range from five to 120 minutes.

The timer in Hatch is visualized as an egg that hatches after a successful session, serving as a reward for refraining from using the smartphone (Figure 2-a). Emerging from the egg is a monster, which then turn into a collectible "card" (Figure 2-b). There are 12 monsters, each found in a different rarity (common, uncommon, rare, legendary, and elite) a classification systems commonly used in different computer game genres. If the user aborts a session, the egg will not Hatch.

During my testing period, I hatched nine monsters in the common category but only one in legendary category, and none in the *elite*, which aligns with familiar mechanics from loot boxes and games like *FIFA*, where the most exclusive items or players are also the most elusive (Lemmens 2022). Collecting monsters on your smartphone also have resemblances to games like Pokemon Go, but on Hatch the monsters can not be interacted with, and there are no game mechanics involved. In a gamification context, the main affordance is simply collectability.

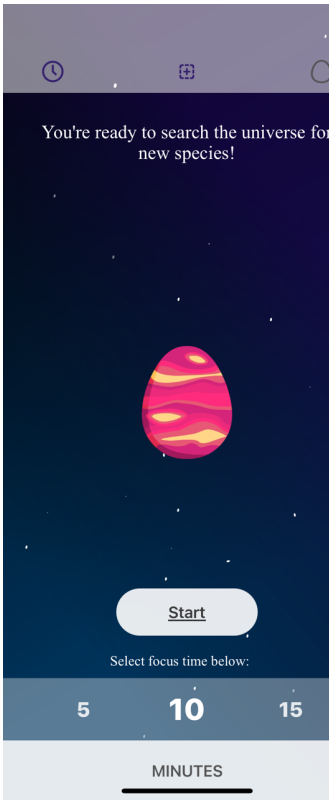

Figure 2-a: Starting screen.

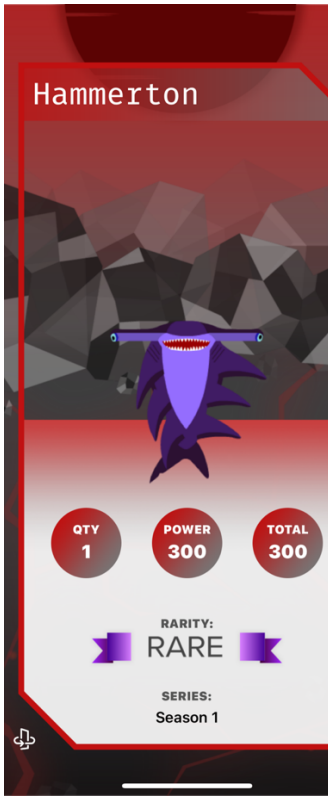

Figure 2-b: Monster card showing rarity and stats.

Figure 2-c: Backside of a card with monster description.

In addition of a picture of the monster, the backside of the cards includes a description of its origin, behavior, and habitat (Figure 2-c). As more monsters are obtained, a larger narrative begins to emerge. The monsters turn out to be fictional creatures derived from existed animals on Earth, but whose DNA has been manipulated, granting them superpowers that enables them to survive in space. For example, the monster Chaska the Llama (belonging to the *Llama glama* species) was altered by scientists who "put a new star in the sky when they merged llama DNA with water bear and sent her into the cosmos." The species lives in herds and is fiercely protective, "raising the alarm when they hear a threat coming from the dark side of a moon."

These narratives offer users fragments of a fictional and diegetic world, designed to spark curiosity about what kinds of monsters have not yet been discovered. In games, such diegetic world may be more or less tightly connected to the underlying rules of the game. In Hatch, however, the narratives are not linked to interactive activities or rule systems beyond collectability. They are therefore better understood within a gamification framework, and can be related to the concept of *theme*, which often functions as a symbolic or aesthetic layer, a "skin" or "frame" that gives a system its look and feel without necessarily developing a full narrative or interactive universe (Deterding, 2016).

In Hatch, the digital detox timer is the core affordance, but the app also includes gamification elements and mimics game mechanics. Collectability is the main

incentive for continued engagement besides the detox affordances, but because the number of cards is relatively small, this motivation has a limited lifespan. The narrative also remains static: rather than being developed through plot or story arcs, it unfolds only through small, incremental additions. The dominant affordances are related to gamification, such as a narrative theme and rewards, as well as feedback affordances through animation and sound. However, it does not include common gamification features such as achievements or badges.

Plantie

Plantie is a digital detox apps where the abstention session is linked to growing a tree. This concept is found in many different digital detox apps; the most prominent example being *Forest* which were launched in 2014 (You 2024). *Forest* borrows affordances and mechanics from casual farming games where players can buy other plants for gold that your earn when using the app. The resemblance to farming games like *HayDay* is the earning cycle: the player waits for plants to grow, buy new seeds or animals with the earnings, gradually upgrade the farm, and diversify the production through increasingly complex planting schemes. In *Forest* the cycle is simplified and narrowed down to increasing the selection of plants available and hence the design of your forest. It doesn't demand the same investment and timing as in farming games but the constant need for gold encourage use of the app, also when it is not needed, for instance during the night.

Forest has inspired a wide range of clones, one of which is *Plantie*. The default avatar and timer in *Plantie* is an apple tree, and an abstention session can last anywhere from 10 minutes to three hours (Figure 3-a). After a successful session, the apple tree bears fruit, and you earn gold coins. These coins can be spent on purchasing new plants, the costliest and elaborate in terms of designs, are a Christmas tree and a pumpkin installation. Users also receive a daily reward for opening the app, which acts as an incentive to regular use. In game and gamification contexts, this is often referred to as a play-by-appointment design pattern (Zegal et al., 2013). The app's gamification features include badges and avatar customization. It also provides usage statistics, including a calendar view that shows activity or progress for the current month as well as detailed data for specific days, weeks, or overall usage, presented in both numerical form and graphs (Figure 3-c). Instead of spending sessions to gold to buy new plants, the users are offered the option of buying the gold in a typical pay-to-win scheme.

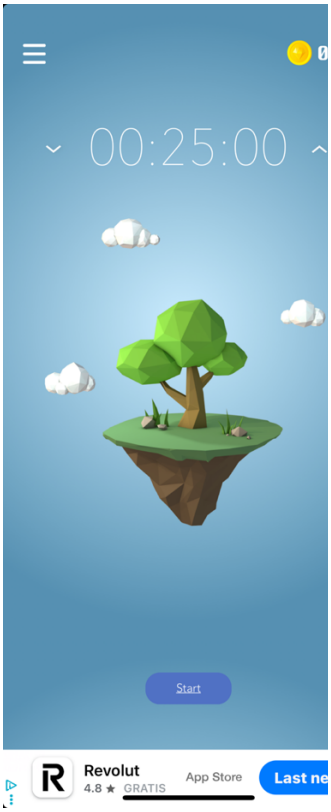

Figure 3-a: Starting screen

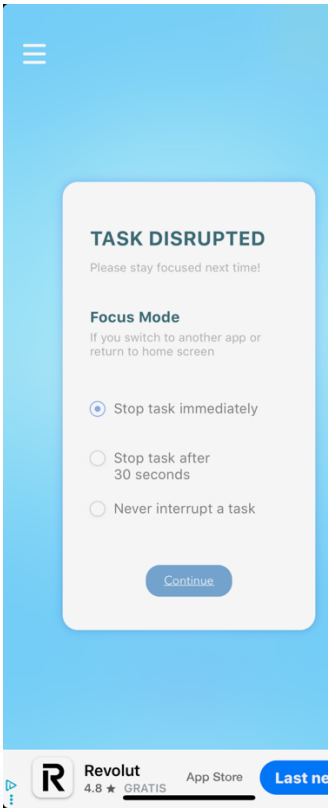

Figure 3-b: Selecting outcome of distrupted session

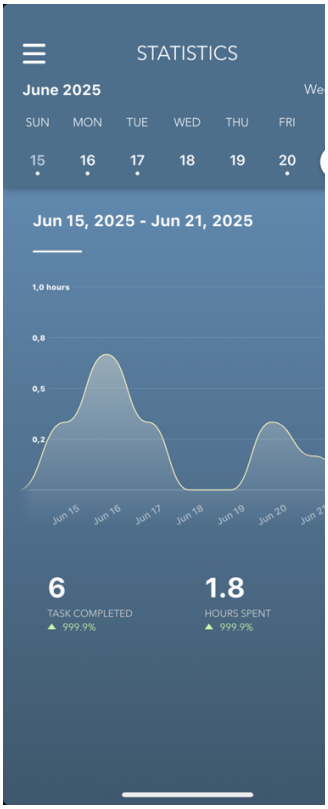

Figure 3-c: User statistic

Part 2: monetization and reduced smartphone use

Game affordances in smartphone applications are often closely intertwined with their underlying monetization strategies. Within smartphone ecosystems, the most prevalent revenue models include premium pricing (one-time payments or copy sales), freemium structures (offering basic features for free with optional in-app purchases), subscription-based models, and advertising. Many applications employ a hybrid approach that combines multiple models (Tang, 2017). Historically, advertising has been a foundational element of app monetization. However, developments in privacy legislation may significantly reshape monetizing strategies, with in-app purchase models surpassing ad-based models in effectiveness (Farago, 2020).

In the context of digital detox and productivity apps, both subscriptions and microtransactions are commonly used. In the current sample, several types of microtransactions are employed. In *Hatch*, users can purchase "creature packs," which provide access to "4 basic species, Hatch+ 12 species, plus ultra-rare Legendary and Exotic eggs" (Hatch/app). *Plantie* is a freemium game but does not include microtransactions. In *Habitica*, users can purchase gems, which can be used for in-game items and upgrades; otherwise, gems are acquired only slowly through gameplay.

Earning in-game currency without spending money follows a grinding mechanic: You earn valuables in the game system by spending your time, in this case time away

from the smartphone. Grinding is repetitive tasks done to gain experience, items, currency, or other progression. Grinding spans many genres, most commonly genres revolving around leveling avatars, including action roleplaying game such as the *Elders scrolls* and massively online roleplaying games such as *Final Fantasy*. Also sports and simulation such as *FIFA* and *Animals Crossing* include game mechanics where grinding is at the core. As mentioned, to optimize earning in the apps in this analysis, the app needs to be used frequently. This incentivizes more attention to the smartphone and also adds new obligations for the user, resembling work. Daily tasks and randomized (RNG-based) progression systems exemplify what Kücklich (2005) termed playbour, play that increasingly resembles unpaid labor. Here, players repeat low-skill actions not for mastery or flow (cf. Csikszentmihalyi, 1990) but to maintain progress or circumvent monetized shortcuts.

A central challenge in contemporary game design concerns the balance between monetization and player enjoyment. Hamari and Keronen (2017) observe that players are sensitive to perceived fairness, particularly when in-game progression appears contingent upon spending money. Such dynamics risk transforming play into a perceived "pay-to-win" experience, thereby diminishing its appeal and sense of achievement which is important to sustained engagement. This is further amplified when game design intentionally slows progress as a means of incentivizing payment. Under these conditions, intrinsic motivation tends to erode, leading to decreased player retention. This issue closely intersects with grinding, as many games deliberately extend repetitive tasks or limit reward accessibility to encourage in-game purchases that shorten the grind.

In the context of this study and productivity apps, spending money to buy virtual gold allows users to circumvent the app's grinding mechanics, thereby avoiding the intended engagement with its core functionalities. In *Plantie*, the gold level needed to obtain the costliest plants might involve regular planning and initiation of abstention sessions. In apps such as *Habitica*, the large number of customization options requires users to spend substantial time in the in-app marketplace, increasing attention to the app and introducing a set of evaluations and choices that they would not otherwise encounter as part of their daily routines. This heightened focus on upgrades and customization may undermine users' ambition to stay away from their smartphones. Similar to smartphone games, it can diminish the initial motivation for using the app, as users perceive themselves as failing to meet their original goals, thereby losing the autotelic and autonomous experience that initially motivated their engagement.

It is relatively easy to "game" the system in *Habitica*. If the focus of the user changes from productivity to merely earning gold and obtaning items, they can simply create extensive lists of tasks and marking them as completed without actually performing them. The same applies for the pay-to-win model where the player can simply purchase upgrades instead of earning them through effort. While the gamification design already complicates the app's objective of reducing smartphone use, the monetization model further underscores the underlying tension: the developers' need to retain user engagement through offering contents and updates, thereby maintaining player interest and prolonging use.

DISCUSSION AND CONCLUSION

The first research question in this study concerns what affordances and game conventions are implemented in these apps. The general picture is that all three apps have affordances that might stimulate abstention from the smartphone, but the affordances can paradoxically also draw more attention to the app itself.

From a media ontological perspective, they all include affordances that would render them as gamified technologies, but also affordances or genre traits related to games. *Habitica*, unsurprisingly, include the highest number of game element and gamification affordances. On the other hand, *Habitica* also includes the largest number of productivity affordances, offering the users the option of creating "to do"-lists, selecting daily chores that must be accomplished not to lose earnings, and tools for the user to develop new. It has no "punishing" affordances but refraining from checking off tasks in the app will hamper progress. In the other two apps, gamification affordances are fewer but also central to the functionality.

The collection of cards in *Hatch* exemplifies typical gamification affordances, encouraging users to complete a set in a manner reminiscent of solving a puzzle. Its resemblance to a game or a fantasy narrative stems from the fictional universe of the monsters and their background stories. This aligns with conventions typically found in games with strong narrative components, as well as in other types of narrative media. The app's use of "stats" and the tier-based classification system of monsters, on the other hand, is characteristic of role-playing games, but in this case, these affordances lack functionality. Rather than offering genuine interactivity, the app simulates gaming conventions. Nonetheless, when considering the app's explicit goal and function, these features reflect the underlying logic of gamified design: to make the app more gameful, stimulate user interest, and to offer the potential experience of discovering something of value, similar to how acquiring legendary items carries psychological value within the context of a game.

Concerning the second research question, about how the apps mediate the tension between sustainable monetization and increased productivity, the monetization enhances the affordances and game conventions that are implemented. Like casual smartphone games, users benefit from logging into the app frequently as this maximizes their accumulation of in-game currency. Upfront, this might seem like a well-designed digital detox affordance as it ensures that the apps are used, but since the user determines when to engage with the app, it can be utilized in contexts where the smartphone would otherwise be unused, such as during physical workout or while sleeping. For instance, in *Plantie,* initiating a maximum-length session prior to sleep can yield a substantial amount of gold. In *Hatch*, a maximum-length session would increase the chance of receiving a legendary or elite monster. In *Habitica*, initiating a quest encounter after completing daily tasks is part of the game mechanics. These reward affordances, though designed to promote smartphone restraint, may instead encourage increased engagement with the device.

Other affordances may also invertedly increase user engagement with the apps. In *Plantie*, users can access the in-game store to browse different plants or read informational content about the app during an abstention session. Notably, the default mode lacks a "punishing" affordance, and if the user opens other applications, *Plantie* continues to run in the background. Only when selecting the

'Stop task immediately' mode will the session terminate, resulting in the potential loss of in-game currency (Figure 3-b).
The same applies to *Habitica*, which offers the most extensive game mechanics and affordances among the three apps. Users may spend a considerable amount of time browsing the in-game store, exploring available items, or tracking the progress of quests. They may find themselves intrigues by the opportunity to learn more about the game's mechanics, interact with party members, or explore the vast number of options to customizing their avatar. Such features do not promote abstention from the smartphone; rather, they encourage deeper engagement. Designing a time-consuming game as a tool for becoming more producing exemplifies the paradoxical logic of beating technology with technology (Syvertsen, 2020, You and Syvertsen 2025).

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