

Serious Narrative Microgames as a Remedy for Gamification Limitations. The Case of the Platform for Making Games for Mobile CBT Therapies

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EXTENDED ABSTRACT

Due to the development of solutions related to digital therapeutics and mental e-health, the market of mobile applications supporting therapies using cognitive-behavioral methods (CBT) is rapidly growing. One of the elements building retention and adherence in these applications, although not very often used, is their enrichment with elements of gamification.

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The scientific literature on this subject is quite extensive. Selected studies are devoted to specific mobile applications and the effectiveness of the gamification systems proposed in them. Pramana et al., (2018) prove in a clinical study that the users of their application for mobile therapy with the use of gamification reached it much more often than the previous version without the gamification system. The duration of its use was also longer. Lukas et al. (2021) described the impact of their mobile application with elements of gamification (MT-Phoenix) on depression therapy as significant (63% of patients had a significant therapeutic effect). Among other developed applications with elements of gamification, eQuoo an app to increase mental toughness is worth mentioning, as the one which, according to the creators, is able to prevent therapy abandonment thanks to gamification. According to them, adherence in therapy via the application was significantly higher than in the case of the control group using a comparative application without gamification (CBT Thought Diary). Another app the BoosterBuddy is designed to compensate for the user's motivational deficits by using an extensive gamification system, including, taking care of a virtual friend, story line and quests (Fox & Barnes, 2016). The Blue Buddies app, on the other hand, is based on an innovative use of the gift economy as well as social and geolocation elements (Rao & Pandas, 2013).

As these studies show positive effects of gamification on psychological therapeutics there are also some limitations. Traditional gamification mechanics (such as points, badges, rankings, and prizes) do not always work as good methods of keeping users' attention, considering that they may be people without gaming competence or their mental disorders (like occupational burnout) can make typical gamification mechanics tiring and off-putting. However, these limitations do not mean that in such applications the gaming elements should be completely abandoned. The mechanics based on narrative and conversation structures seem very close to various forms of psychological therapy. The aim of the presentation is therefore to present the potential of interactive, narrative game-style mechanics for psychological therapy on the example of R&D project implemented by Prosuma. The company is a producer of mobile applications offering psychological therapy tools. At the moment, it offers two mobile applications: Living Well, addressed to oncological patients affected by a mental crisis, and UpBalance, offered to people who are burnt out at work.

The aim of the project is to develop a platform for design and distribution of therapeutic serious microgames formed into specific short interactive digital narratives (interactive storytelling). The platform includes the cms for the design and implementation of narrative content of microgames, scalable to different applications. It also allows for easy creation of therapeutic content in the form of games. The project investigates the impact of developed serious microgames on extending the use time of the mobile digital therapies offered by the Company (short- and long-term retention) and on increasing the rate of users completing the therapy (adherence).

In the project, 16 games of various levels of story advancement, graphic style (animations, live actors) and therapeutical purpose have been developed. All of them will be pilot implemented in 2 of the Company's products. The games have been developed as episodes of interactive video depicting real-life situations of characters in mental crises. The user of games through their decisions, learn how to apply CBT (cognitive behavioral therapy) tools to their self-therapeutical processes.

The project is the effect collaborative research of psychologist, game studies scholars, game design and story design practitioners, UXD researchers and experts. The aim of the research was to determine which CBT therapeutic protocols are suitable for creating interactive and non-linear solutions. The most appropriate narrative structures of video games were also selected using the analysis of the corpus of selected serious and entertaining games presenting the issues of crises and mental illnesses, e.g. *Hellblade: Senua's Sacrifice* (Ninja Theory 2017), *Fractured Minds* (Wired Productions 2017), *Ether One* (White Paper Games 2014), *Lucid Dream* (Dali Games 2018), *That Dragon Cancer* (Numionous Games 2016). The possibility of inscribing the tools for monitoring the patient's mental state into the

narrative structure of the developed serious microgames was also examined. This type of monitoring most often seems to users of the application the most tiring and boring part of therapy. Therefore, all forms of making it more attractive are very desirable.

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