## From Design, Experience and Play Framework to Common Design Thinking Tools: Using Serious Modern Board Games

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Abstract : Board games (BGs) are thriving as new designs emerge from the hobby community to greater audiences all around the world. Although digital games are gathering most of the attention in game studies and serious games research fields, the post-digital movement helps to explain why in the world dominated by digital technologies, the analog experiences are still unique and irreplaceable to users, allowing innovation in new hybrid environments. The BG's new designs are part of these post-digital and hybrid movements because they result from the use of powerful digital tools that enable the production and knowledge sharing about the BGs and their face-to-face unique social experiences. These new BGs, defined as modern by many authors, are providing innovative designs and unique game mechanics that are still not yet fully explored by the main serious games (SG) approaches. Even the most established frameworks settled to address SG, as fun games implemented to achieve predefined goals need more development, especially when considering modern BGs. Despite the many anecdotic perceptions, researchers are only now starting to rediscover BGs and demonstrating their potentials. They are proving that BGs are easy to adapt and to grasp by non-expert players in experimental approaches, with the possibility of easy-going adaptation to players' profiles and serious objectives even during gameplay. Although there are many design thinking (DT) models and practices, their relations with SG frameworks are also underdeveloped, mostly because this is a new research field, lacking theoretical development and the systematization of the experimental practices. Using BG as case studies promise to help develop these frameworks. Departing from the Design, Experience, and Play (DPE) framework and considering the Common Design Think Tools (CDST), this paper proposes a new experimental framework for the adaptation and development of modern BG design for DT: the Design, Experience, and Play for Think (DPET) experimental framework. This is done through the systematization of the DPE and CDST approaches applied in two case studies, where two different sequences of adapted BG were employed to establish a DT collaborative process. These two sessions occurred with different participants and in different contexts, also using different sequences of games for the same DT approach. The first session took place at the Faculty of Economics at the University of Coimbra in a training session of serious games for project development. The second session took place in the Casa do Impacto through The Great Village Design Jam light. Both sessions had the same duration and were designed to progressively achieve DT goals, using BGs as SGs in a collaborative process. The results from the sessions show that a sequence of BGs, when properly adapted to address the DPET framework, can generate a viable and innovative process of collaborative DT that is productive, fun, and engaging. The DPET proposed framework intents to help establish how new SG solutions could be defined for new goals through flexible DT. Applications in other areas of research and development can also benefit from these findings.

Keywords : board games, design thinking, methodology, serious games

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