

# Designing sustainable and ethical monetization/reward schemes integrated with a gameplay loop

This is Christian Lindberg's master thesis proposal *draft*. Other ideas, suggestions, or problems are welcomed. E.g., sustainable and ethical needs to be defined further, as well as the specific game genre, intended users, exactly how the design would be evaluated etc. I have used general terms in this draft as they could be adapted and discussed with a company.

## Overview

This thesis would be investigating how games could be using more ethical and sustainable monetization/reward schemes that are integrated in the gameplay. Meaning that the focus is not on the overall monetization model such as whether a game should use subscription services, in-game advertisement, commodification of user data etc. Focus would be on schemes that the player interacts with in a gameplay loop, e.g., a scheme such as loot boxes or paid power ups.

The project would have three stages. First, conducting a literature study to create design guidelines. Second, create one or more prototypes based on the guidelines. Third, evaluate the prototypes on users with an emphasis on the user experience.

## Introduction / Background

"Predatory monetization" schemes, e.g., loot boxes, are being used in more and more games, and are being debated in academia and media regarding their gambling-like design [1]–[4]. Games employing many other ethically dubious monetization schemes as well [5], [6], e.g., pay-to-win, price skimming, "whaling", etc. Design that sometimes is referred to as "dark design patterns" [7]. People in the gaming community are becoming more aware and upset by these practices. For example, Star Wars Battlefront 2 was critiqued for its heavy monetization model at its release in 2017 [8]. Similarly, with the release of Diablo Immortal in June 2022, many gamers gave it heavy critique for its monetization schemes [9]. Logically, this could hurt the reputation of a gaming company and their retention and acquisition of players. Finding more sustainable monetization designs would therefore be in the interest of the industry.

When designing for long-term engagement of players, and get them to use a monetization scheme, we make use of "motivational design" [7]. Design that makes use of theory and knowledge from fields such as behavioral psychology and behavioral economics. There are two fundamental views on motivation, extrinsic and intrinsic. Extrinsic coming from the environment (e.g., being given food to do something) and intrinsic coming from within oneself (e.g., doing something because it is honorable). Monetization schemes such as loot boxes mostly rely on the 'variable ratio reward schedule', coined by the behavioral psychologist B. F. Skinner, and is said to be the most 'addictive' schedule of extrinsic motivation [7]. Loot boxes, and many other monetization tricks [5], [6], raise

ethical concerns as the design become manipulative rather than motivational. Meaning that the self-interest of the user is disregarded.

One paper [13] suggest that gaming with these monetization schemes and gambling are converging. Another paper [12] describe how paid “loot boxes” have in the focus of recent years and how countries are investigating putting regulations on them. E.g., Belgium deems paid loot boxes as gambling and China has a law saying the probability of loot boxes rewards needs to be disclosed. Hence, one could expect more regulations being put in place, and in more countries, if gaming companies does not take ethical aspects in regards when designing monetization schemes.

A recent literature review on free-to-play game research [10] showed that research has focused mostly on behavioral economics and aspects of how to maximize player bases and profits. Leaving out aspects such as meaningful game experiences and societal implications. One paper [11] gives suggestions for regulations that could be put into place, but also some design guidelines. Most of the guidelines regards to the whole monetization model, such as implementing the ability for the user to put a spending limit or that the in-game purchasing has a two-step process to discourage spontaneous spending. However, some guidelines are concerned with the game mechanics, such as disclosing odds of receiving items in “loot box mechanics” and that the audio-visual saliency (the “juiciness”) of opening a loot box should be reduced. Though more guidelines and design examples could be researched.

Finding sustainable and ethical monetization game designs seem like novel research and worthwhile to conduct a study on, both for society and industry.

Many game design methods and patterns are based on norms of what constitutes a good playing experience, and they are mostly based on analyses on developed games [14]. This could lead to a designer being engaged in “cargo cult” design [15]. Design methods, from general design research, focusing on the design or development process could avoid following norms [16]. This study would therefore take a bottom-down approach in the design process.

## Problem

Gaming may be converging with gambling and with-it risk being regulated by governments as such. Problem is that guidelines and examples of ethical ways of monetizing players seem rare.

The research questions to investigate is as follows.

RQ 1: What are some examples of ethically questionable monetization schemes and what guidelines could more sustainable and ethical monetization schemes be designed after?

RQ 2: How could a sustainable and ethical monetization scheme be designed and integrated with a gameplay loop of a game?

## Method

I will first conduct a literature study on monetization schemes in relation to human psychology in UX, building (if not found in literature) a set of guidelines for designing more sustainable monetization schemes.

Then I will engage in research through (game) design by prototyping one, or more, gameplay mechanics with an integrated monetization scheme. The design research will be conducted as reflection-in-action, where the design process will help construct new knowledge.

The prototype will finally be evaluated with user testing, focusing on a qualitative approach to measure the UX.

The thesis would have to delimit itself by not looking at aspects of economic value, e.g., evaluate how a design perform in terms of profit. Unless a company provides access to such tools.

## Plan

The "official" semester is 20 weeks long from 9 January to 28 May 2023. My plan is to begin work 2 January and have the thesis defended at the latest in June 2023.

## References

- [1] "Loot boxes linked to problem gambling in new research," *BBC News*, Apr. 02, 2021. Accessed: Nov. 27, 2022. [Online]. Available: <https://www.bbc.com/news/technology-56614281>
- [2] D. L. King and P. H. Delfabbro, "Predatory monetization schemes in video games (e.g. 'loot boxes') and internet gaming disorder," *Addiction*, vol. 113, pp. 1967–1969, 2018, doi: 10.1111/add.14286.
- [3] L. Y. Xiao and L. L. Henderson, "Towards an Ethical Game Design Solution to Loot Boxes: a Commentary on King and Delfabbro," *Int J Ment Health Addiction*, vol. 19, no. 1, pp. 177–192, Feb. 2021, doi: 10.1007/s11469-019-00164-4.
- [4] N. Greer, C. M. Boyle, and R. Jenkinson, "Harms associated with loot boxes, simulated gambling and other in-game purchases in video games: a review of the evidence," p. 64, Jun. 2022.
- [5] T. Jernström, "Let's go whaling: Tricks for monetising mobile game players with free-to-play - YouTube," presented at the Pocket Gamer Connects Helsinki, Helsinki, 2016. Accessed: Nov. 27, 2022. [Online]. Available: <https://www.youtube.com/watch?v=xNjI03CGkb4>
- [6] T. Fields, *Mobile & Social Game Design: Monetization Methods and Mechanics, Second Edition*. CRC Press, 2014.
- [7] C. Lewis, *Irresistible Apps Motivational Design Patterns for Apps, Games, and Web-based Communities*, 1st ed. 2014.. Berkeley, CA: Apress, 2014.
- [8] A. Frank, "Star Wars Battlefront 2 loot boxes undergo changes, following criticism," *Polygon*, Oct. 31, 2017. <https://www.polygon.com/2017/10/31/16581432/star-wars-battlefront-2-loot-boxes-star-cards> (accessed Nov. 28, 2022).
- [9] A. C. published, "Diablo Immortal microtransactions have sparked a brutal backlash," *PC Gamer*, Jun. 07, 2022. Accessed: Nov. 27, 2022. [Online]. Available: <https://www.pcgamer.com/diablo-immortal-microtransactions-have-sparked-a-brutal-backlash/>
- [10] K. Alha, "The imbalanced state of free to play game research: A literature review," in *DiGRA'19- Proceedings of the 2019 DiGRA International Conference: Game, Play and the Emerging Ludo-Mix*, 2019, p. 25. [Online]. Available: [https://trepo.tuni.fi/bitstream/handle/10024/130012/The\\_imbalanced\\_state\\_of\\_free\\_to\\_play\\_2019.pdf](https://trepo.tuni.fi/bitstream/handle/10024/130012/The_imbalanced_state_of_free_to_play_2019.pdf)
- [11] D. L. King and P. H. Delfabbro, "Video Game Monetization (e.g., 'Loot Boxes'): a Blueprint for Practical Social Responsibility Measures," *Int J Ment Health Addiction*, vol. 17, no. 1, pp. 166–179, Feb. 2019, doi: 10.1007/s11469-018-0009-3.

- [12] L. Y. Xiao, L. L. Henderson, R. K. L. Nielsen, and P. W. S. Newall, "Regulating Gambling-Like Video Game Loot Boxes: a Public Health Framework Comparing Industry Self-Regulation, Existing National Legal Approaches, and Other Potential Approaches," *Curr Addict Rep*, vol. 9, no. 3, pp. 163–178, Sep. 2022, doi: 10.1007/s40429-022-00424-9.
- [13] S. M. Gainsbury, D. L. King, B. Abarbanel, P. Delfabbro, and N. Hing, "Convergence of gambling and gaming in digital media," CQUniversity, report, Dec. 2015. Accessed: Oct. 19, 2022. [Online]. Available:  
[https://acquire.cqu.edu.au/articles/report/Convergence\\_of\\_gambling\\_and\\_gaming\\_in\\_digital\\_media/13386347/1](https://acquire.cqu.edu.au/articles/report/Convergence_of_gambling_and_gaming_in_digital_media/13386347/1)
- [14] P. Lankoski and J. Holopainen, *Game Design Research: An Introduction to Theory and Practice*. Figshare, 2017. Accessed: Nov. 23, 2022. [Online]. Available:  
[https://figshare.com/articles/Game\\_Design\\_Research\\_An\\_Introduction\\_to\\_Theory\\_Practice/6686750](https://figshare.com/articles/Game_Design_Research_An_Introduction_to_Theory_Practice/6686750)
- [15] L. E. Holmquist, "Prototyping: generating ideas or cargo cult designs?," *interactions*, vol. 12, no. 2, pp. 48–54, Mar. 2005, doi: 10.1145/1052438.1052465.
- [16] A. Kultima, "Game Design Research," Sep. 2015. doi: 10.1145/2818187.2818300.