An Empirical Study of Early Access Games on the Steam **Platform**

An Extended Abstract of a Paper Published in the Empirical Software Engineering Journal (Communicated by Massimiliano Di Penta)

> Dayi Lin, Cor-Paul Bezemer, Ahmed E. Hassan Software Analysis and Intelligence Lab (SAIL), Queen's University Kingston, ON, Canada {dayi.lin,bezemer,ahmed}@cs.queensu.ca

ABSTRACT

"Early access" is a release strategy for software that allows consumers to purchase an unfinished version of the software. In turn, consumers can influence the software development process by giving developers early feedback. This early access model has become increasingly popular through digital distribution platforms, such as Steam which is the most popular distribution platform for games. The plethora of options offered by Steam to communicate between developers and game players contribute to the popularity of the early access model.

The early access model made a name for itself through several successful games, such as the DayZ game. The multiplayer survivalbased game reached 400,000 sales during its first week as an early access game. However, the benefits of the early access model have been questioned as well. For instance, the Spacebase DF-9 game abandoned the early access stage unexpectedly, disappointing many players of the game. Shortly after abandoning the early access stage and terminating the development, twelve employees were laid off including the programmer and project lead.

In this paper [1], we conduct an empirical study on 1,182 Early Access Games (EAGs) on the Steam platform to understand the characteristics, advantages and limitations of the early access model. We find that 15% of the games on Steam make use of the early access model, with the most popular EAG having as many as 29 million owners. 88% of the EAGs are classified by their developers as so-called "indie" games, indicating that most EAGs are developed by individual developers or small studios.

We study the interaction between players and developers of EAGs and the Steam platform. We observe that on the one hand, developers update their games more frequently in the early access stage. On the other hand, the percentage of players that review a game during its early access stage is lower than the percentage of players that review the game after it leaves the early access stage. However, the average rating of the reviews is much higher during the early access stage, suggesting that players are more tolerant of imperfections in the early access stage. The positive review rate

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

ICSE '18, May 27-June 3, 2018, Gothenburg, Sweden © 2018 Copyright held by the owner/author(s). ACM ISBN 978-1-4503-5638-1/18/05.

https://doi.org/10.1145/3180155.3182512

does not correlate with the length of the early access stage nor with the game update frequency during the early access stage.

In addition, we discuss several learned lessons from the failure of an early access game. The main learned lesson from this failure is that communication between the game developer and the players of the EAG is crucial. Players enjoy getting involved in the development of an early access game and they get emotionally involved in the decision-making about the game.

Based on our findings, we suggest game developers to use the early access model as a method for eliciting early feedback and more positive reviews to attract additional new players. In addition, our findings suggest that developers can determine their release schedule without worrying about the length of the early access stage and the game update frequency during the early access stage.

The full paper is published in the Empirical Software Engineering journal, and can be found at:

https://link.springer.com/article/10.1007%2Fs10664-017-9531-3

Please cite the following paper: Lin D, Bezemer CP, Hassan AE (2017) An empirical study of early access games on the Steam platform. Empirical Software Engineering pp 1-29

KEYWORDS

early access games, computer games, Steam

REFERENCES

[1] Dayi Lin, Cor-Paul Bezemer, and Ahmed E Hassan. 2017. An empirical study of early access games on the Steam platform. Empirical Software Engineering (2017),