

Title	User-centered Improvement of Entertainment Factors and Platform Transformation in Various Aspects
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## **Abstract**

Gaming technology has come a long way from pixelated days such as Pacman, Space Invaders, and old-fashioned games. Now the trend has become a source of entertainment for broadening its performance to that have more ubiquitous and accessible. Some game companies try to do rebranding of games consoles from simple devices to play games, to variety entertainment hubs. With such an example of changes in game platform, research in this field becomes interesting and has contribution to improve game communities. Entertainment factors are originated as a basis in this thesis, we conduct research and experiment based on user-centered study which discuss from the perspective of users in various aspects such as game mechanics, game preferences, and gaming devices. Otherwise, we focus on the game refinement theory and gamification in business model, education and finance.

This thesis has two directions, one is the analysis of the game element that discuss in Chapter 3 to Chapter 4. It will mainly conduct on application of game refinement theory from the game players viewpoint which the results are utilized for game development aspect. Whereas, we explain Chapter 5 to Chapter 6 mainly discuss from users' perspective in platform transformation for the second direction. We have figured out by using statistical analysis and contributing conceptual framework that sufficiently interpret the direction of platforms changes referring to users' demand.

Chapter 1 introduces the background of the study, then Chapter 2 provides the mathematical model of game refinement theory and necessary definitions and related works in platform transformation and game development field. Chapter 3 demonstrates application of game refinement to determine reasonable setting in Snake game in which the results can be measured the sophisticated level of the game by developing AI. Chapter 4 explores the evolution change and analyze its measurement of MOBA game from different platforms between mobiles and PCs, the result shows that mobile version can keep refinement measure in sophisticated zone while reduce game length. Also, we observes game elements in

business model of mobile version in which it earn higher revenue by using gamification as the PC version. Chapter 5 focuses on the user-centered study of platform transformation and game development, including proposing model of entertainment factors which has been constructed by perceived enjoyment framework, then we shows the prospective scheme that will apply to identify the direction of gaming platform evolution and further capitalize on educational context. Chapter 6 explores on financial literacy using gamification interpretation and some aspects from entertainment factors, then we implement stimulus model for mutual fund system to enhance users' engagement and learning capabilities. Chapter 7 gives the conclusion in which research question and problem statement are answered, and suggests possible future works with mainly discuss about three main keywords: entertainment factors, platform transformation, and game development.