

# The Manifestation of Gamification in App Content Design

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**Abstract:** This article reviews historical research on game from the perspective of culture, psychology and philosophy, as well as modern research on gamification. Under the background, the article analyzes the reasons for introducing gamification into App content design, and selects three Apps to illustrate how game thinking, game mechanics and game elements are manifested in the content design of Apps.

**Keywords:** Game; Gamification; Game thinking; Game mechanism; Game elements; App content design.

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## 1. Review of research on games and gamification

Game has been born and developed with the millennium civilization of mankind, and its form and content have been continuously evolved with the development of times. At the beginning, game was the physical activity based on game rules and props in the game field. Children played games to consume excess energy, and in the process exercised their physical and mental health, thinking and social skills. Adults, however, played games to fantasize, socialize or to achieve a sense of accomplishment. With the gradual maturity of game design theory and design method system, different scholars have conducted in-depth research on game from different angles in their works or papers.

As an important part of human life, game occupies an important position in the cultural field. However, as an activity with entertainment as its ultimate goal, game did not received due attention in the academic field. Ancient Greek philosophers such as Plato and Aristotle discussed on game in several of their works, a very small portion, and mostly negative reviews. For example, Plato believes: "Game is rest and recreation after work. It is a behavioral activity that does not have any purpose in itself... Happiness is never a recreation." [1] The discourse reflects the cognition of game in the academia in ancient Greece.

The emancipation of mind in the field of game research originated from the book *On the Aesthetic Education of Man*, written in 1795 by the famous German poet and philosopher Friedrich Schiller during the Enlightenment period. Schiller said in this book: "Human beings are bound by both spiritual and material constraints in their lives. In these constraints, they lose their ideals and freedom. So people use the remaining spirit to create a free world, which is game. This kind of creative activity arises from human instinct." [2] Schiller starts from the level of human nature and highly approves of game. This signifies that human society has truly begun to liberate old ideas and understand game correctly.

The 19th century witnessed a great development of game. During this period, the mainstream academic circles' thinking on game tended to be positive and objective. The famous

Dutch historian Johan Huizinga wrote in 1938, the book *Homo Ludens*, which is an important work of Western modern game theory. In the book, he discussed the important role game played in culture and society. He believes that game is the essence of culture and has important values to modern civilization. [3]

At the end of the 19th century, the famous psychologist and the founder of psychoanalytic theory Sigmund Freud put forward in the book *Beyond the Pleasure Principle*: "The opposite of game is not work and labor but actual events... So, game uses virtual imagination to satisfy the desires of the real world." [4]

Carl Jung, the founder of analytical psychology, thinks that the process by which games bring people happiness is "motivation, pressure, and the release of pressure." A good game needs to hold these three to the right. Jung's conclusion is very classic, and it also represents the level of development in the field of game psychology.

James Carse, in his book *Finite and Infinite Games*, points out: "There are at least two games in the world, one can be called a finite game, and the other is called an infinite game. Finite games are for the purpose of winning, while infinite games are for the purpose of continuing the game." [5]

The discussion on gamification, however, is much later than that of game. In 2010, the concept of gamification began to gradually arouse the attention of all walks of life and to develop quickly. Kevin Werbach, associate professors at the Wharton School of the University of Pennsylvania, and Dan Hunter, defined gamification in *For the Win* as "use in a non-game context game elements and game design techniques". [6] Gabe Zichermann, the author of *Game-Based Marketing*, pointed out in the book: "Gamification is the introduction of game mechanics into non-game content to increase user stickiness, and drive user behavior." [7] In 2011, Deterding, Dixon, Khaled, and Nacke defined gamification in *From Game Design Elements to Gamefulness: Defining "Gamification"* as "the use of game design elements in non-game contexts". [8] Scholars began to pay attention to and explore the manifestation and influence of gamification in product design, advertising and marketing, work and life and other fields.

## 2. Reasons for introducing gamification into App content design

In the book *Rules of Play: Game Design Fundamentals*, authors Katie Salen and Eric Zimmerman wrote: “The ultimate goal of game design is to create a game that has a challenge that never ends, skills vary widely, with a perfect difficulty curve and can be adjusted according to the player’s skill level.” [9]

For App designers, the introduction of gamification in App content design is to make an App more attractive through gamification design, which in turn stimulates user interest and maintains user stickiness, with a hope that an App is as fun as a game and allows users to be fully immersed in it and enter an addictive state of joy.

In addition, the introduction of gamification in App content design is to allow users to produce behavior and results in the virtual world of the product through gamification, and ultimately produce behavior changes in the real world. A good App not only meets the needs of users, it also helps users become better at their fields of interest.

In short, the introduction of gamification in App content design is to increase the attractiveness of the product. Gamification is a method and an effective tool to generate core driving force to promote user behavior.

## 3. The manifestation of gamification in App content design

In App content design, the manifestation of gamification are mainly in three aspects: game thinking, game mechanics and game elements.

### 3.1. Game Thinking

Game thinking refers to thinking that has fun in a planned and directional manner. The essence of game thinking is to guide people to do things they feel happy and to help them achieve their goals in development.

Take the bookkeeping App *Fortune* developed by Fourdesire as an example. This bookkeeping App is recommended as “the only bookkeeping App that you want to open every day”. Unlike the single-list thinking in traditional bookkeeping Apps, this app creates an urban scenario, similar to *The Sims*. It adopts game thinking by setting up a virtual city, providing the users completely fresh bookkeeping experience, with an ultimate aim to make the hard and bored bookkeeping process interesting. Users can construct a building as each expenditure is recorded. The shapes of the buildings constructed vary according to the category of expenditure. Through continuous recording, the city will keep expanding and become a unique dream city customized for each user. The introduction of game thinking makes the otherwise boring bookkeeping behavior fun and easy, and guides users towards the goal of cultivating a habit of daily bookkeeping without even knowing it.



Figure 1. Screenshots of *Fortune*, copyright belongs to the App developer

### 3.2. Game Mechanics

Game mechanics are part of the basic elements of a video game, which can be understood as the rules of a game. There are many types of game mechanics, including: wins and losses, rewards and punishments, turn-based, status changes, role-playing, rapid response, construction, time management, obstacles, puzzle solving, and more.

When applying game mechanics in App content design, it is usually not a single mechanism, but a combination of several. Take *Hong En Literacy*, an enlightenment education software for children's literacy created by Beijing Hong En Education Technology Co., Ltd. as an example. This app has ranked first in the literacy app download rankings for three consecutive years. Through multi-dimensional experience in four sections of playing, recognizing, practicing and writing, children can learn Chinese characters with a series of fun interactions and happy operations. A variety of game mechanics are integrated. For example, the literacy goal is achieved through various forms of literacy game tasks, including puzzle solving, music game, and so on. Users can unlock the next level after successfully passing the previous one, completing the learning map step by step. In addition, in order to create emotional ups and downs of users in the learning process, the “obstacle” mechanism is set up during game challenges, that is, for one example, users need to share with their friends wins and losses to unlock more game levels and functional modules, which is a mechanism widely used in the content design of many apps today.



Figure 2. Screenshots of *Hong En Literacy*, copyright belongs to the App developer

### 3.3. Game Elements

Game elements include points, badges, leaderboards, difficulties, self-representation, feedback, game levels, multiplayer modes, time pressure, social interactions, and etc.

The three most commonly seen game elements are points, badges, and leaderboards. Points are usually used to motivate players to complete certain tasks. The premise is that players are willing to use the accumulated points to buy more tools. For players who like to collect and compete, this method is very effective; badges are a collection of points. This kind of visual presentation shows the progress the player has made in the process of games; the leaderboard is where the player wants to know what his or her level is relative to the opponents, and the leaderboard can make the user's performance public.

Similar to the manifestation of game mechanics in App content design, an App usually incorporates multiple game elements in its content design. Take WeChat Reading, a social reading app launched by Tencent, China's internet giant, as an example. This app adopts a series of game elements, such as leaderboards, virtual goods, tasks, and social interactions. Specifically, leaderboard: a reading ranking list is set up in the application to display the ranking of reading time between users and friends, so as to motivate users to continue reading; virtual goods: book coins are accumulated with an increase in a user's reading time, which can be used to buy more books; social interactions: users can team up with friends for unlimited reading cards, mark the content of books, write comments between lines, and share and communicate with friends. Through the comprehensive use of the above game elements, users are encouraged to read, fall for reading, and develop good reading habits.

To sum up, as illustrated above, game thinking, game mechanics and game elements are generally used in the content design of an App. They, however, do not exist independently, but are closely interdependent, and are adopted for a simple reason, which is believed to be the core function and ultimate aim of gamification, that is, to create fun and ease.

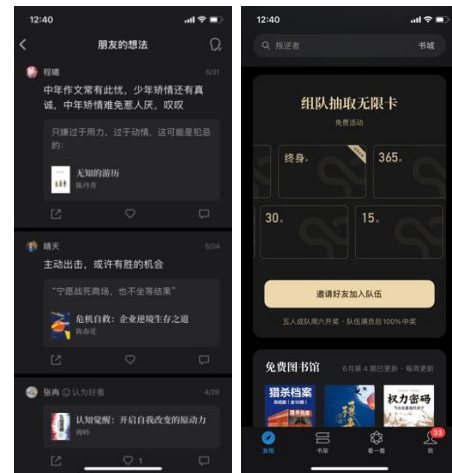


Figure 3. Screenshots of WeChat Reading, copyright belongs to the App developer

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