

DOCUMENT SUMMARY

This paper provides a foundational definition for the term gamification, situating it within the history of human-computer interaction (HCI) and game studies. The authors distinguish gamification from related concepts like serious games and playful design by defining it as "the use of game design elements in non-game contexts." The analysis introduces gamefulness as a distinct experiential quality from playfulness, linking it to the structured, rule-bound nature of games (ludus) rather than free-form play (paidia).

FILENAME

deterding_2011_research_report_gamification_definition

METADATA

Category: RESEARCH

Type: report

Relevance: Core

Update Frequency: Static

Tags: #gamification #game-design #gamefulness #playfulness #hci #user-experience #serious-games #ludus #paidia

Related Docs: N/A

Supersedes: N/A

FORMATTED CONTENT

From Game Design Elements to Gamefulness: Defining "Gamification"

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Abstract

Recent years have seen a rapid proliferation of mass-market consumer software that takes inspiration from video games. Usually summarized as "**gamification**", this trend connects to a sizeable body of existing concepts and research in human-computer interaction and game studies, such as **serious games**, pervasive games, alternate reality games, or **playful design**. However, it is not clear how "**gamification**" relates to these, whether it denotes a novel phenomenon, and how to define it. Thus, in this paper we investigate "**gamification**" and the historical origins of the term in relation to precursors and similar concepts. It is suggested that "gamified" applications provide insight into novel, gameful phenomena complementary to playful phenomena. Based on

our research, we propose a definition of "**gamification**" as the use of game design elements in non-game contexts.

1. Introduction

Following the success of the location-based service Foursquare, the idea of using game design elements in non-game contexts to motivate and increase user activity and retention has rapidly gained traction in interaction design and digital marketing. Under the moniker "**gamification**", this idea is spawning an intense public debate as well as numerous applications - ranging across productivity, finance, health, education, sustainability, as well as news and entertainment media. Several vendors now offer "**gamification**" as a software service layer of reward and reputation systems with points, badges, levels and leader boards.

However, until now, little academic attention has been paid to a definition of the concept of "**gamification**". There has also been no close scrutiny of whether the term actually denotes a sufficiently new and distinct phenomenon. Therefore, this paper surveys and situates current uses of "**gamification**" within existing research to suggest a definition of "**gamification**".

2. Industry Origins

"**Gamification**" as a term originated in the digital media industry. The first documented use dates back to 2008, but the term did not see widespread adoption before the second half of 2010. Parallel terms continue being used and new ones are still being introduced, such as "productivity games", "surveillance entertainment", "funware", "**playful design**", "behavioral games", "game layer" or "applied gaming". Yet "**gamification**" has arguably managed to institutionalize itself as the common household term.

Current industry uses of the term fluctuate between two related concepts. The first is the increasing adoption, institutionalization and ubiquity of (video) games in everyday life. The second, more specific notion is that since video games are designed with the primary purpose of entertainment, and since they can demonstrably motivate users to engage with them with unparalleled intensity and duration, game elements should be able to make other, non-game products and services more enjoyable and engaging as well.

3. Precursors & Parallels

These ideas are not entirely new. The notion that user interface design can be informed by other design practices has a rich tradition in HCI. During the first boom of computer games in the early 1980s, Malone wrote seminal papers deriving "heuristics for designing enjoyable user interfaces" from video games.

In the field of game studies, "**gamification**" can be seen as but one further outgrowth of the repurposing and extension of games beyond entertainment. Games used for serious purposes or "**serious games**" date back several millennia, migrating from mainly

military uses into education and business in the second half of the 20th century. In the early 2000s, the rise of digital games has reinvigorated this into a substantial industry and research field of its own. Such digital, **serious games** can be defined as "any form of interactive computer-based game software for one or multiple players to be used on any platform and that has been developed with the intention to be more than entertainment".

In parallel to the **serious games** movement, new game genres evolved that stretched the traditional limits of games, bringing games into new contexts, situations and spaces. These are commonly called pervasive games, games that have "one or more salient features that expand the contractual magic circle of play spatially, temporally, or socially".

4. Towards a Definition

This brief review shows that "**gamification**" has grown within a rich bed of interacting trends and traditions in interaction design and games, and that there are already a number of potentially competing, parallel, or overlapping concepts.

We believe that "**gamification**" does indeed demarcate a distinct but previously unspecified group of phenomena, namely the complex of **gamefulness**, gameful interaction, and gameful design, which are different from the more established concepts of **playfulness**, playful interaction, or design for **playfulness**. Based on this observation, we propose the following definition:

"**Gamification**" is the use of game design elements in non-game contexts.

The following sections unpack this definition in detail.

4.1 Game

Firstly, "**gamification**" relates to games, not play (or **playfulness**), where "play" can be conceived of as the broader, looser category, containing but different from "games". In game studies, this distinction between games and play is usually tied back to Caillois' concept of **paidia** and **ludus** as two poles of play activities. Whereas **paidia** (or "playing") denotes a more free-form, expressive, improvisational, even "tumultuous" recombination of behaviors and meanings, **ludus** (or "gaming") captures playing structured by rules and competitive strife toward goals.

On these grounds, in contrast to frameworks that include both free-form and rule-bound play under "**playfulness**", we suggest adopting the term "**gamefulness**"... as a systematic complement to "**playfulness**". Where "**playfulness**" broadly denotes the experiential and behavioral qualities of playing (**paidia**), "**gamefulness**" denotes the qualities of gaming (**ludus**).

4.2 Element

Whereas "**serious game**" describes the design of full-fledged games for non-entertainment purposes, "gamified" applications merely incorporate elements of games. Of course, the boundary between "game" and "artifact with game elements" can often be blurry. To complicate matters, this boundary is empirical, subjective and social: Whether you and your friends 'play' or 'use' Foursquare depends on your (negotiated) focus, perceptions and enactments.

4.3 Design

For the purposes of terminological and conceptual clarity, it is more helpful to reserve the term "**gamification**" for the use of game design, not game-based technologies or practices of the wider game ecology.

4.4 Non-game contexts

Similar to **serious games**, "**gamification**" uses elements of games for purposes other than their normal expected use as part of an entertainment game. It is reasonable to assume that entertainment currently constitutes the prevalent expected use of games. Likewise, joy of use, engagement, or more generally speaking, improvement of the user experience represent the currently predominant use cases of "**gamification**".

5. Situating "Gamification"

To summarize: "**Gamification**" refers to

- the use (rather than the extension) of
- design (rather than game-based technology or other game-related practices)
- elements (rather than full-fledged games)
- characteristic for games (rather than play or **playfulness**)
- in non-game contexts (regardless of specific usage intentions, contexts, or media of implementation).

This definition contrasts "**gamification**" against other related concepts via the two dimensions of playing/gaming and parts/whole. Both games and **serious games** can be differentiated from "**gamification**" through the parts/whole dimension. **Playful design** and toys can be differentiated through the playing/gaming dimension.

6. Conclusion

This paper argued that current "gamified" applications present emerging phenomena that warrant new concepts and research. Specifically, it suggested that insight into "**gamefulness**" as a complement to "**playfulness**" - in terms of design goals as well as user behaviors and experiences marks a valuable and lasting contribution of studying "gamified" systems. Given the industry origins, charged connotations and debates about the practice and design of "**gamification**", "gameful design" currently provides a new term with less baggage, and therefore a preferable term for academic discourse.