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.

This commercial deployment of 'gamified' applications to large audiences potentially promises new, interesting lines of inquiry and data sources for human-computer interaction (HCI) and game studies – and indeed, "gamification" is increasingly catching the attention of researchers [24,48,58].
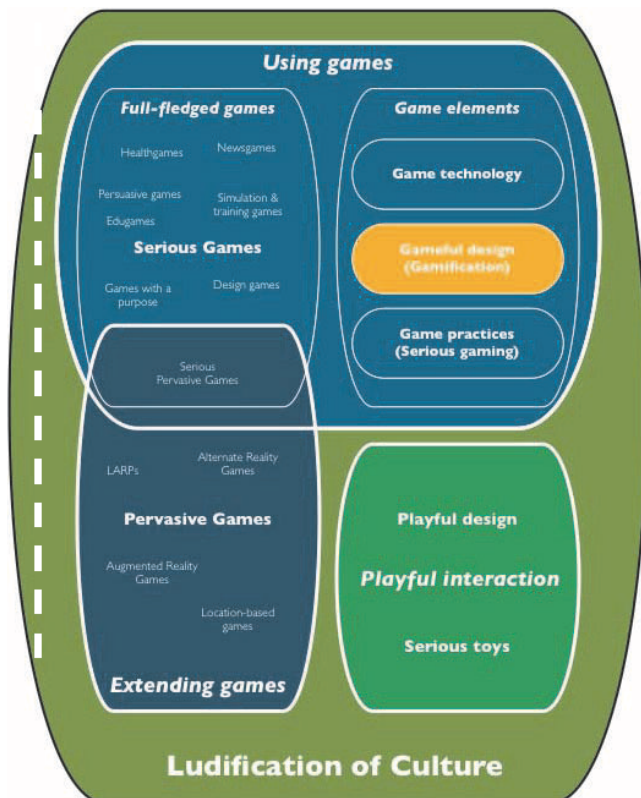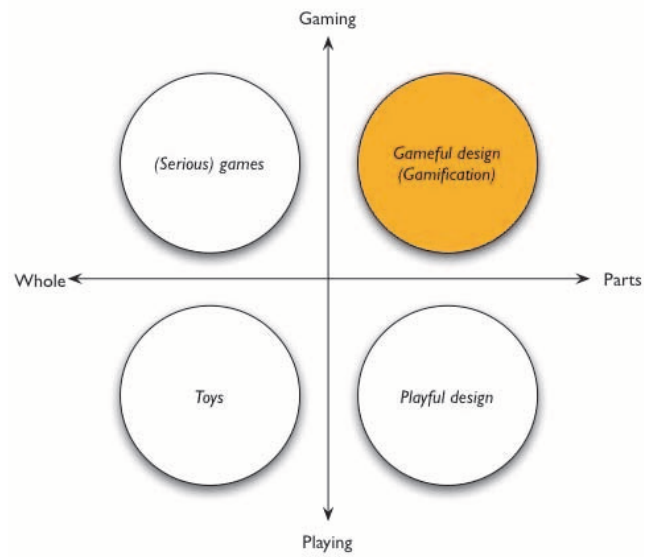
However, until now, little academic attention has been paid to a definition of the concept of "gamification" (see [37] for one exception). There has also been no close scrutiny of whether the term actually denotes a sufficiently new and distinct phenomenon. Therefore, this paper surveys and situates current uses of "gamification" within existing research to suggest a definition of "gamification". The first sections describe the origin and current uses of the term and compare these with historic precursors and parallels in HCI and game studies. This leads on to a definition of "gamification" and a discussion of its elements. It is argued that "gamification" calls attention to phenomena of "gamefulness", which should be considered as complementary to but distinct from playfulness. The definition is situated in the fields of HCI and game studies, and the paper concludes by outlining the research contribution of studying "gamified" applications.

2. INDUSTRY ORIGINS

"Gamification" as a term originated in the digital media industry. The first documented use dates back to 2008 [54,55], 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" [47], "surveillance entertainment" [32], "funware" [66], "playful design" [27], "behavioral games" [25], "game layer" [56] or "applied gaming" (natronbaxter.com). Yet "gamification" has arguably managed to institutionalize itself as the common household term.

Despite or because of that, "gamification" is also a heavily contested term, especially within the game industry and the game studies community. Discontent with current implementations, oversimplifications, and interpretations have led some to coin different terms for their own arguably highly related practice. For instance, designer and researcher Jane McGonigal redefined "Alternate Reality Games" as "a game you play in your real life" ([48], p. 120) to describe her work, and game scholar and designer Ian Bogost recommended replacing the term "gamification" with "exploitationware" [9] as an act of linguistic politics that would more truthfully portray the "villainous reign of abuse" that "gamification" presumably entails.

Current industry uses of the term fluctuate between two related concepts. The first is the increasing adoption, institutionalization

Gaming

(Serious) games | Gameful design (Gamification)

Whole ←→ Parts

Toys | Playful design

Playing

Using games

Full-fledged games

Healthgames | Newsgames

Persuasive games | Simulation & training games

Edugames

Serious Games

Games with a purpose | Design games

Serious Pervasive Games

Game elements

Game technology

Gameful design (Gamification)

Game practices (Serious gaming)

LARPs | Alternate Reality Games

Pervasive Games

Augmented Reality Games

Location-based games

Extending games

Playful design

Playful interaction

Serious toys

Ludification of Culture

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