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# Gamification: Using Game Design Elements in Non-Gaming Contexts

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**Abstract**

"Gamification" is an informal umbrella term for the use of video game elements in non-gaming systems to improve user experience (UX) and user engagement. The recent introduction of 'gamified' applications to large audiences promises new additions to the existing rich and diverse research on the heuristics, design patterns and dynamics of games and the positive UX they provide. However, what is lacking for a next step forward is the integration of this precise diversity of research endeavors. Therefore, this workshop brings together practitioners and researchers to develop a shared understanding of existing approaches and findings around the gamification of information systems, and identify key synergies, opportunities, and questions for future research.

**Keywords**

Gamification, game design, design patterns, motivational affordances, funology, persuasive technology, games with a purpose

**ACM Classification Keywords**

H.5.m [Information Interfaces and Presentation (e.g., HCI)]: Miscellaneous; K.8.0 [Personal Computing]: Games; J.4 [Social and Behavioral Sciences]: Psychology, Sociology

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## General Terms

Design, Theory

## Introduction

Games and game technologies increasingly transcend the traditional boundaries of their medium, as evidenced by the growth of serious and pervasive games as an industry and research field. The most recent phenomenon in this trajectory is ‘gamification’, an umbrella term for the use of video game *elements* (rather than full-fledged games) to improve user experience and user engagement in non-game services and applications.

Following the success of location-based service Foursquare, this design approach has rapidly gained traction in interaction design and digital marketing [22], spawning an intense debate within the professional community<sup>1</sup> as well as numerous ‘gamified’ applications, ranging from productivity to finance, health, sustainability, news, user-generated content and tutorials. Several vendors now offer gamification as a service layer of reward and reputation systems with points, badges, levels and leader boards.<sup>2</sup> At the same time, gamification has caught the interest of researchers as a potential means to create engaging workplaces [16] or facilitate mass-collaboration [11].

## Background

To wit, the use of game design and game elements in other contexts is an old topic in human-computer interaction (HCI): Attempts to derive heuristics for

<sup>1</sup> See e.g. the 2011 Gamification Summit and the gamification day at the 2011 GDC Serious Games Summit.

<sup>2</sup> See e.g. Badgeville, Bunchball, Bigdoor Media, GetGlue.

enjoyable interfaces from games reach back to the early 1980s [9, 10]. More recently, researchers have tried to identify design patterns that might afford joy of use under the moniker “funology”, explicitly drawing inspiration from game design [3].

A growing body of research looks into “games with a purpose” piggybacking game play to solve human information tasks such as tagging images. This included work detailing specific design features that afford player enjoyment [20]. Furthermore, researchers in HCI and management sciences have identified design principles that enhance the motivational affordances of computer-supported collaborative work [5, 21] – principles which are congruent with research on the motivational psychology of video games [17].

In persuasive technology [4], video games and game aspects have been studied as potential means to shape user behavior in directions intended by the system designer [8, 14], or to instill embedded values [1]. Social psychological studies on contributions in online communities or the motivational uses of recommender systems arrived at conclusions that chime with core design properties of video games [7, 15]. Likewise, it suggests itself to model the reward and reputation systems of gamified applications with economically inspired approaches such as incentive centered design.

The user experience of video games has itself become a substantial topic of HCI, with researchers developing models and methods as well as heuristics for the usability or playability of games [2, 18, 19]. An obvious matter of interest is to which degree these can be transferred to the design of gamified information systems. Finally, a growing body of research points to

the significant role of social contexts in the constitution of video game play experience [6], which immediately raises the question whether and how the transfer of (game) design patterns into ‘alien’ social contexts might significantly alter their experiential affordances.

### Workshop Goals

Faced with the broad adoption of ‘gamified’ applications beyond HCI laboratories on the one hand and a rich if disconnected body of existing research on the other, the goal of this workshop is to bring together HCI researchers from academia and industry to (a) take stock and synthesize a shared picture of pertinent existing and current research surrounding gamification, and (b) identify potential new aspects and research opportunities opened by new gamified applications. To this end, we invite researchers to submit position papers on (ongoing) empirical work or accounts of existing approaches and findings that might elucidate the user experience, psychology, social dynamics and design of information systems employing game elements. The primary intended outcome of the workshop is to build a shared overview of the state-of-the-art (published as a report) by clarifying the questions below, and to seed a researcher community that shall be built out via the workshop site and follow-up events that connect other pertinent research communities (e.g. game studies) towards substantial research and publication efforts.

### Workshop Questions

- What is the current state of research surrounding gamification? How might we integrate it?
- Which existing approaches are well-suited to study and model gamified information systems?

- Do gamified applications feature specific or novel characteristics not covered by previous research?
- What happens when game design elements are transferred into non-game social contexts?
- Which promising (new) research topics and data sources do gamified applications provide?

### Participants and Expected Interest

We consider the collaborative study of the recent surge of ‘gamified’ information systems to be of immediate relevance to HCI researchers in all fields mentioned above (funology, persuasive technology, communities, motivational affordances, game UX, etc.): On the one hand, the implementation of game design elements on a mass market scale potentially surfaces phenomena that wouldn’t appear in laboratory prototypes. Gamified systems ‘in the wild’ provide new objects of inquiry in an unprecedented variety, data quality and scale. On the other hand, the focused integration of the many close but by-and-large decoupled research endeavors would greatly benefit each in turn. Although workshops in past conferences have already addressed single issues [12, 13], none of them has taken such an integrative approach. Therefore, at this point in time, such a synthesizing workshop on gamification would be of high interest to HCI researchers as well as researchers working on the increased blurring of (digital) life, work, and play in general.

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