GCI 2012 Harnessing Collective Intelligence with Games

1st International Workshop on Systems with Homo Ludens in the Loop

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Abstract. With recent advances in harnessing the knowledge and skill of large groups of (unknown) network-connected humans, researchers and practitioners have been designing systems that make contributions of users entertaining and more engaging. Game mechanics are being applied to the traditional human computation tasks, such as transcription, classification and labeling. Seminal examples of such applications include ESP game and FoldIt. At the same time, companies seek strategies to include elements of gaming into business processes to increase productivity and engagement of employees. Framing a business goal in the form of a game is also a promising method for motivating newer generations in the workforce.

1 Introduction

The idea of designing systems that solve tasks and incorporate the playfulness of games has recently become an extensively discussed topic. Many Web 2.0 and crowdsourcing initiatives take advantage of the vast amount of hours spent on online playing, by extracting meaningful information, acquiring knowledge, or outsourcing production tasks. The workshop on “System with Homo Ludens in the loop” aims at providing a discussion forum for both researchers and practitioners in the fields of computer science, web technologies, and sociology, as well as psychology and business studies.

Many areas of knowledge acquisition inherently rely on the availability on large quantities of human input. The problem is that in many of these domains, users lack the motivation to contribute the required metadata. At the same time, there is a steady trend of people spending a substantial amount of time in playing games. As initially proposed by Luis von Ahn's “Games with a Purpose”, one can benefit from the vast amount of hours spent on online playing, by applying mechanisms to extract meaningful information from game inputs. Since then, there have been many proposals to use casual games which capitalize on fun and competition as two key motivators for people, to willingly invest time and effort in knowledge acquisition related tasks hiding behind an entertaining collaborative game experience. The workshop will provide

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a forum for researchers and practitioners in Web technologies to discuss and exchange positions on the topic of using games for acquiring knowledge following the paradigm of human computation.

2 Areas of Interest

The objective of the workshop is to foster the thinking process about how to effectively involve the users in the loop of a production system or crowdsoucing initiative.

- Games for Collective Intelligence
- Human Computation Games (Games with a Purpose)
- Applications of games in science, industry and public sector
- Games for data collection, verification and classification
- Game-based surveys
- Task decomposition and gamification
- Quality management in collective play
- Cost-benefit analysis for collective play
- Games and new business models
- Commodification of play (uses and abuses of free time)
- Collective play as socialization (using social networks platforms)
- Game propagation in the social networks
- Game architectures and technology
- Incentives and adoption of games in enterprise environments

3 Accepted Submission Abstracts

Full submissions can be found in the proceedings of the 3'rd International Conference on Serious Games Development and Applications SGDA'12.

3.1 Value-based Design for Gamifying Daily Activities

Computing technologies allow us to gamify our daily activity by embedding computers in our daily environments. In this paper, we propose a value-based gamification framework to increase pleasure in our daily life. Traditional gamification frameworks add game mechanics in our daily activities to motivate people. However, it is hard to maintain the motivation for a long time. Our approach is based on values to increase intrinsic human motivation. In this paper, we introduce five values, and how the values are used in Augmented Trading Card Game as a case study. Then, we show a framework to design gamification of daily activities to increase intrinsic human motivation.

3.2 Squaring and Scripting the ESP Game: Trimming a GWAP to Deep Semantics

The ESP Game, like other Games With A Purpose (GWAP), tends to generate "surface semantics" tags. This article first discusses why this is the case, then proposes two approaches called "squaring" and "scripting" to collecting "deep semantics" tags that both consist in deploying the ESP Game in unconventional manners. It also reports on a promising first experimental evaluation of the two approaches. It finally briefly discusses the relevance of squaring and scripting for other GWAPs than the ESP Game.

3.3 Logical Thinking by Play Using the Example of the Game Space Goats

The idea of "Serious Games" mainly describes games that generate overvalue. According to James P. Gee's learning theories, game worlds are some of the best learning environments imaginable as they encourage the utilization of the actively learned skills in other domains. The game "Space Goats" is designed according to these principles. It uses a graphical scripting interface to encourage the player to reason logically, while it stays a game all the time, and the player does not realize, that he has been taught.

3.4 Betaville - a massively participatory mirror world game

Betaville is an editable online mirror world designed to develop broader positive participation in development of new ideas for urban environments, particularly for new initiatives in public art, urban design, and development/redevelopment. A “mirror world” of any city, based on public terrain and GIS data supplemented by embedded links to background information, can be further developed by user-created proposals for additions and modifications to the environment. Multiple proposals can be offered, debated, and iterated for the same location. Betaville is a research and development collaboration between the Brooklyn Experimental Media Center of the Polytechnic Institute of New York University and the M2C Institute for Applied Media Technology and Culture at the University of Applied Sciences of Bremen

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