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# SoPlay Heuristics for Design and Evaluation of Social Network Games

Janne Paavilainen  
Game Research Lab  
University of Tampere  
Kanslerinrinne 1  
Tampere, FI-33014 Finland  
janne.paavilainen@uta.fi

## Abstract

Social network games have become a popular past-time for millions of players. These “social games” are based on the social network platform and free-to-play revenue model. This position paper presents SoPlay heuristics for the design and evaluation of social games. Based on 13 high-level heuristics, each heuristic contains sub-level items and has a relationship to the acquisition, retention and monetization aspects of social games design.

## Author Keywords

Video Games, Social Networks, Facebook, Social Games, Heuristics, Design, Evaluation.

## ACM Classification Keywords

H.5.3 [Information Interfaces and Presentation]: User Interfaces – Evaluation/Methodology

## General Terms

Design, Human Factors

## Introduction

Social network games have become popular past-time for millions of players and the domain is one of the fastest growing segments in the games industry [19]. These “social games” are based on the social network platform and free-to-play (F2P) revenue model [7, 19, 20]. This differentiates social games from traditional retail and subscription based games, thus it brings new development challenges [20]. Rather than products, social games are continuously updated services [7].

Heuristics for video games have been studied by various authors since 1980's [22] and heuristic evaluation has been found to be a useful method for finding playability problems [4, 20, 21]. These evaluation heuristics can be also used in game design process. Currently there are no heuristics designed for the social games domain and therefore in this position paper we present the revised SoPlay heuristics for the design and evaluation of social games.

## SoPlay Heuristics

SoPlay heuristics (Table 1) were first introduced in 2010 [22, 23] and since then they have been revised based on on-going research and feedback from various sources (running workshops, developer discussions, game evaluations). The high-level heuristics are also reflected to earlier research by other scholars. Currently the SoPlay heuristics feature 13 high-level items, which represent different aspects of social game design. Unlike traditional playability heuristics [4, 12, 13], which focus on usability, gameplay and multiplayer aspects for example, the SoPlay heuristics offer a different perspective for understanding social games design and can be used as complimentary tool along with traditional playability heuristics.

## Heuristic Hierarchy

Each high-level heuristic contains sub-level items which provide practical, concrete features related to the higher level heuristic. Here is an example from the heuristic *Accessibility*.

*Accessibility* means that the game supports easy and effortless access and play. This design goal can be approached from various perspectives, which could include following items:

- A1. The game title is descriptive, eliciting curiosity
- A2. The game theme is intuitive and easy to grasp
- A3. The tutorial is short and efficient
- A4. The core mechanics are easy to understand
- A5. There is a clear goal which is understandable
- A6. The game uses standard UI conventions

Some of these sub-level heuristics can be dissected further. For example, the heuristic A3 “*The tutorial is short and informative*” could be approached with three key steps of onboarding theory [11]: accommodate, assimilate and accelerate.

Similarly, *Continuity* focuses on providing a reason and incentives for coming back to the game by supporting continuous play through permanent, evolving game world. There are different methods for achieving that goal, but one promising approach is the use of behavioral, cognitive biases [5, 16]. Biases such as loss aversion, sunk-cost fallacy, endowment effect and goal-gradient effect can be used to instigate the continuous use of the service. These biases can be turned into heuristics, which can then be used in the design and evaluation of social games.

| #  | Heuristic        | Description  | Acquisition | Retention | Monetization |
|----|------------------|--|-------------|-----------|--------------|
| A  | Accessibility    | Supports easy and effortless access and play. [9, 10, 14, 19]                  | ★ ★ ★       | ★         |              |
| 2  | Interruptability | Support stopping and continuing play in a flexible manner. [2, 9, 19]          | ★           | ★ ★ ★     |              |
| 3  | Continuity       | Supports continuous play in a permanent, evolving game world. [3, 9, 17, 24]   |             | ★ ★ ★     | ★            |
| 4  | Discovery        | Supports exploration and discovering new content. [19, 24]                     |             | ★ ★ ★     | ★            |
| 5  | Narrativity      | Provides in-game and off-game narratives to elicit curiosity. [10]             | ★           | ★ ★ ★     |              |
| 6  | Virality         | Support posting viral messages to social network feeds. [10, 24]               | ★           | ★ ★ ★     |              |
| 7  | Sociability      | Support different levels of sociability among players. [10, 24]                | ★           | ★ ★ ★     |              |
| 8  | Reciprocity      | Support reciprocal actions between players. [15, 18]                           | ★           | ★ ★ ★     |              |
| 9  | Expression       | Support customization and player's self-expression. [24]                       |             | ★ ★ ★     | ★            |
| 10 | Scalability      | Support scalable design for further development. [7]                           |             | ★ ★ ★     | ★            |
| J  | Purchaseability  | Provide different types of virtual goods for different player segments. [6, 8] |             | ★         | ★ ★ ★        |
| Q  | Innovativity     | The game distinguishes itself from other similar games. [15]                   | ★ ★ ★       | ★         |              |
| K  | Juiciness        | Provide excessive positive feedback. [9]                                       | ★ ★ ★       | ★         |              |

Table 1. SoPlay heuristics model with hypotheses on the relationships to the ARM-model. Three stars suggests strong link where as one star suggests a weaker link. Empty space suggests that there would be no significant relationship.

## ARMing the Heuristics

*Acquisition, Retention and Monetization* (ARM) is a model for understanding customer relationship building in social games [7]. This position paper provides hypotheses that each ARM factor has a relationship with the high-level heuristics (Table 1). For example, *Accessibility* is related to *Acquisition*, where as *Continuity* is related to *Retention* and *Purchaseability* to *Monetization*. These links can be either strong or weak. Identifying and verifying these ties would further enhance the applicability of the model especially from the design point of view.

## Discussion

Heuristics are a set of tools for structuralizing information. The purpose of the SoPlay heuristics is to structuralize the specific domain, social games, for game development purposes. As the heuristics act as a genre description, they can also be used to evaluate and design social games. To further increase the applicability of the heuristics, their relationship to the ARM model is being studied.

The heuristics are not be-all-end-all rules of game design. They can be broken when needed and it is up to the game concept and the context of play. Following the Japanese learning model *shu-ha-ri* [18], the high-level heuristics should be first learned (*shu*), then modified for the user's needs in a certain context (*ha*) and ultimately discarded as the user has understood them "inside out" and is ready to use them intuitively without the need of strict form (*ri*).

To promote playfulness [1], the high-level heuristics are dressed up as deck of cards, running and id from 2 to 10 with J, Q, K and A. The purpose of this approach

is to make the the heuristics more tangible and intuitive, as our earlier research has shown that a plain list of heuristics is boring and tedious to parse, especially for a new user [21].

An important aspect of developing heuristics is their verification and validation. Although the SoPlay heuristics have received encouraging feedback from designers, teachers and students, this evidence is still mostly anecdotal. Creating a method for verifying and validating the heuristics is being currently studied.

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## Biography

Janne Paavilainen is a project manager and games researcher in the Game Research Lab, University of Tampere, Finland. He has been working on games research for nearly a decade, trying to understand what makes a good game through qualitative research approach. Focusing on usability, playability and user experience, Janne has been studying the relationships of free-to-play revenue model, game design and player experience on Facebook games. Currently Janne is making his PhD thesis on the design and evaluation of social network games. Being an avid gamer as well, Janne is now hunting zombies and survivors in DayZ, wondering how such an awful user-interface is capable of delivering such an exciting game experience.