# Social Gaming Rules: changing people's behavior through games

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## Abstract
In this paper we propose an approach towards designing social games or game elements for changing people's social behavior for serious applications. We use the concept of the magic circle, which outlines the experience of a game world as different from the real world. We can design a connection between these worlds through space, time, and people. A rules-perspective proves to be helpful, particularly on the social level. Rules not only shape social behavior but social behavior also shapes the rules.

## Author Keywords
Social gaming; magic circle; behavior change; game rules; research through design; multiplayer games

## ACM Classification Keywords
H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## Introduction
You can play complex multiplayer games like World of Warcraft or play one-on-one in Songpop. But for social games, pen and paper can be enough to have a long and fun evening. Social interaction appears to be a great motivator.

The motivation players experience while playing games is applicable for various purposes. Game elements, such as competition, simulation, and dialogue, can be used to motivate behavior in any type of context. This is valuable in a wide variety of application areas like psychotherapy, elderly care, and organization management. What are game elements? How can we use the motivation in social games? And how can we design games for social behavior in other contexts?

## Magic Circle

We use the magic circle to understand the use of game elements from a player perspective. This magic circle was first mentioned by Johan Huizinga, who described it as "*a state in which the player is bound by a make-believe barrier created by the game*" [2]. The consequences of a player's actions stay within the boundaries of the magic circle, so they feel more freedom to play. Game elements are the building blocks for a magic circle experience and they generally derive their motivational power by tapping into basic psychological needs [6].

The magic circle refers to the motivation players experience in game worlds, as opposed to the real world. But these worlds are never fully separated. They can be connected through space, time, and people. So the magic circle can be applied for changing people's behavior in the real world. You can design a game around real world elements to motivate behavior. Or integrate real world elements in a game to transfer behavior.

If you design games for serious applications you have to consider this connection between the real world and the game world. The world within the magic circle

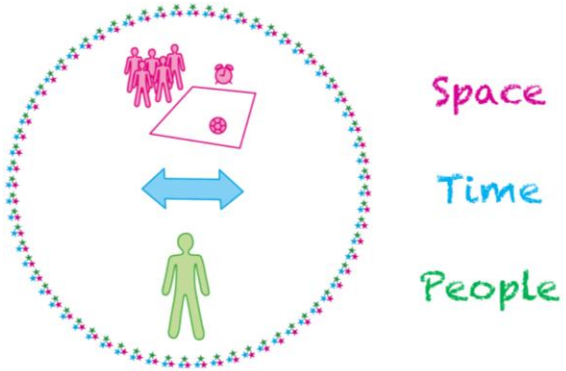


**Figure 1.** The magic circle with the game, the play, and the player

consists of three types of elements: game, play, and player (figure 1). They can connect with the real world through spaces and objects, activities, and relations between people [5].

## Rules guide Behavior

The intended behavior or play is central when designing games or using game elements for serious applications. So once we understand the relation between the magic circle and the real world, we can define the rules that shape the behavior or play to meet our goals. Games are rule-based systems [1] and we can design these rules to guide the behavior of the player.

But rules not only guide and motivate behavior within the game world; they also guide the behavior in the real world. This rule-perspective is useful for designing connections between both worlds, because rules can apply on space, time, and people. Cruel 2 Be Kind [4], for example, is a game where the rules create a social connection with the real world. You play the game in a crowded area and you don't know who the other

players are. The only rule is that you kill another player by giving a compliment.

Rules can be made explicit in a physical game, but physical elements are not a necessity. You can for example provide cards with specified roles for a role-playing game, but you can also just agree upon the roles within a group. There are numerous new inspiring technologies that can embody or enforce the rules of a game, but they should not be leading in the design process. The physical elements in a game should be in service of the intended behavior or play. Sometimes pen and paper might be enough, whereas in other cases mobile devices or integrated sensors suit best.

So when designing a game (or game elements) for behavior change you can start with defining the rules. The difficulty of defining rules is the abstraction level. Imagining how players behave according to a particular rule is hard. Therefore it is important to test and experience the rules quickly in the design process, so prototyping and enactment is key.

## Rules in Social Games

As a designer you can define rules, but they also arise from social interaction in the game. Eventually the players have to agree upon the rules and comply with them. Building a magic circle in terms of agreeing upon rules can sometimes even be the core activity, in children's play for example. Rules provide "*a basic aspect of the player experience: that different games yield different kinds of [motivating] experiences*" [3].

To investigate the effect of rules we designed two types of a multiplayer Break-Out (or Arcanoid) game (figure 2). In this experiment our goal was to design for a

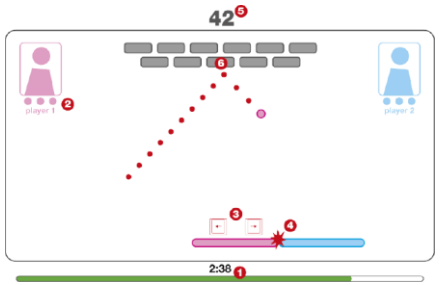


**Figure 2.** The multiplayer Break-Out game.

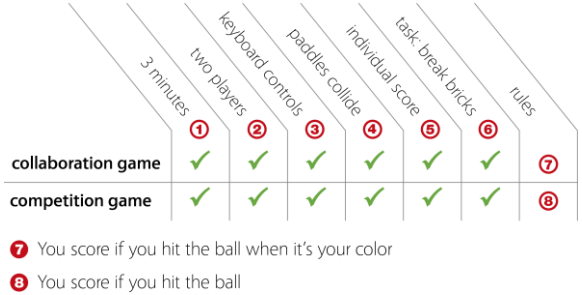


**Table 1.** Overview of the game elements used in both multiplayer Break-Out games.

competitive and collaborative experience. To structurally test the effect of rules all other game elements were kept the same (table 1). This resulted in a competition and collaboration game where the task, controls, and visuals are identical. Only the rules are slightly different, and this was made explicit through elements in the game.

Tests indicated a clear difference in behavior and experience between the two games. So the rules guided the player's behavior and experience. And although the social interaction was only mediated by the game, there was a lot of diversity in the players' behavior if you look at specific events in both game types. There were players that focused on keeping the ball in the game, whereas others were mainly occupied with obstructing the other player. This resulted in a wide variety of gameplay events.

So small changes in the rules of social games can generate big differences in the game experience and behavior of players.

## Interest in the Workshop

In the Game Jam I would like to design social games and gain more experience in designing with a rules-perspective. I hope to explore the expansion of the magic circle on the social level, i.e. connecting players in the game with people of the CHI conference. I expect that my interaction design, visual design, and prototyping skills will be useful to achieve this.

## My skills & expertise

- Interactive prototyping
- Interaction design methods
- Research through design
- User (/player) experience
- Game design research
- Social interaction

## About me

In February 2011 I obtained my Master's degree at Industrial Design at the Eindhoven University of Technology. As a PhD in Industrial Design Engineering at the Delft University of Technology I'm currently conducting research on how games can be used for behavior change (the G-Motiv project). I specifically investigate the effect of social game elements on the behavior and experience of players in a multiplayer game. I follow a research through design approach where the design process of the games is as valuable for gaining knowledge as testing them.

Portfolio: www.nikovegt.nl

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