# Situational games; a white paper

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**Abstract.** In this white paper we introduce Situational Games (sitgames). Situational games are played for a reason, on the spot, and in interaction with the actual situation at that spot. We argue that the elementary properties of sitgames make them suitable for first class serious digital games with quantifiable results. Situation provides a point of reference for the assessment of events and discourse, while interaction (gaming) provides the necessary active attitude to actually achieve a change in behaviour. Both are occasions of "the book is better than the movie".

## 1 Introduction

Play has been a motivation for centuries for man to create new things, whereas games have persuaded people to act. Play and game are related but not identical terms, while play does not necessarily serve a purpose, game is all about earning credits. Recently people realized that play and game can both be exploited to realize, in a quantified manner, a predefined purpose: serious gaming.

The first serious digital games emerged accidentally from video games. People started noticing that players actually gained something from playing a game. Players were persuaded to change their attitude towards societal issues, or improved skills like hand-eye coordination or crowd navigation. The main motivation to play came from the game itself, since it is entertaining and yields credits. Players are really engaged.

Today, only a few examples exists of successfully created serious games, in which the objectives were defined prior to the actual game design and the game is truly entertaining. One problem is that often in self-declared serious digital games the storyline is lineair. While a lineair story line gives the designer good control about the serious objectives, for the player it is often less engaging.

True serious games must be inherently motivating, measurably serious, seriously persuasive, and entertaining. We argue that we can divise a subset of serious games that unobtrusively and intuitively materialises these assets: situational games (sitgames).

In situational games, participation with the context is key. Where context includes the target group of users, the location of use, the situation and events at that location, the state and possibly the mood of the user, as well as the state of his social network. Thus situational games are cross medial by definition and incorporate a situation-dependent non-linear storyline.

## 2 Meaningful play

Meaningful play and serious gaming both emphasize that reaching an articulated objective is as important as the way of how to get there. Thus learning and entertainment must be integrated, although at some point we strive for making the implicit objective quantifiable, i.e., measurable.

Learning, and especially deep learning typically involves a number of phases. Kolb provides a simple model in [3]. The initial phase in this model involves the theoretical background of the matter. Theory is supported by a concrete experience, i.e. embedding theory in an authentic situation. Experimentation with the theory provides interpretation and feedback. A final phase includes reflection upon the theory. Again, reflection requires a point of reference, which is naturally provided by situation.

Gee, amongst others, notes that games provide three out of the four phases in a natural way by offering structure, immediate feedback, simulation and reflection, see [2].

### 2.1 Behaviour

Serious games and meaningful play strive to create change, often with the intention to alter a person's behaviour. Here we introduce a simple behaviour model, which allows us to connect behaviour to sitgames, see Figure 1.

In [1], Fogg introduces a behaviour model with two axes: motivation and ability. Ability reflects the whole of skills and necessary resources. Motivation and ability are the necessary but insufficient requirements to reach a target behaviour. Even if a person has the ability and the motivation, acting in conformance to that target behaviours requires a final trigger, a spark.
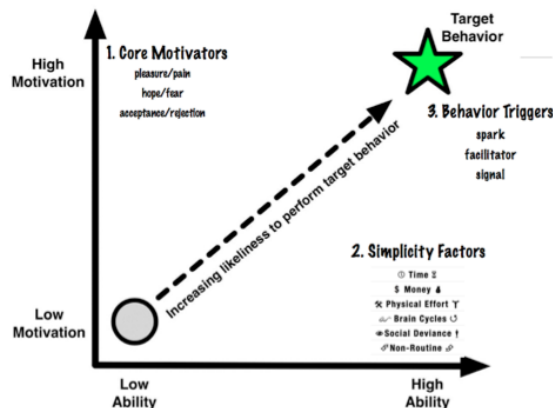


**Fig. 1.** Behaviour model [1].

In view of the Fogg's model, sitgames can play a role in either dimension. Games and gaming, for instance, have motivated people to spent time and effort to accomplish a task. In [6][4] participation is identified as the main characteristic of games to induce engagement and therefore motivation. Other elements include play elements such as interpretation, reconfiguration, interactivity, and even failure and hope. But also the constituent technologies of nowadays digital games such as multi mediality and connectivity are strong contributors to engagement.

Ability can be raised through learning, e.g., improving ones skills, and by providing means and knowledge. As pointed out above, situation is beneficial for learning, but also situation awareness increases knowledge.

Finally, situation provides the *spark* to truly activate a change in behaviour. By adhering to a person's situation, things become authentic and actions become meaningful. The player identifies itself with the matter

### 2.2   Related work

Situation has been used in various activities, mostly in combination with learning. Situated learning [5,9] conjectures that learning is most effective when executed in the work situation. Situated play [7] takes a psychological perspective and introduces situated cognition, thus emphasizing play and interaction with the situation. Situated gaming [8] studies the game setting and game interface with respect to learning abilities. It is observed that the social setting of gaming is often a trigger for learning.

## 3   Sitgames

The basic conjecture of the effectiveness of sitgames for serious purposes is that situation provides an authentic setting that engages a player, that helps to realise the logic, and that triggers the player into action. The authenticity provides the necessary meaning and appreciation. This is a similar to a possibly reason why people sometimes like the book better than the movie. In a book multiple story lines can easily co-exist, in a book there is room for a readers's interpretation, i.e., from the reader's perspective embedded in his situation. Characters and actions therefore become authentic. And finally, interpretation requires active reasoning.

In order for a situation to participate in a game we identify four ways:

**pervasive** the game augments the immediate environment of the situation and therefore affects the course of actions in the real situation. This can be realized, for instance, by overlapping the real (geographical) location of the situation by the game's play field, as found in urban and pervasive games

**simulation** the game takes a model of the actual situation as its in-game play field to affect the (situational) awareness of player. This can be realized in simulation games.

**eventing** the game takes events from the real situation to affect the evolution of the game's state, which in turn affects the (situational) awareness of the player. This can for instance be realized by giving credits to players who execute chores in the real situation.

**gamification** the game modifies the interpretation of the immediate environment of a real situation, thus affecting the course of actions of that situation. This can be realized for one by modifying artefacts in the situation.

### 3.1 Examples

In this section we provide a first set of examples for each of the four identified components of sitgames. The examples are by no means exhaustive.

**pervasive**
  – Life action role playing (LARP)
  – Geocaching; GPS based treasure hunting
  – Urban games

**simulation**
  – The Mayor's game
  – Situational leadership games

**eventing**
  – advergames
  – chore games

**gamification**
  – Holle bolle Gijs, The piano stairs
  – Foursquare

In addition to dedicated examples above we can also enumerate gaming techniques such Augmented Reality and Alternate Reality Games.

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