DESIGN

Gamification and persuasive technology

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Introduction

- Gamification is about designing computer systems that do at least one of the following:
  - create engagement
  - reinforce motivation
  - change behavior
  - persuade

Relevance for *Sustainible HCI*

- "Persuasion is a major theme in the sustainable HCI literature, comprising about 45% of our corpus." (DiSalvo, Sengers & Brynjarsdóttir, H. 2010).

Sustainible HCI

- Subfield of HCI (emerging at CHI 2007).
- Roughly understood as HCI-projects oriented towards using HCI to further protection of the environmen and sustainable use of resources.

2

Relevance for DESIGN group

- Smart cities and other environmental oriented projects.
- Computing for the elderly and other health applications
- General projects were creating awareness, engangement and behavior change is among the objectives.

"Gamification" defined

"Gamification is the use of game design elements in non-game contexts."
(Deterding, Khaled, Nacke, & Dixon, 2011)

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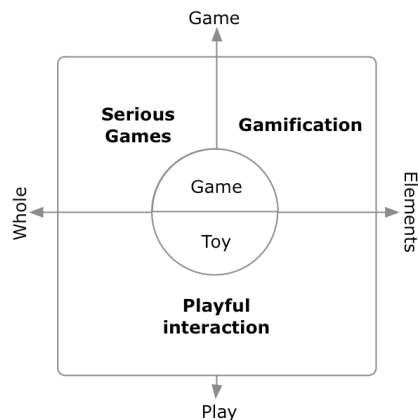
What is a "game"?

- Wittgenstein:
  - "For how is the concept of a game bounded? What still counts as a game and what no longer does? Can you give the boundary? No." (Philosophical Investigations, Aphorism 68.)

What is a "game"?

- Bernard Suits in "The Grasshopper. Games Life and Utopia", Broadview Press 2005:
  1. Pre-lusory goal (a goal separated from the rules).
  2. Constitutive rules (artificial limitations).
  3. Lusory attitude (voluntary following the rules).
- I.e.: game something that has an **objective**, has **limitations** and where participation is **voluntary**.
- It should also be emphsised that the game should be designed so that the player thinks the game is **meaningful** and that **following the rules** of the game makes sense.

Game vs. play

- Play is *unconstrained playful activity*, undertaken for joy alone.
- Game is *activity constrained by rules*, undertaken for a *pre-defined objective*, and because it has *meaning for the player* beyond the joy.
  - In terms of HCI research, we tend to distinguish gamification from playful interactions, playful design, or design for playfulness. (Deterding, Khaled, Nacke, & Dixon, 2011)
  - In practice though, we assume that the design of gamified applications will often give rise to playful behaviors and mindsets (ibid).

Gamification vs serious games

- "Gamification is the use of *game design elements* in non-game contexts." (ibid.)
- "[S]erious games describes the use of *complete games* for non-entertainment purposes." (ibid.)
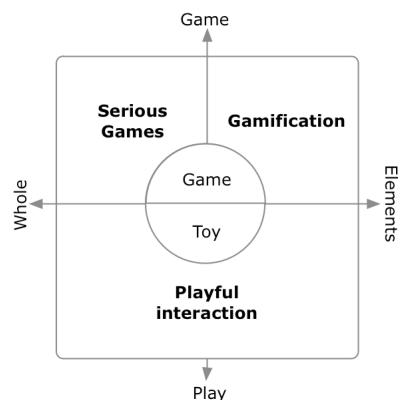
Mastergrad-prosjekter

- Serious games:
  - "The Design of Educational Games: ENKI"
  - "Scientific hangman"
- Gamification:
  - "Designing Semantic Enrichment for non-expert users in a News Outlet website"
  - "OAsearch: A crowdsourced search engine for scholarly OA publications, gamified to enhance user motivation"
  - "App for Sharing E-Charging points."

Gamification as "method"

- We should simply view "gamification" as yet another method which we can use when designing an information system.

Potential for abuse/manipulation

- Rewards can demotivate
- Hedonic treadmill (effect of rewards wear off).
- Overemphais on status

Self-determinition theory

The motivational spectrum					
Amotivation	**Extrinsic**				**Intrinsic**
	External regulation	Introjection	Identification	Integration	

- Autonomy
- Competence
- Relatedness

6D gamification framework
(from Kevin Warbach)

1. Define business objectives.
2. Delineate target behaviors.
3. Describe your players.
4. Devise your activity loops.
5. Don't forget the fun.
6. Deploy the appropriate tools.

The Game Element Hierarchy

Motivation, narrative, social or environmental impact.

Dynamics
are the big-picture aspects of the gamified system that you have to consider and manage but which can never directly enter into the game.

Mechanics
are the basic processes that drive the action forward and generate player engagement.

Chance, turns, rewards, player iterations

Components
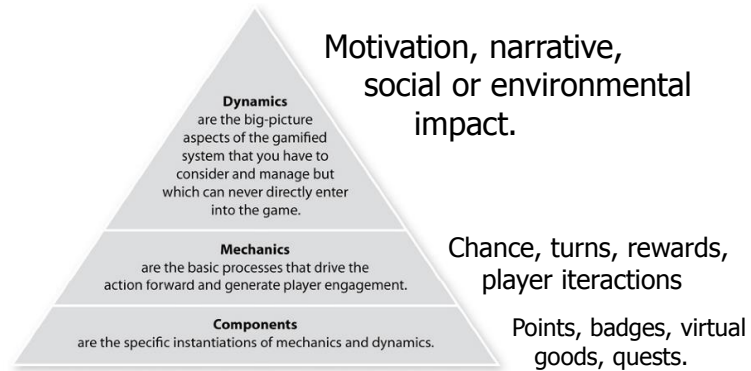are the specific instantiations of mechanics and dynamics.

Points, badges, virtual goods, quests.

Figure 1.3: The Game Element Hierarchy