

Pervasive Games: Bringing Computer Entertainment Back to the Real World (2005)

Presentation for TDT71@NTNU
by Martin Solheim

Meta

- Introduction to pervasive games.
- Showcasing examples in different sub-genres.
- From 2005
- Made by:
 - Carsten Magerkurth
 - Adrian David Cheok
 - Regan L. Mandryk
 - Trond Nilsen

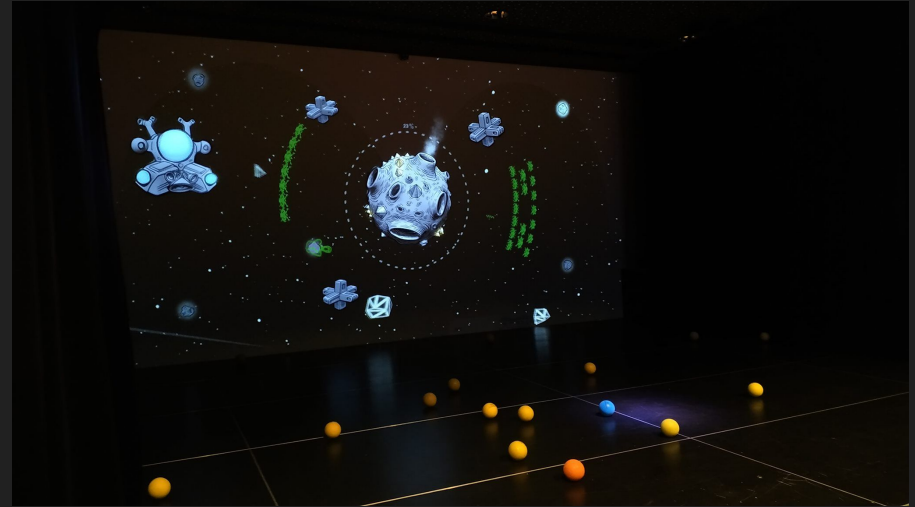
Computer games

- Advantages:
 - Immersive
 - Interactive
 - Good graphics
- Use keyboard/mouse/gamepad
- Disadvantages:
 - Decreased the players physical activity and social interactions



What is pervasive gaming?

- It involves physical or social aspects of the real world.
- Pervasive games try to get the best of both worlds with:
 - Physical toys with sensors
 - AR
 - Location based gameplay



Source: INITI.org

Affective Gaming

- The emotions of the player alters the game in real time
- Can be measured with :
 - Galvanic skin response
 - Voice recognition
 - Brain wave measurement
- Personalized gameplay.

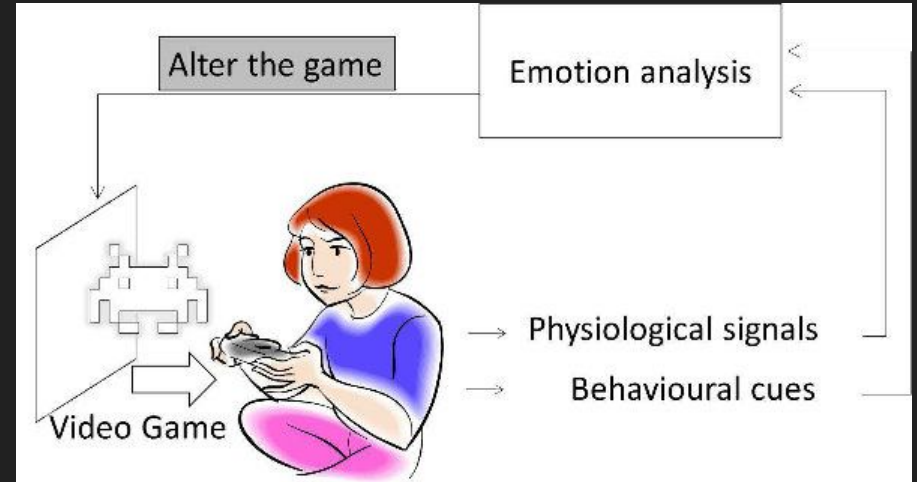


Fig. 2. Brainball: players' EEG signals control the movement of a physical ball on a table.

Smart Toys

- Motion sensors
- Reacts with either sound or a graphical display
- Zowie Playsets
 - Sensors
 - Sends motion/rotation data to computer
- No rules as to *how* they should be played with

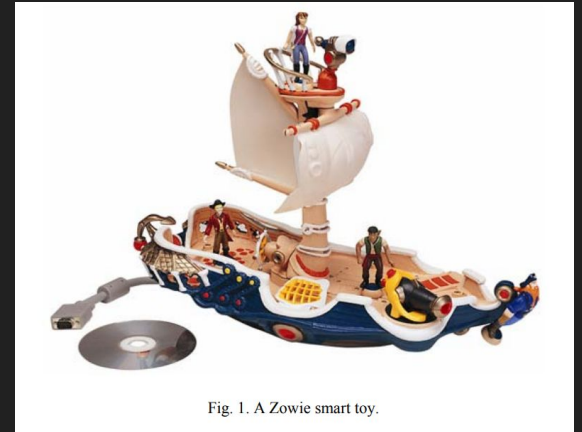


Fig. 1. A Zowie smart toy.



Location Aware Games

- Uses location to alter the gameplay
- Context:
 - Traditional games - *what/when*
 - Affective games - *how* a player feels
 - Location aware games - *where/who*
- Massive real world locations becomes the game board.



Augmented Reality Games

- Computer graphics in a real world environment
- General approaches are:
 - Head-mounted displays (Microsoft hololens)
 - Face to face social interaction
 - Images projected on real-world surfaces
 - Can't display 3D
 - Hand held devices (phones - pokemon go)
 - Real time “window into augmented space”

