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
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”