
PERVASIVE GAMES

BRINGING COMPUTER ENTERTAINMENT
BACK TO THE REAL WORLD

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META INFORMATION

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Carsten Magerkurth, Adrian David Cheok, Regan L. Mandryk, Trond Nilsen. "Pervasive games: bringing computer entertainment back to the real world." *Computers in Entertainment (CIE)* 3.3 (2005): 4-4.

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PERVASIVE GAMING

“Pervasive games are no longer confined to the virtual domain of the computer, but integrate the physical and social aspects of the real world”

BACKGROUND

- ★ Games were designed out in the physical world
- ★ Computer games > traditional games

Advantages with computer games

- ★ Creates illusion of being in a virtual world (fantasy)
- ★ More interactive goals (challenge)
- ★ Easily provoke players' curiosity (curiosity)

Fantasy + challenge + curiosity = fun

PROBLEMS



Decreasing players'
physical and social
interaction



Focus mainly on the
computer screen



Boundaries and
limitations

SOLUTION

Make sure interaction is no longer confined to the virtual domain of the computer.

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Pervasive Gaming

PERVASIVE GAMING GENRES

Several unique types of pervasive games, each setting the focus on different aspects of the gaming experience

Smart Toys



Augmented Tabletop Games



Affective Gaming



Location-Aware Games



Augmented Reality Games



01 SMART TOYS

- ★ Regular toys - no limitations to the use
- ★ Equipping traditional toys with sensing technology
- ★ “Zowie playsets”



REDBEARD'S PIRATE QUEST

Playing with the Pirate Ship controls the action
on screen when you plug it into your PC.



02 AFFECTIVE GAMING

- ★ Capturing *how* a player is feeling
- ★ Thermal cameras, voice analysis, or facial expression analysis.
- ★ “AffQuake”

AFFQUAKE



- ★ Quake - first person shooter game
- ★ Metal contacts
- ★ Physical reactions are transmitted from player to players' avatar



03 AUGMENTED TABLETOP GAMES

- ★ Integrate state of the players
- ★ Add social situation to virtual domain
- ★ “The STARS tabletop platform”
 - Changes dynamically as the game progresses



04 LOCATION-AWARE GAMES

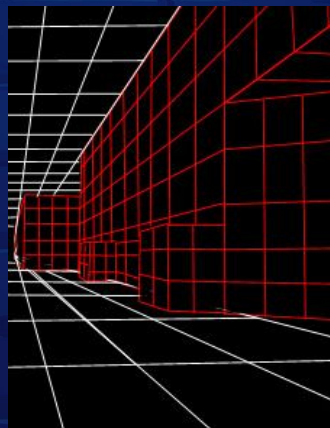
- ★ Regarding the entire world as the game board, player as playing piece
- ★ Determining players position using technology (e.g. GPS)
- ★ “Treasure”



05 AUGMENTED REALITY GAMES

- ★ Drawing virtual objects into a real-world environment.
- ★ Three general approaches:
 - Using head-mounted displays
 - Using images projected on real-world surfaces
 - Using hand-held devices
- ★ “ARQuake”





05 AUGMENTED REALITY GAMES

Open issues with AR (back in 2005)

“Current augmented reality systems require especially configured hardware and controlled environments. Such systems are expensive to set up, and so commercial game development is not viable.”

The Kahoot logo is centered on a dark blue background with a subtle brick pattern. It consists of the word "KAHOOT" in a light blue, sans-serif font. The text is enclosed within a double-line border that forms a square with clipped corners. The inner border is a light cyan color, and the outer border is a vibrant magenta color.

KAHOOT