

A SUMMARY BY SONDRE STAI

PERVASIVE GAMES: BRINGING
COMPUTER ENTERTAINMENT BACK
TO THE REAL WORLD

ABOUT THE ARTICLE

Authors:

- Carsten Magerkurth
- Adrian David Cheok
- Regan L. Mandryk
- Trond Nilsen

Keep in mind: Published in 2005! (When I was in fourth grade)

Experience report on development and 'current' status

BOTTOM LINE

BACK TO THE PHYSICAL WORLD



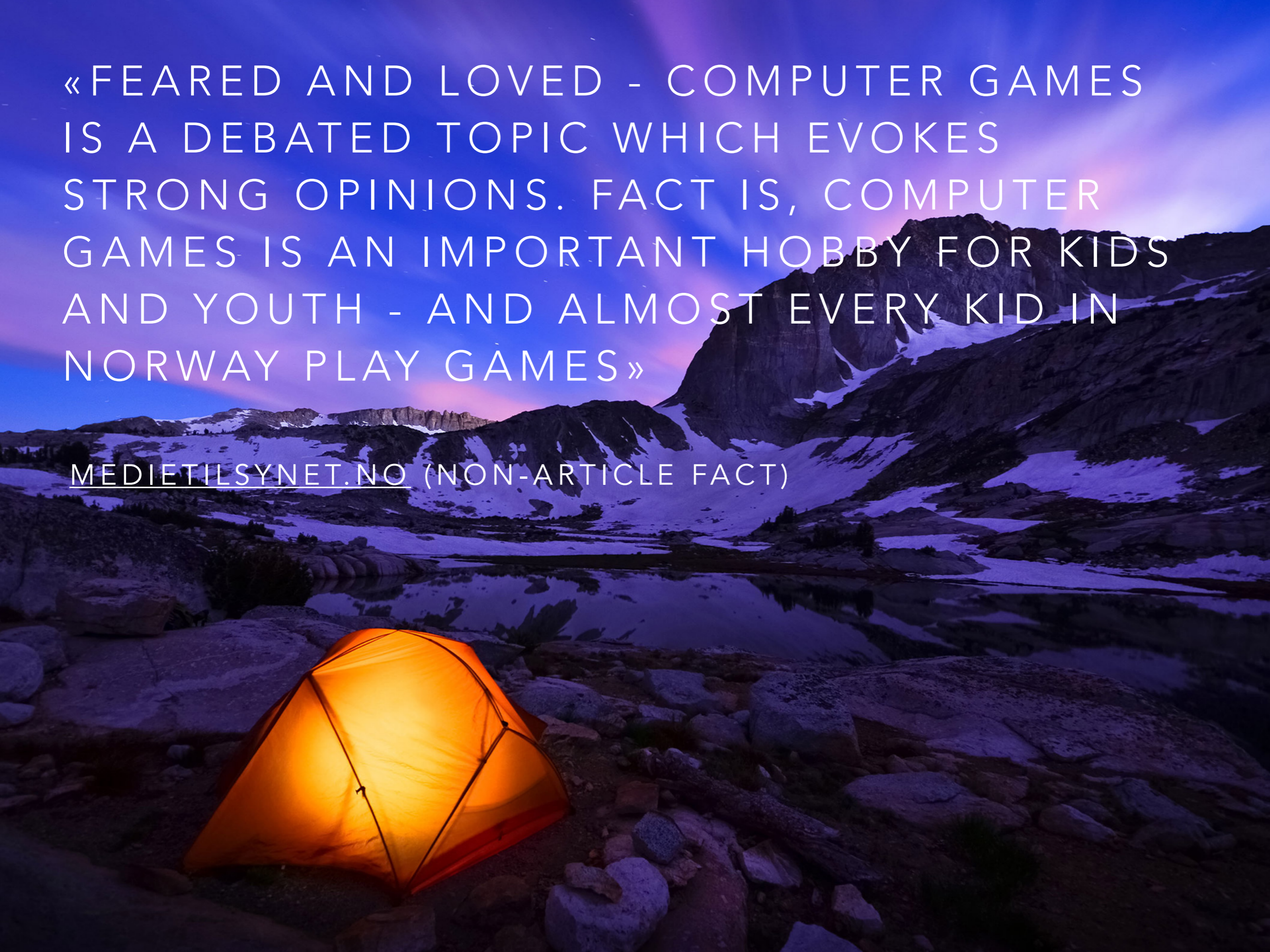
TRADITIONAL GAMES

- Computer games have been taking over the world
 - Immersive
 - Interactive
 - Varied gameplay
 - Optimal level of information complexity



«FEARED AND LOVED - COMPUTER GAMES IS A DEBATED TOPIC WHICH EVOKES STRONG OPINIONS. FACT IS, COMPUTER GAMES IS AN IMPORTANT HOBBY FOR KIDS AND YOUTH - AND ALMOST EVERY KID IN NORWAY PLAY GAMES»

MEDIETILSYNET.NO (NON-ARTICLE FACT)



CLAIMS BY AUTHORS

- «[...] the development of computer games has often decreased the users' physical activities and social interactions.»



CATEGORIES OF PERVASIVE GAMES

SMART TOYS

«traditional physical toys
equipped with simple
sensing technology
linked to computer
logic»



Fig. 1. A Zowie smart toy.

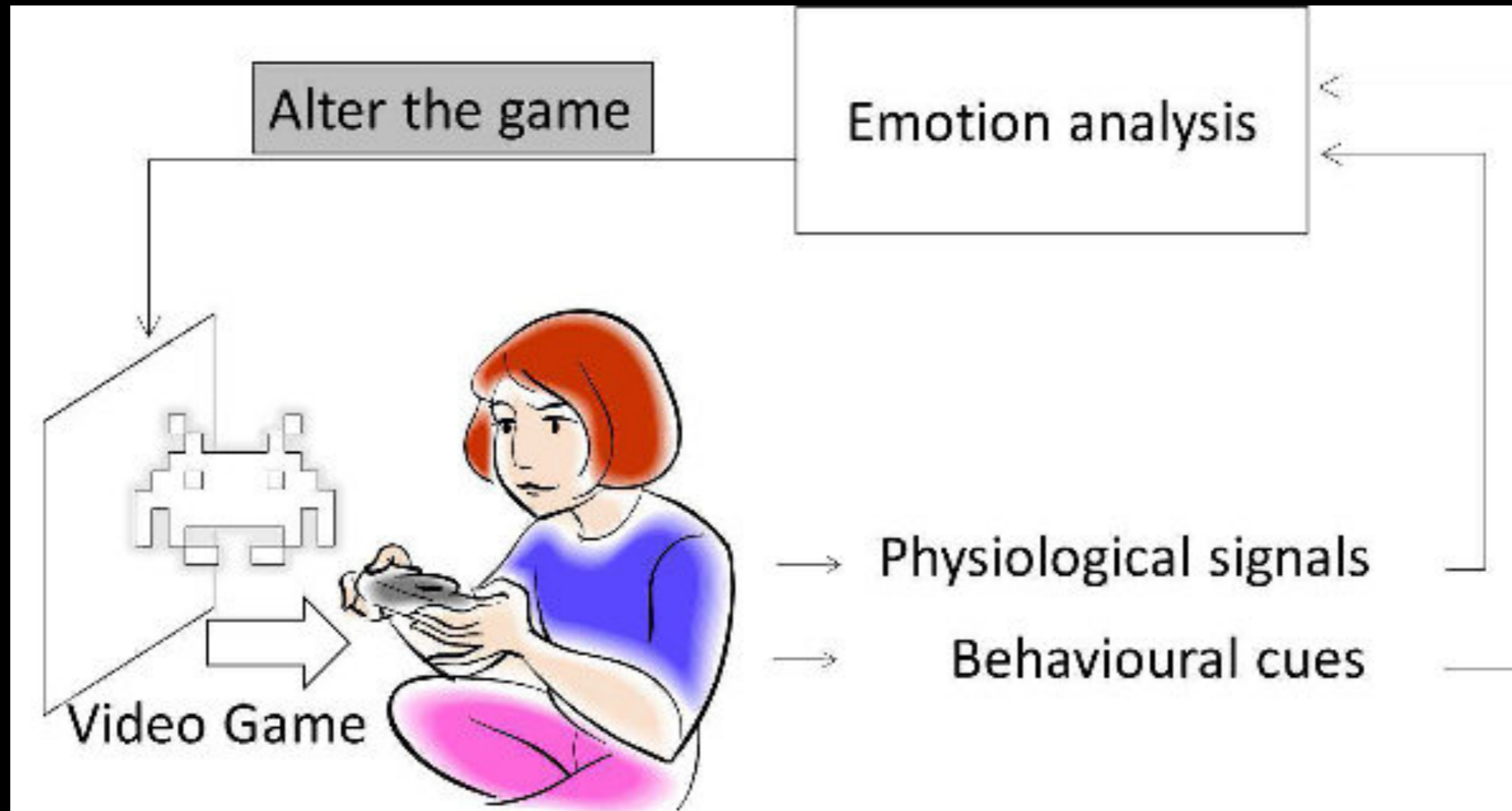
CONTEMPORARY EXAMPLE

ANKI OVERDRIVE



AFFECTIVE GAMING

«computing that relates to, arises from, or deliberately influences emotions»



S.M.A.R.T. BRAINGAMES

- Combine PlayStation with NASA technology
- Measures brainwaves using EEG
- If the user maintains the desired brain state, he or she gains full control of the game controller. If not, the speed and steering control decrease

AUGMENTED TABLETOP GAMES

- Adding face-to-face interactions to the gaming domain
- Combining different technologies: vertical displays, PDAs (lol), RFID antennas
- STARS platform



CRITIC

- Where is the border between an augmented game and an augmented tabletop game?
- E.g. augmented Age of Empire
- Authors intention: digital boardgames in a physical setting
- Current trend: convergence. $AR + MR + VR = XR$

LOCATION AWARE GAMES

- When the entire world is your playground
- User location via GPS, mobile data, wifi
- Exchange data between players



CONTEMPORARY EXAMPLE

INGRESS

The screenshot displays the Ingress game interface. At the top, there are navigation tabs for 'MAP', 'SOCIAL', and 'INGRESS REPORT'. The 'INGRESS REPORT' tab is active, showing a profile picture and a score of 2,846,846,557. A search bar on the right contains the text 'enter location'. Below the navigation, the player's name 'Cairnius' is shown with a level indicator '1' and a progress bar. The 'Regional Score' is 1,791,445, and the player's score is 1,753,929. The map shows various territories in New York City, including Union City, Jersey City, Manhattan, and Maspeth. The map is overlaid with a network of green and blue lines and dots, representing player activity and faction boundaries. At the bottom, there is a chat window with three messages: 'suckitblue captured Madison Avenue Baptist Church (129 Madison Av...', 'lillilili deployed a Resonator on Three Window Guardians (11 West 82nd Street, New York, NY 100...', and 'lillilili captured Three Window Guardians (11 West 82nd Street, New York, NY 10024, USA)'. The chat window has buttons for 'All', 'Faction', 'Alerts', 'Restrict to map', and 'Transmit'. The bottom right corner shows 'Loading Data...' and 'Showing all L...'. The map data is from 2016.

AUGMENTED REALITY GAMES

- «Users see their view augmented with 3D objects registered such that they appear to exist in real space»
- Devices: Headmounts, projections, hand-held devices

CHARACTERISTICS OF AR GAMES

- World domain <-> game domain
- Both virtual and face-to-face
- Enhanced with visualization layer
- Stapleton's Mixed Fantasy Triad: «the ideal entertainment experience comes from the combination of physical experience, virtual content, storytelling, and the imagination of the user.»



EXAMPLES FROM THE ARTICLE

- AR Hockey
- ARQuake
- Human Pacman

PERSONAL PROJECT



Simple game made with Unity + Vuforia