

play IT smart: serious building games for sentient architectures

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Posco E & C

08/30/2005

DARCH
Faculty of Architecture

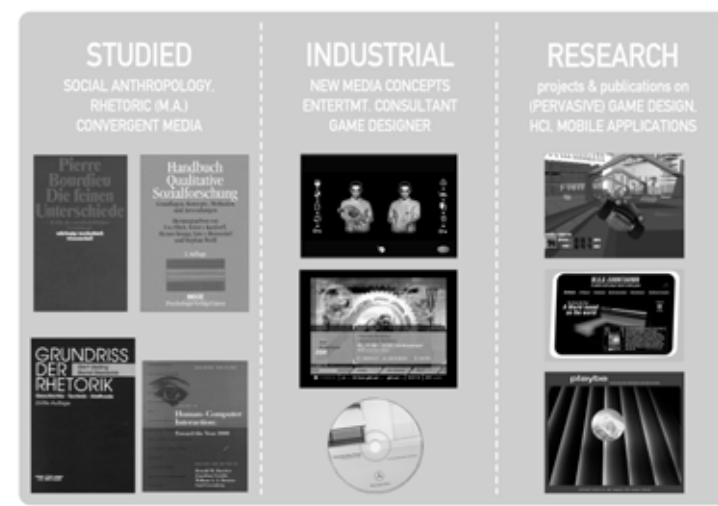
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overview

upcoming

- background
- about ETH Zurich / CAAD
- what are serious pervasive games in relation to architecture?
 - projects
 - discussion

background spw



ETH Zurich / CAAD

at the ETH Zurich / CAAD we apply IT to create real projects:

1
generative design
with real applications

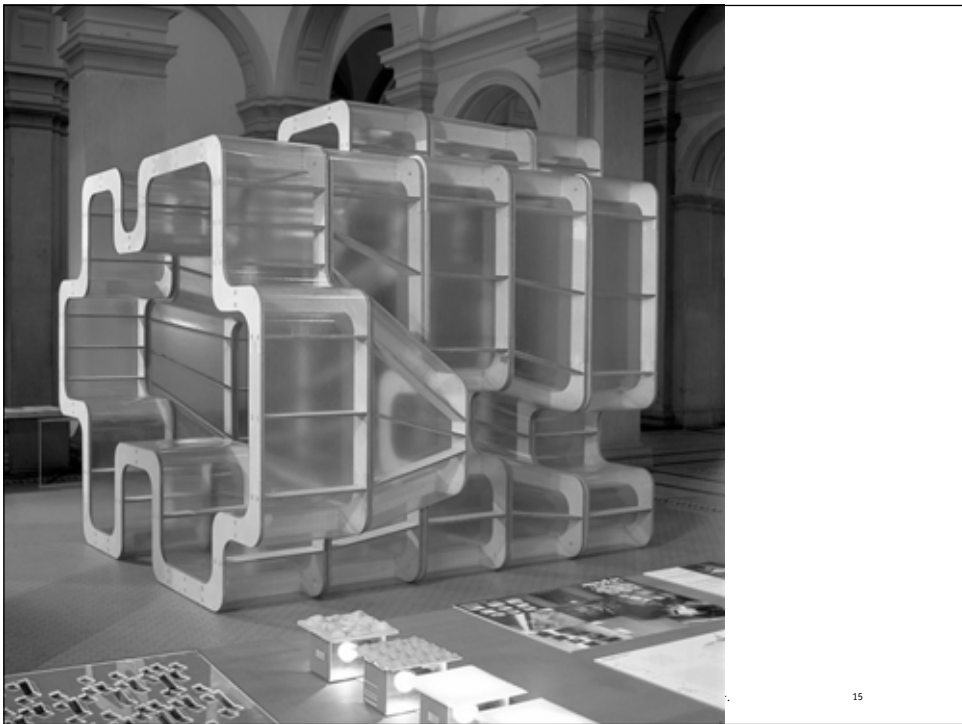
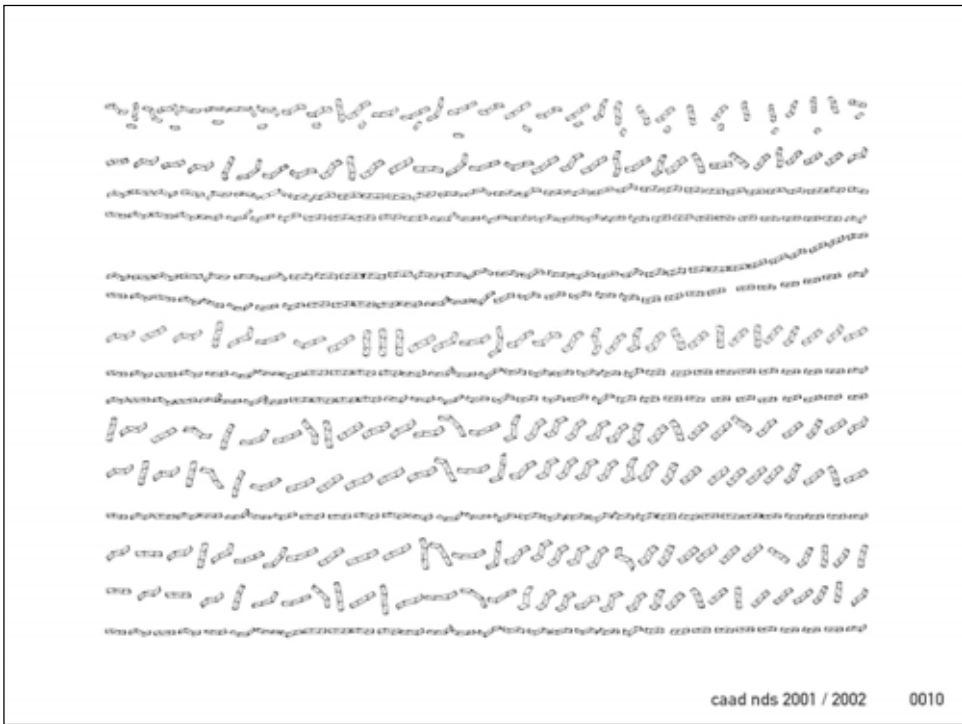
2
one-of-a-kind production
of unique building designs

3
pervasive computing to establish
(collaborative) building services

1
generative design with real
applications




HERZOG & DE MEURON
national stadium beijing



3

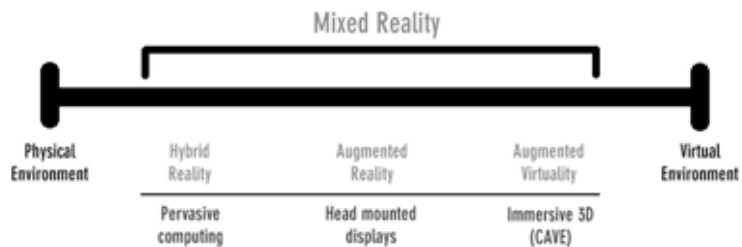
pervasive computing to establish
(collaborative) building / spatial
services


 ETH
 Eidgenössische Technische Hochschule Zürich
 Swiss Federal Institute of Technology Zurich

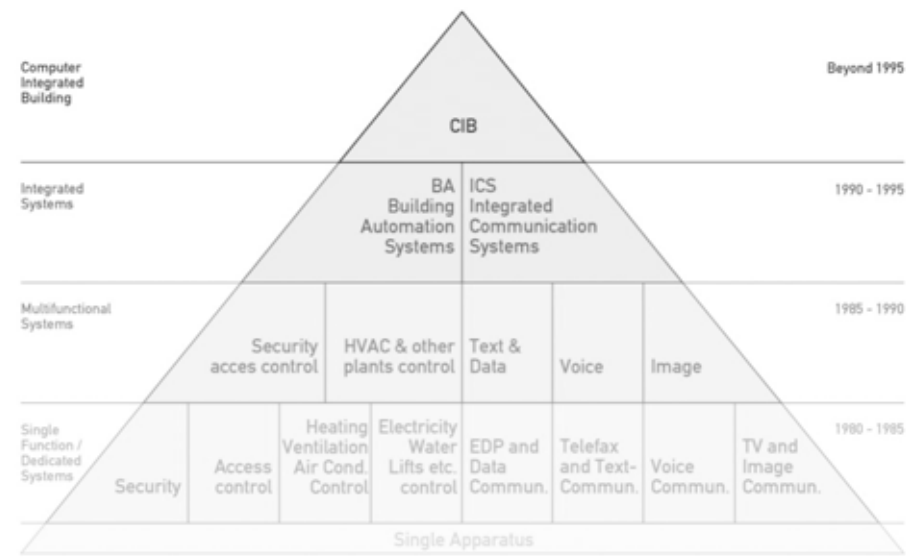
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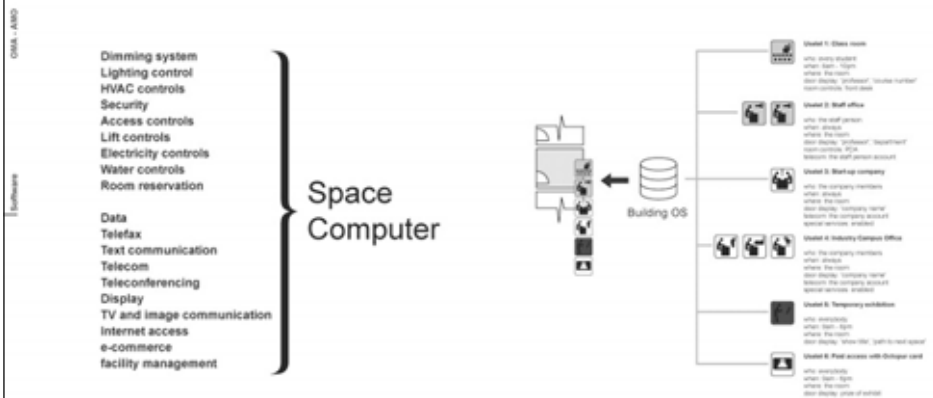
def. pervasive computing & hybrid reality



computer integrated buildings



a building as a service platform



© OMA - AMO 2002





ongoing projects:
ETH world -> ETH science city (2006+)



ongoing projects:
ETH world / CAAD buildingIP ->
ETH science city (2006+)



ongoing projects:
ETH world / CAAD buildingIP ->
ETH science city (2006+)



ongoing projects:
 ETH world / CAAD buildingIP ->
 ETH science city (2006+)



what are serious pervasive games?

serious pervasive games combine =

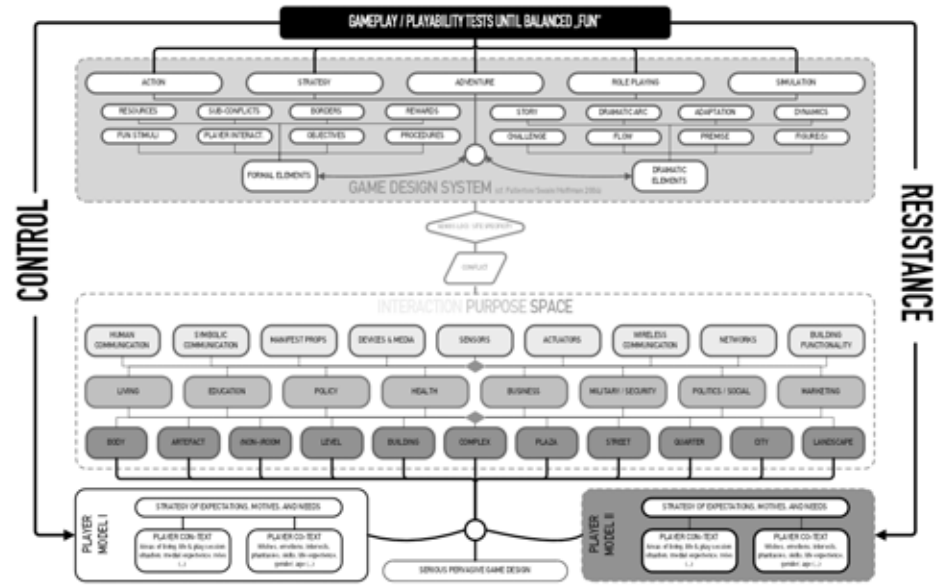
- 1) **serious purpose**
 (e.g. learning)
- 2) **pervasive computing**
 (e.g. mobile devices, wireless networks, sensors / actuators)
- 3) **game design methods**
 (e.g. rules & goals, space-time, interactions, challenges & rewards, drama, closure)



rules of play / design framework

- 1) the world - a place - is a gameboard
- 2) the game is where *you* are -> player constrains space-time
- 3) ideas come first, then co-texts & con-texts, then interaction schemes, media & technology
- 4) serious pervasive games have dialectics:
 - a) they empower novel subjective experiences
 - b) if well balanced, they are near perfect surveillance and motivation tools

some history digging: technologized game & play architectures



projects

not so obvious serious game technologies



- face recognition
- gait identification
- (DNA) fingerprinting
- vehicle / traffic tracking
- electronic tagging
- location tracking
- wiretapping / bugging
- project echelon
- data warehouses (acxiom)
 - ID cards
 - CCTV



third party serious pervasive game examples



Microsoft - „I Love Bees“ marketing for Halo2 (Xbox): Web + public payphones + real actors + collaborative gameplay

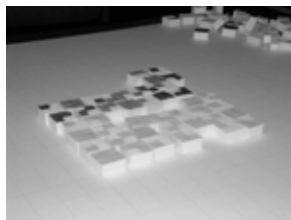
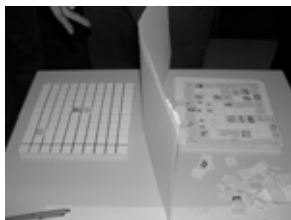


MIT - „Environmental Detectives“ emergency bio learning: PDA + GPS + virtual actors + collaborative gameplay

exemplary prototyping methods I



exemplary prototyping methods II

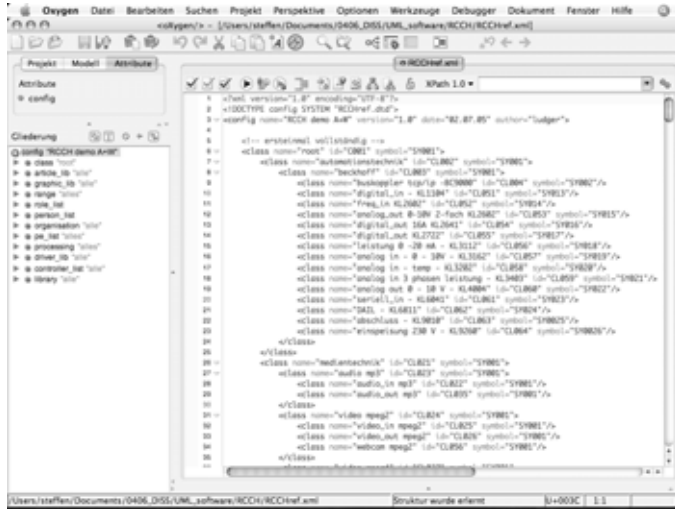


exemplary prototyping methods III



results from game arch design class, university of stuttgart, fall 2004/05, cf. <http://wiki.caad.hbt.arch.ethz.ch/twiki/bin/view/Gamearch>

exemplary prototyping methods IV

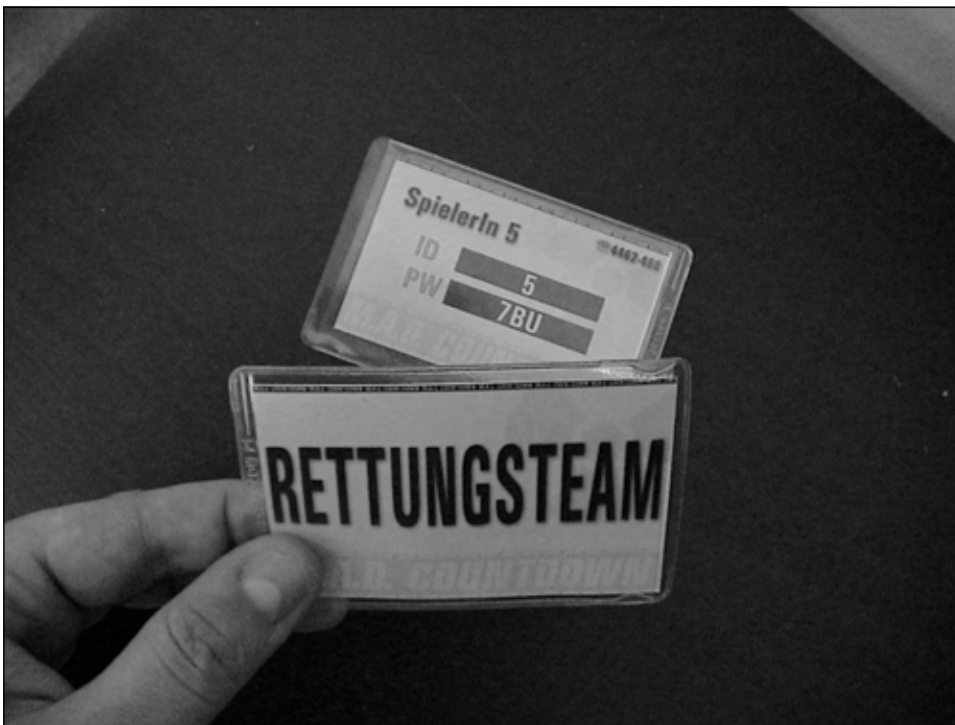


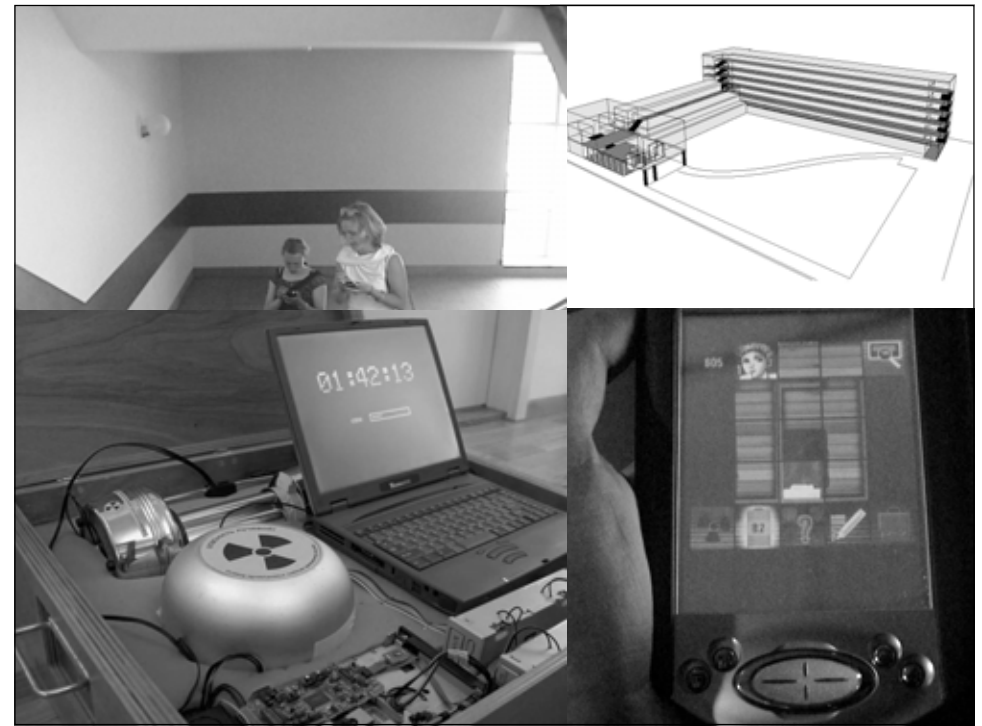
XML definition of a functional computer integrated building setting

serious pervasive game design: security



www.madcountdown.de: emergency & trust: PDA + WLAN + physical components + real actors + collaborative gameplay





serious pervasive game design: policy



serious pervasive game design: policy



SPIRITS
 -PEOPLE, BUILDINGS, OBJECTS
 -POSITIVE TESTIMONIALS
 -WITTY COMPANY
 -KNOWLEDGEABLE

serious pervasive game design: policy

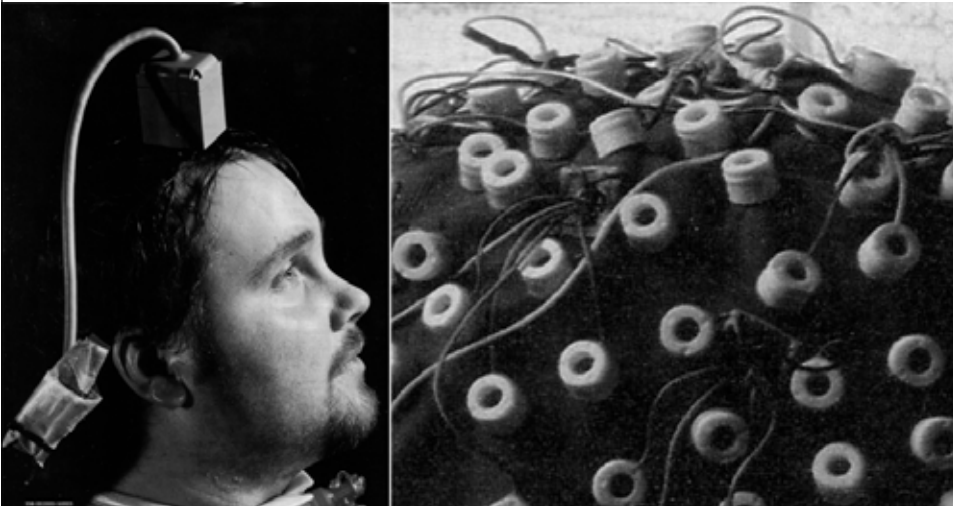
„Spirits of Split“ touristic marketing: Collectible cube puzzle + citizen participation + live action role playing

serious pervasive game design: health



„lightFight“ health care & room control: Wearable biofeedback + IP enabled room functionalities + psychophysiology

serious pervasive game design: health



serious pervasive game design: health

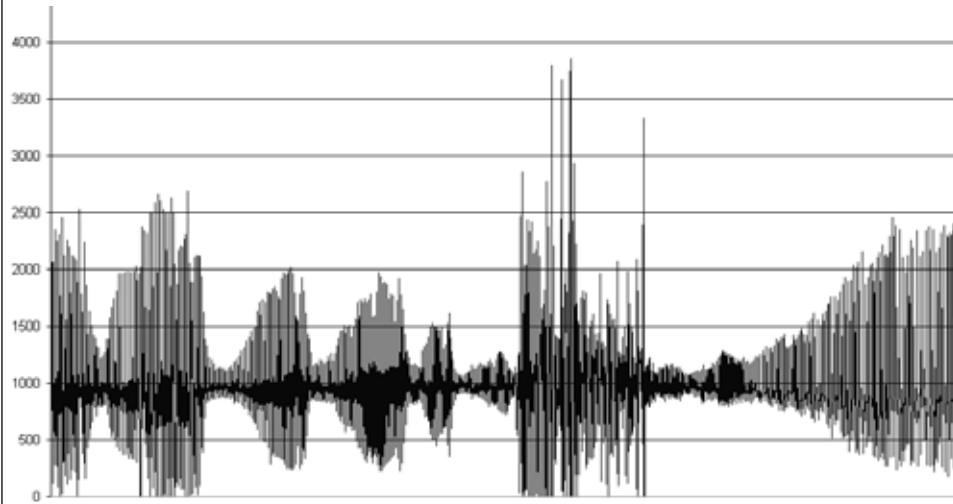
Microsoft Excel - sensor_data2.xls

File Starten Ansicht Einfügen Format Extras Daten Fenster Adressen

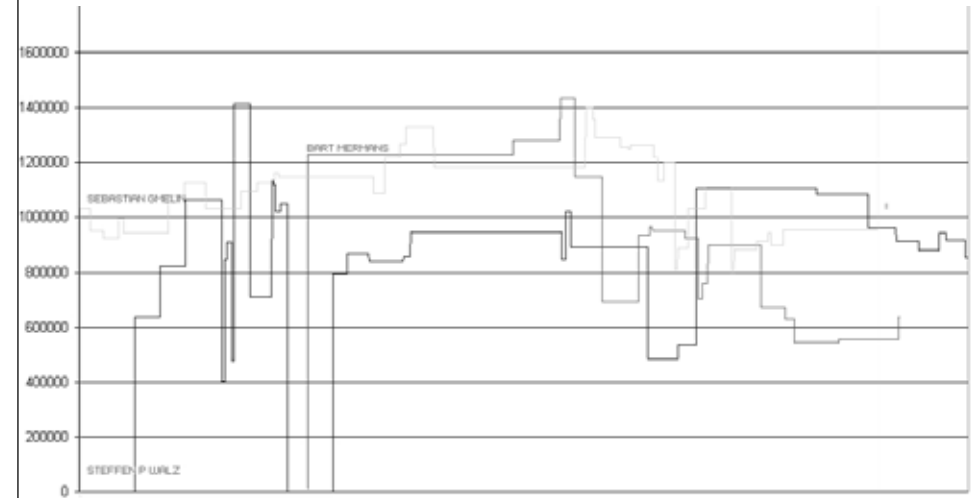
2/20/2007

	Bart Messmann					Steffen P.walz					Fabian Bommertoch				
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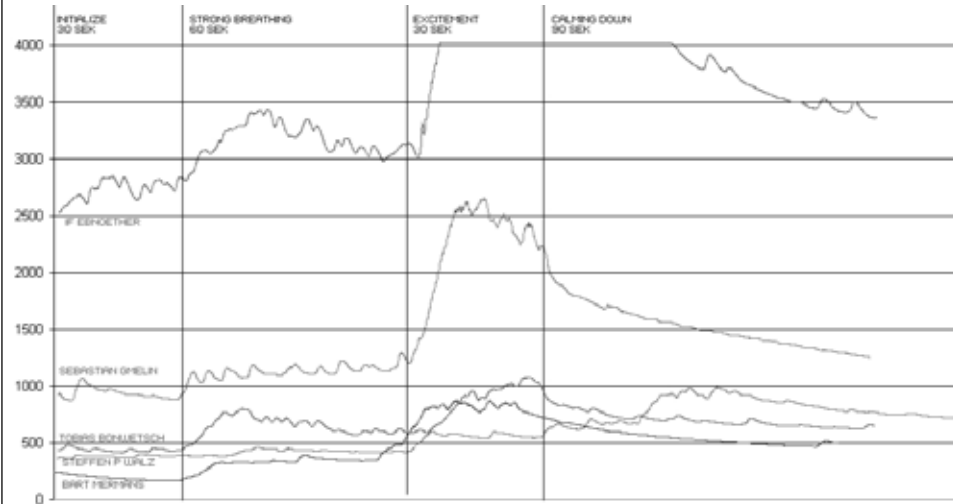
serious pervasive game design: health



serious pervasive game design: health



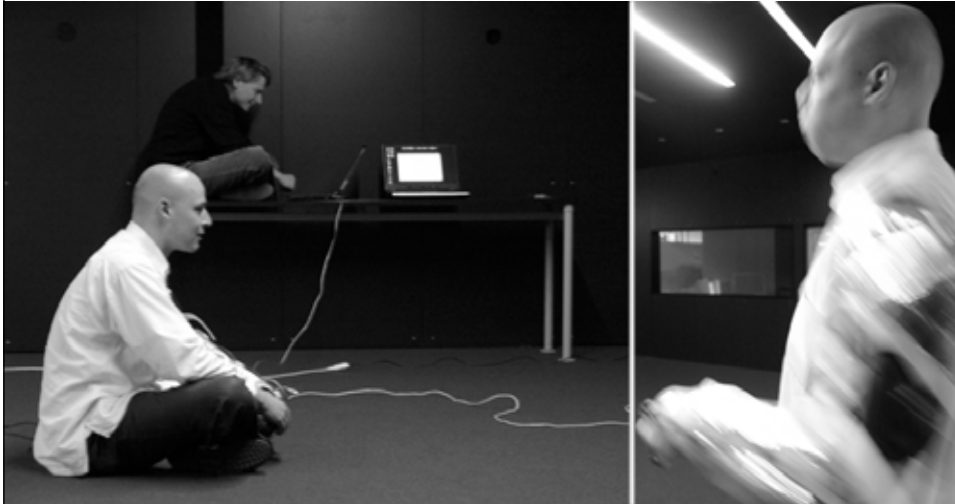
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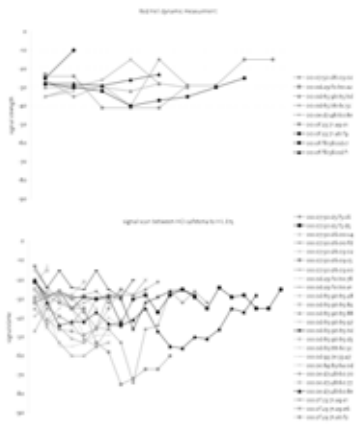


serious pervasive game design: education

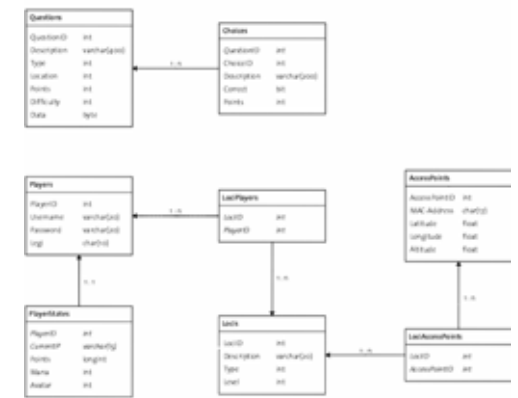


„ETHGame“ e-learning & community building: Mobile computer + WLAN positioning + massively multiplayer

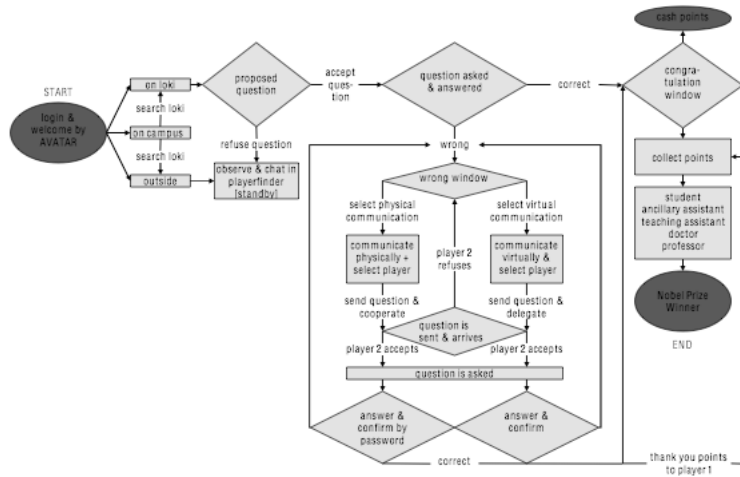
serious pervasive game design: education



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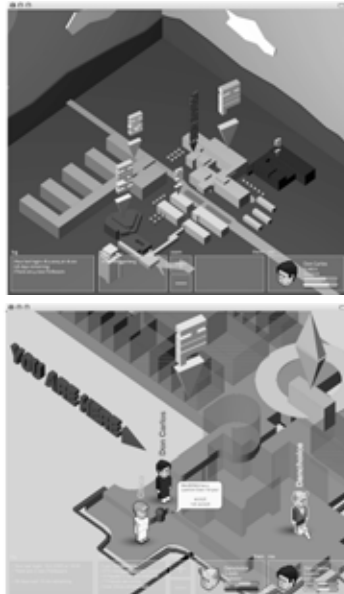
serious pervasive game design: education



serious pervasive game design: education



serious pervasive game design: education

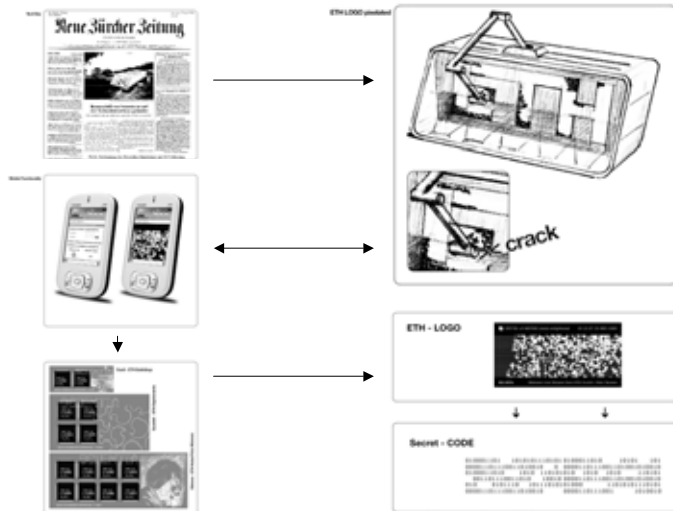


serious pervasive game design: education



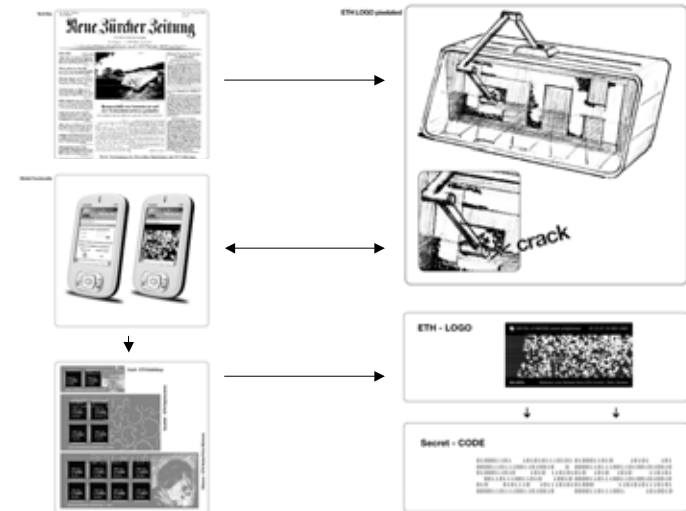
„Who's afraid of the black man?“ study program learning & community building:
 Cell phone camera + semacode scanning + GPRS + Online multiplayer application

serious pervasive game design: fundraising



„ETH Fundraising“: Web + cell phone + alien invasion + public robotic display + chance prizes + collective gameplay

serious pervasive game design: fundraising

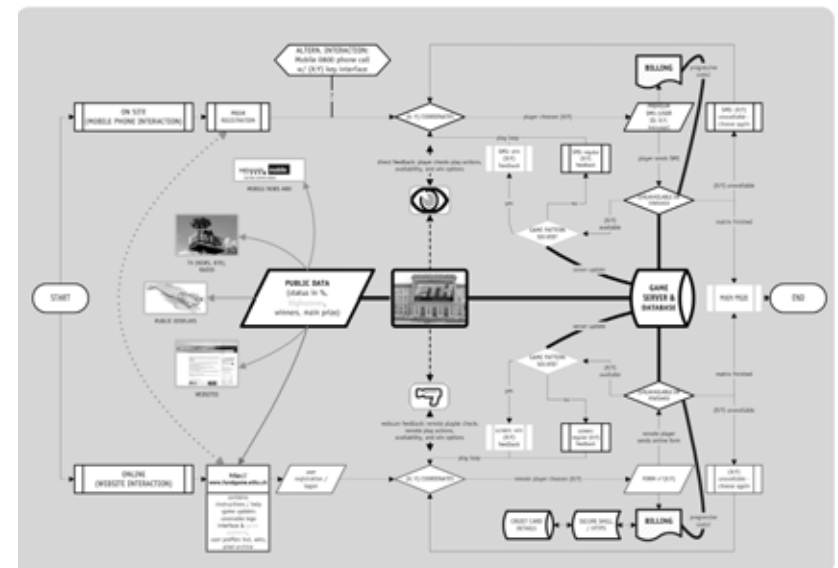


„ETH Fundraising“: Web + cell phone + alien invasion + public robotic display + chance prizes + collective gameplay

serious pervasive game design: fundraising



serious pervasive game design: fundraising



discussion



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