

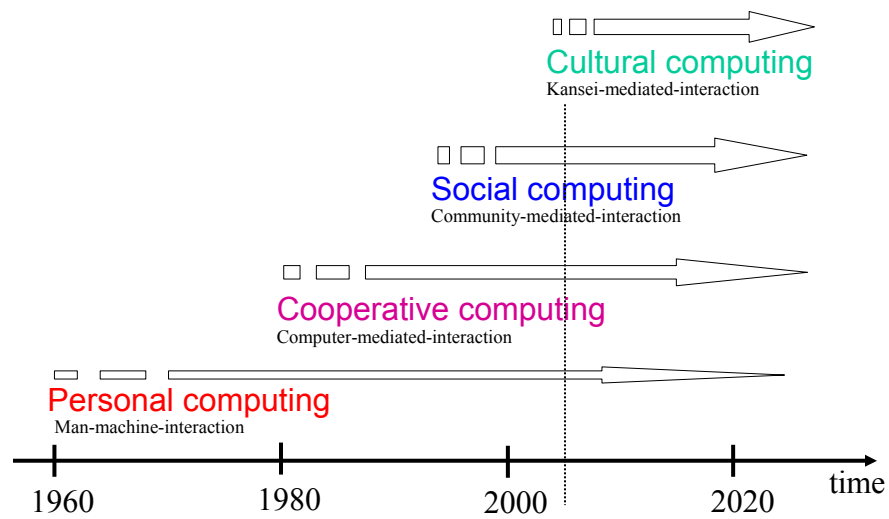
Cultural Computing: the ALICE project

Matthias Rauterberg
Eindhoven University of Technology
The Netherlands

© Matthias Rauterberg, 2006

1/18

Past, Presence, and Future of HCI



© Matthias Rauterberg, 2006

2/18

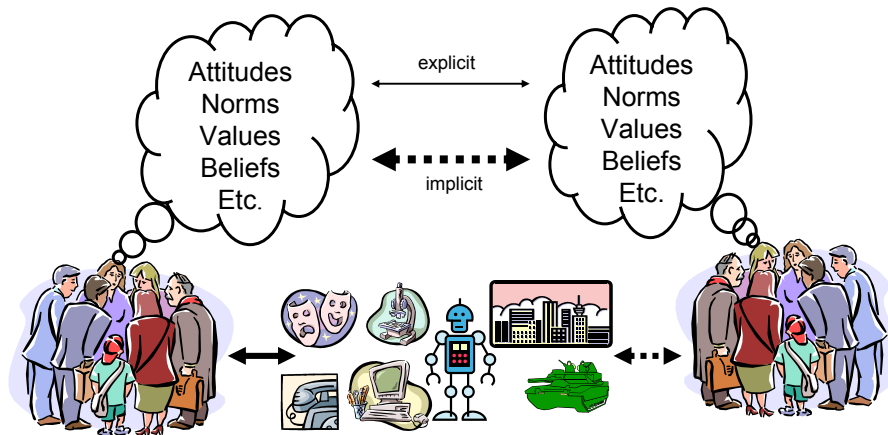
What is Culture?

Culture is the **integration pattern** of human behavior that includes

- attitudes,
- norms,
- values,
- beliefs,
- actions,
- communications and
- institutions of a race, ethnic, religious and/or social group.

The word culture comes from the Latin root *colere* (to inhabit, to cultivate, or to honor). In general, it refers to human *activity*; different definitions of culture reflect different theories for understanding, or criteria for valuing, human activity. Anthropologists use the term to refer to the universal human capacity to classify experiences, and to encode and communicate them symbolically. They regard this capacity as a defining feature of the genus Homo.

Cultural Computing: Kansei mediation



[Nakatsu R., Rauterberg M., Salem B. (2005). Forms and theories of communication: from multimedia to Kansei mediation. *Multimedia Systems*]

Culture: the East

Lao Tse
TAO TE KING
道德經

Lao-Tse
c.604 - c.521 BC

Siddharta Gautama
563 - c.480 BC

Buda

Enlightenment

Zen
禅

Bodhidharma
470-543 AC

© Matthias Rauterberg, 2006

5/18

ZENetic computer (2003)



ZENetic Computer

コンピュータによる山水
デジタルストーリー

平成16年 5月13日(木)
18:30~20:00

平成16年 5月28日(金)
18:30~20:00



Naoko Tosa



松岡正剛
Seigo Matsuoka

[link to video clip](#)

© Matthias Rauterberg, 2006

6/18

Culture: the West



René Descartes
1596-1650

res cogitans - mind

res extensa - body, matter, etc



Immanuel Kant
1724-1804

synthetic
a priori knowledge:

- time
- space

both *pure forms of intuition*
and *pure intuitions*.

Culture in the East and West

Cross-cultural psychologist's juxtapose
Eastern *holistic* and Western *analytic* reasoning.

Eastern reasoning embraces contradictions among objects in a
yin–yang field of constant change.

Western reasoning tends to focus on objects and categories,
and is driven by *formal logic*.

[see Kaiping Peng, Daniel Ames and Eric Knowles (2001) 'Culture and human inference: perspectives from
three traditions', *Handbook of Cross-cultural Psychology*. Oxford: Oxford University Press.]

What would be a Western equivalence to ZENetic Computer?

Possible Answer:

- an interactive experience based on the story of **Alice in Wonderland**



Charles Lutwidge Dodgson
1832-1898



© Matthias Rauterberg, 2006

9/18

Stage-1: Down the Rabbit Hole



[link to video clip](#)



[link to video clip](#)



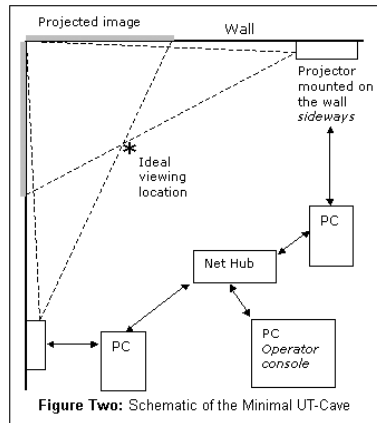
Flow stair lift



© Matthias Rauterberg, 2006

10/18

Stage-2: Drink me – Eat me



CaveUT

[link to video clip](#)

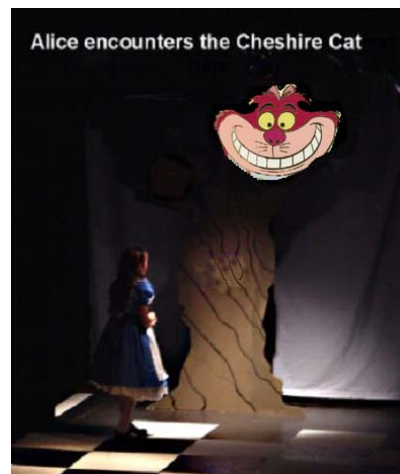
© Matthias Rauterberg, 2006

11/18

Stage-3: The Cheshire Cat



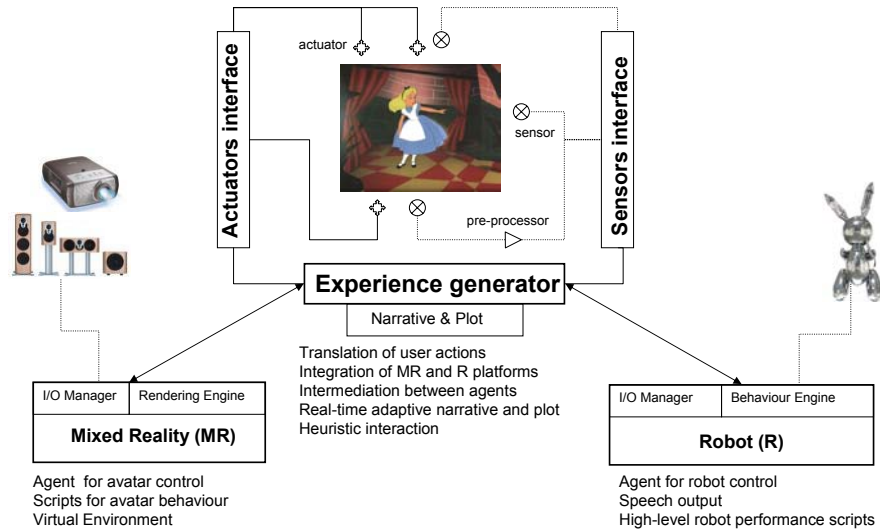
[link to video clip](#)



© Matthias Rauterberg, 2006

12/18

Architecture



© Matthias Rauterberg, 2006

13/18

Software Packages



Autodesk® 3ds Max® 8 software builds on our promise to deliver state-of-the-art tools for creative and media professionals. Developed as a total animation package with a deep, productive feature set designed to accelerate workflow, 3ds Max is the leader in 3D animation for game development, design visualization, visual effects, and education. TU/e-ID site license.



Academy Award® winning **Maya® software** is one of the world's most powerfully integrated 3D modeling, animation, effects, and rendering solution. Maya also adds to the quality and realism of 2D graphics. That's why film and video artists, game developers, visualization professionals, Web and print designers turn to Maya to realize their creative vision. Price ca 7000 EUR



Goblin is an innovative platform for developing 3D augmented and virtual reality applications and games. It is written in C# and uses Managed DirectX. The platform leverages the unique capabilities of the .NET Framework to provide innovative features such as *Edit-and-Continue*. Free download.

© Matthias Rauterberg, 2006

14/18

Schedule:

Month 1-2:

Scenario writing and technical layout for stage-1, stage-2 and stage-3.

Month 3-4:

Setup stage-1 and development of prototype

Month 5-6:

Setup stage-2 and development of prototype

Month 7-8:

Setup stage-3 and development of prototype

Month 9-10:

Fine tuning and testing

Month 11-12:

User studies and writing report.

Expected Results:

- A research platform for cultural computing
- A prototype for interactive experiences
- Design guidelines:
 - Kansei mediated interaction
 - Robot behavior scripting

Our Team:



BARTNECK, Christoph
Assistant Professor
Dr.sc., PDeng, M.des.
Department of Industrial Design
Eindhoven University of Technology



HU, Jun
Assistant Professor
PDeng, M.eng.
Department of Industrial Design
Eindhoven University of Technology



SALEM, Ben
Post Doc
Dr. (eng), M.arch.
Department of Industrial Design
Eindhoven University of Technology

Collaborating Partners:



CAVAZZA, Marc
Professor
Dr.sc., M.eng.
School of Computing
University of Teesside, UK



KANDA, Takayuki
Senior Researcher
Dr.sc., M.eng.
ATR Intelligent Robotics &
Communication Laboratories



TOSA, Naoko
Professor
Dr.phil., M.art.
Department of Interactive Art
Kyoto University, Japan

Thank you for your attention.