DES400 Creative Coding

- Daria Tsoupikova – School of Design
- Angus Forbes - Computer Science
- Anil Camci – Sound Composition

DES400 Creative Coding

Electronic Visualization Laboratory EVL
842 W Taylor St
2036 CAVE2
2068 Cyber-Commons

School of Design
Architecture Design Studios
845 W Harrison St
B510

DES400 Creative Coding

Course syllabus

http://www.evl.uic.edu/datsoupi/coding/

website

http://www.evl.uic.edu/datsoupi/coding/

DES400 Creative Coding

Course Goals:

- To become familiar with contemporary tools in computational expression

- To survey topics in computer graphics, VR, audio, and new media design

- To work collaboratively to create meaningful creative coding projects at the intersections of culture and technology

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Class Structure

Meets once a week for 5 hours (1-6.40pm).

Mixed lecture and lab, with an in-class focus on introducing programming and software concepts:

- Informative and thorough, rather than comprehensive
- Programming tutorials, collaborative exercises; planning & developing projects

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Class Structure

1 – VR and 3D environments with Unity
2 – Audio Programming and signal processing with Max MSP
3 – Final project

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Class Structure

- Graduate students and undergraduate students
- Work on individual assignments and teams projects
- Collaboration with Computer Science students and faculty

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Project based

- projects will have both a *technical* component and a *conceptual* component.

- projects should be novel and clearly illustrate a technical and/or conceptual contribution.

- each final project needs to be documented with a website, video, and code.

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Audio and Code by Anil Camci
Tools & Topics

Ableton Live: Fundamentals of audio, sound design, composing on a timeline

Max/MSP: Audio programming, signal processing, generative music, live coding

(Do NOT install these software prior to the module)

DES400 Creative Coding

Audio and Code by Anil Camci
Goals

Understanding the intrinsic relationships between sound, digital audio, and music
Learning fundamental skills in sound design and audio Programming
Using audio programming creatively
Making some serious noise

Electronic Visualization Laboratory (EVL) – short history

- 1969 Dan Sandin is invited to UIC's Art Dept. to bring computers to the art curriculum
- 1973 Tom DeFanti comes to UIC with the GRASS system, EVL begins as a short order media house for education and research

Electronic Visualization Laboratory (EVL) – short history

40 years of Art/Science collaboration at UIC

Joint program: CS and Art & Design departments

First program in the US offering MFA that is a formal collaboration of art and computer science 1973-2014

EVL – The Collaboration

- Artists organize projects, help visualize data, create media
- Artists are supported and get the toys to do their own work: often inspired by science
- Scientists get to communicate effectively
- EVL makes them look good
- EVL delivers visualization technology and techniques to science

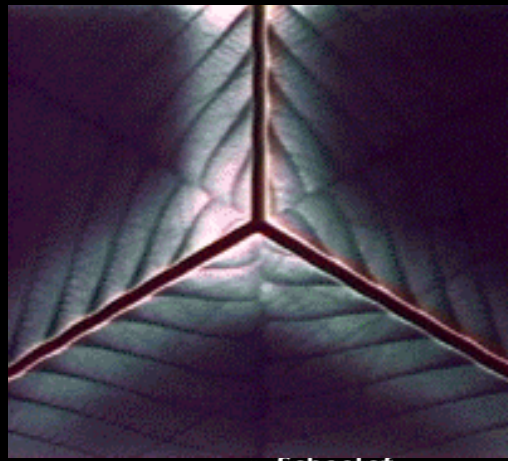
Electronic Visualization Laboratory (EVL)

- Advanced networking research
- Distributed computing/visualization
- Collaborative software
- Advancement of tools and techniques for collaborative work over high-speed, experimental networks
- Development of viable, scalable, deployable stereo displays
- Development of VR hardware, software, tools and techniques

Electronic Visualization Laboratory (EVL)

mid-70s - the Electronic Visualization Events
a series of live performances in which images were computer generated and color processed in real time with musical accompaniment

EVL helped to produce the CG special effects for the first Star Wars film

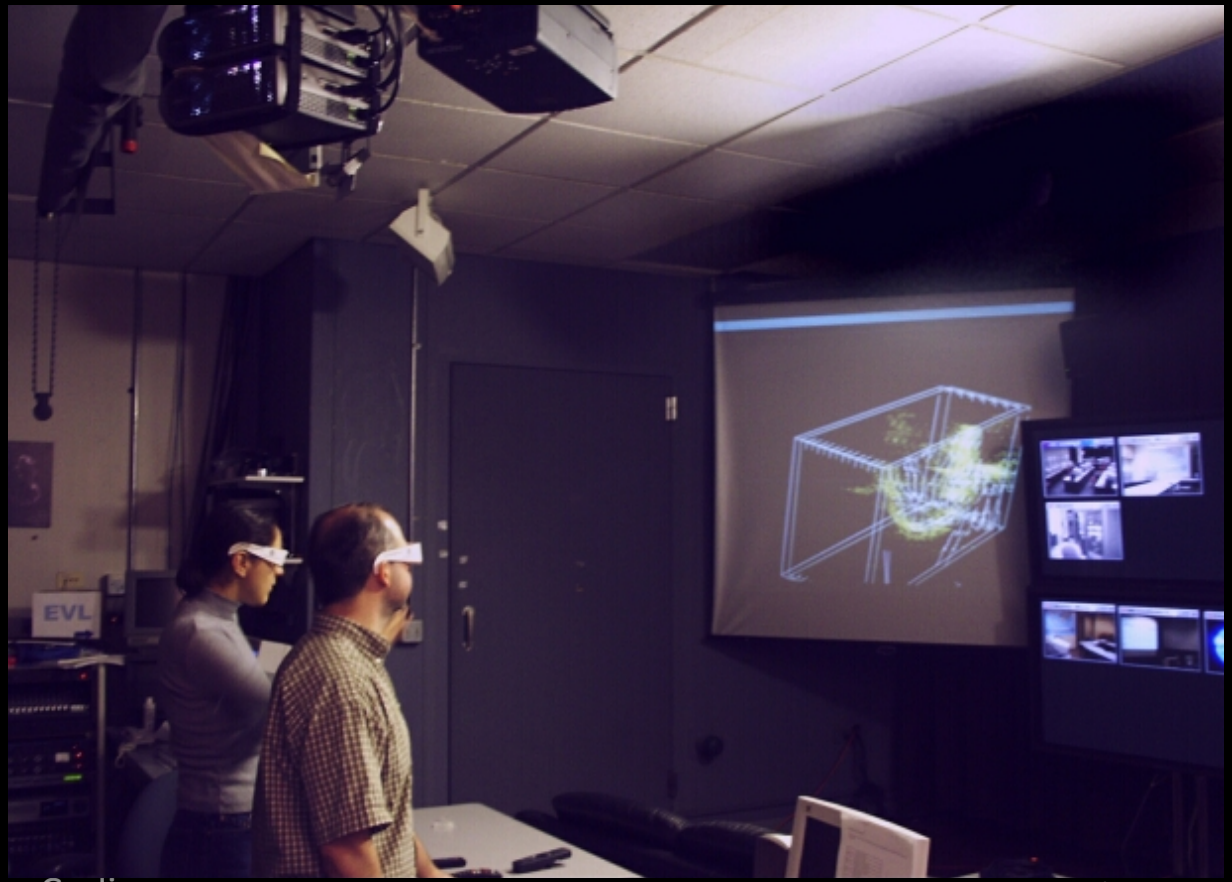


CAVE® 1992

ImmersaDesk® 1995

Paris 1998

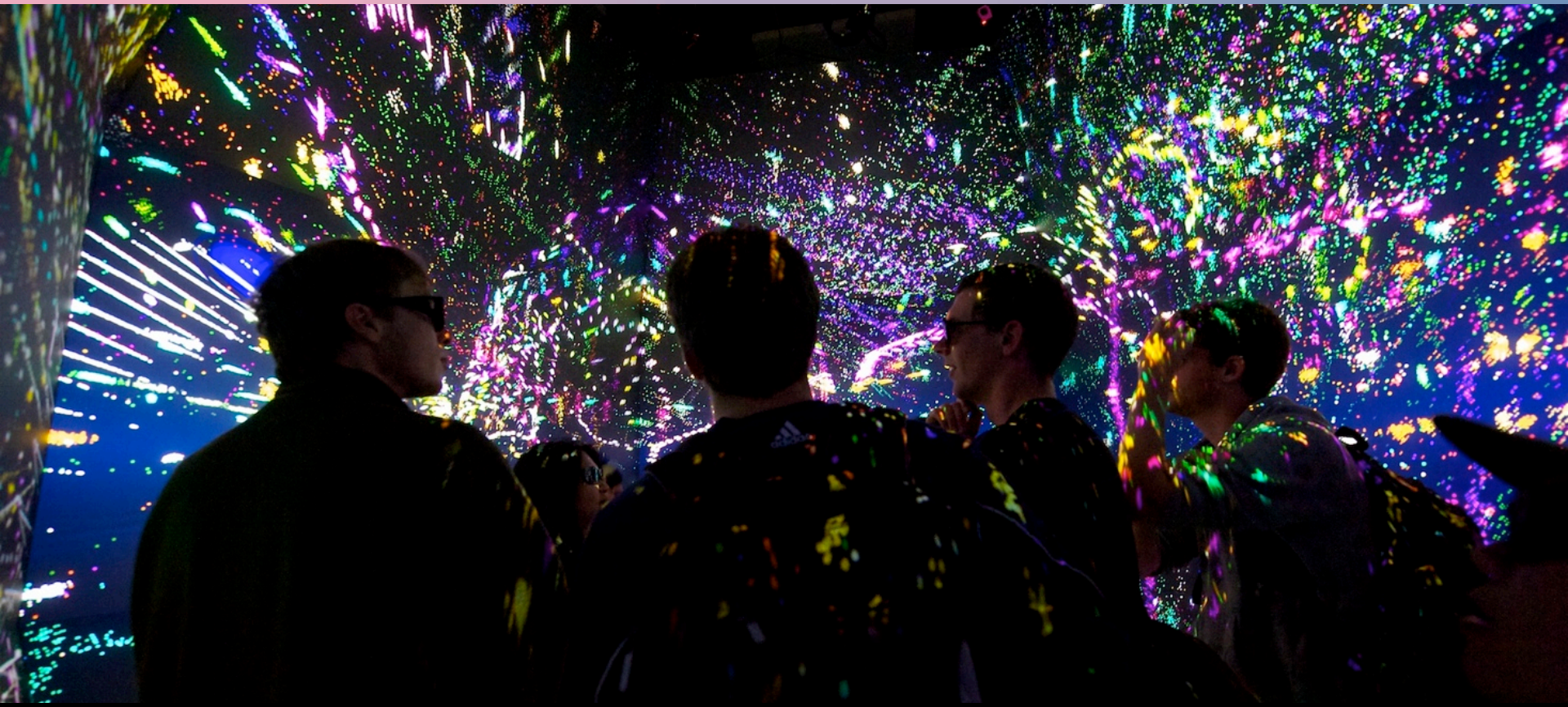
GeoWall -2000



Varrier

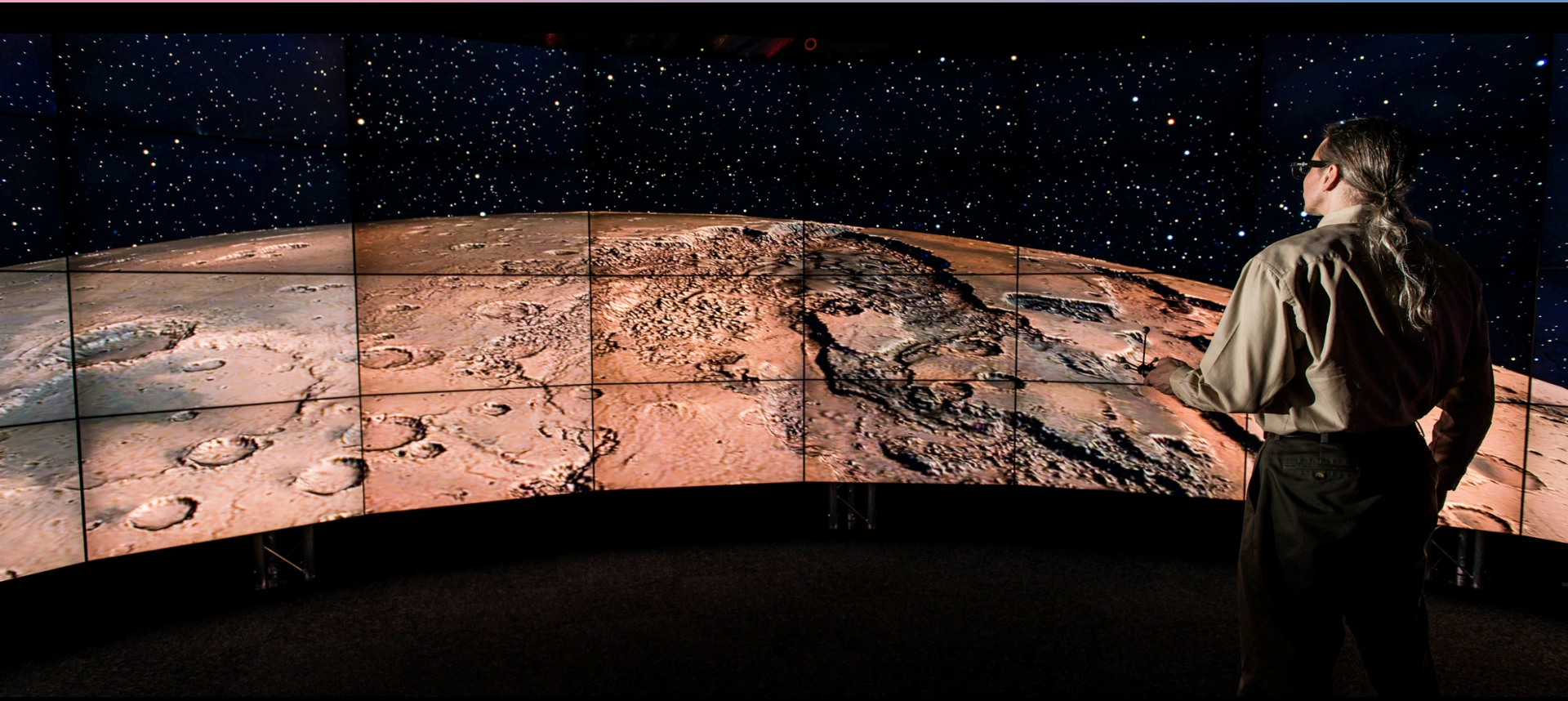
CAVE2 -2012

Particle Dreams in Spherical Harmonics



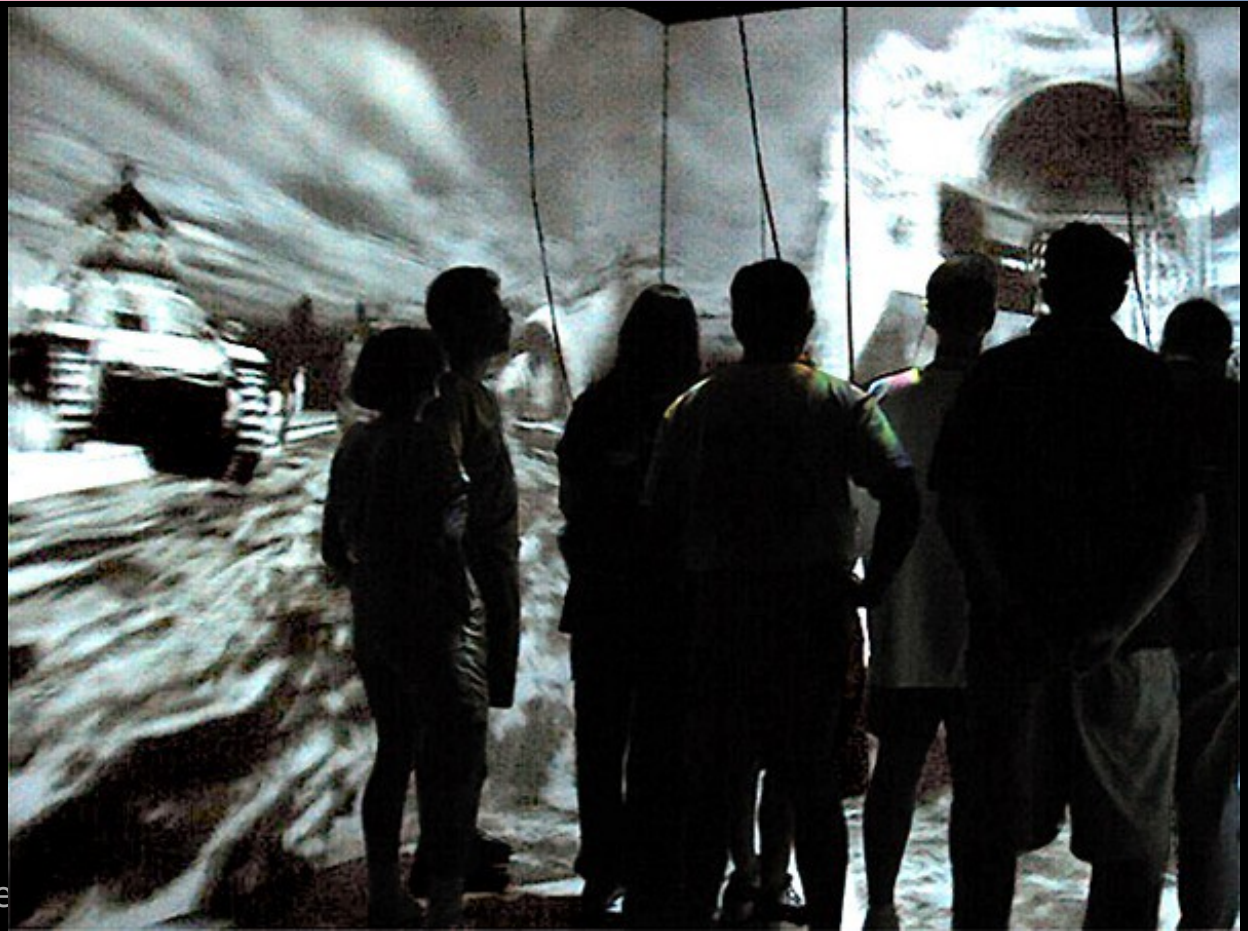
3D Brain MRI Data

Mars Surface



Virtual Reality Environments - Beyond Games

Maurice Benayoun
World Skin: A Photo Safari in the Land of War, 1997



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Jeffrey Shaw, The Legible City, 1988-91

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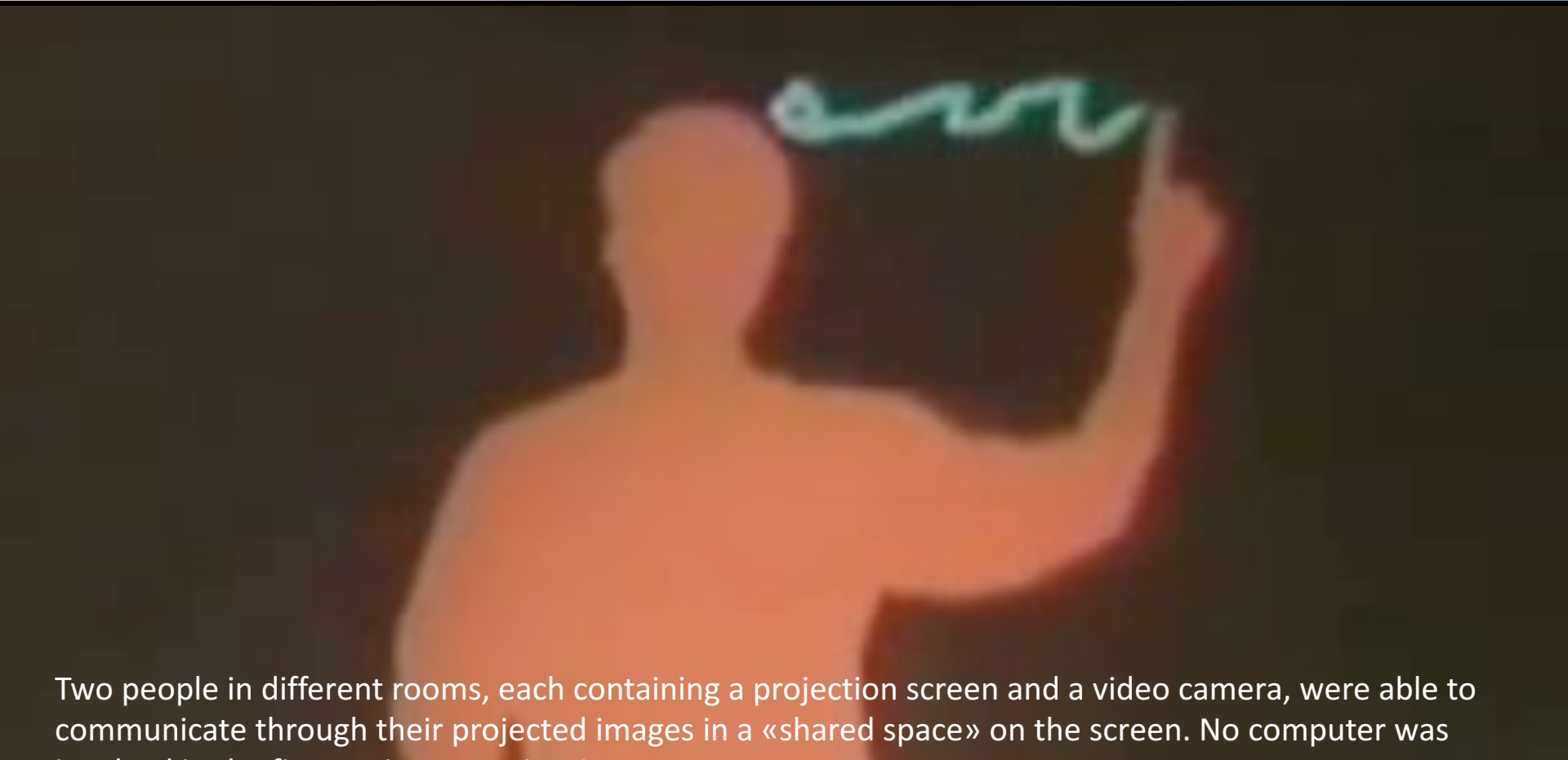
In the Amsterdam (1990) and Karlsruhe (1991) versions all the letters are scaled so that they have the same proportion and location as the actual buildings which they replace, resulting in a transformed but exact representation of the actual architectural appearance of these cities. The texts for these two cities are largely derived from archive documents that describe mundane historical events there.

Myron Krueger, Videoplace, 1972-85

Myron Krueger, Videoplace, 1972-85



Two people in different rooms, each containing a projection screen and a video camera, were able to communicate through their projected images in a «shared space» on the screen. No computer was

SnowWorld by Hunter Hoffman

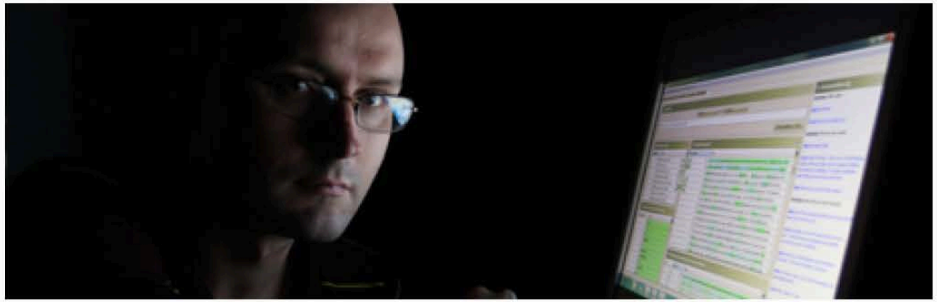
Virtual Reality Pain Reduction

Institute for Creative Technologies /Skip Rizzo- Medical VR

Creative Technologies

Research

Research Overview



ICT is a multidisciplinary research institute at the University of Southern California focused on exploring and expanding how people engage with computers, through virtual characters, video games, simulated scenarios and other forms of human-computer interaction.

Leading researchers and faculty from computer science, psychology, interactive media

Featured Research

Graphics

The ICT Graphics Laboratory develops new techniques for creating and displaying photo-real computer graphics of people, objects and environments.

Institute for Creative Technologies /Skip Rizzo- Medical VR