VR 2004

IEEE VR Presentation
VR for Public Spaces:
What do they really want?
27 March 2004
Jim Costigan

VR 2004

VR for Public
Consumption

ACUITY

VR for Public Spaces

What do they really want?

Public Space Clients

American Museum of Natural History

Glasgow Science Center

Foundation of the Hellenic World

California Academy of Sciences

The British Museum

Freedom Park - South Africa

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Webopedia.com

An artificial environment created with computer hardware and software and presented to the user in such a way that it appears and feels like a real environment. To "enter" a virtual reality, a user dons special gloves, earphones, and goggles, all of which receive their input from the computer system. In this way, at least three of the five senses are controlled by the computer. In addition to feeding sensory input to the user, the devices also monitor the user's actions. The goggles, for example, track how the eyes move and respond accordingly by sending new video input.

To date, virtual reality systems require extremely expensive hardware and software and are confined mostly to research laboratories.

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Myron Krueger

The terms virtual worlds, virtual cockpits, and virtual workstations were used to describe specific projects. In 1989, Jaron Lanier, CEO of VPL, coined the term virtual reality to bring all of the virtual projects under a single rubric. The term therefore typically refers to three-dimensional realities implemented with stereo viewing goggles and reality gloves.

Jonathan Steuer

Presence - The natural [sensory] perception of an environment (in other words our perception of the real world).

Major Museum Exhibit Designer

-way to expensive

-complex to set-up, maintain and use

-in effective

-no one can produce content for it

William K. Barnett, Ph.D

Vice President, The Field Museum

Chief Information Officer

We are not interested in virtual reality.

We are very interested in interactive content.

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What do they really want?

Drivers
- Cost
- Use
- Content
- Options

What do they really want?

What are the goals of the organization?

What are the goals of the exhibit?

What are the goals of the installation?

What are their critical issues?

The same thing as most organization

- More profit

- Less cost

- Better Customer Service (Retention)

California Academy of Science

ACADEMY MISSION

The purposes of the Academy are as follows:

- To promote science and conduct original research and to maintain suitable facilities for these activities.
- To gather and maintain collections of objects relevant to natural history and to make them available to students and scientists generally.
- To display appropriate portions of the artifacts and collections to the public through special exhibitions.
- To maintain libraries of scientific works and illustrated material.
- To prepare and distribute materials reporting scientific discoveries and of educational value.
- To offer scientific education through any appropriate means.

Because it has a natural history museum, an aquarium, and a planetarium, the Academy is unique. The combination allows us to tell the story of how the universe, the earth, and the oceans all function in an integrated system.

Dr. Patrick Kociolek, Executive Director
California Academy of Sciences

Museum of the 21st Century

Technology must serve as the best medium for the exhibit, it must also fit into the museum infrastructure in terms of media, systems and aesthetics.

Significant technologies must provide significant benefit or must be able to serve multiple functions.

Not only the technology but the people and production elements must support the production through the infrastructure established.

Life in the Fish Bowl

Image from the California Academy of Science

Life in the Fish Bowl

uShaka Aquarium - Durbin

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Market for Visualization Solutions

Visualization Center

- Supercomputer
- Gigabit or higher network connection
- Large scale visualization system
- Industry software application
- Middleware software

- Group design review

- Client presentation

- Sign/off decision making

Groups

Personal Immersive Environment (PiE)

- High performance work station
- Workbench immersive environment
- Industry software application
- Middleware software
- Standard Network Connection

- Virtual prototyping

- Team reviews

- Component design

- Review preparation

Teams

Engineering Workstation

-Computer Workstation
-Desktop display
- Industry software application
- Middleware software
- Standard network or internet
  connections

- Design

- Engineering

- Data Management

- Data Exchange

User

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Market for Visualization Solutions

Visualization Theater

- Supercomputer
- Gigabit or higher network connection
- Large scale visualization system
- Industry software application
- Middleware software

Small Group Exhibit

- High performance work station
- Workbench immersive environment
- Industry software application
- Middleware software
- Standard Network Connection

Personal Exploration Station

-Computer Workstation
-Desktop display
- Industry software application
- Middleware software
- Standard network or internet connections

Audience

-Ticketed / staged

- Hollywood Production Standards

-Live Subject Matter Experts

Groups

-Narrative

- Space constrained

-Non-invasive

- Defined objects or environments

User

- Open context

- Self directed

- User appropriate interface

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What criteria do museums use to evaluate?

Rules of Thumb

Building …………………………………………………… >30years

Major Installations ……………………………….......…….. 5-20 years

Temporary Exhibits …………………………………………5months – 1.5 years

Touring Exhibition………………………………………….5000 Square Feet

Exhibit Size…………………………………………………300-1000 Square Feet

Installation foot print…………………………………….. ½ to ¼ of total area

Personal Space…………………………………………… 5 Square Feet

Visit time………………………………………………….. ~1 minute per 200sqf

Audio Clips……………………………………………… 45 – 53 Sec

Intro Video Clips………………………………………… > 5min

Hall / Exhibition ………………………………………… >45 min
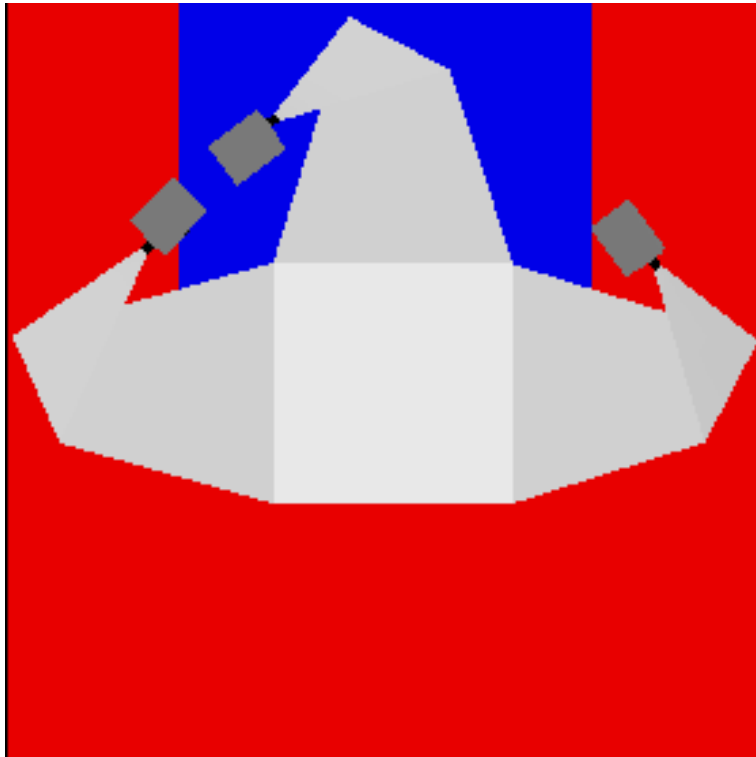
10ft x 10ft Cubic Display
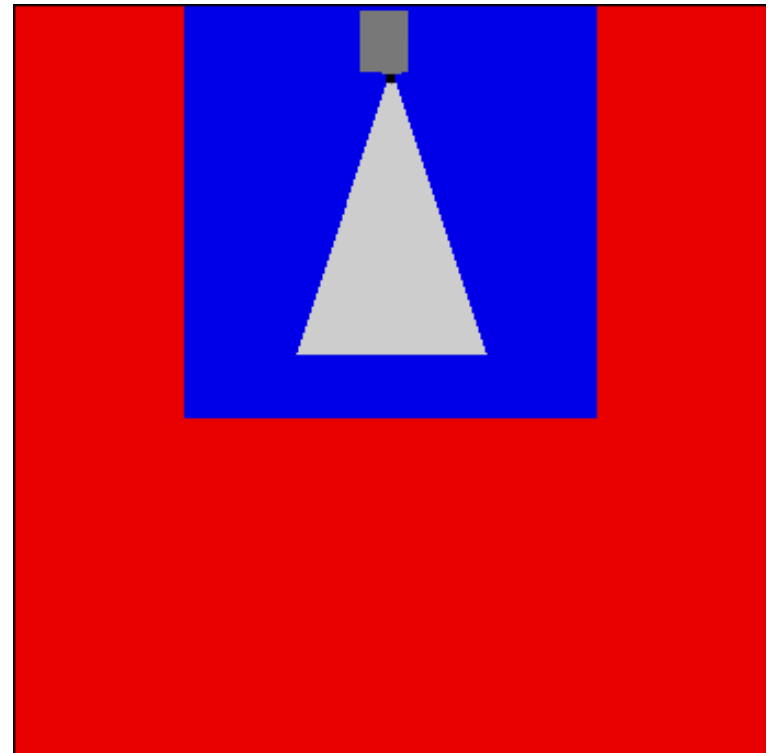
8 ft Single Screen Display
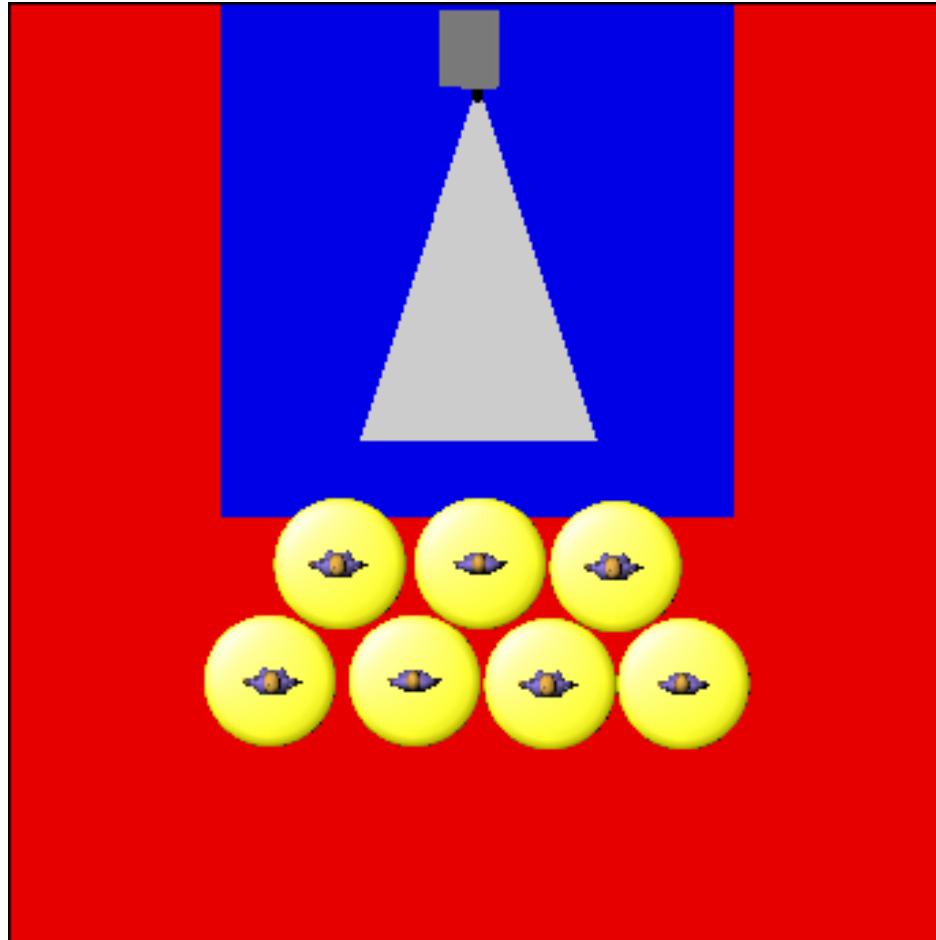
The technology should not say more than the content.

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Inform	Safety
Educate	Courtesy
Entertain	Show
Excite	Capacity

Acuity Mantra

Augmented Reality is no match for natural human stupidity.

-fortune cookie

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The Price You Pay

"Olympic Pottery Puzzles" ©2001

Hardware

Software

Production

Time

Environmental

Health and Safety
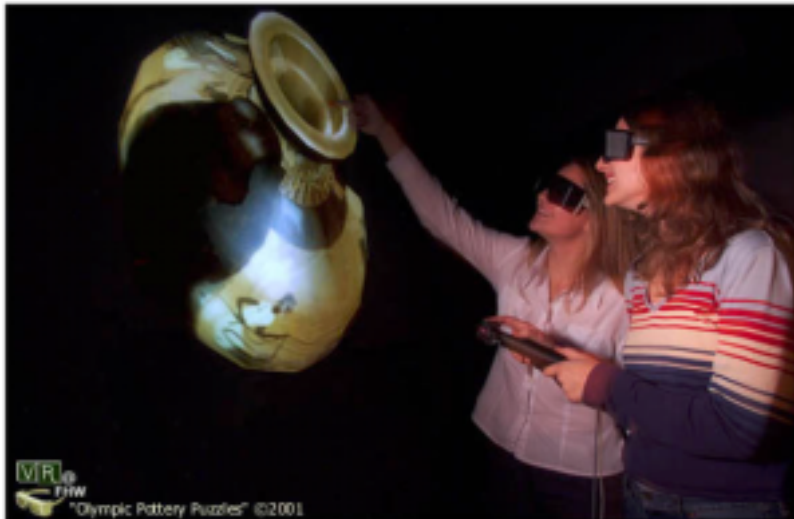
Sharp Auto Stereo 3D Laptop

Image courtesy of Sharp Website

Fun and Games

Images courtesy of EA Website

END