



VRML-97

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www.sccg.sk/~wega



Creating Web Graphics

You and Andrej Ferko

Class and Individual Work

Agenda

- Q/A on Sensors and Further Functionality
- 2D VR = Artificial reality by Myron Krueger
- VRML Course Notes by NADEAU David R. et al.
- Web Page Life Cycle - revisited
- Your Project

Question by M. Fekiacova

- Q. Sensors...
- A. Book in Czech by Jiri Zara – VRML-97
Laskavy pruvodce virtualnimi svety
- Visit his sensors at www.vhce.info - Navigation sensors and Prague horolog sensors
- In English – download from SIGGRAPH page the tutorial by David Nadeau *et al...* 511 slides and free sources, **if you mention the authors**

VR Notions Survey

- Artificial -> Virtual Reality, Virtual Environment, Synthetic World, Cyberspace (all contradictions)
- Augmented Reality, Mixed Reality
- Key Words
 - Immersion
 - Interaction and Navigation, Avatar
 - Real-time
 - **System Answer Time: less than 0.1 s**
 - **Visualisation: at least 10 images/s**

Questionable Definitions

- **CG textbook by Salomon:**
 - Model and display of real object
 - Animation
 - VR = Interacting with 3D animation
- **Another VR definition:**
 - Interactive computer system, creating illusion of 3D space

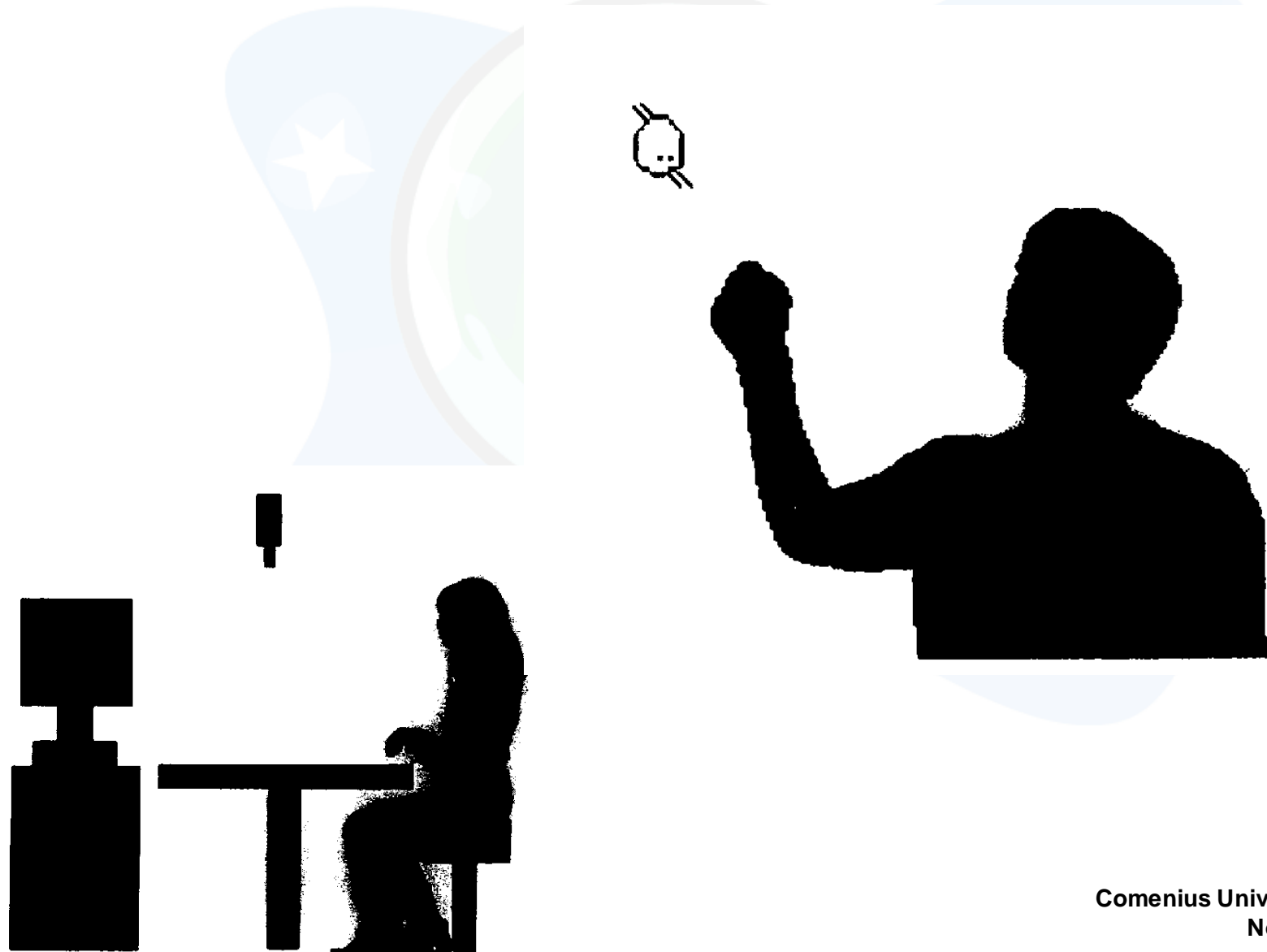
Standard Definitions

- John VINCE in Essential VR Fast:
- **Systems that create a real time visual/audio/haptic experience**
- VRML Standard definition

VR Prehistory

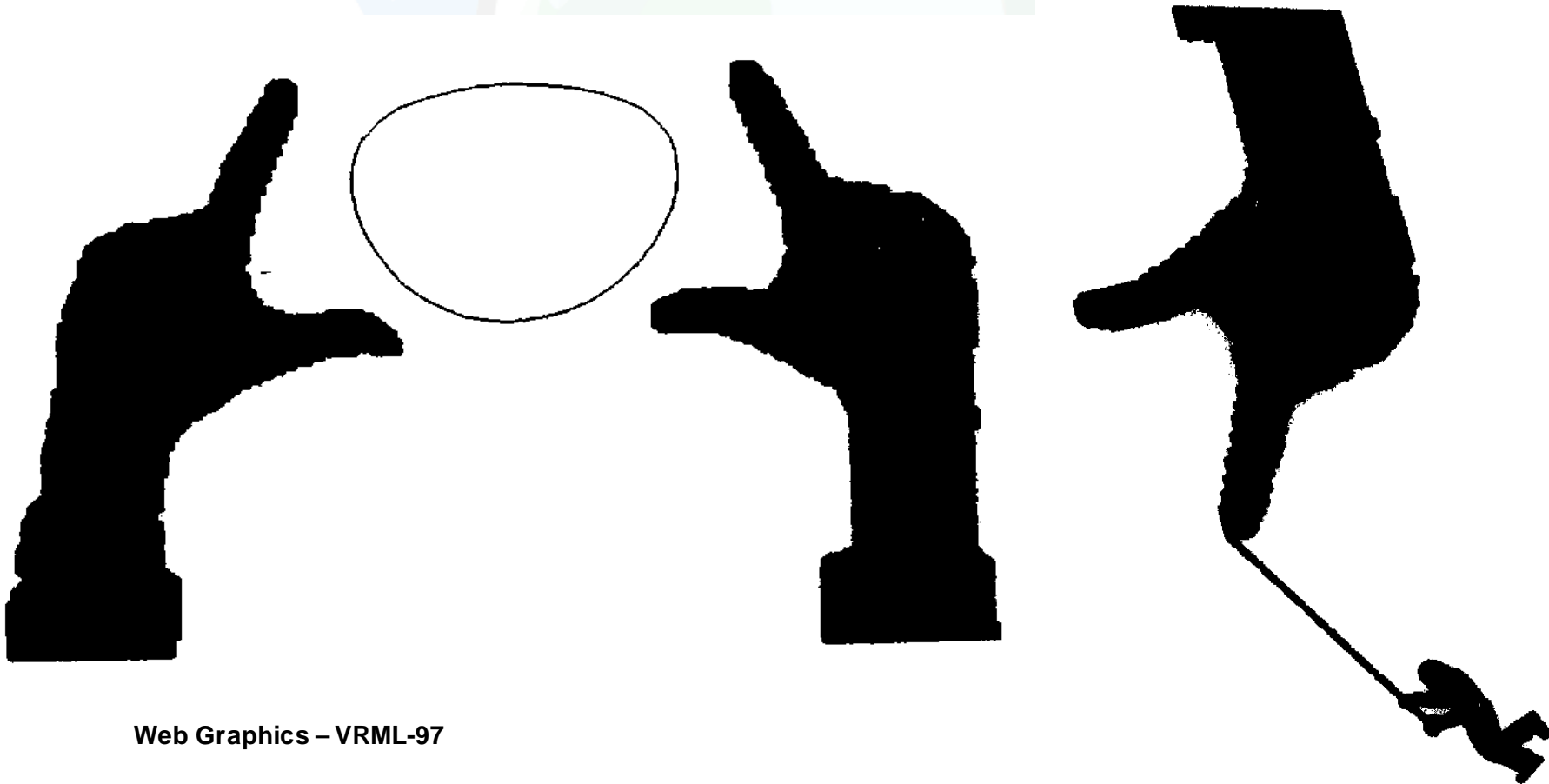
- **Neuromancer/Johnny Mnemonic novel/movie by W. Gibson ... (Matrix like dystopy), cyberpunk, CYBERSPACE... immersion**
- **Ivan Sutherland, author of Sketchpad, (1965) The Ultimate Display paper, stereoscopic images 1968, prof. Brooks, ... VR hardware and software**
- **Golem, humanoid, ROBOT... avatar**

ARTIFICIAL REALITY: Myron KRUEGER

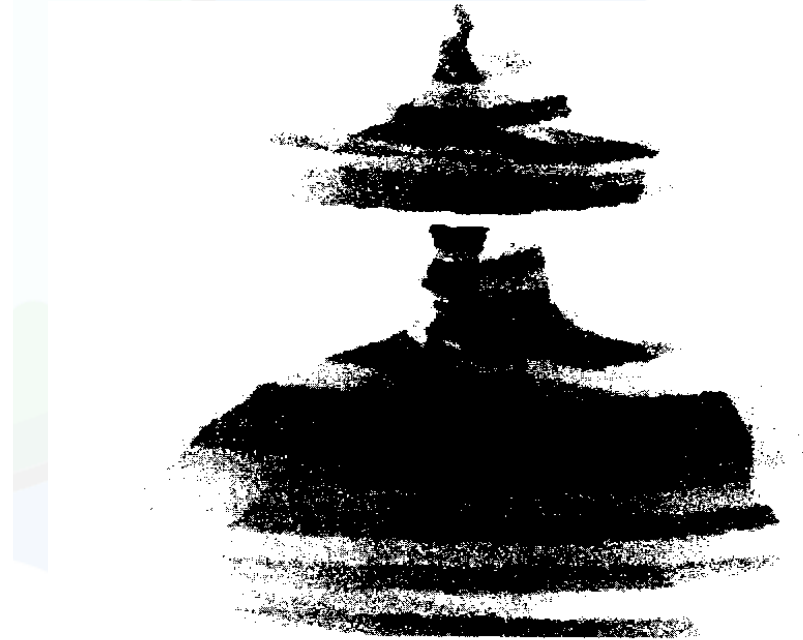
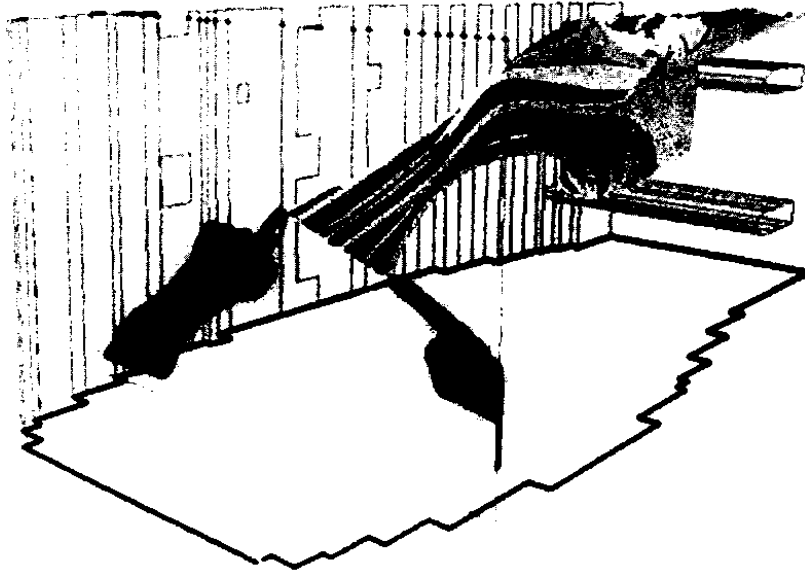


AR by Myron Krueger

- Interaction of participants... collaboration
- Interaction with the “world”



ARTIFICIAL REALITY plane & statue



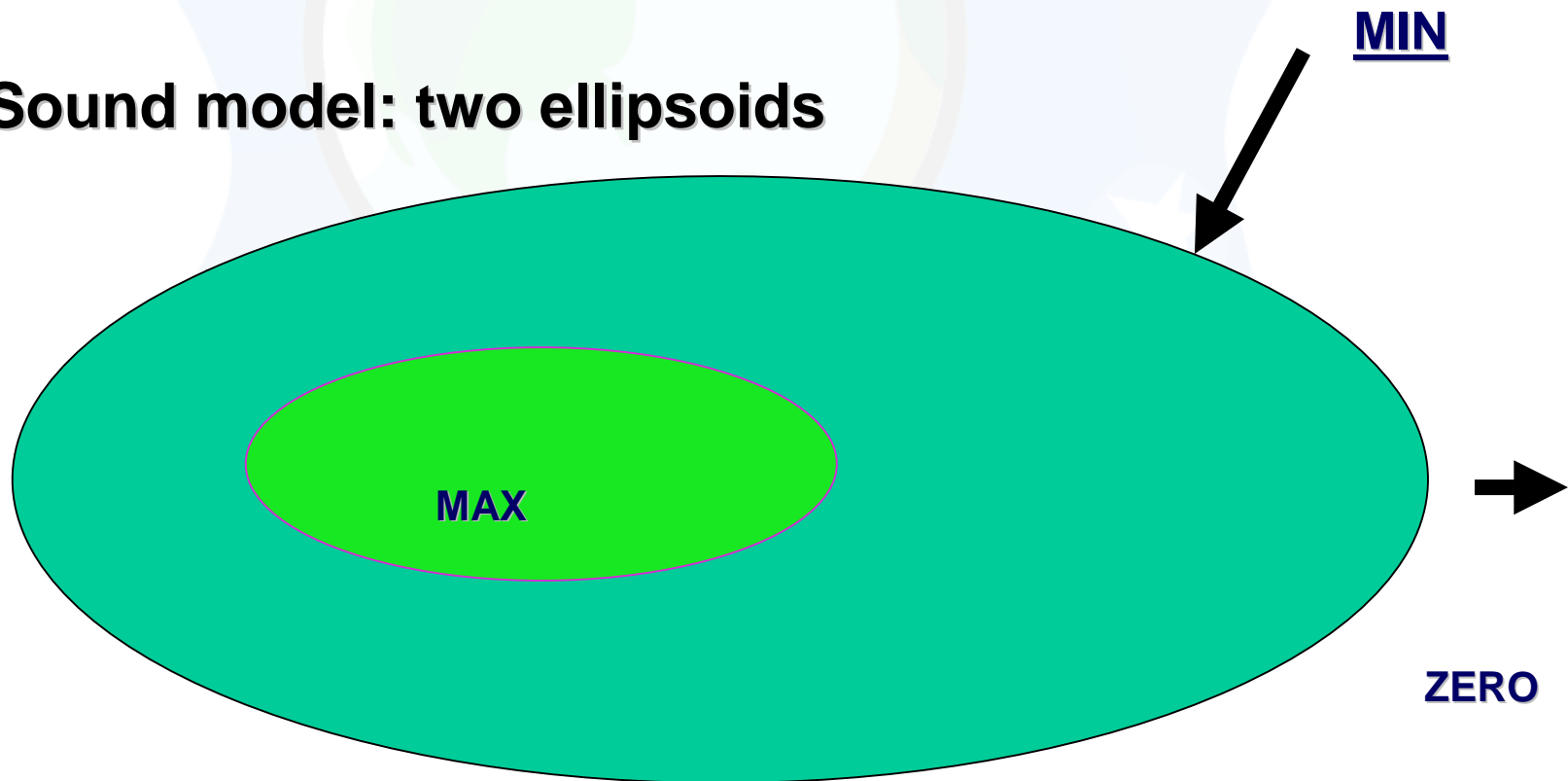
VIRTUAL REALITY: Jaron LANIER

- NASA, dataglove, HMD...
- 3D “world” interaction
- Rename of Krueger’s AR

VRML 3D Sound

Sound source: any sound file (MIDI, MP3)

Sound model: two ellipsoids



The VRML Sound Node

- The syntax of the Sound Node:
- Sound {
- exposedField SFVec3f direction 0 0 1
- exposedField SFFloat intensity 1
- exposedField SFVec3f location 0 0 0
- exposedField SFFloat maxBack 1
- exposedField SFFloat maxFront 1
- exposedField SFFloat minBack 1
- exposedField SFFloat minFront 1
- exposedField SFFloat priority 0
- exposedField SFNode source NULL
- field SFBool spatialize TRUE
- }

Key Source for Today

- **Introduction to VRML-97**
- by D. R. Nadeau et al., SIGGRAPH 98 Course Notes (CN), 511 slides+, vrm197_s98.zip ~ 7.5 Mega
- <http://www.siggraph.org/education/materials/...>
- **Easy access -> WEGA page, AF page**

Your Level 4 WWW Definitions

- *FrontPage Help says:*
- **World Wide Web Consortium**
- (W3C) A consortium of commercial and educational institutions that oversees research and promotes standards in all areas related to the World Wide Web.
- **Easy access -> www.w3c.org, AF page **W3C****

Designing Objects+Places in 3D

• By Bonnie Mitchell

- VRML - Design in 3D
- Realism
- Abstraction and Stylization
- Balance
- Spaces to Explore
- Innovation in Space

VRML - Design in 3D

- By Bonnie Mitchell

- Pros & Cons of 3D
- One view (HTML) -> more views (VRML)
- painting vs.
- sculpture
- Full experience
- 4D - time



*figure 3-14
Navigating
through the
environment
reveals more
information*

VRML - Design in 3D contd.

- By Bonnie Mitchell
- reveal more information as the viewer navigates the space
- all views are fair game
- AF: model as DB or sea of images IBR
- AF: 4 modes = walk, fly, jump, repeat
- a still image placed on an HTML page



Place vs. Space

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Project Specification



- IS 9001
- Quality management
- Economic, efficient, safe, precise solutions
- Quality measures – formal, informal
- Number of copies sold, downloads, Google count by Dusan Hamar, page hits...

Project Questions

- Goal, requirements, project decision
- Functionality specification
- L. Weizmann recommends...
- www.web-redesign.com
- Qs on client, users, project, activas, content, maintenance, budget, scheduling

Project Profile

- L. Weizmann recommends...
- www.secretsites.com/profiler/set-partnering.html
- INVESTIGATION...
- ... FBI, detective story metaphor

Art of Communication



- Various authors recommend...
 - Be assertive
 - Be proactive
 - Be NLP conscious
 - Be creative
- ... and many other bees

Conclusions

- More Functionality => Your option
- VRML CN by NADEAU D. R. et al. 1998. Intro...
- Web Page Life Cycle – idea, methodology, tech
- Your Project Specification: name, goal, logo...



Thank You

For Your Attention



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