

VRML: Using 3D to Surf the Web

Organizer

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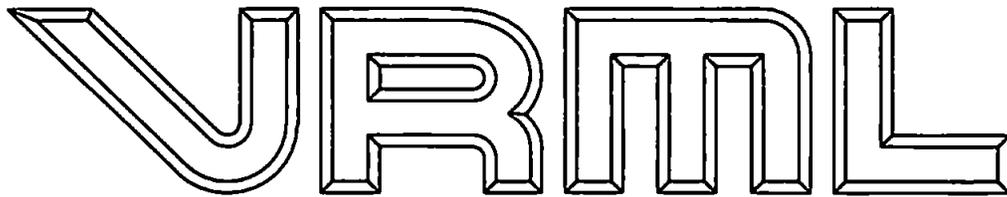
Course **12** **NOTES**



SIGGRAPH 1995

**22nd International Conference on Computer
Graphics and Interactive Techniques**

**Conference/6-11 August 1995
Exhibition/8-10 August 1995
Los Angeles Convention Center
Los Angeles, California USA**



Using 3D to Surf the Web

SIGGRAPH 95 Course Notes

Course #12,
Sunday, 95.AUG.6
Los Angeles, California

*YON - Jan C Hardenbergh
Oki Advanced Products*

*Gavin Bell
Silicon Graphics*

Mark D Pesce

Abstract

This course covers the background, current status and future of VRML (Virtual Reality Modeling Language) The draft 1.0 specification was published in November 1994 and the final specification will be complete in May 1995. The 1.0 specification is a subset of the Inventor File Format with extensions for linking 3D graphics into the Web (WWW, or World Wide Web). How to effectively use VRML 1.0 will be covered in detail. Available tools, browsers, modelers and converters will be covered. In addition, we will try to gaze into the future to VRML 2.0, which is a semantic placeholder for an interactive multi-user virtual environment spanning the Web, VRMOO.

Speakers

YON - Jan C. Hardenbergh
Ok! Advanced Products
100 Nickerson Road, Marlborough, MA 01752
email jch@ok! com

Jan has always been interested in the integration of 3D graphics into new technology. He is the author of *Building Applications with PEXlib* (Prentice Hall 1994) and gave several tutorials on PEX (SIGGRAPH 92, Eurographics 92, internal). In addition, he was an architect of the PEX protocol for version 4.0 and 5.0. Jan brought up the first Ok! Web server in September, 1994. He has been active in the VRML 1.0 review process and maintains the VRML FAQ (URL: http://www.ok!.com/vrml/VRML_FAQ.html)

Gavin Bell
Silicon Graphics
2011 N Shoreline Blvd, M/S 982, P.O. Box 7311, Mountain View, CA 94039-7311
email gavin@engr.sgi.com

Gavin is a member of the Open Inventor group at Silicon Graphics. He got involved in the VRML design effort accidentally, and wound up being one of three primary authors of the VRML 1.0 specification. His computer-related interests include user interfaces for 3D interaction, software system design (especially interactive 3D graphics), and computational geometry.

Mark D. Pesce
email mpesce@netcom.com

Late in 1990, Pesce read William Gibson's *Neuromancer*. Gibson's evocation of the *Matrix*, a fully perceptualized internetwork, led Pesce to develop Cyberspace Protocol, which provides a three-dimensional Domain Name Service, binding a regular spatial topology to an irregular network topology. At SIGGRAPH '93, Pesce saw the first versions of NCSA's Mosaic, and a few months later, acquired a copy for himself and immediately began to design a 3D interface to the World Wide Web, Labyrinth. (This technology was later renamed "Virtual Reality Modeling Language", or VRML.) At SIGGRAPH '94, Pesce brought VRML to SIGKIDS with a WWW-based tour of the U.S. Holocaust Memorial Museum in Washington D.C. As moderator of the VRML mailing list, he has helped to forge a technical community dedicated to problem-solving in a collaborative environment.

VRML Using 3D to Surf the Web

Schedule

START 1:30

Introduction -	YON	(30 minutes)
Overview of VRML 1.0 -	Gavin	(55 minutes)
BREAK 3PM - 3:30 PM (approx)		
Things that are NOT VRML 1.0 -	Gavin	(20 minutes)
VRML Browsers, Applications and Related Technologies -	YON	(30 m)
VRML Cornucopia -	Mark	(25 minutes)
Questions, Answers, Discussion	All	(15 minutes)
STOP 5:00		

VRML: Using 3D to surf the Web

Course Outline & Course Note Table of Contents

Cover page, etc.	1-1
Introduction - Jan Hardenbergh	2-1
• VRML and its context Today, Tomorrow & VRML-NG	
• Overview of the Web Hype & Technology	
• <i>HTML, HTTP, the Web Server Viewers MIME</i>	
• 3D graphics, VR, MOOs, in nutshells	
Overview of VRML 1.0 - Gavin Bell	3-1
• Creating VRML worlds	
• <i>scene graphs, lights, cameras, WWWInline, transformations Distributed worlds,</i>	
• <i>worlds across the web WWWAnchor, smart use of LOD+WWWInline</i>	
• <i>Creating VRML objects Shapes, textures, materials</i>	
Things that are NOT VRML 1.0 - Gavin Bell	4-1
• Differences with Inventor	
• Possible VRML 2.0 features	
• <i>Animation, Interaction, Behavior, Telepresence, Collaboration</i>	
VRML Browsers, Applications and Related Technologies - YON	5-1
• Survey of viewers, tools and applications for VRML	
• Some related technology	
VRML Cornucopia - Mark D. Pesce	
<i>(supporting documents)</i>	
VRML. the context for - Jan Hardenbergh	6-1
VRML 1.0 Specification, 8-MAY-95 (final draft)	7-1
VRML Equinox - Mark Pesce	8-1
VRML visions - Mark Pesce	9-1

VRML: Using 3D to Surf the Web

VRML Using 3D to surf the Web = Courses CD-ROM manifest - README
These are the files for Course #12 for SIGGRAPH 95. - jch@oki.com

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    0 COVER PDF          , Abstract, Info & contents for course (Acrobat)
    0 README             , listing of files for courses CD-ROM
  4,520 VRML_S95 HTM    , Top level HTML files for slides
  7,878 YON1.HTM        , YON - VRML, the context for slides
 13,821 YON1.PDF        , " " (Acrobat)
 36,914 VRMLTCF.PDF    , Text version, pieces & history of VRML
 24,591 GAVIN1.HTM     , Gavin - Overview of VRML 1.0 (html slides)
 69,713 GAVIN1.PDF     , Gavin - Overview of VRML 1.0 (Acrobat)
 71,148 VRML1_0.PDF    , The VRML 1.0 final draft spec
  4,063 GAVIN2 HTM     , Gavin - What is NOT VRML 1.0 (html slides)
 41,379 GAVIN2 PDF     ; Gavin - What is NOT VRML 1.0 (Acrobat)
  8,770 YON2 HTM       ; YON - Browsers, Apps & Related Tech (slides)
 12,253 YON2.PDF       , YON - Browsers, Apps & Related Tech (Acrobat)
 26,360 VRMLEQN PDF    ; Mark - State of the world, 95.APR 15
 11,774 VISIONS PDF    , Mark - early visions for VRML
Support files -----
  5,037 tech gif        , diagram for YON1 HTM - gif image format
 12,241 Anim.jpg        , diagram for GAVIN2 HTM - jpeg image
  3,128 Axis gif        , illustration for GAVIN1.HTM - gif image format
 14,750 Interact.jpg    , diagram for GAVIN2 HTM - jpeg image
154,615 cannon.wrl     , VRML source file
210,806 jackInTB.wrl   , VRML source file
  3,578 legoDog.wrl     ; VRML source file
 19,327 Persist.jpg    , diagram for GAVIN2 HTM - jpeg image
 14,313 VRML1Ar.jpg    ; diagram for GAVIN2.HTM - jpeg image
 14,264 Script1.jpg    , diagram for GAVIN2 HTM - jpeg image
 16,994 Script2.jpg    ; diagram for GAVIN2.HTM - jpeg image
 18,659 ShrWrlD.jpg    , diagram for GAVIN2 HTM - jpeg image
  5,088 Toys.jpg       , illustration for GAVIN1 HTM - jpeg image
 91,614 WSHall.jpg     , illustration for GAVIN1.HTM - jpeg image
154,615 cannon.wrl     , VRML source file
  764 toys.wrl        , VRML source file
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