

Section 5: Documenting Data from a Virtual Reality Project#

5.4 Documenting Methods and Techniques#

It is important to record information about the techniques used during the virtual reality project. This will help with both maintenance and testing of the model and in archiving it for subsequent reuse.

5.4.1 Documenting the virtual reality application

The following is a list of information that might be useful to record:

Model type

The form of the virtual reality should be recorded. The following list, while not exhaustive, gives examples:

- panorama
- bubble world
- vrml model
- collaborative virtual environment.

Application format

Specific information about the VR application is required and the version used should be recorded, e.g. Java 1.3.1 with Java3D 1.2.1.

Application specification

Reference should be made to a copy of the specification for the correct version of the VR application that has been used. This may either be a reference to a published document (e.g. the URL for the specification on the World Wide Web) or a copy of the specification itself retained as part of the project archive. For ISO standards, it is sufficient to record the ISO document number and a URL, e.g. the specification for VRML 97 is ISO/IEC 14772-1:1997 and can be found at <http://www.VRML.org/technicalinfo/specifications/vrml97/index.htm>.

Hardware platform

Record the specification for the computer system that has been used in developing the VR.

Authoring tools

Any software that has been used in creating the world, e.g. AC3D, Borland JBuilder. Note the version number of the authoring software and the VR format that it produces, e.g. VRML 97.

3-D drawing tools

Record any 3-D drawing packages (e.g. AutoCad, 3-D studio etc.) that have been used to create objects for incorporation into the world. Note the version number used, the file format produced and the method used to incorporate objects into the world.

3-D scanners

If a 3-D scanner has been used to capture the geometry of an object, record the make and model of the scanner that has been used and the resolution at which the object has been scanned.

Object libraries

If objects have been obtained from object libraries, it is important to record:

- the object(s)
- the object library or source
- the copyright of the object(s) from that source.

Animations/ Scripts

Record the scripting language that has been used, e.g. Javascript, Java 1.2

Sounds

It is useful to describe how sound has been used in the world, how the sounds have been obtained, the file format used (e.g. MIDI, WAV) and whether they have been compressed for incorporation into the world.

5.4.2 Additional documentation for images

Images may be created for use in virtual reality applications for backgrounds, panoramas, surface textures and so on. They may be created using computer-aided drawing packages or captured using digital cameras or 2-D scanners. Original images may be created using high-quality data capture techniques and then compressed for dissemination in the virtual reality application. In some cases it may be advisable to archive multiple versions of each digital image with appropriate documentation.

Images/ Textures

Record the methods used to create surface textures, for example if a texture is based on a photograph of the real world object, a similar real world object, or if the texture has been created by a designer for the purpose and so on.

It is useful to record not only the file format(s) in which the original images were created or acquired but also the format in which they have been incorporated into the world after processing or compression (e.g. [BMP](#), [GIF](#), [JPEG](#), [TIF](#)).

5.4.3 Additional documentation for reconstructions

Virtual reality worlds may be created partially from survey data captured from real-world objects (e.g. using a 3-D scanner) and partially through interpretation and artistic licence. It is important to document which portions of the model are which. This avoids misleading users and can help to enable the original survey data to be reused in alternative interpretations.

Real-world objects

If objects have been created from real-world evidence, it is important to record:

- object(s)
- the source file(s)
- the person or organisation(s) responsible for the survey
- the techniques or equipment used, e.g. 3-D object scanner, electronic distance measure, topographic survey, hand measurement etc.
- the date(s) when the survey took place
- a brief description of the survey and the area covered
- any associated rights
- any conventions used to depict real-world objects in the VR. See [CAD: a Guide to Good Practice](#) for more information about capturing data for CAD models from field survey.

Interpretative objects

If objects have been created to present a particular reconstruction or interpretation, it is important to record:

- object(s)
- the source files
- the person or organisation(s) responsible for the interpretation
- a brief description of the interpretation and the evidence on which it is based
- references to any bibliographic sources which support the particular reconstruction
- the date of the reconstruction
- any associated rights
- any conventions used to depict the interpretative objects in the VR.

[Previous](#) | [Next](#) | [Contents](#)