

Irvine Royal Academy—Technical Department

Graphic Communication—Advanced Higher

Virtual Reality

Virtual Reality is where a 3D CAD model can be saved in a format that can be opened on the internet and movement controlled by the user. The files are saved as vrml (Virtual Reality Modelling Language) or, more recently, as X3D files. Exams still refer to vrml.

Virtual reality can be shown on a computer monitor, or for better effect, using virtual reality goggles.



Uses of vrml

Property

A company may include a vrml element on their website. This will allow the browser to interact with the product that the company is selling. For example: An estate agent may have a vrml model of a new house (perhaps one that has still to be built). This would allow the user to have a look round the house, as though they were in it. This would have the advantage of allowing people to see the layout

without actually visiting. It means that the houses can be advertised more widely.

A example of one is shown here:

[Real Estate 3D Virtual Tour | 3D Walkthroughs For UK Properties | VRV \(virtualrealityvenues.com\)](#)

Have a go and see how you can look around the building.

Game Design

As the user controls where the viewpoint will be on the programme, vrml is used in games design. This means the user controls the route, and thus the appearance on the screen. A simple version is shown here: [\(6\) VRML village walkthrough - YouTube](#)

User Control

The user, or controller, of the vrml programme may be able to change the conditions in the virtual scene. For example, they may be able to determine what time of day the image represents, thus they will be able to see how the place looks in the evening or early morning. They may also be able to control the weather!

Sometimes scenarios can be created—for example a building may be on fire, and people are asked to make their way to a fire exit. The movements could be recorded and analysed later to make alterations to signage, position of emergency controls, etc.

YouTube Videos

<https://youtu.be/i4Zt3JZeibg>

<https://youtu.be/vz0UUVDt2ps>