

Virtual Reality Modeling Language („VRML“)

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VRML is a programming language for the division 3D/multimedia visualizations with the focus on the Internet (HTML).

VRML is an international standard after ISO/IEC 14772. In 1997 VRML1, which is in use only for 3D data interchange nowadays, was extended by animation, interaction and multimedia (photo, movie, sound) to VRML2 and standardized. The evolution of the standard to X3D was submitted in 2004 after ISO/IEF (Final draft International Standard) 19775 and uses XML syntax.

VRML functionalities

- 3D
 - 3D objects can be looked at from all directions
 - light sources and resulting light effects are supported
 - camera positions (Viewpoints) can be defined
 - far away objects can be displayed simplified
 - objects can be changed or switched off
 - fog and background possible
- Hyperlink
 - viewer such as BS Contact VRML/X3D can be used as Plug-in within browsers
 - links to other websites can be integrated
 - parts of a virtual world can be loaded by hyperlink
 - VRML files can be used as gzip
- Animations
 - 3D objects, light sources and viewpoints can be moved, scaled and can be animated in real-time within space
 - 3D objects can do trajectories, which use to be defined by the link to third party systems
- Interactions
 - interaction of the user in real-time via input-device with the 3D object within the virtual world (e.g. mouse, joystick, spaceball, data glove aso.)
 - interaction between 3D object and viewpoint
- Multimedia features
 - objects can be mapped with photographs or movies (textures)
 - 3D sound is supported

In BS Contact VRML/X3D supports furthermore functionalities like

- shadow
- collision detection
- level of detail
- extended nurbs (tessellation) and splines
- extended textures up to multitexturing and DirectX9 shader
- video function of the 3D camera track
- saving of high resolution pictures

to enable advanced applications of customers ([Overview](#)).