view3dscene 3.18.0

view3dscene is a viewer for many 3D model formats: X3D, glTF, VRML, Collada, 3DS, MD3, Wavefront OBJ, STL and (2D) Spine JSON.

Explore the virtual world with collisions, gravity, animations, sensors, shadows, mirrors, shaders and more. You can also convert all models to X3D or VRML.

1. Downloading and installing

No installation is required. Just download and unpack these archives wherever you want, and run the `view3dscene` program inside. Included is also the `tovrmlx3d` program, useful for converting 3D models to VRML/X3D in batch (command-line) mode. The documentation (this web page) is also included inside, for offline viewing (open the `documentation/view3dscene.html` file).

This is free/open-source software. Developers can download sources of this program.

Demo scenes: our VRML/X3D demo models contains a lot of interesting models, you can open them all with `view3dscene`.

Requirements:

- *For Linux:* If you want to hear 3D sound in some VRML/X3D worlds, install also OpenAL and OggVorbis (VorbisFile and dependencies) libraries.
- *For Windows:* All useful libraries are already included in the archive, so you don't have to do anything.
- Mac OS X requirements are listed here.

2. Features

- All the 3D and 2D model formats supported by Castle Game Engine can be opened: X3D, VRML, Collada, 3DS, MD3, Wavefront OBJ, Spine JSON...
- Various navigation modes are available: `Examine` (easily rotate and move the whole model), `Walk` (walk like in FPS games, with collision detection, gravity and related features available), `Fly` (similar to `Walk` but without gravity).
- All model formats can be converted to X3D.

  You can convert between X3D classic and XML encodings (in both directions), and you can convert from VRML 2 to X3D. You can also use view3dscene as a "pretty-printer", just open and save any VRML/X3D file without any version conversion.

  Command-line options to convert in batch mode (`--write`) are available in view3dscene. Special minimized binary `tovrmlx3d` (useful to install on servers without GUI libraries available) is also included in view3dscene archive.
- A number of Castle Game Engine's rendering features are available, like GLSL shaders, bump mapping and shadows.
- Built-in ray-tracer (that is also available as a separate command-line program, rayhunter) to generate nice views of the scene (with shadows, mirrors, and transmittance). Classic ray-tracer implements exactly VRML 97 / X3D lighting equations.
- You can inspect your model (select triangles by clicking *right mouse button* in *Walk / Fly* mode, and use menu item *Help -> Selected object information*).

  There are also very limited editing capabilities. They are intended to be used only as post-processing of some model. We intentionally do not try to implement a full 3D authoring program here.
- *Animations* may be played from VRML / X3D files, using sensors, scripts, interpolators and all other VRML events features.

  You can activate VRML pointing-device sensors by clicking with *left mouse button* (the cursor will change shape and you will get status information when your cursor is over some clickable sensor). Note that this works only when *Collision detection* is on (as it requires octree).

  You can also play a *named animation* using menu *Animation -> Named Animations*.
- *Baked animations* can also be played from Castle Animation Frames (castle-anim-frames) format or MD3 files (and you can convert any interactive VRML/X3D animation to a baked one).
- There are menu items and command-line options to catch screenshots and movies of 3D scenes and animations. GNOME users will be happy to hear that it can also be used as Nautilus thumbnailer, providing thumbnails when you view directory with VRML / X3D and other 3D models. We can also make a special "screenshot" of 3D environment as a cube map (to DDS, or six separate images).

3. Navigation with keys & mouse

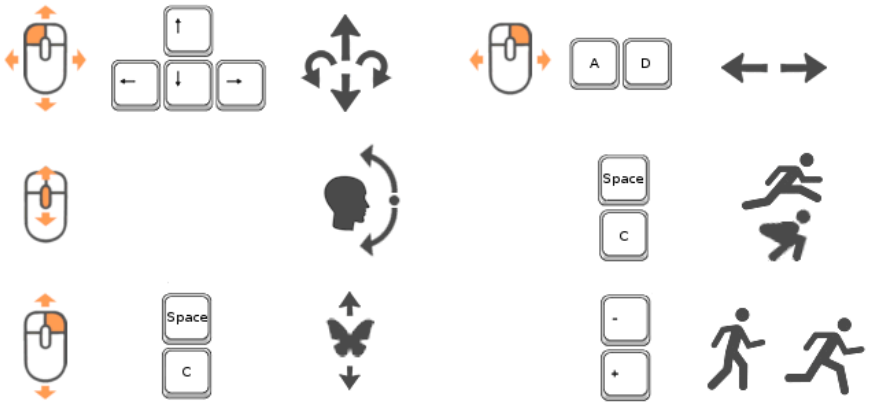
All navigation modes:

- *Left mouse button* is used for interacting with the VRML/X3D world. When the cursor turns into a grabbing hand you know you can click or drag on this 3D object. This uses the VRML/X3D pointing-device sensors, and is fully configurable by 3D world authors.
- *Ctrl + Right mouse click* picks a point, selecting a triangle and it's containing shape. The selected point / triangle / shape is then used for some operations, like *"Help -> Selected Object Information"*.

`Examine` navigation mode:

Mouse:	
Rotate	Left mouse dragging
Move	Middle mouse dragging (or Left mouse + Shift)
Zoom	Right mouse dragging (or Left mouse + Ctrl; or scroll wheel)
Keys:	
Rotate	Arrows
Stop rotating	Space
Move	Ctrl + Arrows
Scale	+ / -

`Walk` / `Fly` navigation modes:



Mouse:	
Forward / backward	Drag up / down with left mouse button
Rotate	Drag left / right with left mouse button
Move (strafe) left / right	Drag left / right with right mouse button
Fly up / down	Drag up / down with right mouse button
Raise / bow your head	Mouse wheel
Keys:	
Forward / backward	W / S or Up / Down
Rotate	Left / Right
Move (strafe) left / right	A / D
Jump / Crouch (or fly up / down)	Space / C
Run	Shift
Turn *Mouse Look On* (Ctrl+M) to look around by moving the mouse. It is usually comfortable to combine it with movement using AWSD keys.	
Additional controls:	
Increase / decrease moving speed	+ / -
Increase / decrease avatar height (preferred camera height above the ground)	Ctrl + Insert / Delete
Rotate *slower* (useful to precisely set the camera)	Ctrl + Left / Right

We also support 3D mouse devices, see the demo video about 3D mouse inside view3dscene.

There are many more operations with key shortcuts, that work in all navigation modes. Just explore the *view3dscene* menu, and look at the key shortcuts.