



PROJECT WONDERLAND

EXPLORE 3D VIRTUAL WORLDS

Highlights

- Based entirely on Java technology
- Makes it easy for student developers to create new 3D applications that run within a world, invent new virtual worlds, or add features to the toolkit
- Supports COLLADA standard and integrates with popular 2D applications
- Provides a modular, extensible architecture
- Requires no licensing fees



What is Project Wonderland?

Project Wonderland is a Java™ technology-based, free and open-source toolkit for building 3D virtual worlds for education, visualization, and business collaboration.

The Project Wonderland toolkit includes high-fidelity, immersive audio, support for standard 3D model formats (COLLADA), integration with existing 2D Java Swing and X11 applications, customizable avatars, the ability to connect to external data sources, built-in security and authentication, an integrated text-chat system, and much more. Its modular, extensible architecture allows developers to extend the features of the toolkit and share their extensions with others. And they can also make use of the full capabilities provided by the Java programming language and runtime class libraries.

Educators will appreciate the ability to run and control access to their own Project Wonderland server installation — no software licensing fees are required. There's as much virtual space on each server as you need, with the ability to create portals (very much like hyperlinks on the Web) to Project Wonderland worlds running on other servers across the Internet. The Project Wonderland server installs easily on multiple platforms, and it features a Web-based administration console. The Project Wonderland client is distributed over the Internet using Java Web Start technology: no separate client installation is required.

A platform for student creativity

Students have a world of opportunity developing for Project Wonderland. Specifically designed with extensibility in mind, its unique add-on module system makes it easy for student developers to expand the capabilities of Project Wonderland to create a new 3D application that runs within a world, invent an entirely new kind of virtual world, or add a new core feature to the toolkit.

Some of the best add-on modules for Project Wonderland have come from students, including a collaborative music listening world that streams album art and audio from an Internet Web site and a physics teaching world that allows students to interact remotely with laboratory equipment and visualize the results of experiments in 3D.

Rather than construct entire worlds, student developers can focus on providing reusable components for others to use in their worlds. Examples include a virtual telephone to place real-world telephone calls from inside a virtual world and a mixed-reality whiteboard that allows those in the real-world to draw on the same whiteboard as those in a virtual world.

Since Project Wonderland is based on the COLLADA standard, students can import existing 3D models and artwork to populate their worlds from places such as the Google 3D Warehouse, or they can author their own artwork with free, easy-to-use tools like Google SketchUp. And with its drag-and-drop functionality, importing content into Project Wonderland is quick and easy.

The sky's the limit

Are you intrigued by Project Wonderland but still don't have a great project idea? Visit wiki.java.net/bin/view/Javadesktop/StudentProjects to see a list of possible projects specifically geared to student developers, such as:

- **Twitter Viewer:** Create a new custom component that provides a dynamic display for tweets, either in 2D on a virtual wall or in 3D on a globe or a timeline.
- **Remote Controlled Mirror World:** Create a digital double of a real-world space that has aspects that can be controlled remotely. This might include robots, laboratory equipment, cameras, or electronic devices.

- **Virtual World Webcast:** Broadcast the happenings inside a virtual world as an audio/video stream to a Web page.
- **Language Learning World:** Create cafes, a doctor's office, a train station, and other real-world settings for students to practice a foreign language in realistic contexts. Add smart virtual characters and speech recognition to provide additional conversational companions.

Whether you choose one of these project ideas or one of your own, think about how you can most effectively use Project Wonderland's 3D immersive environment to allow remote participants to collaborate in ways that aren't possible with existing 2D tools.

Getting started

Our open-source community is welcoming to student developers at all levels and offers a full range of beginning to advanced tutorials on developing for Project Wonderland. Anyone can download the source code to Project Wonderland's many add-on modules, using them as sample code to create new functionality.

Need help? Our discussion forums let developers post questions to the Project Wonderland core team and community members. It's a great place to get help and learn from the experts.

The following resources can help you to get started with Wonderland:

- **Project Wonderland open source Web site:**
projectwonderland.com
- **Forums:**
forums.java.net/jive/forum.jspa?forumID=112
- **Wonderland blog:**
blogs.sun.com/wonderland
- **Immersion Interest Group:**
sun-isig.ning.com
- **Wonderland OSUM community:**
osum.sun.com/group/sunwonderlandosumcommunity

