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Wonderland Project Ideas for Students (or Others)

This is a list of potential projects for students or anyone else interested in extending Wonderland. The projects are listed by category with a level-of-effort indicator from small to large in parentheses after the project name. The level of effort that a project involves is based on many factors, the most important of which is the experience of the developer or project team. In addition, some ideas can be expanded to encompass more functionality and other ideas can be simplified. The level-of-effort indicators below should be considered relative. A "small" level of effort means that the level of effort is smaller than the level of effort required by a "medium" or "large" project. Each project is marked with one or more keywords. You can use your browser's "find in page" feature if you are interested in projects that match one of the keywords.

Anyone in the community is invited to add projects to this list. Please use the template provided below.

Projects By Category and Level-of-Effort

- Education Applications, Simulations & Spaces
  - Writers Workshop (small)
  - Math Help Center (small to medium)
  - Art Studio (medium)
  - Relativity Demo - Twin Paradox (medium)
  - Relativity Demo - Black Hole (medium)
  - Material Molecular Viewer (medium)
  - Solar System Simulation (medium)
  - Virtual, Multi-user Microscope (medium)
  - History Collection (medium to large)
  - Psychology Demonstration World (medium to large)
  - Econ 101 (medium to large)
  - Open Source Authoring for Virtual Learning (large)
  - Physics Classroom (large)
  - Eco-System Simulation (large)
  - Virtual Theater (large)
  - Alice Integration (large)
  - Scratch Integration (large)
  - Greenfoot Integration (large)
- Business Applications, Simulations & Spaces
  - Developer Pair Programming Space (small)
  - Question/Answer Board (small)
  - Slide Spreader (small)
  - Situation Room (medium)
  - System Administration Training (medium)
  - Virtual Demo Floor (medium)
  - Federated Presenation Space (large)
  - Presenter Kit (large)
  - Affinity-style Brainstorming (large)
  - Remote-Controlled Mirror World (large)
  - Sales Training and Rehearsal (large)
  - Shop 'til You Drop (large)
- Web Integration
  - RSS Feed Viewer (small)
  - News Central (small to medium)

    - Twitter Viewer (small - medium)
    - WebCast Avatar's View (medium)
    - YouTube Video Player (medium)
    - Google 3D Warehouse Browser (medium)
    - Dynamic Personal Wall (medium)
    - Real-world Data Integration (medium)
    - Virtual Home Town (medium)
    - Flight Tracker (medium)
    - Social API Integration (medium to large)
    - Dynamic Social Space Mashup (medium to large)
- General Applications & Features
    - Postcards from Wonderland (small)
    - MP3 Player (small)
    - Jam Band (small)
    - Ambient Displays (small to medium)
    - Social Networking Application (medium)
    - Interactive 3D Whiteboard (medium)
    - Moving Stairs (medium)
    - Navigation Aids (medium)
    - 3D Brainstorming Tool Based on WonderBlocks (medium to large)
    - 3D Visualisation of Search Results (medium to large)
    - Physics World (large)
    - Music generation (large)
    - Sun SPOT integration (large)
    - Wonderland Virtual Reality (large)
- Games
    - Snowman Ultimate! (medium)
    - Virtual Obstacle Course (medium)
    - Kick the Can (medium)
    - Wizard Chess (large)
    - Dodge Ball (large)
    - Soccer (large)
    - Scavenger Hunt (large)
    - Game Lobby (large)
- World Creation and Assembly
    - 3D Labels (small)
    - Poster Maker (small)
    - Animation Toolkit (medium)
    - Physics World Assembly (medium)
    - Processing in Wonderland (medium)
    - Graffiti (medium)
- Tools & Utilities
    - Follow-me Navigation (small)
    - Telepointers (small)
    - Hand-held Microphone (small)
    - Presenter Avatar Animation (medium)
    - Jabber-Based Instant Messaging (medium)
    - 3D Buddy List (medium)
    - Data Collection Module (medium)
    - ChatBot (medium)
    - Real-time Data Capture for More Expressive Avatars (large)
    - Real-time Data Capture for More Dynamic Worlds (large)
- Keywords
- Template
    - Project Idea (level of effort: small, medium, large)

Education Applications, Simulations & Spaces

Writers Workshop (small)

Description	Design an inspirational space for aspiring authors to work on compositions, critique each other's work, and perform readings.
Proposer	Nicole Yankelovich

Volunteers	Unassigned
Keywords	education, world
Comments	*comments go here*

Edit this table

Math Help Center (small to medium)

Description	Create a virtual Math Help Center where students needing extra help with math homework can meet up with volunteers willing to offer help. Either focus on a single level (algebra, trig, calculus, etc.) or create different spaces for different levels of students. Enhance a simple whiteboard to make it easier for math tutors and students to write out math equations.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, world
Comments	*comments go here*

Edit this table

Art Studio (medium)

Description	Create a virtual art studio where students can display both digital artwork or photographs of physical creations for either instructor or student led group critique sessions.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, world
Comments	*comments go here*

Edit this table

Relativity Demo - Twin Paradox (medium)

Description	Show the effect of special relativity on time and distance. Rather than just a video, create a way to show the "twin paradox" by making one avatar look very old and the twin look very young!
Proposer	Joe Provino
Volunteers	Unassigned
Keywords	education, simulation
Comments	*comments go here*

Edit this table

Relativity Demo - Black Hole (medium)

Description	Show the effect of general relativity on time and distance. This could be an in-world black hole which implies a strong gravitational field. As an avatar approaches the black hole, it would become taller and thinner. Also, since time slows down, the avatar approaching the black hole would hear another person's audio speed up. The avatar far away from the black hold would hear the audio of the avatar near the black hole becoming slower and slower. We'd have to make sure the avatar doesn't go too close to the black hole or it will disappear forever. 
Proposer	Joe Provino
Volunteers	Unassigned
Keywords	education, simulation
Comments	*comments go here*

Edit this table

Material Molecular Viewer (medium)

Description	Users gather in a space with a bunch of materials (in various states) ; water, ice, steam, steel, hot steel, spring steel, glass etc, etc. User can enter the material and observe the dynamic behavior of the atoms within the material.
Proposer	Paul Byrne
Volunteers	Unassigned
Keywords	*see list above*
Comments	*comments go here*

Edit this table

Solar System Simulation (medium)

Description	The goal would be to implement a "virtual orrery" which simulates the solar system (maybe with only 4 planets). Users could control parameters such as planet mass and gravitational constant to experiment. These controls could be provided via a swing panel or a Widget3D control box (Note: Widget3D is the name of a prototype 3D widget library I muse about from time to time.). Users could apply a force to a particular planet by moving a "force vector" arrow widget. You could also add a visualization of keplers law of equal areas/times.
Proposer	Deron Johnson
Volunteers	Unassigned
Keywords	education, physics, simulation

Comments	*comments go here*

Edit this table

Virtual, Multi-user Microscope (medium)

Description	Create a multi-user version of a microscope simulation similar to this one created at the University of Delaware using data sets available on the web as targets for viewing. A multi-user scope would let one or more people view the same image together and provide a way to point to interesting features and potentially annotate them.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D
Comments	*comments go here*

Edit this table

History Collection (medium to large)

Description	Put together a collection of historic models and avatar outfits such that teachers or students could easily recreate a scene from a period in history such as ancient Rome, the Wild West, or the French Revolution. Provide some in-world tools for students to create signs or newspapers. Environments created with this collection should allow students to stage virtual re-enactments of historical events.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D
Comments	*comments go here*

Edit this table

Psychology Demonstration World (medium to large)

Description	In high school AP Psychology classes and college-level introductory classes, students are often introduced to psychology concepts through live demonstrations. This project involves creating a virtual psychology demonstration world in which students can interact with other live students as well as with simulated characters to observe phenomena such as perception, memory, conditioning, and learning. For any students interested in this project, we will try to pair you with an AP Psychology teacher.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D, world

Comments	*comments go here*

Edit this table

Econ 101 (medium to large)

Description	Create a series of virtual spaces that allow students to interact with one another and with simulated characters to experience different principles of economics. An expanded version of this project might include a current events space where economic news is streamed live. Students can discuss current events in this space or collect and organize news stories on topics of interest. For any students interested in this project, we will try to pair you with an economics professor.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D, world
Comments	*comments go here*

Edit this table

Open Source Authoring for Virtual Learning (large)

Description	Integrate the PIVOTE open-source authoring system for learning into Wonderland.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	Education, Tool
Comments	*comments go here*

Edit this table

Physics Classroom (large)

Description	Choose some aspect of physics and construct a simulation-based interactive learning laboratory. We can choose simple physics (e.g. Newtonian stuff -- gravity, coefficients of friction, Hooke's law), or we can choose something more complex (e.g. a wave tank).
Proposer	Jordan Slott
Volunteers	Unassigned
Keywords	education, physics, simulation
Comments	*comments go here*

Edit this table

Eco-System Simulation (large)

Description	Simple eco-systems can be used for teaching both science and mathematical modeling. Create one or more simple eco-systems that include inter-dependent plants and animals. Example eco-systems include rain forest, desert, plains, pond, or coral reef. The eco-systems can include "real" weather based on current or historical weather data and can also include water-ways, pollution levels, and human-created structures such as buildings and roads. An important aspect of this project is to include ways to impact the eco-system by simulating natural disasters, new construction, invasive species, or disease. A nice additional feature would be some easy-to-use in-world data recording tools so that students can record observations, graph results, and share this data with others.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D, world
Comments	*comments go here*

Edit this table

Virtual Theater (large)

Description	Create a virtual theater environment for students to perform live shows complete with a curtain, stage, lighting, and multi-media components. This could be used either to rehearse for physical performances or to produce live, in-world theatrical productions.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, simulation, 3D, world
Comments	*comments go here*

Edit this table

Alice Integration (large)

Description	Integrate the Alice programming environment with Wonderland. Alice was created as tool for teaching programming concepts to novices using animations, story telling and interactive games. An integration with Wonderland would allow students to share their creations in a virtual world with other students. A more ambitious project would involve modifying Alice to produce Wonderland content.
Proposer	Deron Johnson
Volunteers	Unassigned
Keywords	education, 3D
Comments	*comments go here*

Edit this table

Scratch Integration (large)

Description	Integrate the Scratch programming environment with Wonderland. Scratch was created as tool for teaching programming concepts to novices using animations, story telling and interactive games. A simple integration with Wonderland would allow students to share their creations in a virtual world with other students. A deeper integration would extend Scratch concepts to 3D, allowing students to use Scratch as a scripting language for Wonderland.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, 3D
Comments	*comments go here*

Edit this table

Greenfoot Integration (large)

Description	Integrate the Greenfoot programming environment with Wonderland. Greenfoot was created as tool for teaching Java programming concepts to novices using animations, story telling and interactive games. A simple integration with Wonderland would allow students to share their creations in a virtual world with other students. A deeper integration would extend Greenfoot concepts to 3D, allowing students to use Greenfoot as a programming environment for Wonderland.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	education, 3D
Comments	*comments go here*

Edit this table

Business Applications, Simulations & Spaces

Developer Pair Programming Space (small)

Description	While some tools exist for remote pair programming, the virtual environment seems better suited to this activity. Create a virtual space to support pair programming.
Proposer	Nigel Simpson
Volunteers	Unassigned
Keywords	business

Comments	*comments go here*

Edit this table

Question/Answer Board (small)

Description	Create a board that contains a list of names of people who want to ask a question in the order in which they raised their hands. Names could be removed from the board when the avatar's hard is lowered or when someone manually removes the name.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, business, education
Comments	*comments go here*

Edit this table

Slide Spreader (small)

Description	Create a tool that takes a PDF file and spreads out the slides (pages) around a virtual space according to some pattern (around the boundary of cell, in a circle, in a square, in a line, etc.). Add an easy mechanism for the presenter to proceed to the next slide without manual navigation. This should be as easy as pressing the space bar. Another nice feature would be to hide each slide until the presenter is ready to reveal it.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, business, education
Comments	*comments go here*

Edit this table

Situation Room (medium)

Description	Create a situation room or crisis center where remote people can come together to work through a difficult problem or manage an emergency situation. Think about the types of dynamic data these people will need for effective decision-making and the tools they will need to work together. Communication with the outside world through multiple channels may be an important aspect of this project.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	business, world, 3D

Comments	*comments go here*

Edit this table

System Administration Training (medium)

Description	Create a training environment where an instructor can provide remote training for system administration tasks such as setting up Solaris zones, creating new user accounts, or installing patches. The training should allow students to each interact with their own live system using a terminal or other web-based tool.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	business, world
Comments	*comments go here*

Edit this table

Virtual Demo Floor (medium)

Description	Set up a virtual demo floor with booths that allow visitors to see live software demos and/or simulated hardware demonstrations, ask questions, and talk informally with demoers and other visitors. A key to this project is setting up the audio so that presentations in the various booths are somewhat isolated from one another without entirely losing the "buzz" of excitement that often is present in real demo situations.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	business, world, audio
Comments	*comments go here*

Edit this table

Federated Presenation Space (large)

Description	Create a world designed for presentations or large all-hands meetings. A single stage would be shared across multiple federated Wonderland instances. Anyone on the stage would appear and be heard in all worlds. Presenters would present to everyone from the stage, and users could temporarily move to the front of their respective rooms to ask questions that are heard by everyone.
Proposer	Jonathan Kaplan
Volunteers	Unassigned
Keywords	business, 3D, world
Comments	*comments go here*

Edit this table

Presenter Kit (large)

Description	Package up a set of features that make it easier to give effective presentations in Wonderland. These features might include follow-me navigation, a question-answer board, a slide spreader, and special presenter animations. In addition, there are a number of audio-related features that would be particularly useful: a hand-held microphone to amplify audience members without requiring them to move, the ability to turn on and off amplification of the presenter, and the ability to mute and unmute the audience. Video of the presentation streamed to the web would be another possible feature in this kit. Viewers of the video should be able to submit questions to the question-answer board.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, business, education, audio
Comments	*comments go here*

Edit this table

Affinity-style Brainstorming (large)

Description	Research on distributed teams show that brainstorming is one of the most difficult activities to do remotely. Create a space that supports affinity-style brainstorming in which people work separately to generate ideas and then collaborate to organize and prioritize the ideas. This web page describes the affinity process fairly well.
Proposer	Deron Johnson
Volunteers	Unassigned
Keywords	tool, business
Comments	*comments go here*

Edit this table

Remote-Controlled Mirror World (large)

Description	Create a "digital double" of a real world space which has aspects that can be remote controlled. This might include factory equipment, robots, laboratory equipment, cameras, or electronic devices. Allow users to work together to control these remote devices.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	business, world, 3D

Comments	*comments go here*

Edit this table

Sales Training and Rehearsal (large)

Description	Create a remote training environment for a distributed sales force focused on selling a consumer product. Model and animate that product such that the sales trainer can demonstrate the operation of the product in a way that shows its value more effectively than can be done with words and still images. Each sales person should also be able to try out the virtual product, practice their sales pitch, and receive feedback from their colleagues.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	business, world
Comments	*comments go here*

Edit this table

Shop 'til You Drop (large)

Description	Your very own private showroom of clothes from multiple vendors. Family shopping without leaving home! Get those hard-to-shop-with family members to try on and approve clothes fast. Bring along your entire existing wardrobe to see what goes with what.
Proposer	Miriam Kadansky
Volunteers	Unassigned
Keywords	business, world
Comments	*comments go here*

Edit this table

Web Integration

RSS Feed Viewer (small)

Description	Create a new cell that provides a dynamic display of a user-specified RSS feed. (Consider adapting the HTML viewer for implementation.)
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	tool, web-integration
Comments	*comments go here*

Edit this table

News Central (small to medium)

Description	Design an RSS-feed-enabled research space that displays live news articles, images, and videos that are always up-to-date. For a more challenging project, dynamically create new spaces for a more in-depth look at a particular news topic.
Proposer	Nigel Simpson
Volunteers	Unassigned
Keywords	business, web-integration
Comments	*comments go here*

Edit this table

Twitter Viewer (small - medium)

Description	Create a new cell that will display a twitter feed. For a small level-of-effort, do this as a 2D view to place on a virtual wall. As a larger project, create a 3D visualization, showing the tweets on a globe or other 3D display.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	tool, web-integration
Comments	*comments go here*

Edit this table

WebCast Avatar's View (medium)

Description	Produce a client, much like the recording client , that will stream out audio and video as if from a live video camera.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	app, web-integration, video
Comments	Some thoughts: probably use RTP and RTSP from JMF. The current movie recording mechanism creates JPEGs and post processes them. A better idea might be to develop an RTSP server in Wonderland and then, rather than creating JPEGs, add the captured images to that stream. Reading: http://java.sun.com/products/java-media/jmf/2.1.1/solutions/AVTransmit.html http://java.sun.com/products/java-media/jmf/2.1.1/guide/RTPPresenting.html http://www.csee.umbc.edu/~pmundur/courses/CMSC691C/lab5-kurose-ross.html http://www.exactfutures.com/index02.htm An existing server based on JMF:

	http://sourceforge.net/projects/streamp2p

Edit this table

YouTube Video Player (medium)

Description	Create a cell that will play a YouTube video in a Wonderland virtual world, when provided with a URI.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	app, web-integration, video
Comments	*comments go here*

Edit this table

Google 3D Warehouse Browser (medium)

Description	Create a new cell which allows the user to browse a set of 3d models (such as can be retrieved from Google using its Web Service API, or from the Google Sketchup 3D Warehouse), which can then be dynamically imported into a Wonderland virtual world.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	tool, web-integration
Comments	*comments go here*

Edit this table

Dynamic Personal Wall (medium)

Description	Create a personal wall that displays status of a person's latest code check-ins, current blog posts, recent forum posts, Facebook/Twitter/IM status updates and dynamically updates these.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, web-integration
Comments	*comments go here*

Edit this table

Real-world Data Integration (medium)

Description	The real-world is rich with data and the Web makes most of this data available in 2D format. Using Wonderland, present some of this data in 3D and updated in real-time. Examples include weather and traffic, and digital terrain data.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, web-integration, 3D
Comments	*comments go here*

Edit this table

Virtual Home Town (medium)

Description	Create a Google Maps / Google 3D Warehouse / Wonderland mashup of your home town. This walkable Google Map could load 3D models of buildings from the 3D Warehouse and allow visitors to walk around your town or city, hop on a bus to cross town, or take a ferry ride across a river. Perhaps you could even visit the personal spaces of people who live in the town.
Proposer	Nigel Simpson
Volunteers	Unassigned
Keywords	app, web-integration, world, 3D
Comments	*comments go here*

Edit this table

Flight Tracker (medium)

Description	Flight tracking is available in 3D from http://floweb.com. Live air traffic control audio is available from http://liveatc.net. Simulate an airport control tower with apps displaying live flight data, the sounds of the controllers, and even models of the planes landing.
Proposer	Jonathan Kaplan
Volunteers	Unassigned
Keywords	app, web-integration, 3D
Comments	*comments go here*

Edit this table

Social API Integration (medium to large)

Description	Integrate a social API (e.g. OpenSocial, Facebook) into Wonderland: this can provide the ability to visualize your friends network in 3D, locate friends within the

	virtual world easily, and be able to view and update the social interaction features (e.g. Walls, messages, status, pictures) of friends provided by the social networking sites in-world. For a more challenging project, create a Facebook application that shows a snapshot of a person's personal 3D space and allows visitors to enter that space. The Facebook application would keep track of the number of users to limit access to space and display in-world activity on the Facebook page. The application would also include a simple configuration tool for generating the space in the first place, allowing users to select color and perhaps a wall paper pattern. Other configuration options might include specifying who is allowed to enter the space and what permissions those people have (eg, move objects, place new objects, delete objects, etc.). A "create world" button would automatically generate the new space.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, web-integration, 3D
Comments	*comments go here*

Edit this table

Dynamic Social Space Mashup (medium to large)

Description	Mashup multiple social networking services in a way that brings people with common interests together in a spontaneously generated space, populated with relevant up-to-the-second content.
Proposer	Nigel Simpson
Volunteers	Unassigned
Keywords	app, web-integration, world, 3D
Comments	*comments go here*

Edit this table

General Applications & Features

Postcards from Wonderland (small)

Description	Add a feature that allows a user to create a snapshot of their current 3D view and email it, along with a few lines of text, as an electronic postcard.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app
Comments	*comments go here*

Edit this table

MP3 Player (small)

Description	Create a new cell that will play a user-provided MP3 file. The file should be accessible via a URI. Bonus points for being able to provide the MP3 player with a playlist.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	app, music
Comments	*comments go here*

Edit this table

Jam Band (small)

Description	Integrate shared access to a music library like jmusic. Give each person control over an instrument, and collaboratively build a song.
Proposer	Jonatthan Kaplan
Volunteers	Unassigned
Keywords	app, music
Comments	*comments go here*

Edit this table

Ambient Displays (small to medium)

Description	Based on the seminal work at the MIT Tangible Media Group on ambient displays, create one or more ambient displays within a Wonderland world. Ambient displays subtly modify some aspect of the environment (ie, walls, floors, doors, colors, textures, window views, lighting, object shapes or sizes, animation speed, size or color) in order to provide status information in an unobtrusive and aesthetically pleasing manner. Some ideas include changing "weather" outside the windows, changing wall or floor colors, or slowly morphing a virtual sculpture based on a web feed or other data source such as a company's stock price, the state of an open source build, or a building's power consumption for the day.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, 3D
Comments	*comments go here*

Edit this table

Social Networking Application (medium)

Description	Interactive 3D visualization of a person's social network. The network could be created based on a variety of relationships. Types of relationships might include: buddy list contacts, email contacts, who you sit near in the physical world, who you sit near in the virtual world, shared community involvement, joint authorship of papers, articles or on-line material, blogs in common, music tastes in common, hobbies in common, etc. The social network might offer a daily suggestion of a person you would like to meet and why (E.g, "Tom works for your company and is also interested in classical music"). The display could have a "contact" button which could initiate a voice chat or could teleport you to the person's virtual office door.
Proposer	Nicole Yankelovich
Volunteers	Matthew Hunt
Keywords	tool, web-integration
Comments	I am planning to do this for my undergraduate CS (Computer Science) project. I think it is a great idea which is open to many different interpretations and consequently implementations. I keep thinking "3D Myspace".

Edit this table

Interactive 3D Whiteboard (medium)

Description	Enhance the existing functionality of the SVG whiteboard with one or more of the following features: inline text editing, freedraw, save, open, resizing. I am imagining functionality similar to theThinkature whiteboard. Extra credit for integrating physical electronic whiteboard technology such as eBeam.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app
Comments	I think it is indeed a must. However, it can already be achieved by launching some painting program. Something like mspaint in Windows. I don't know X Windows that well, but there must be an equivalent. Am I wrong? WonderlandWhiteboard page created to act as hub for whiteboard-related work.

Edit this table

Moving Stairs (medium)

Description	Moving stairs like those in shopping centers. It's another way of teleporting but more natural for people that see a 3D world for the first time. It is not clear how moving stairs can interact with "Walk Together".
Proposer	Arthur Stanek
Volunteers	Jason(bigbjason) and Morris
Keywords	app, 3D
Comments	I, with the help of Morris's scripting power, have decided to take this up. I can provide the models and basic animation and Morris can apply the start/stop and other action scripts to them. We should be able to use this with not only the stairs but many other objects. Like in SL, we should, with the help of Morris, be able to

	have them move/not move with the click of a mouse.

Edit this table

Navigation Aids (medium)

Description	For some business and education users, learning to navigate in a virtual space is a substantial usability barrier. Design and implement several mechanisms that simplify avatar navigation. This might include, for example, a f'ollow-me feature that allows a user attach themselves to another live or simulated user to be guided around the world. Another potential idea is to allow users to instruct their avatars to walk automatically to nearby 'interesting' artifacts such as the nearest person, application, or chair. Avatars could automatically adjust the speed at which they walk based on their distance to the objective.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, avatar
Comments	*comments go here*

Edit this table

3D Brainstorming Tool Based on WonderBlocks (medium to large)

Description	WonderBlocks is a basic 3D graphing tool. Extend WonderBlocks such that multiple users can quickly create WonderBlocks that represent ideas in a brainstorming session as if the blocks were 3D sticky notes. Devise easy ways for the blocks to be organized, grouped, keyworded, sorted, and re-colored during a brainstorming session. Extra credit for figuring out a way to export the block content and organization to a standard spreadsheet, text or graphics format. Automatic ways to organize and re-organize blocks based on authors, keywords, or colors is another possible feature.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app, 3D
Comments	*comments go here*

Edit this table

3D Visualisation of Search Results (medium to large)

Description	Create a cell in which the results of a search query are visualised in 3D. Consider using one the search APIs such as Sun's Minion or Google's. For inspiration on how to visualise the results consider the 'Music in Wonderland' layout, a search cube, or Grokker's map view
Proposer	Bernard Horan

Volunteers	Unassigned
Keywords	tool, 3D, web-integration
Comments	*comments go here*

Edit this table

Physics World (large)

Description	Create a world completely driven by physics (all moveable objects, apps, hud, ...). For example, when an avatar bumps into objects, they move or fall over, depending on the forces and mass. In-world controls drop to the ground.
Proposer	Doug Twilleager
Volunteers	Unassigned
Keywords	world, physics, 3D
Comments	*comments go here*

Edit this table

Music generation (large)

Description	Combine physics, the Java midi interface, and the audio bridge for a dynamic music creation world. Provide some objects in world that respond to user interactivity by moving/falling/vibrating, each of which creates a pitch and tempo. Use this to create music (well, noise at least).
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	music, physics
Comments	*comments go here*

Edit this table

Sun SPOT integration (large)

Description	Provide an interface from a Sun SPOT (or other external sensor) to represent data in the world, or to control an avatar. Bonus points for providing an object in the virtual world that will control a physical robot in the real world.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	tool, sensors
Comments	*comments go here*

Edit this table

Wonderland Virtual Reality (large)

Description	Hook up a head-mounted-display and headphones to a wonderland client, a gyro-enabled Sun SPOT to provide a 3d immersive VR world using Wonderland. Use the SPOT to determine the user/avatar position in WL, from some starting point.
Proposer	Name
Volunteers	Unassigned
Keywords	tool, sensors, world
Comments	*comments go here*

Edit this table

Games

Snowman Ultimate! (medium)

Description	Bring the Darkstar Snowman game into Wonderland and enhance the game with the collaborative features (e.g. voice) of Wonderland.
Proposer	Jordan Slott
Volunteers	Unassigned
Keywords	game, world
Comments	*comments go here*

Edit this table

Virtual Obstacle Course (medium)

Description	As a means of helping new users learn navigation skills, create an obstacle course in which two or more avatars can compete in a timed race. Each avatar may have his or her own instance of the course. The courses could be dynamically added to accommodate the number of avatars who wish to compete. Scores could be posted on boards both in the current world and in other Wonderland worlds.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	game, 3D
Comments	*comments go here*

Edit this table

Kick the Can (medium)

Description	Avatar version of kids kick-the-can game, a combination of hide-and-seek and tag. The game is appealing in virtual worlds since it is meant to be played on neighborhood streets.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	game, 3D
Comments	*comments go here*

Edit this table

Wizard Chess (large)

Description	The Harry Potter novels describe a game called Wizard Chess. Create a virtual world version of this dynamic variation on chess.
Proposer	Deron Johnson
Volunteers	Unassigned
Keywords	game, 3D
Comments	*comments go here*

Edit this table

Dodge Ball (large)

Description	Create a virtual world version of the popular team sport, Dodgeball.
Proposer	Deron Johnson
Volunteers	Unassigned
Keywords	game, 3D
Comments	*comments go here*

Edit this table

Soccer (large)

Description	Create a virtual world for playing Soccer in which live players can compete against one another with or without simulated players. Net size and field size could change dynamically based on the number of players.
Proposer	Nigel Simpson
Volunteers	Unassigned

Keywords	game, 3D
Comments	*comments go here*

Edit this table

Scavenger Hunt (large)

Description	A collaborative scavenger hunt game.
Proposer	Doug Twilleager
Volunteers	Unassigned
Keywords	game, 3D, world
Comments	*comments go here*

Edit this table

Game Lobby (large)

Description	A game lobby with in-world game launcher.
Proposer	Doug Twilleager
Volunteers	Unassigned
Keywords	game, world
Comments	*comments go here*

Edit this table

World Creation and Assembly

3D Labels (small)

Description	Add a feature to Wonderland in which users can enter the text of a label. Convert the label into a 3D object that the user can then place anywhere in the 3D world. Extra credit for snapping the text label to walls, floors, and objects for easy placement of labels on 3D objects in the world.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, 3D
Comments	*comments go here*

Edit this table

Poster Maker (small)

Description	Worlds such as the MPK20 world contain poster boards which are hand-created. Create a new module that will enable users to create new poster boards in world using any image that is accessible via a URI.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	app
Comments	*comments go here*

Edit this table

Animation Toolkit (medium)

Description	Build a set of animations that developers can use to build nicely animated 3D applications. For example, create a 3D cover flow animation for viewing a slide show as a carousel or a Cooliris implementation for Flickr.
Proposer	Nigel Simpson
Volunteers	Unassigned
Keywords	tool, 3D
Comments	*comments go here*

Edit this table

Physics World Assembly (medium)

Description	Add physics to the world assembly tools such that objects snap to the floor or can be pushed flush against walls.
Proposer	Paul Byrne
Volunteers	Unassigned
Keywords	tool, 3D, physics
Comments	*comments go here*

Edit this table

Processing in Wonderland (medium)

Description	The Processing framework is a popular Java-based visualization framework used by artists and researchers. This project would be to port Processing into Wonderland as a mechanism for building 2D applications, and add primitives for synchronizing visualizations across multiple users.
Proposer	Jonathan Kaplan

Volunteers	Unassigned
Keywords	tool
Comments	*comments go here*

Edit this table

Graffiti (medium)

Description	Push whiteboard painting ability onto all textures so people can graffiti/markup any in-world surface or object.
Proposer	Paul Byrne
Volunteers	Unassigned
Keywords	tool, 3D
Comments	*comments go here*

Edit this table

Tools & Utilities

Follow-me Navigation (small)

Description	To ease the burden of navigation for new users or others trying to focus on another task, provide a feature that allows for one or more people to follow a "leader" avatar. You could right-click on an avatar and select "follow." Following stays in effect until an avatar starts to navigate independently.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, business, education, 3D, avatar
Comments	*comments go here*

Edit this table

Telepointers (small)

Description	Add telepointers - remote pointers that other users can see - to 2D applications. Telepointers typically include the names of the people controlling them and are used for both pointing and gesturing. There is a demonstration of telepointers in an earlier version of the PDF Viewer about half-way through this video of the Sun Labs Meeting Suite. Make this project more challenging by creating 3D pointers that people can use to point and gesture to 3D objects.
Proposer	Deron Johnson
Volunteers	Unassigned

Keywords	tool
Comments	This has been done as is part of Project Wonderland v0.5

Edit this table

Hand-held Microphone (small)

Description	Create a hand-held microphone such that any avatar can temporarily make themselves heard by talking into the microphone. Add a feature that allows people to adjust the volume radius either in meters or with respect to the world hierarchy (ie, whole room, whole building, whole world).
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, business, education, avatar, audio
Comments	*comments go here*

Edit this table

Presenter Avatar Animation (medium)

Description	To make avatars giving presentations more dynamic, create a presenter avatar animation that causes the presenter's avatar to walk around a defined area, gesture, and look at audience members. Speed up the avatar animations and amplify hand gestures as the speaker's voice becomes more excited.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, business, education, avatar, audio
Comments	*comments go here*

Edit this table

Jabber-Based Instant Messaging (medium)

Description	Add instant messaging capability to Wonderland that integrates with Jabber which allows for both group chat and private text chat. Provide the user with an indication of each other user's presence and availability, based on those users' jabber indicators. Allow text messaging between Wonderland users as well as out-worlders. Provide an indication of who is in-world and who is not. For extra credit, create a 3D buddy list as described next.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool

Comments	*comments go here*

Edit this table

3D Buddy List (medium)

Description	In addition to including standard instant messaging functionality that works with Jabber, features could include viewing a window into the virtual location where your buddy currently is, teleporting to your buddy's location, inviting your buddy to teleport to your location, and initiating a private voice chat with your buddy (the Sun Labs Voice Bridge already supports this functionality, so this would just be creating a user interface for it).
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	app
Comments	*comments go here*

Edit this table

Data Collection Module (medium)

Description	Using the list on the DataCollection page as guide, design a module to collect and display data helpful for evaluating the effectiveness of a particular virtual world. For example, in a given Wonderland world, collect data needed to create a "heat map" of avatar activity in order to visualize the places in the world that are most heavily visited by users.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, analysis
Comments	*comments go here*

Edit this table

ChatBot (medium)

Description	Automated, or scripted, avatars. Also known as Non-Player Characters (NPCs) in the gaming world. Daden have created an architecture that looks like it could be employed i Wonderland. For information see their web page: http://www.daden.co.uk/chatbots.htm.
Proposer	Bernard Horan
Volunteers	Unassigned
Keywords	Avatar, Simulation
Comments	*comments go here*

Edit this table

Real-time Data Capture for More Expressive Avatars (large)

Description	In virtual worlds it's often difficult to tell how remote people are reacting. If we could capture real data from the humans driving the avatars, it would be possible to make avatars much more responsive. Here are just a few examples. With a simple eye tracker, you could properly position an avatar's head to show what the human is looking at in the world. A laptop camera could capture head gestures and facial expressions. A seat sensor could trigger presence information, figuring out when a person is around or away. A motion sensor and accelerometer on a wristwatch could potentially detect certain arm gestures and translate those into avatar animations. A speech detector could automatically set an avatar's state to busy. A simple thermometer could change the in-world scenery to either match the real world climate or be the opposite (on cold days, a person might want to see a warm beach outside their virtual window 
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, avatar, sensors
Comments	I think I get at what you're trying to say. That is, non verbal communication is as important in a virtual environment as it is in the real world. The challenge is to capture that in a non-intrusive (real world) way. Ideally someone who wants to interact with the virtual world should be able to do so without having to use cumbersome headsets or data gloves, etc.

Edit this table

Real-time Data Capture for More Dynamic Worlds (large)

Description	Virtual environments are often static places. Using sensor data or other dynamic data feeds from the web, dynamically change attributes of the world. For example, a simple thermometer could change the in-world scenery to either match the real world climate or be the opposite (on cold days, a person might want to see a warm beach outside their virtual window. In another example, environmental sensors monitoring water quality, air quality, etc. could be used to change parameters in the 3D world, either alerting people to dangers, calling them to action, or simply reflecting the current conditions.
Proposer	Nicole Yankelovich
Volunteers	Unassigned
Keywords	tool, web-integration, sensors
Comments	comments

Edit this table

Keywords

- 3D - requires substantial amount of 3D programming (Note: almost all projects require some

3D programming)
- analysis - feature is related to analyzing activity in the virtual world
- app - new Wonderland application
- audio - feature or application that involves audio or audio processing
- avatar - project is in some way related to avatars
- business - business or e-commerce related
- education - teaching, learning, or other education-related project
- game - a game
- music - involves music
- physics - involves integrating with a physics engine
- sensors - project involves sensor integration
- simulation - involves creating a simulation
- social - involves social networking
- tool - a general feature that can be used in multiple applications
- video - involves video in some way
- web-integration - involves integration with a web service or tool
- world - a complete virtual world or space

Template

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Project Idea (level of effort: small, medium, large)

Description	Description
Proposer	Name
Volunteers	Unassigned
Keywords	*see-list-below*
Comments	*comments go here*

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