

3D Virtual Worlds and Education for Sustainability

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Overview

- ▶ Introduction to Virtual Worlds
 - Second Life
 - Practical constraints
- ▶ Addressing Sustainability
 - Goals
 - Case Study: Etopia Island


What is a virtual world?

A simulated space shared by multiple users embodied within it, and persistent across time.

- ❖ Simulated
- ❖ Spatial
- ❖ Shared
- ❖ Embodied
- ❖ Persistent

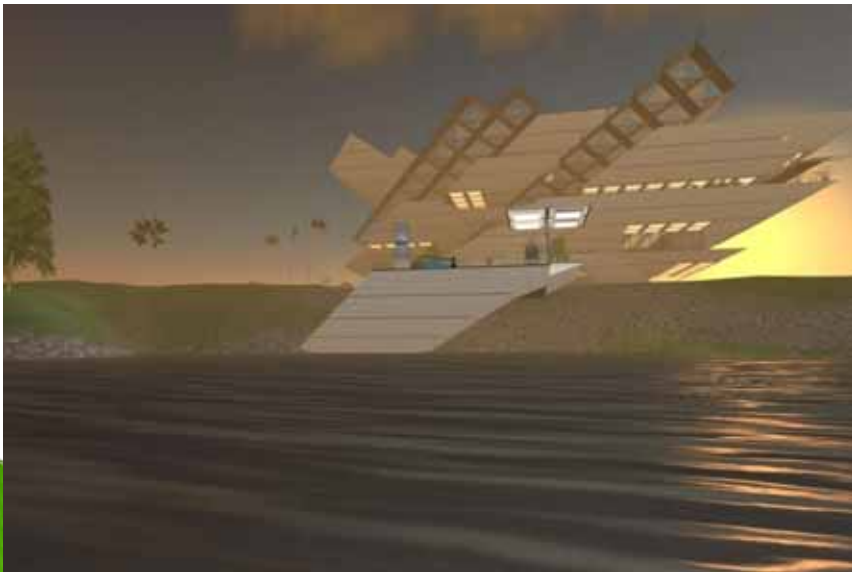


3D Virtual worlds allow:

- ▶ Learners to be responsible for their own learning (fosters self regulation)
 - ▶ Exploration and interaction
 - ▶ Hypothesis testing without (real world) consequences
 - ▶ Team work
 - ▶ Creativity
 - ▶ Increased communication
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Second Life

- ▶ The most complete and mature virtual world thus far.
 - Member count
 - Age
 - General Theme
 - Population at any one time (more than any MMO!)




Second Life


- ▶ What can you do in it?
 - Walk around, talk to people, see things – all the normal stuff you might do in a virtual world
 - Create things
 - Own land
 - Hold events, conduct courses, play games, run simulations, build permanent emplacements.




Practicalities – What can you do in Second Life?

- ▶ Create almost any environment you can dream up
 - Edit the land
 - Edit the sky
 - Create your own buildings
 - ▶ Object Creation
 - Comparatively simple interface
 - Otherwise, buy pre-fabricated objects
 - ▶ Any theme
 - Historic
 - Inside the body
 - Abstract
 - Outer space
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Practicalities – What can you do in Second Life?

- ▶ Stream audio and video
 - Video displayed in world on surface of objects
 - Audio heard ambiently throughout patch of land
 - ▶ Scriptable behaviour
 - A wealth of pre-fabricated scripts
 - Or, write your own
 - ▶ Own space for teaching
 - Controlled access
 - Persistent environments
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Practicalities – What can't you do with Second Life?

- ▶ Limited to public Second Life grid – expensive & slow
 - Expensive to own land
 - Slow connections
 - Bandwidth costs
 - Age restrictions
 - But, massive amounts of pre-fabricated content
 - ▶ OpenSim is coming
 - ONGENS grid
 - ▶ Limited support for text and documents
 - PDF, Word
 - Web pages viewable with inline browser in OnRez
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Sustainability Goals

- ▶ Two high level goals for sustainability:
 - **Changing Minds**
 - Education / Principles
 - Sustainability Awareness / Outreach
 - **Exploring Ideas**
 - Research / Design Prototyping
 - Safely modelling dangerous/undesirable situations
 - Social impact of sustainable living

Why Use Virtual Worlds?

- ▶ We can use and embody Experiential Learning
 - Changing beliefs through engaging experiences
 - Show, don't tell!
- ▶ Understanding current and future events
 - Modelling
 - Simulation
 - Visualization

Case Study: Etopia Island

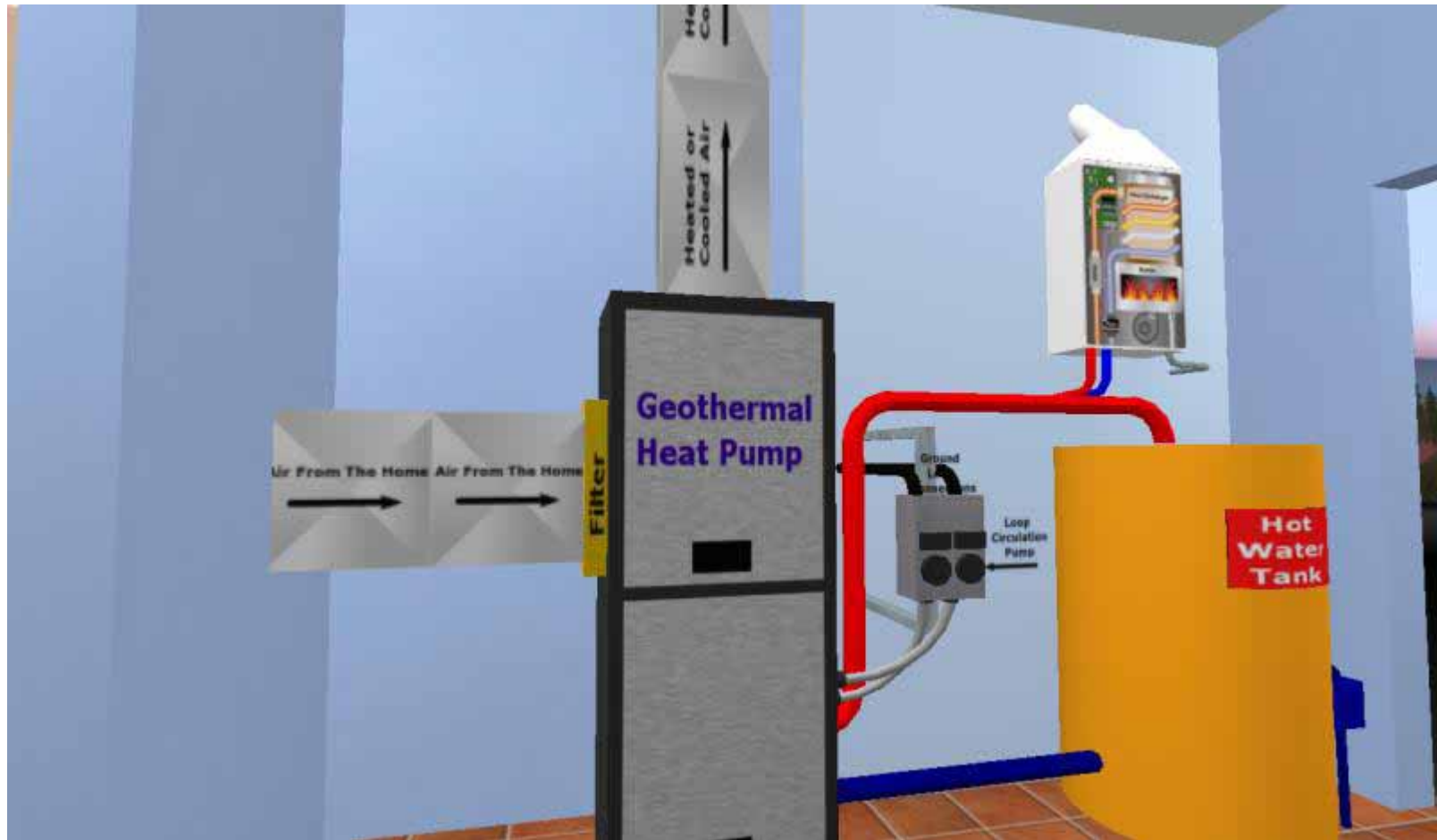
- ▶ Second Life area and community
- ▶ Focus on sustainable development
 - Design and technology concepts
 - Living / lifestyle spaces



Case Study: Etopia Island



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Case Study: Etopia Island



Questions?

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- ▶ Thanks for listening!