Virtual World Collaboration

Opportunities for the EPA

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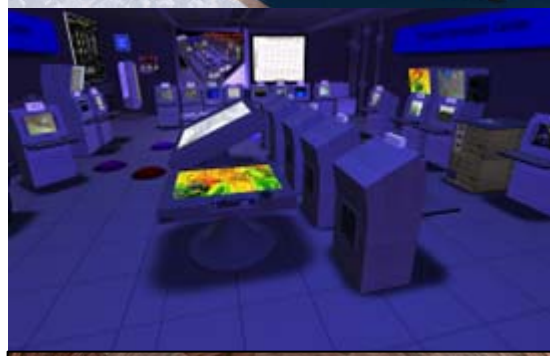
Virtual Worlds Agenda

- Introduction and film clip
- Virtual Worlds “Big Picture” context information
- EPA Opportunities
  - Collaboration on a secure platform
  - Collaboration with the public
  - Dissemination of information to the public
  - Training

Virtual Worlds Introduction

- Our Second Life-based film will show:
  - Northrop Grumman facility at Space Park
  - A full scale Coast Guard cutter, and its Command Center, including real time weather feeds and high resolution graphics
  - A land-based Command Center with data feeds from multiple systems
  - Models of vehicles, used to re-configure components and functions
  - Bomb disposal robots, used to help train the end user with virtual devices prior to working with physical machines

These are just a few ideas to give you the feeling of interacting in three dimensions with facilities, equipment, displays and other people in a virtual world…….



Virtual Worlds Introduction – Second Life Film

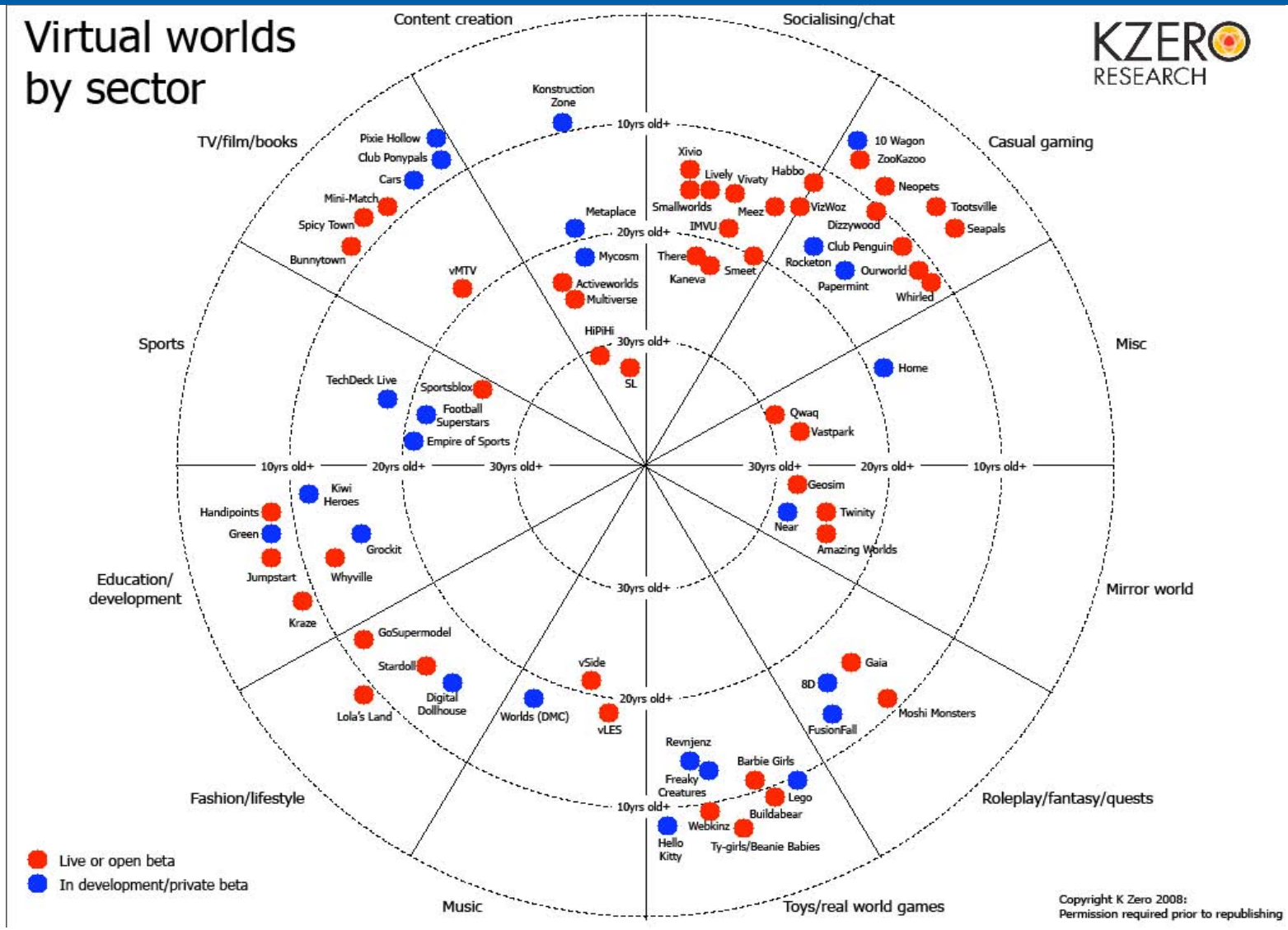
Virtual Worlds Overview

- Virtual World platforms provide a three dimensional interaction
  - Allow people to interact with each other and an environment
  - Creates more engaging social behaviors
  - Experience is much more like our everyday interactions
  - Younger audiences are adopting these platforms for gaming, socializing, sharing interests such as music, sports or film, and for creation of communities and businesses

Internet-based Virtual Worlds

- Virtual World platforms exist on the Internet and also can be established behind firewalls on a secure network
  - Buildings, machinery and environments can be created
  - Second Life, created by Linden Labs, is the largest Virtual World today, with over 14 million residents and an economy of $5 billion Linden Dollars (L$)
  - Government agencies, including NOAA, NASA and DOE actively create content, including NOAA's real time weather map
  - Universities and corporations create locations and events to interact with Second Life residents

Internet-based Virtual Worlds Support Varied Interests and Demographics



Government Agencies, Universities and Corporations have established their presence in Second Life

NASA

CDC

New York University

Texas State, San Marcos

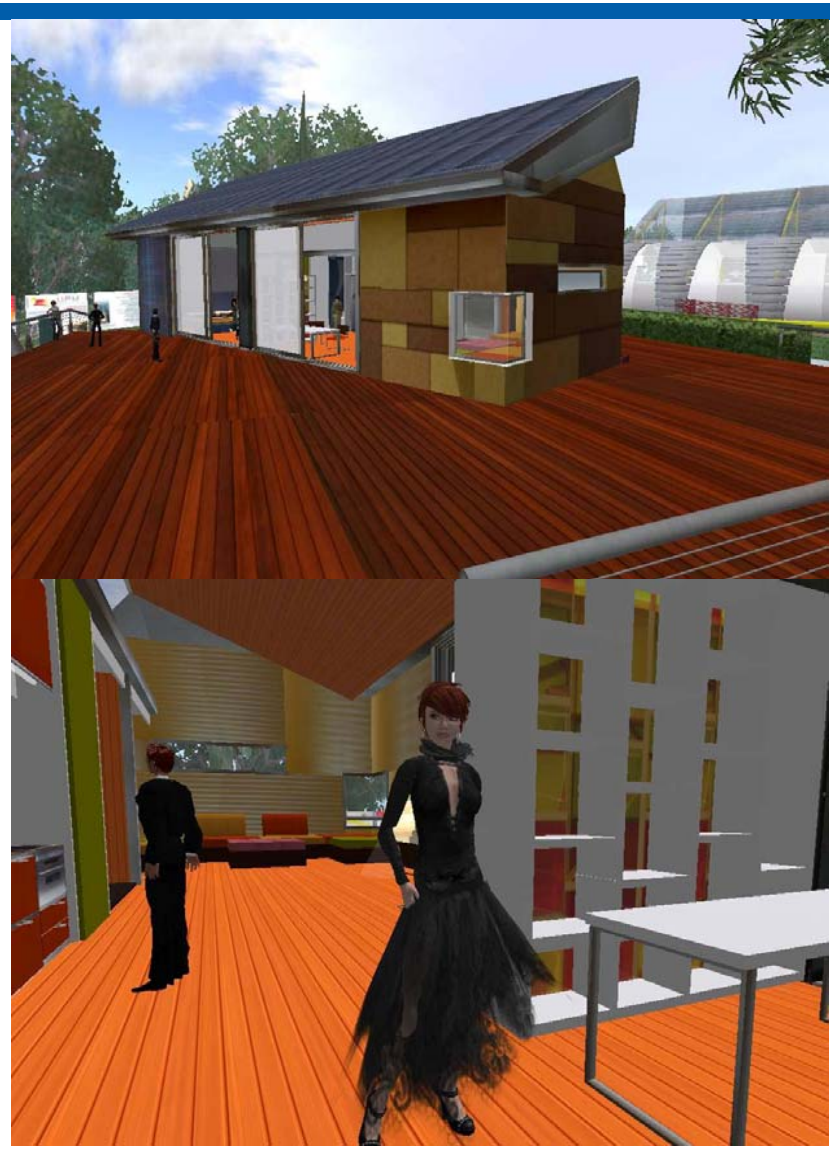
The Weather Channel

Reuters

Dept of Energy's Solar Decathlon in Second Life: Users can walk through full scale models

Real Life Universidad Politecnica de Madrid Solar Decathlon Home On The National Mall, Washington, DC

Virtual Universidad Politecnica de Madrid Solar Decathlon Home In The Virtual World Second Life



EPA Opportunities in Virtual Worlds: Collaboration on secure platform

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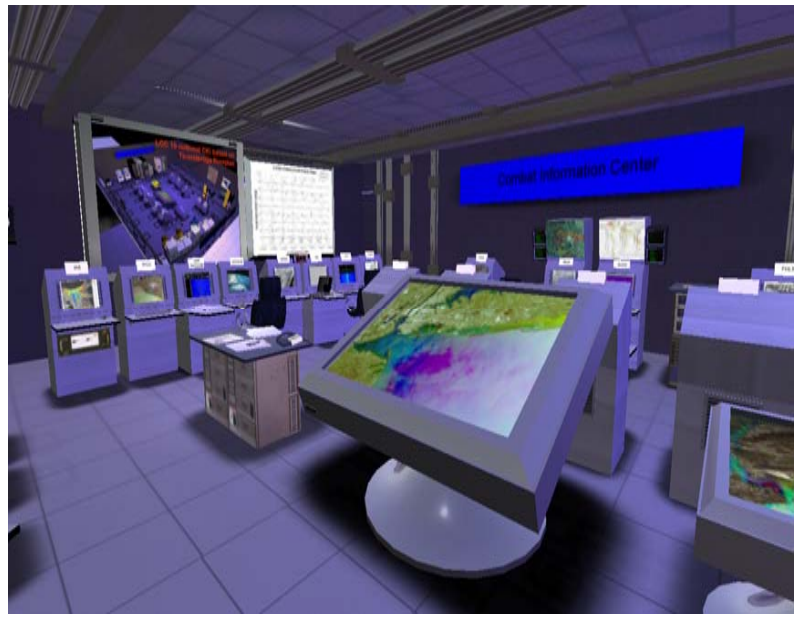
- For an incident response, such as Hurricane Ike, create a collaboration center
  - Feed in real time data from NOAA, and display on maps
  - Feed in population data from Census
  - Feed in hospital data and CDC public health data
  - Feed in infrastructure data and statistics (oil and chemical refineries, landfills, other sources of pollution)
- Allow access to collaboration center by state, local and Federal decision makers
  - Allows all persons to see the same data
  - Allows interaction of all involved agency personnel in real time



EPA Opportunities in Virtual Worlds: Collaboration with the public on the Internet

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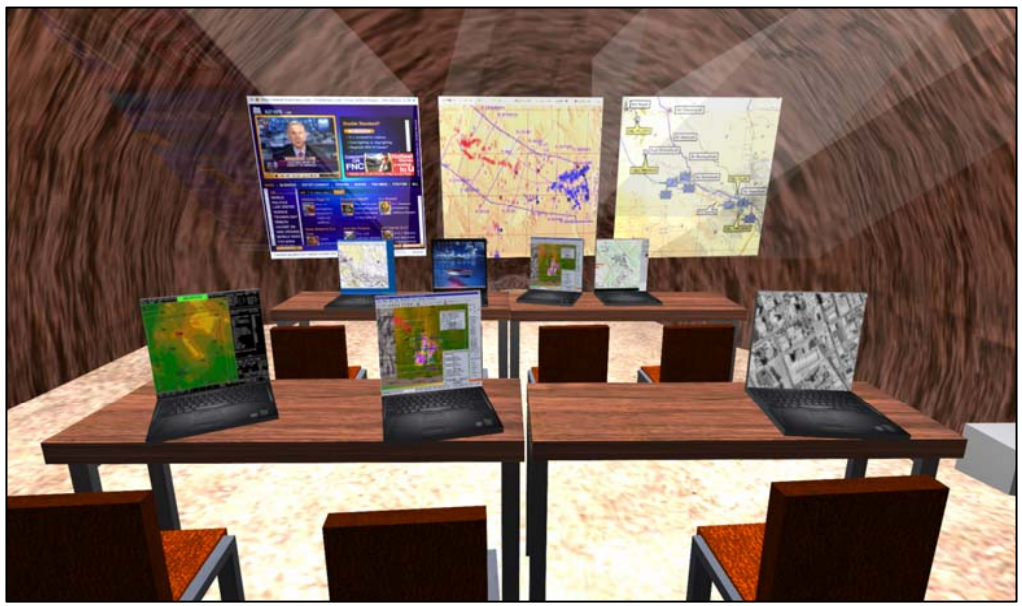
- For ruling comments – create an interactive session for the public
  - Provide a briefing in Second Life or other platform to interested parties
    - Provides an opportunity for science and policy personnel to explain the rationale for specific rules/wording
    - Increases transparency in the rule process
  - Provide links to relevant documents for rules at EPA.gov
  - Model, where appropriate, projected impact of rule



EPA Opportunities in Virtual Worlds: Collaboration with the public on the Internet

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- For dissemination of local “what is happening here” data for public consumption
  - Provide layered information of pollutants
  - Provide data attributes about amounts, timing of pollutants
  - Provide links to additional documents, facts on EPA.gov

Example: NOAA Weather in Second Life

EPA Opportunities in Virtual Worlds: Interactive Search for the Public and Researchers

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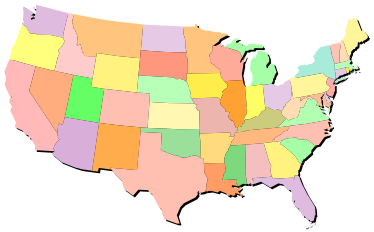
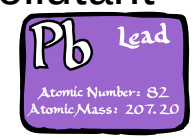
Location



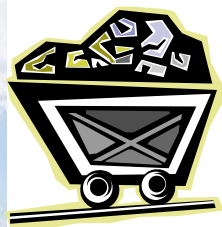
Impact – Air, Water, Wildlife, Land

Pollutant



Time Period

Industry or Source



EPA Opportunities in Virtual Worlds: "Meet the EPA Experts"

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- Provide a scheduled interaction session with science and policy experts
  - For Example: A session on Lead in the Environment
    - Experts from the EPA could discuss with the public
      - Sources
      - Public Health impacts
      - Local concerns (air quality, water quality)
      - Consumer concerns – lead in home paint, in water pipes, remediation techniques
      - Provide links to additional detailed information
    - Provides an information sharing forum
    - Increases public awareness
    - Increases agency transparency
    - Encourages collaborative solutions

EPA Opportunities in Virtual Worlds: Training Opportunities

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- Interactive training can occur without traveling
- Operation and maintenance of complex lab equipment can be learned through complete 3-D simulations
- Entire locations can be modeled, and different workflow tested without physical reconfiguration of the plants - this might be useful in laboratories
- Disaster response plans can be modeled and evaluated for effectiveness

EPA Opportunities in Virtual Worlds: Human Resources Opportunities

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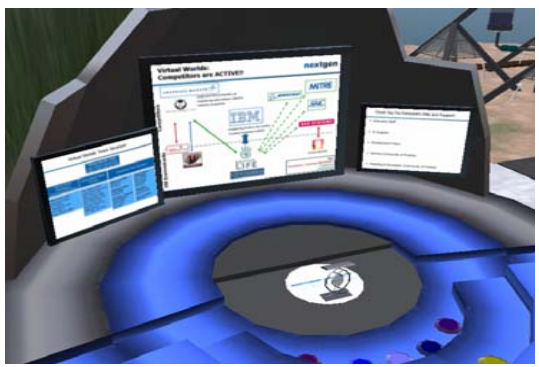
- HR Recruiting – several large corporations use virtual world platforms as another recruiting location, which reaches a young, technically savvy demographic
- On secure virtual worlds:
  - Meetings can be held, reducing travel-related costs and GhG emissions
  - EPA is losing a lot of supervisors and managers due to retirements – new managers can be trained without travel, but still benefit from the interaction with their peers



Questions?

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DEFINING THE FUTURE