Engaging Partners in a Virtual World

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"Man's mind, once stretched by a new idea, never regains its original dimensions." - Oliver Wendell Holmes

Match the Avatar

It is not the strongest of the species that survive,
nor the most intelligent,
but the one most responsive to change
--Charles Darwin

Warning:
Professional driver on closed course.
Don't try this at home!

Aldrich Report Recommendation

- At least in part, NASA's presence in the Second Life metaverse arose from a 2004 report of the President's Commission on Implementation of U.S. Space Exploration Policy, chaired by Edward "Pete" Aldrich
    - The report, *A Journey to Inspire, Innovate and Discover*, was written a year after the Columbia accident. The report, among other things, sought to guide the space program and inspire young people to study math, science and engineering.
    - "Video and simulation games are not only a multibillion-dollar industry, they are proving to be effective as learning devices for people of all ages." Written before virtual worlds had gained wide popularity, the report addressed the next best thing.
    - "NASA could collaborate with video game producers to create live-action learning modules that give players the chance to experiment with orbital mechanics, the principles of spaceflight and other space-related subjects."

A New Victionary

- **"Massively Multiplayer Online Games"**
  - E.g. Everquest (Sony), Word of Warcraft (8M, by Blizzard), Lineage II (14M, by NCsoft) (Entertainment)
- **"Mirror Worlds"**
  - E.g. Google Earth (>250M downloads), Microsoft Virtual Earth, NASA's World Wind (open source), Google Moon, Google Mars, SIMS (Non-Fiction)
- **"Virtual Worlds"**
  - E.g. Second Life, There, Entropia Universe, Moove, Habbo Hotel, Kaneva (Fiction)
- **"Metaverse"**
  - The merger of all of the above… it has begun (e.g. IBM, Daden)

Virtual Worlds - Potential Benefits

- **Increased efficiency** via reduced non-value-added travel
- **Reduced costs** by using emerging standards and infrastructure
- **Greater effectiveness** via quick trial-and-error of new concepts
- **Better learning** via interactive and immersive training sessions and seminars… from home base
- **Improved creativity** via rapid brainstorming sessions
- **Employer of choice** for GenY and beyond
- **Higher win record** through more effective proposals, quicker and better partnering, and increased visibility
- **Sustained budgets and good-will** through increased visibility

"The best way to predict the future is to create it" (P. Drucker)

Virtual Worlds in Education

- From Johns Hopkins University, Carey Business School, Master's Program in Advanced Topics in Organizational Learning (May'07)
  - "What's new in Organizational Learning and Knowledge Management"
  - Guidelines. Research and report on cutting-edge aspect such as: virtual reality [e.g., Second Life], video [e.g., YouTube], social networking sites [e.g., LinkedIn, Lotus Connections] intranet data mining [e.g., Autonomy], open source computing [e.g., Wikipedia, Citizendium.] Discuss the product/service and evaluate its usefulness as a method for organizational learning within and/or outside of your organization. Consider cost, learning curve, congruence with the organization's culture, most suitable industries, etc. in your evaluation.
  - Podcast length: 10-12 minutes.
  - Post a text abstract in Blackboard's Discussion Board."

Year 2010: The Virtual is the Mainstream

- **Available today**
  - HBR: marketing to Avatars
  - Wharton: Second Life as platform for training
  - Masie: Extreme learning (Wikis, gaming, podcasts)
  - Duke University: classroom
  - IBM: Virtual town halls, CEO has an avatar
  - NASA, NOAA, NIH,
  - Teaches measured risk taking, multi-tasking, leadership, strategy


- Meeting in Second Life

Second Life in Seconds

- 80% of active Internet users and Fortune 500 companies will participate in a virtual world by 2011 (Gartner)
- SL is a communications technology… and free (mostly)
- Launched by Linden Labs in 2003 now has 8M residents (40,000 active at any one point) with a growth rate of >20% per month (adding 25,000 members per day)
- Linden Labs is installing 120 servers/week to keep up with growth
- Example usage
  - Participate in company events such as town halls (IBM, …)
  - Build and test drive a virtual hotel and use the data to build a real hotel (Starwood Hotels' Aloft chain to open in 2008)
  - Promote new standards (Amazon's S3 promotion)
  - Virtual Interview Events by major corporations
  - Model Europe at +10 ft sea level (future)
  - NOAA Weather maps to model pandemics (future)

What Are Our Peers Doing?

- Real Life Government in Second Life group and activities
  - NOAA, NASA, State Department, Office of Management and Budgets, Swedish Embassy, Centers for Disease Control, National Institutes of Health, Library of Congress, and more
  - Citizen participation and services
  - Outreach and public communication
  - Open environment to understand new collaborative methods
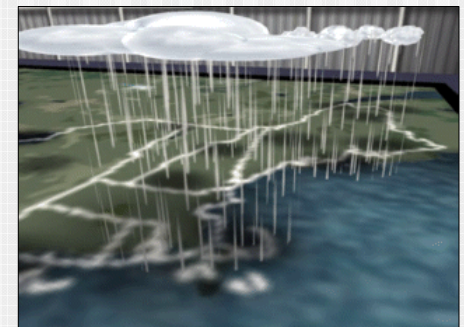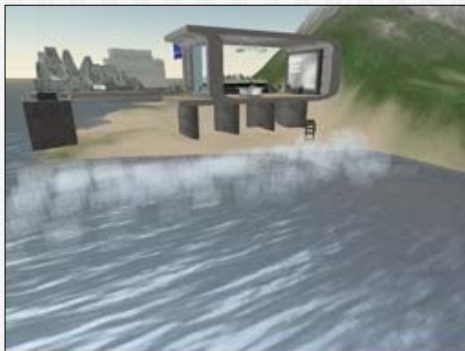
What Are Our Peers Doing?

- Aerospace industry (The Aerospace Corporation, International Spaceflight Museum, University space programs, Honeywell)
  - Marketing and sponsor engagement
  - Research and development for immersive collaboration
  - Global engineering teams
- General industry
  - Support for distributed workforce for meetings and collaborative work (decreased costs, increased employee satisfaction)
  - Marketing and sales

What is NASA Doing?

- NASA notes that virtual worlds are an important space for action and has an agency-wide team for "NASA Immersive Synthetic Environments" (includes SL, virtual worlds, and gaming)
- NASA has four thrusts for virtual worlds
  - Mission support (modeling and simulation, collaboration, proposal development, and more)
  - Outreach (public engagement and participation)
  - Education (K-12 learning)
  - Training (internal)

What is JPL and NASA Doing?

- Current SL activities include
    - Celebrate Explorer 1 50-year anniversary in SL
    - Win new business by demonstrating core skills and contacts
    - Explore remote collaboration
    - Use SL to augment Global Change initiative
    - Explorer Island (JPL)
    - NASA CoLab (Ames led, many Centers participate)
    - Constellation modeling (JSC, KSC, JPL)
    - Launch operations (KSC, JPL)
    - Conference/event support and planning (JPL, Ames)
    - NASA 50th Anniversary events (HQ, JPL, Ames)
    - eLearning and education for the public (GSFC)

Match the Avatar – Round 1

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Warmed up?

Match the Avatar – Round 2

Match the Avatar – Round 2

Let's Enter The Virtual World...

- Charles White aka Jet Burns
- Jeanne Holm aka Devery Barrymore
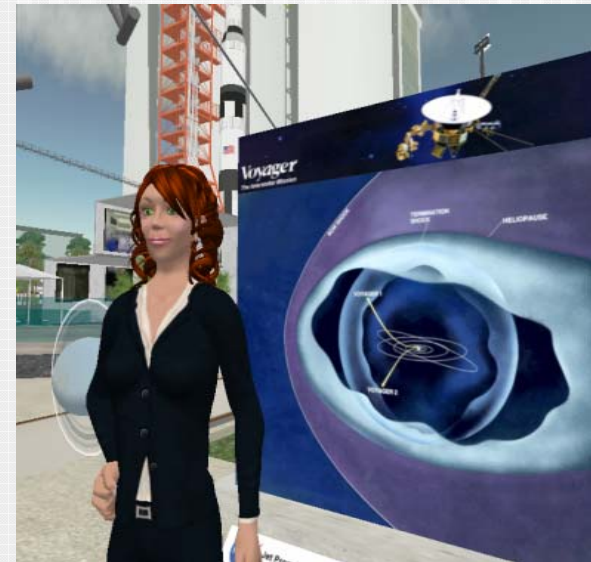
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