Identify research opportunities that allow for:

- improved availability and usefulness of scenario modeling
- knowledge management tools
during crisis decision-making
Virtual Worlds for Preparedness Training & Response
Virtual Worlds: Old idea…new mix

- 3-D “virtual reality” environments or “virtual worlds” are well known to our kids ➔ Large & growing user base
- “Gamers” have been using them for years
- Many attempts at making the Internet a 3-D experience (VRML, .NET 3.0/XAML, MS Virtual Earth 3-D, Google Earth/KML, Second Life, Active Worlds, etc…)
- 80% of serious Internet users will be making regular use of virtual worlds by 2011.
Enter your Second Life

• Second Life, commercial application/service created by Linden Research, Inc. (2003)

• One of the most elaborated representation of a virtual world at the moment

• Not a game, but a platform. Users create the content

• Explosive growth since late 2006
What’s on Second?

- Universities: Stanford U, Harvard U, UC Berkeley, U of Florida, NYU, U of Kansas, USC, U of Sydney, Va Tech, etc... [over 100]
- Libraries: Alliance Library System, Nova Southeastern University – Law Library & Technology Center, Public Library of Charlotte and Mecklenburg County, State Library of Kansas, NLM, ...
- Museums: Exploratorium of San Francisco, NY’s Museum of the Moving Image, The Underground Railroad in Ohio...
- RL Companies: IBM, Dell, Circuit City, Toyota, Sears, General Motors, Cisco, Sun Microsystems, Reuters Group, Wired Magazine, ... (many virtual companies)
- Embassies: Canada, Sweden, Trinidad and Tobago...
- Gov: NOAA, NASA, CDC
Programs in SL

  - Virtual training space for
    - Strategic National Stockpile (SNS)
    - Simple Triage Rapid Transportation (START)
    - Risk Communication and Incident Command System
  - Emergency responders and health care professionals
  - Interactive role-playing exercises

→“Promoting 3-D collaborative environments as safer, cheaper, available anywhere, anytime platforms for preparedness training”
Research Challenges

- Interfaces, computing power, bandwidth…
- Access restrictions
- Scalability of current architectures
- Inter-VW travel
- Lack of Standards
- Adoption: VW as extension of reality
Large Scale Emergency Response Project

Lewis R. Goldfrank, M.D

• LaSER: 5 interrelated sub-projects
  creates a range of new tools and knowledge
  enhance urban preparedness and response

Portelli, Project Manager, ian.portelli@nyu.edu
Research Challenges

Adapt to your needs

• Modeling and Simulation: computer model capable of simulating an incident that results in up to 1 million casualties

• Organization Based Incident Management: tools to recruit, develop & retain a local volunteer base ready for deployment in disaster

• Organizational Safety Net: model to allow COOP

• Risk Communication: new strategies for and understanding of communications

• Legal Issues: potential legal during a large scale disaster
**WISER**

*Wireless Information System for Emergency Responders*

- Easy navigation, intuitive
- Information tailored to the specific role of the emergency responder
- Focus on unknown substance identification capabilities
- Provide a platform that can be expanded to support other emergency response needs
- Rich, stand-alone capability with enhanced connected (wireless) capabilities
- Cross-platform, multi-device architecture
Research Challenges

- Biological agents, Explosive data, other (PTSD)

- Application for ‘unknown’s
  • confidence designation and relevancy ranking
  • Integrate with other incident factors (e.g., weather conditions, type of incident, terrain)

- Companion web-based training ‘game’

- Integrated geo-coded information
  • (e.g., location of local schools, hospitals, gas stations, etc)
Radiation Event Medical Management (REMM)
http://remm.nlm.gov

- Guidance on Diagnosis and Treatment of Radiation Events for Health Care Providers
  - evidence-based information
  - web-based and downloadable
  - assist health care providers without formal training in radiation/nuclear events
Research Challenge for REMM

- Management of chronic effects of radiation
- Population monitoring
- PDA & other device version
“Information allows us to make the correct decisions”

- NATIONAL RESPONSE PLAN
- NATIONAL INCIDENT MANAGEMENT SYSTEMS
- HOMELAND SECURITY PRESIDENTIAL DIRECTIVE/HSPD-21
Research Challenge: A dedicated Government Agency

Identify & Organize Relevant Literature

- Community resources
- Training design & technologies
- Preparedness options
- Response plans for different events (e.g. flu v flood)
- Agency Publications
Research Challenge

Disaster Information Specialist

DISASTER MANAGEMENT
Research Challenge

“How to Deliver the Right Information in the Right Format to the Right Person at the Right Time”
Utilize existing networks: NLM & NN/LM Network
DIMRC

U.S. Government portal dedicated to provide personnel, tools, information & research ways to assist with disaster preparedness & response