Disaster/Crisis Management Issues Panel AMPATH Workshop 1/29/03

George Markowsky

Computer Science Department

University of Maine

Outline

- Crisis Response
- The Nature of the Threat
- The Multi-Sector Crisis Management Consortium
- Some Positive Steps
- The Intelligent Island™ Project

Crisis Response

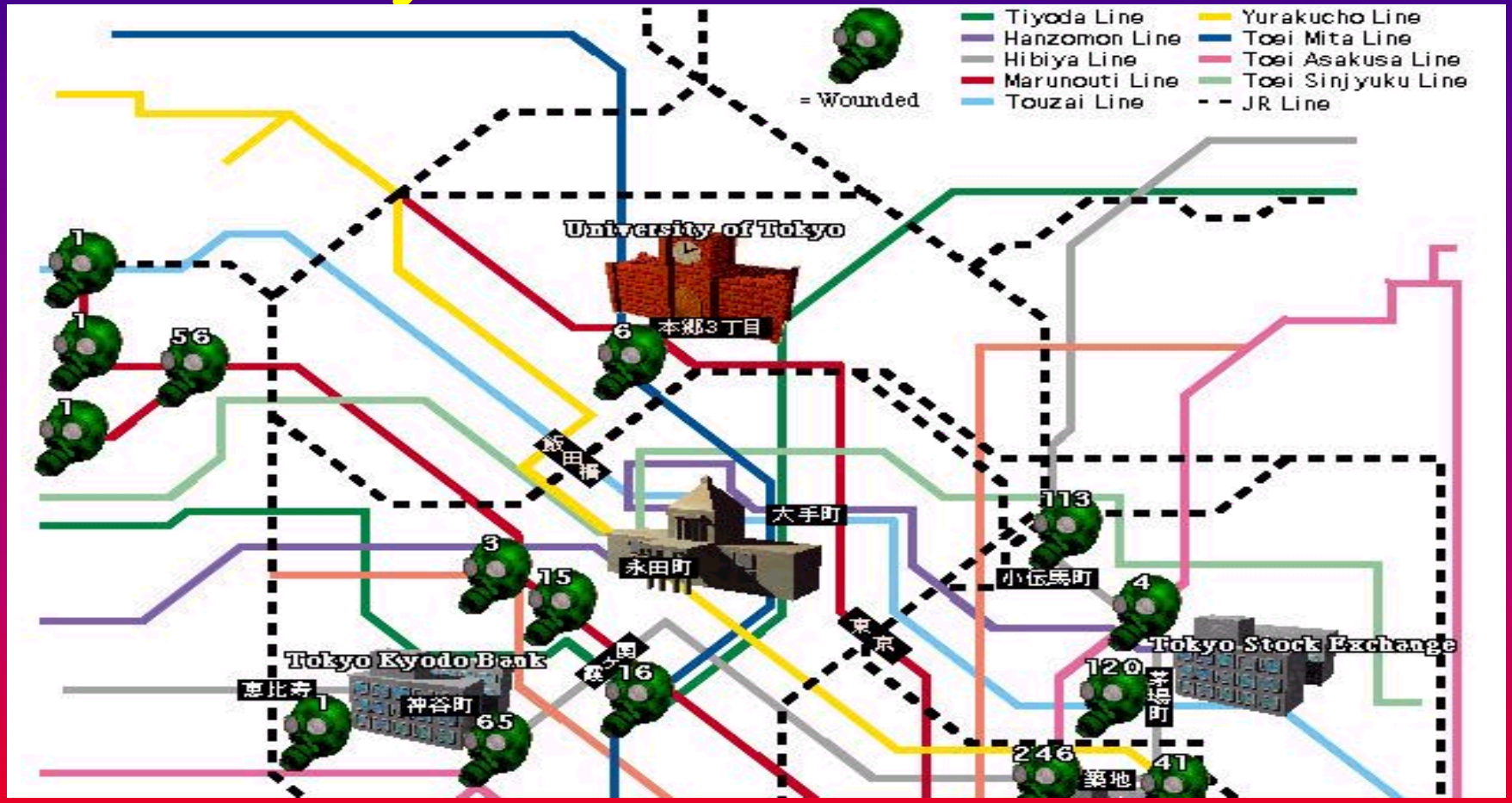
- There is a lot of concern in the US and the world about responding to terrorism
- Terrorism should be seen as a deliberately caused case of crisis.
- Crisis response is of special interest to all of the world's citizens.

'Disproportionate Power' In Extremists' Hands

A New Age of Terrorism

The Genie is out of the bottle!

Aum Shinrikyo Cult
Tokyo Nerve Gas Attack



Terrorist attacks can be very sophisticated

AUM Shinrikyo

-- Full of mysteries still to be solved --

RUSSIAN
DEUTSCH
WHAT'S NEW
SEARCH
MAIL
INFORMATION

AUM1 AUM Supreme Truth

- music
- expeditions

AUM2 The Master, Shoko Asahara

- the Guru, Master Shoko Asahara
- messages from the Master
- the great Guru Asahara
- Master's supernatural divine powers
- Master's lifestyle

AUM3 The Teaching of AUM Supreme Truth

- your first steps to the Truth
- lectures by Master Asahara
- the essence of dharma
- the stories of reincarnation
- books of Truth
- how to choose your partner by color
- beyond life and death
- let's ask Master

WHAT'S NEW:

06.14.2000

Beyond Life and Death, Chapter 4: Toward Enlightenment

- Omniscience - Knowing the Truth
- Retreat and Detachment
- Enlightenment Is the Passport to Nirvana
- The Yoga of Transferring Consciousness - Phowa

06.13.2000

Declaring Myself the Christ

Strange Tongues and Baptism - Spiritual Phenomena on the Way

06.08.2000

Our stats for May 2000

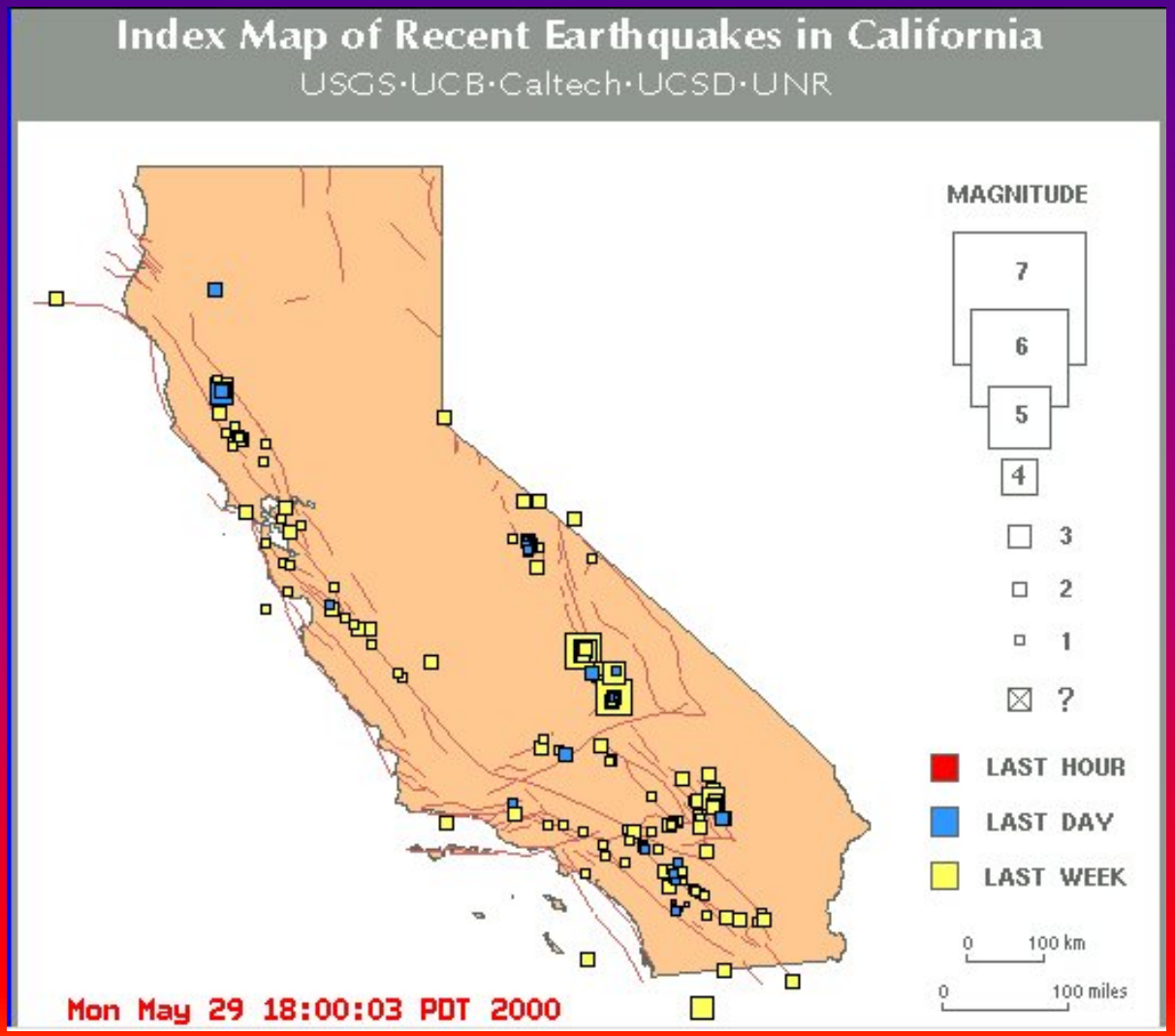
05.29.2000

Beyond Life and Death

- The Akashic Records

You are lucky now to have a possibility to purify, to elevate your soul. Will you manage to use this possibility or not, depends on your karma - a proportion of good and bad deeds which you accumulated in your past lives and in this life until the present moment.

Natural Disasters



video

West coasters get earthquake warning

By: EXN Staff, January 23, 2001

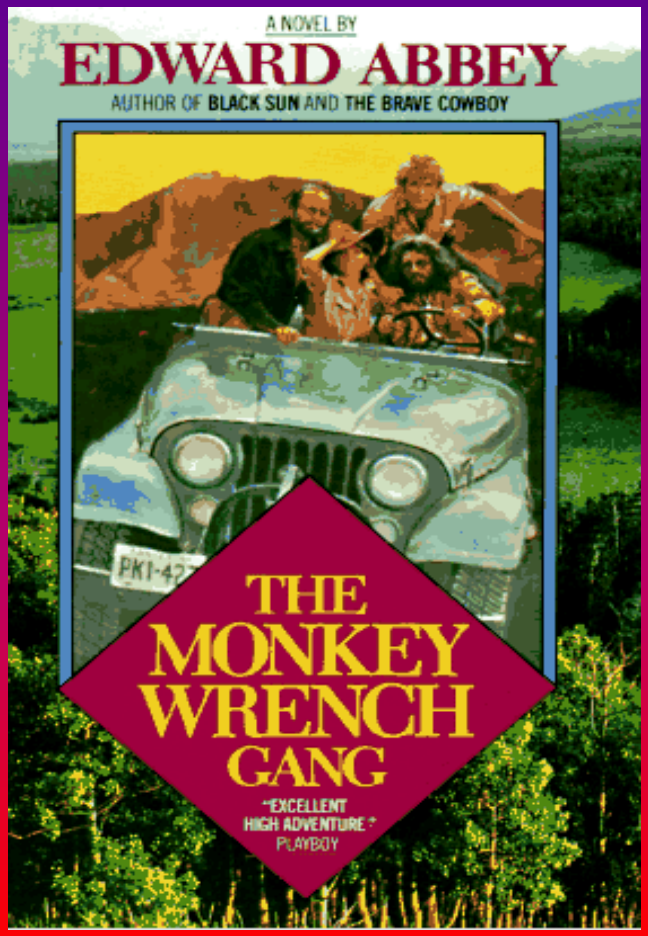
In today's Science Wire headlines:

- Seattle told to brace itself
- *Atlantis* passes flight check
- Old spacecraft never die ... they just fade away

Seattle told to brace itself

A new study predicts the city of Seattle could be in for a serious earthquake. Seismologists say the Seattle fault zone - a network of big and small faults in the area - is due for a big shake, and the local geography would make things even worse. Seismologists came up with the data by setting off test explosions and tracking how they travelled through the rock to build a profile of the hidden faults. Because the city is located in a natural basin, the shaking will probably be more intense. Seattle's coastal proximity won't help either. Because it sits in Puget Sound, there is the potential of an accompanying tsunami.

Deliberate Sabotage

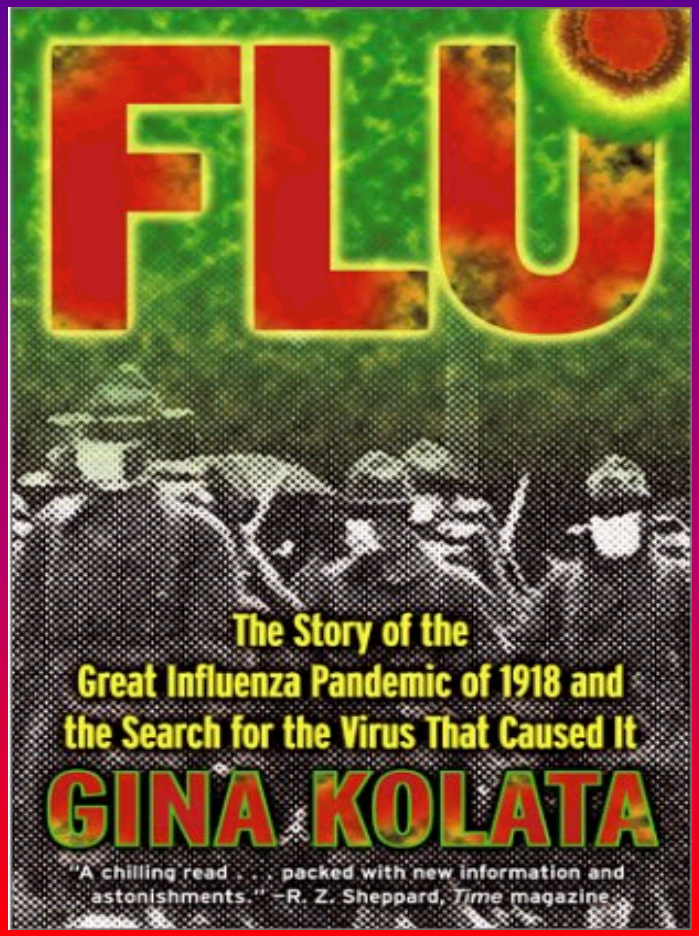


- Edward Abbey's book has inspired some militant behavior
- Havoc can be unleashed unintentionally
- Had an incident at the University of Maine
  - Genetically engineered crops destroyed

Deliberate Sabotage or Accident? Bhopal

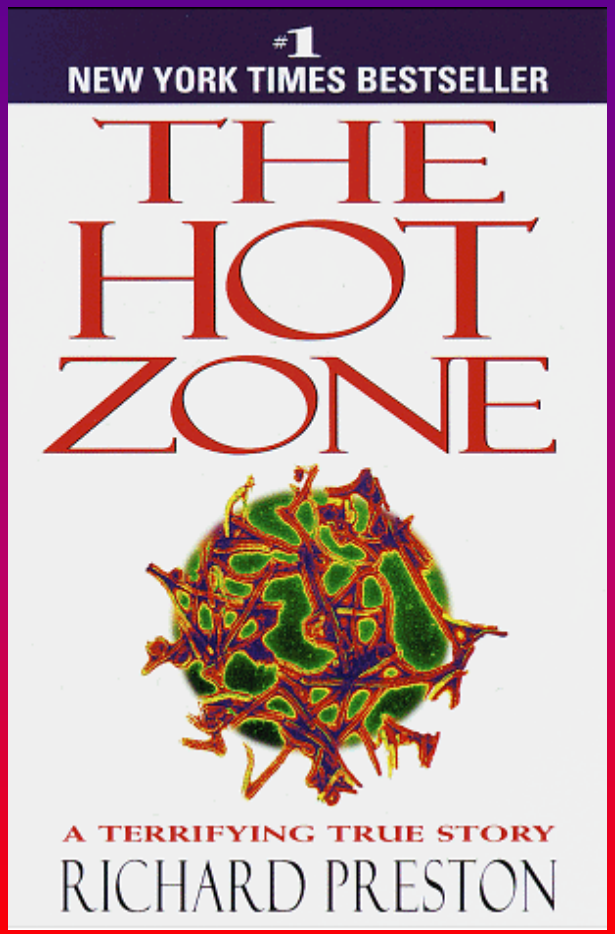
- Union Carbide claims that this resulted from the actions of a disgruntled employee
- No one has ever been charged and the claim has never been substantiated

Infectious Diseases



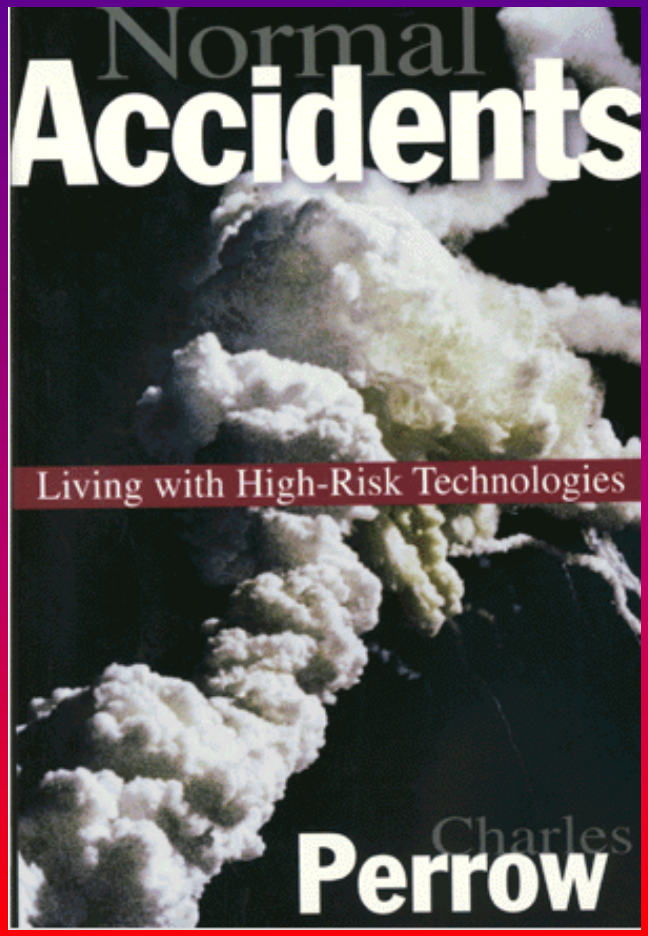
- This is a real threat
- Information could be of vital importance
- Some recent books on this and related topics

Diseases and Accidents



- The *Hot Zone* describes 1989 episode in Reston, Virginia involving the **ebola virus**
- As travel increases and human density grows, the chance of running into a **bad** bug increases

A Different Type of Accident



- *Normal Accidents* result when complex systems are too tightly coupled
- No one person is responsible for a normal accident
- Normal Accidents are a feature of complex society

Information and Crisis

- The management of crisis generally involves the need to manage information quickly and effectively
  - Command and control centers
  - Inventory of supplies
  - Basic intelligence
  - Communication and geographical information of great importance
- Environment may also be dangerous because of conflict

Crises are Not Routine

- Response to a crisis requires a greater level of organization than is needed on a daily basis
- Quick response by a large number of different resources is critically important
- Information plays a key role in crisis response and preparedness

Time is of the Essence
Information is the Key

- *Exposure to organophosphates and carbamates produces a characteristic, treatable syndrome in humans. Its recognition and **timely** intervention is of great importance to emergency physicians and their patients.*
- Timely detection of *smallpox*
- *How would you detect smallpox?*

The Crisis Responder Crisis

- In the article *Combating Terrorism at Home* by Douglas J. Gillert in the *Journal of Civil Defense*, Winter 1998, the author describes the crisis responders by the phrase:
  - *The brave, the few, the underequipped, the undertrained.*

The Crisis Responder Crisis(cont.)

- *The challenge of detecting and combating domestic terrorism falls largely on the shoulders of police and fire departments, emergency medicine and other municipal agencies, as well as air and ground transportation authorities.*
- *But far too often, these agencies aren't equipped or trained to deal with individuals and groups bent on violence as a means of achieving political objectives. As brave as the emergency professionals are, they need help.*

Global Disaster Information Network

- On April 27, 2000, President Clinton issued an Executive order to establish a Global Disaster Information Network.
- Initially, it includes representatives from 13 Federal agencies, and seeks to reduce the loss of lives and property by using information technology to more effectively collect and disseminate information

Global Disaster Information Network (cont.)

- Can cooperate with foreign governments
- Controlled by an Interagency Coordinating Committee.
  - *"The Committee shall: serve as the United States Government's single entity for all matters, both national and international, pertaining to the development and establishment of the Network..."*

"The right information, in the right format, to the right people, at the right time"

GDIN.ORG

Monday January 27, 2003

Chat Forums

About GDIN

What's GDIN
History
Organizational Documents
Management Structure
National/Regional DINs
Funding
Legal Structure
Partners
People
Join GDIN

Resources

Conferences
Working Groups
Committees
News
Projects
Products
Links

Get Acrobat

GDIN is a voluntary, independent, self-sustaining, non-profit association of nations, organizations, and professionals, from all sectors of society including NGO's, Industry, Academia, Governments, and International Organizations with an interest in sharing disaster information. The aim of GDIN is to provide the right information, in the right format, to the right people, in time to make the right decisions.

international GDIN Global Disaster Information Network

What's New

Updated Thursday, October 31, 2002

GDIN GDIN2003 Global Disaster Information Network

Go to the GDIN2003 conference site or participate in the **GDIN2003 Forum**

Report of the Executive Director
(56K Word) or (20K .pdf)

NASA Tracks West Nile Virus

GDIN Proposed Early Wanring/Response/Mitigation Service Proposal (284K WORD)

Nyamuragira Volcano July 2002

Click for **Summary of July 2001 Forum of Working Group Chairs**

MSCMC

- Multi-Sector Crisis Management Consortium
- Created in July 2000
- Can get a lot of information from http://www.mscmc.org as well as http://calder.ncsa.uiuc.edu/ACCESS
- Chartered as a Maine non-profit organization
- Headquarters at the ACCESS Center

MSCMC Goals

- Identify needs of the crisis response communities
- Support advanced information technology research for crisis management, emergency response communities, and related communities
- Bring multiple sectors together
- Provide neutral convening forum
- Provide a portal for user communities to the R & D communities

MSCMC: TOPOFF Exercise

Anywhere, Anytime, Any Size, Any Signal:

Scalable Remote Information Sensing and Communication Systems

Workshop Presented by the MSCMC
Multi-Sector Crisis Management Consortium
ACCESS Center -- January 14-15, 2002

George Markowsky
Chair, Computer Science Department
Chair, Mathematics Department
University of Maine
Secretary, MSCMC

Workshop Rationale

- Several recent meetings have highlighted common interest across many communities in the deployment of large distributed systems for information gathering and analysis
- Recent events have raised the need to foster cooperation across these multiple sectors
- This workshop is an early step in making this cooperation flourish

Workshop Goals

- To develop relationships among technologists and users that lead to the solution of problems of common interest
  - Biologists, Technologists, Consortium-Homeland Security Communities
- To produce a proceedings/report with recommendations for future actions and research
- To publicize our findings and recommendations
- To design future workshops

More Information

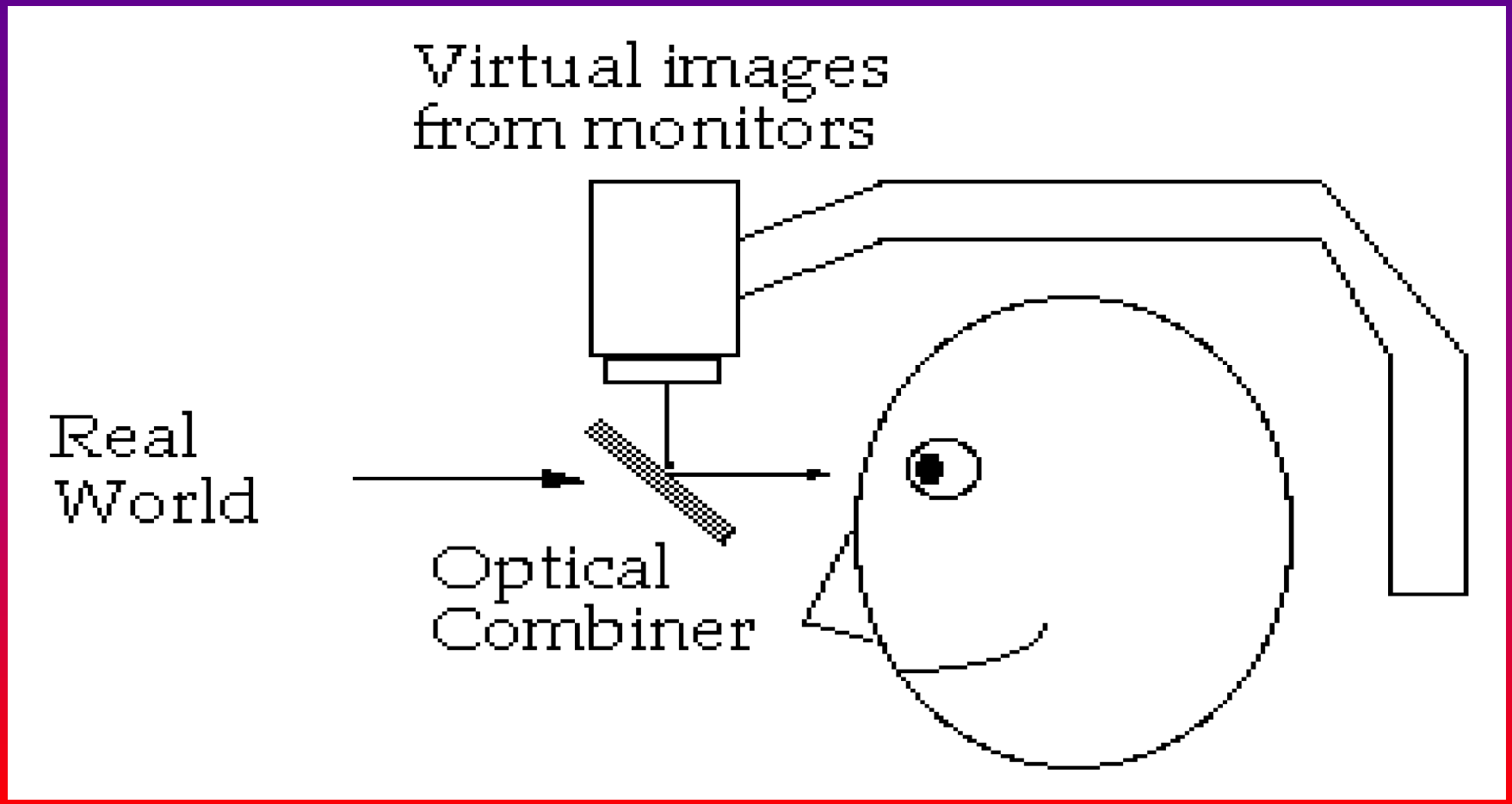
- Go to http://homeland.maine.edu
- Contents of talks on the website
- Video on the website
- Final report will be on the website soon
- Planing for additional workshops

So What's the Bottom Line?

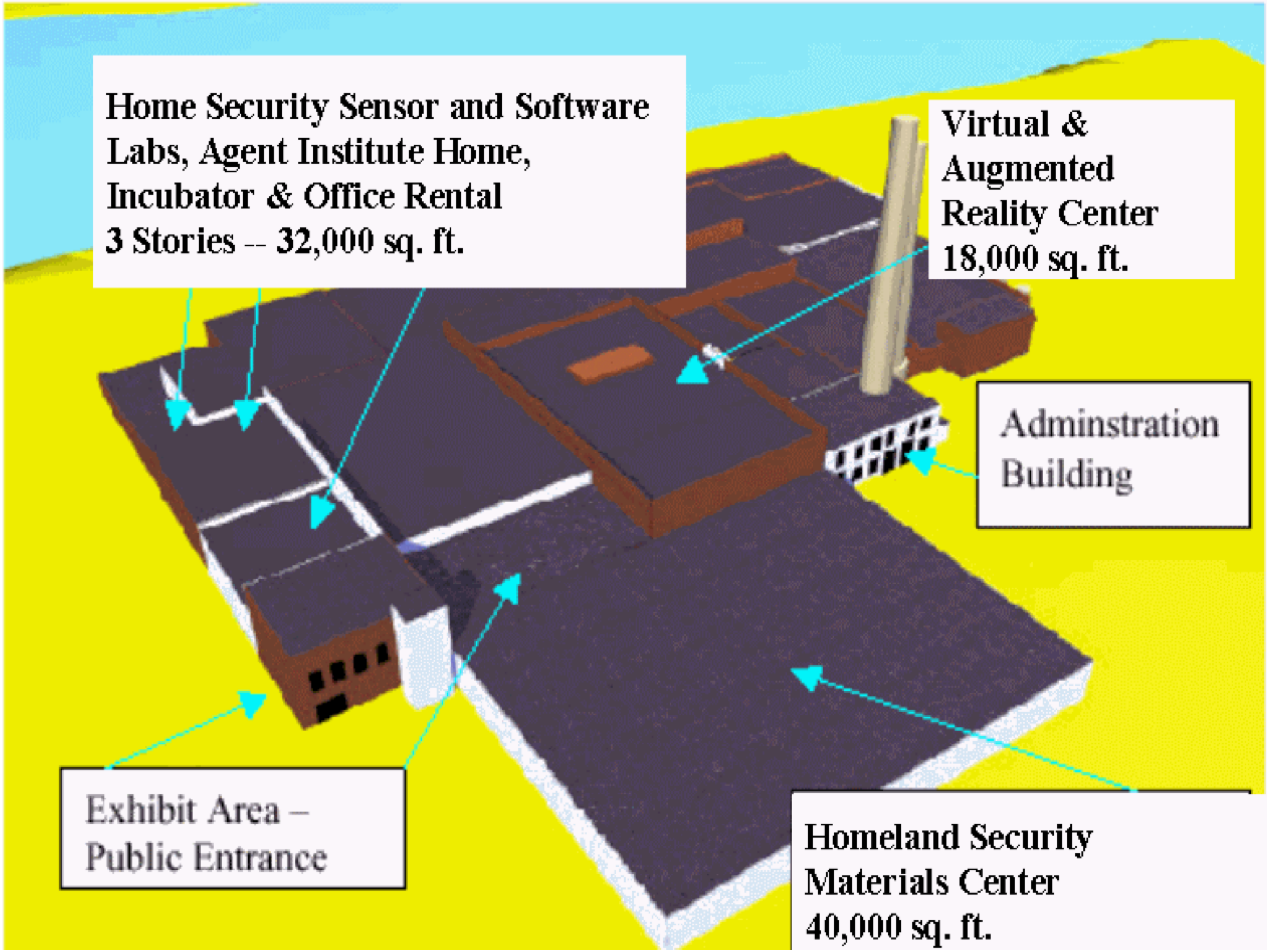
- There are a lot of useful pieces out there, but putting it all together into a seamless and rugged system still needs to be done
- We need high computing power linked to mobility
- We need security, reliability and affordability

Sandia Labs Virtual Reality Trainer

Augmented Reality in a Nutshell



The Intelligent Island™ Project
AR/VR Training Facility


Home Security Sensor and Software Labs, Agent Institute Home, Incubator & Office Rental
3 Stories -- 32,000 sq. ft.
Virtual & Augmented Reality Center
18,000 sq. ft.
Adminstration Building
Exhibit Area – Public Entrance
Homeland Security Materials Center
40,000 sq. ft.

Source: J. W. Sewall Co. digital aerial photograph

- vicinity map -

Ayers Island

I WANT YOU

To Get Your Act Together

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