The Importance of the Internet in Disaster Relief

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Outline

• Growth of the Internet and global access allows reachability for the disaster information system
• Examples of applications on Information Management for Emergency
• Some lesson learned
• Towards Internet-based Disaster Information Management System: Open Standards
Larry Landweber's International Connectivity maps, 1991

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A Driving Force for National Science and Technology Capability
Larry Landweber's International Connectivity maps, 1997

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A Driving Force for National Science and Technology Capability
Missing Persons Tracking System

The system is developed to be a data center of disaster's missing persons. Relatives and friends can insert the detail of the missing love one. People in the disaster's area and governmental staffs may able to help identifying the status of the missing person. At the present, two databases of missing persons registration system are opened.

- Missing Persons Registration System for the Tsunami in Thailand at http://www.missingpersons.or.th/
- Missing Persons Registration System for the Flooding in Northern of Thailand at http://www.missingpersons.or.th/flood/

Open Source Developing Tools:

- Operating System: FedoraCore 3 Linux
- Web Server: Apache 2.0.52
- Programming Language: PHP 4.3.10
- DBMS: MySQL
Donation Matching System

The system is developed to receive the registration of the donations from the donors and the registration of requirements from the victims in the disaster's area. This system is intended to be a data center of the donation including the matching algorithm to meet the victims' requirements. The system is under construction.

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"I am Alive" System

The system is developed for survivors from the disaster. Survivors can register by themselves their information into the system via Internet to be another channel of sending message to relatives and friends. In addition, people outside the disaster's area may access the system to query and search for their missing persons. At the present, one database is opened.

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- FedoraCore 3 Linux

Web Server:
- Apache 2.0.52

Programming Language:
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DBMS:
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[I am Alive] system for flooding in the northern of Thailand at
http://www.nectec.or.th/iamalive
Truehits stats on http://missingpersons.or.th during January 2005, after the 2004 tsunami
Experience from Tsunami missingpersons.or.th

- Weeks of sleepless nights
- Sharing to www.thaitsunami.com thru DB table dump
- Closed down registration Feb 14, 2005
- A lot of data cleansing before further use
- Total number of registered records: 4636
- From 62 countries
- Only 340+ cases has been resolved
Lesson Learned

• Due to urgent nature of the situation → information provided on an ad-hoc basis

• Language Barrier → Difficult for non-local to locate anything quickly

• Information scattered/ multiple web sites → difficult to find, duplicates records, lost track

• format incompatible (fax scan, database table dump, spreadsheet, pdf, and free-form text) → data consolidation impossible
• Insufficient internet bandwidth in crisis → difficult to get thru
• primarily voice-based coordination → highly congested, misinterpretation
• lack of coordination → Demand and supply mismatched and untimely
• Each relief group came from a different place at different time. Findings were NOT shared → Lack of continuity. Waste of time and resources
• information sharing is and has always been a lower priority

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1. Form a ‘group’ modelled after the Berkman Roadmap for Open ICT Ecosystems exercise to explore specific areas of interest in open standards in the Asia-Pacific context.

2. Foster regional cooperation towards developing government interoperability frameworks – at the national and regional levels. This would include the development of local definitions of open standards and guidelines for policy.

3. Undertake capacity building activities on open standards targeting government CIOs, developers, and the general public.

4. Hold a region-wide competition to promote the development of open standards and to recognize the interoperability of government projects based on open standards.

5. Undertake a study to analyze existing government interoperability frameworks, and understand how they impact competition in the market place.

6. Establish centres of excellence, involving all stakeholders, to develop proof of concepts and case studies. For example, these centres may monitor the use of language-based open standards.
OpenCARE!

- **OpenCARE** = the Open exchange for Collaborative Activities in Response to Emergencies
- A scalable information exchange infrastructure which primarily aims at providing better co-ordination in disaster handling
  - **Information sharing** (thru agreement and format)
  - **Infrastructure to enable such sharing needs** (implementation)
- A set of computer program that gathers information and disseminates them through the Internet network. It can be embedded and work with existing computer systems
- *First presented as “e-CARES” By Trin Tantsetthi*, at Regional Conference on Open Standards, The key to an open ICT Ecosystem, May 2-4 2006, Thailand
- [http://opencare.inet.co.th](http://opencare.inet.co.th)
Central disaster and emergency coordination system enable incompatible systems to share information in their native formats. No change of original systems in operation is required.

Source: OpenCARE Concept: Trin Tantsetthi & Phat Kulphaichitra
Translate different formats so that each incompatible systems do not have to change

Source: OpenCARE Concept: Trin Tantsetthi & Phat Kulphaichitra
Accurate and usable information will be timely shared to participating agencies.

Each agency can dynamically change to be sender and recipient all the time.

Being Internet based system gives OpenCARE accessible means to all agencies. With possible extension to other channels ie. Radio frequency to difficult to reach areas.

Source: OpenCARE Concept : Triniti & Phat Kulphaichitra
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- Internet Reach-ability
- Internet based application Infrastructure for Information Management for Emergency
- Information Sharing through Open Standards and Interoperability
- Coordination, Collaboration, Communication
Thank you