

# SAHANA

## A Case Study of a Disaster Management System



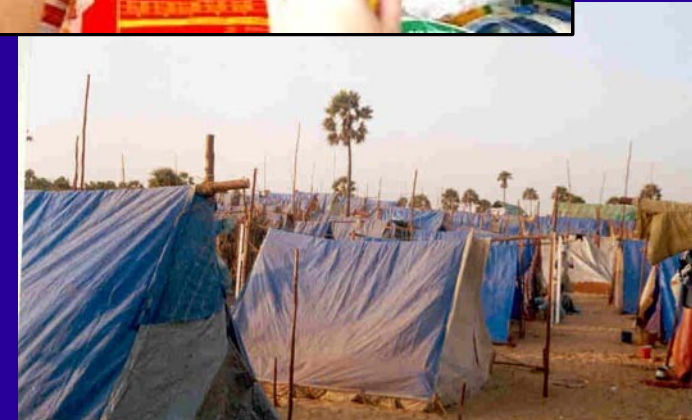
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Lanka Software Foundation

*“No innovation matters more  
than that which saves lives”*

Avelino J. Cruz, Jr., Secretary of National Defense, Philippines on  
the use of Sahana that was deployed in the aftermath of the  
disastrous mudslides in the Philippines

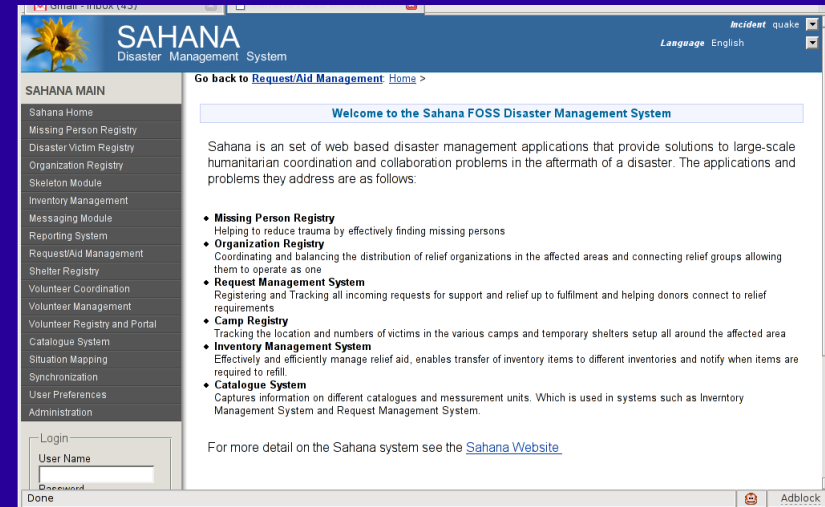
# Problem: Aftermath of Disasters

- The Trauma caused by waiting to be found or find the next of kin
- Coordinating all aid groups and helping them to operate effectively as one
- Managing the multitude of requests from the affected region and matching them effectively to the pledges of assistance
- Tracking the location of all temporary shelters, camps etc



# Solution: Sahana

- A Disaster Management System
- A Web based portal
  - with sub-applications ...
  - built to address the common disaster coordination and collaboration problems in disasters
  - between civil society, Gov, private sector, volunteers and the victims themselves
- A system to manage Disaster Aftermath



# Core Modules

- Organization Registry
  - Helps maintain data (contact, services, region, etc) of organizations, groups and volunteers working in the disaster
- Missing Persons / Disaster Victim Registry
  - Helps track and find missing, deceased, injured and displaced people and families

The screenshot shows the 'Organization Registration' form in the SAHANA Disaster Management System. The form is titled 'Organization Registration' and includes a note: 'Fields marked with \* are required (entry is compulsory)'. The form fields are:

- \* Organization Name: (text input)
- \* Organization Type: (dropdown menu, currently set to 'Government')
- \* Services Provided: (checkboxes for Agriculture, Area Development, Communications, and Disaster Preparation)
- Base Location Information (tabbed section):
  - \* Country of Origin: (dropdown menu, currently set to 'Sri Lanka')
  - Registration Number: (text input)
  - \* Province: (dropdown menu, currently set to 'Western')
  - \* District: (dropdown menu, currently set to 'Colombo')

The left sidebar shows the 'ORGANIZATION REGISTRY' menu with options: Home, Register, Organization, Volunteer, View, Organizations, Volunteers, Reports, Drill down by Location, Organizations by Sector, and Search. The 'SAHANA MAIN' menu includes: Sahana Home, Camps Registry, Missing Person Registry, Organization Registry, and Request Management System.

The screenshot shows the 'Missing Person Registry' search results in the SAHANA FODS Disaster Management System. The search criteria are: Any Card Number, Any Name, and Next. The results show a table with 10 records found.

Key: Fields marked with \* are required (entry is compulsory)

Basic Search

Any Card Number

Any Name

Next

Total 10 Records were found

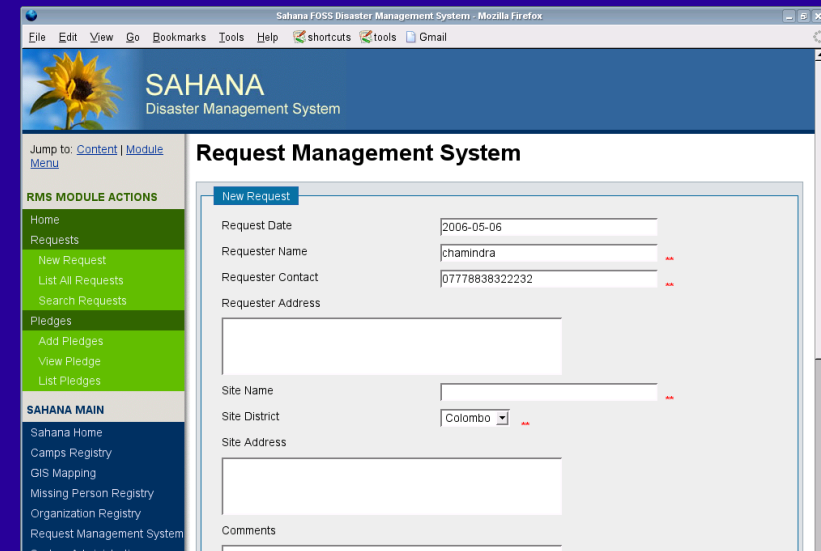
Next 5 Records >> Last 5 Records <<

Picture	Name	Appearance	Missing Details	Status
	Master Yoda	Height : 66 Meters Weight : unknown Eye Colour : Light Brown Skin Colour : Other Hair Colour : Other	Last Seen : swamp planet of Dagobah	Missing (Click to change to found)
	Yoda Cartman	Weight : infinity Eye Colour : Black Skin Colour : White Hair Colour : Unknown	Last Seen : south park Comments : Really fat	Missing (Click to change to found)
	Bart Maul			

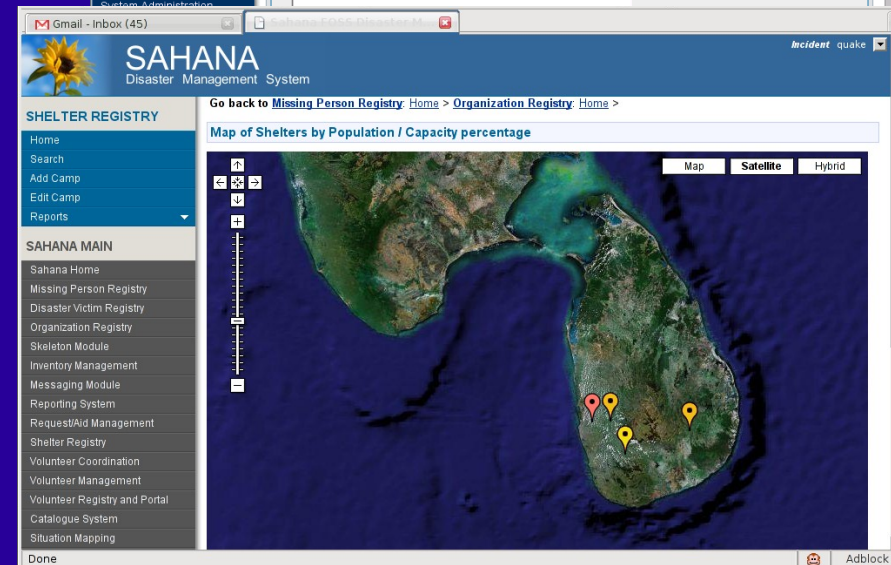
The left sidebar shows the 'MISSING PERSON REGISTRY' menu with options: Home, Search for a Person, Report a Missing Person, Edit a Missing Person, and Report a Found Person. The 'SAHANA MAIN' menu includes: Sahana Home, Camps Registry, GIS Mapping, Missing Person Registry, Organization Registry, Request Management System, and System Administration. There is also a login section with fields for User Name, Password, and a Login button.

# Core Modules

- Request Management System
  - Tracks all requests and helps match pledges for support, aid and supplies to fulfilment
- Shelter Registry
  - Tracks data on all temporary shelters setup following the Disaster



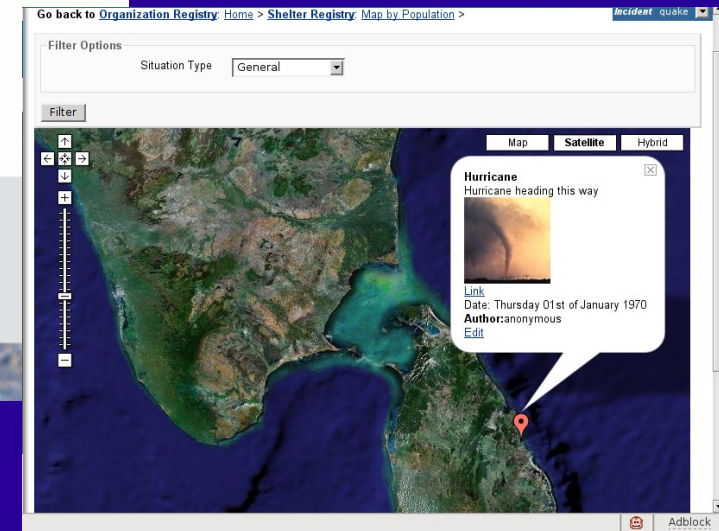
The screenshot shows the 'Request Management System' interface in a Mozilla Firefox browser. The page has a blue header with the SAHANA logo and title. A left sidebar contains navigation links under 'RMS MODULE ACTIONS' (Home, Requests, New Request, List All Requests, Search Requests, Pledges, Add Pledges, View Pledge, List Pledges) and 'SAHANA MAIN' (Sahana Home, Camps Registry, GIS Mapping, Missing Person Registry, Organization Registry, Request Management System, System Administration). The main content area is titled 'Request Management System' and features a 'New Request' form. The form includes fields for Request Date (2006-05-06), Requester Name (chamindra), Requester Contact (07778838322232), Requester Address, Site Name, Site District (Colombo), Site Address, and Comments.



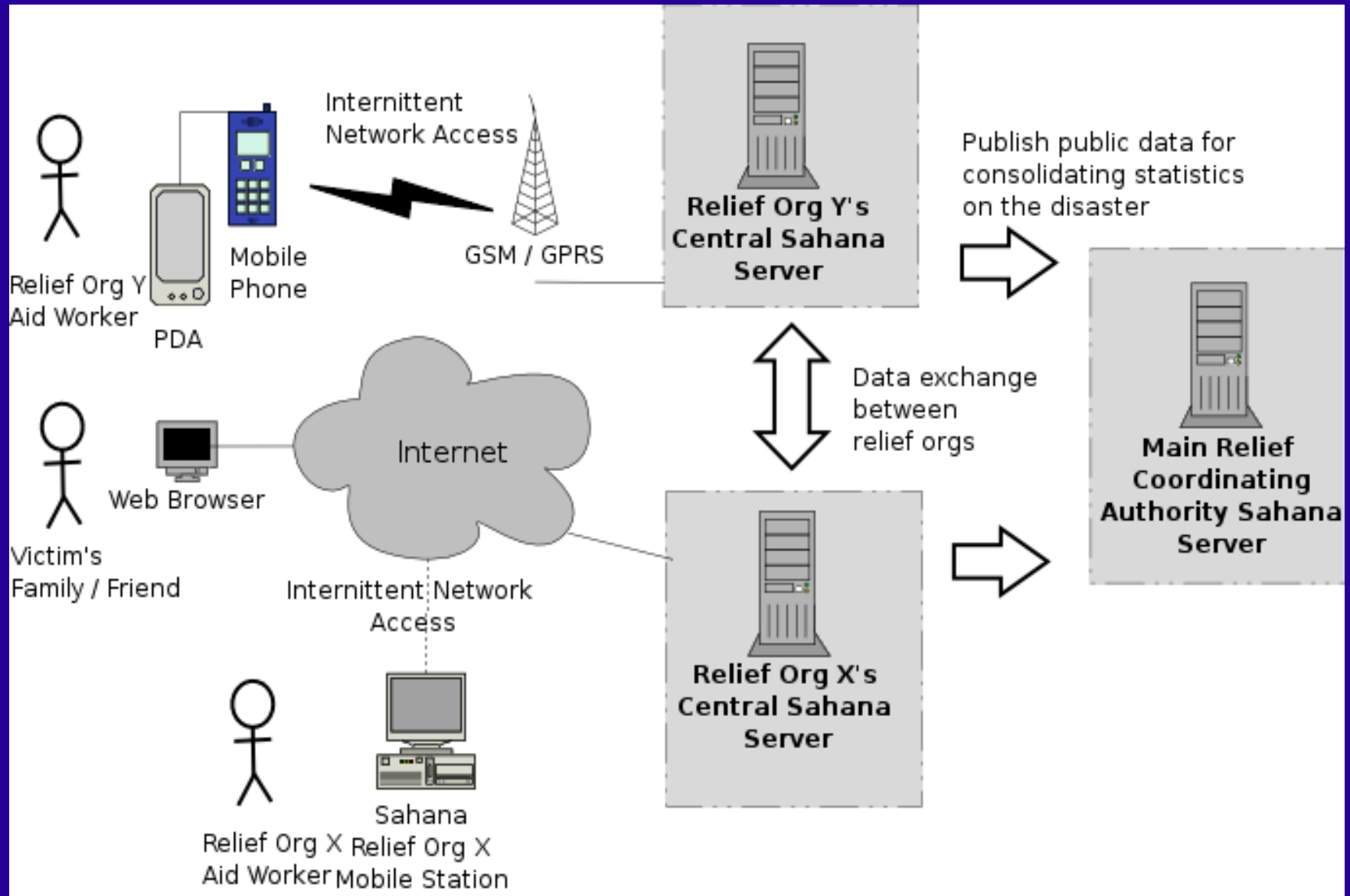


# Technology and Features

- FOSS
- Synchronization
- Web Services
- Messaging
- XAMPP, CAPS
- Localization
- Spatially enabled (GIS)
- PDA/Mobile Accessibility
- LiveCD, LiveUSB
  - Sahana Live
  - Sahana on a Stick



# Deployment Vision





# Deployments

- CNO, for Tsunami in **Sri Lanka** – 2005
  - Officially deployed and tracked ~ 26000 families
- NADRA, for Asian Quake in **Pakistan** – 2005
  - Officially deployed and integrated to NADRA (Pakistan Government) to track all victims
- For Guinsaigon Mudslide disaster in **Philippines**– 2005
  - Officially deployment to track all victims,orgs,camps by Government

# Deployments ...

- Pre-deployment in Sarvodaya, **Sri Lanka**
  - Customization for Sahana requirements
- Pre-deployed independently in **Australia**
- Yogyakarta Earthquake, **Indonesia** – 2006
  - Deployed by ACS, Indonesian Reliefsource
- Pre-deployment for Red Cross, **Sri Lanka**

# Recognition

- User Award from **Redhat** Summit
- **ICTA** Awards to contributors
- **Software 2006 CA, USA**, Good Samaritan Award
- **Free Software Foundation (FSF)** award for Social Benefit inspired by Sahana
- **Sourceforge** Project of the Month, June, 2006
- Used for many Research Projects, University Courses in many Universities Globally.

# Conclusion

- ICT can bring significant efficiencies to the coordination/collaboration effort in a large disaster
- Sahana is a success example of the application of FOSS to build public ICT good in the humanitarian domain
- An example of a successful global partnership of practitioners and volunteers working together to provide a solution for the common good

# Q&A

*“The NDCC and OCD value SAHANA's contribution to the relief and rehabilitation phases of the Southern Leyte landslides and recognize the tremendous boost to our preparedness for future disasters”*

Official, Govt. of Philippines

<http://sahana.lk/>

<http://sourceforge.net/projects/sahana/>