Coordinated Technology Solutions for New York City's Disaster Relief & Community Resilience Organizations

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The Storm

Superstorm Sandy hit New York City on October 30th, 2012.

Dozens died.
Thousands of people lost their homes.
Millions were affected.

Response

Hundreds of groups and "relief sites" sprang up in the NYC area for Sandy response. Many of these groups had never before been involved in disaster preparedness or relief efforts.

Within **30 days** of the storm...

...360 relief sites and organizations connected to Occupy Sandy "central hubs" in NYC.

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Relief & Resilience Networks

As response has transitioned into recovery, these groups have organized a variety of coordination and collaboration networks.

The Players:
- Borough-based "**Long-Term Recovery Groups**"
- Neighborhood-based "Collaboratives"
- City-wide mutual aid networks
- Older coalitions engaged in relief/resilience work

Our Initiative

NYC:Prepared bring the best free/libre/open tools to NYC's disaster relief & resilience community.
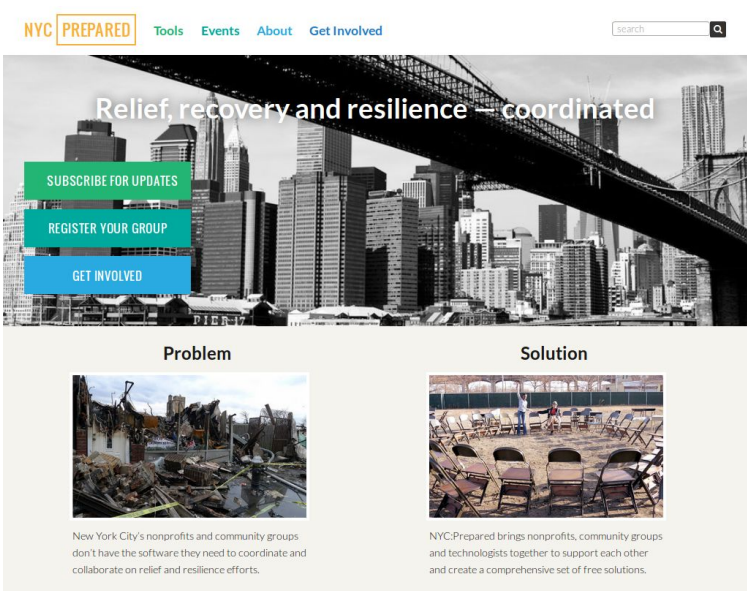
Common Software Needs

These groups need a common set of tools —
for themselves and for their coordination networks.

For Individual Groups	For Coordination Networks
Website ● Syndicatable News & Events ● Embeddable Tables & Maps ● Form Builder/Manager ● Newsletters **Google Apps for Nonprofits** **CRM Systems**	Contact & Facilities Directories Shared Knowledge Base Request & Work Order Queues Inventory & Asset Mgmt Data Visualization & GIS Issue Tracker & Help Desk

The Challenge

Accessibility	Autonomy
Use tools and techniques everyone can access. ● **Free**: donation-based business model ● **Liberty**: community controls the data ● **Open-source**: people can contribute and innovation can be shared globally We call this **FLO**.	Exchange open data so groups can run their own tools. ● **RSS** for news ● **iCAL** for events ● **Open Referral** for services ● **HXL** for reporting (eventually) We call this **resilience**.

Identified Software Solutions

WordPress	Content Management
CKAN	Data Repository
Sahana EDEN	Resource Management
Wagn	Semantic Wiki
CiviCRM	Relationship Management
Google Apps*	Email & File Sharing

* Free not FLO

Common Data Needs

These groups need access to (and the ability to update) a few types of datasets.

Types of Data	Examples	Sources
1: General Knowledge	General preparedness information, localized evacuation plans and procedures, training materials and templates for community-driven relief.	Humanitarian aid community
2: Core Geographic Data	Boundaries such as census tracts, points of interest such as hospitals, vulnerability information such as elevations and flood predictions.	Local, state and federal agencies
3: Human Services	Disaster food stamps, rental assistance, remediation and repair services, grants for replacing damaged items, assistance with paperwork.	Gov't & nonprofit agencies.
4: Regional Network	Individuals, organizations, groups, facilities and assets within the network, as well as actionable information such as work orders, inventories.	Participating groups & orgs.

Seed Software with Data

| 1: Knowledge Wagn Wiki	2: Geography CKAN	3: Services EDEN (public)	4: Network EDEN (private)
Types of Information			
- Preparedness materials from federal, state and local agencies - Operational materials from professional and community relief/resilience groups - Templates and tutorials for citizen-led aid provisioning	- Political and analytical boundaries - Key points of interests. - Geographic features - Risk and vulnerability data - Demographics	- Healthcare - Sheltering - Gov't assistance - Family services - Emergency services - Recovery	Streams - News - Events - Requests - Social media Contacts - Organizations - Groups - Facilities Resources - Services - Inventory - Assets - Volunteers

Designed a Software Ecology

Individual Organizations websites that produce standard news (RSS) and event (iCAL) feeds. Use our **WordPress**.

Coordination Network manages a member directory. Use our **CiviCRM**.

Legend

- RSS
- WordPress
- CiviCRM
- EDEN
- CKAN
- Wagn
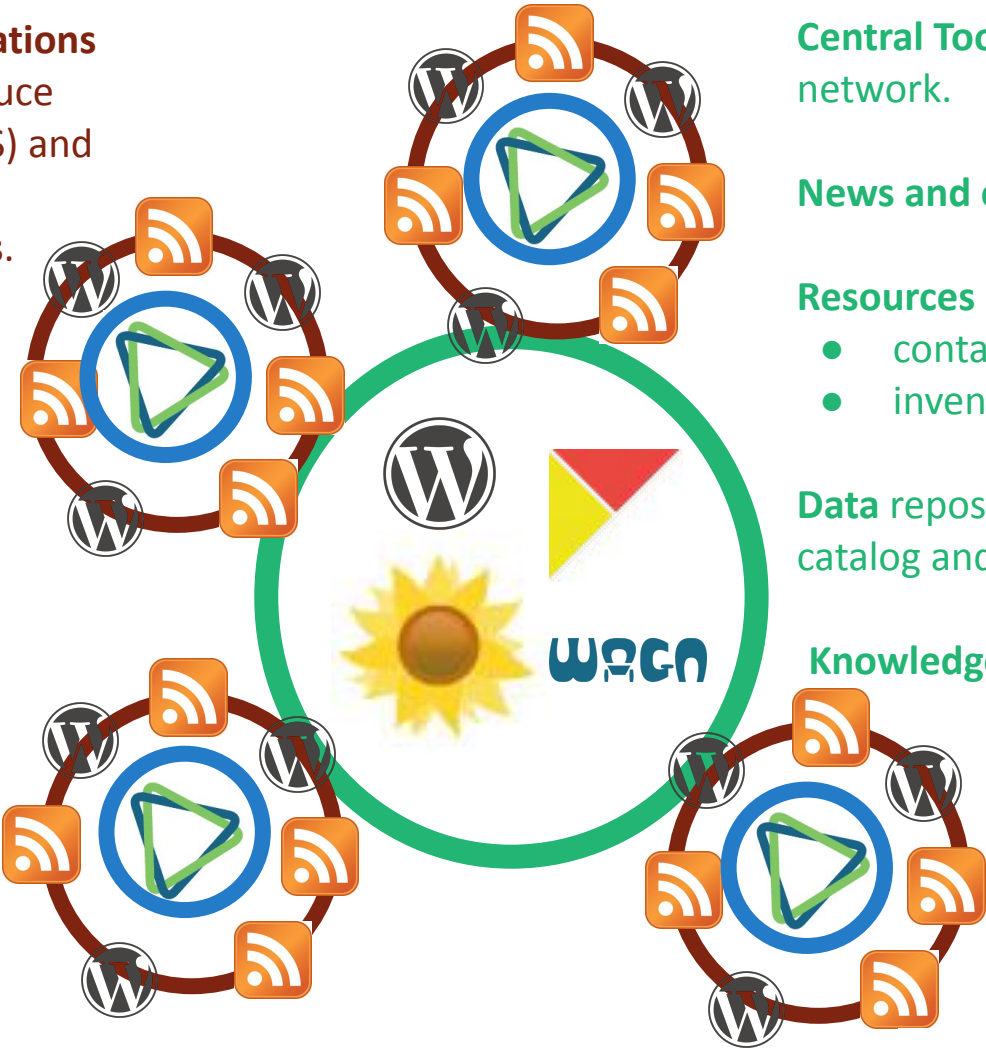
Central Tools controlled by the network.

News and event sharing.

Resources coordination
- contact, facility, services
- inventory & assets

Data repository to distribute, catalog and share datasets.

Knowledge base to share useful documentation.

Engagement

We get people participating by giving them new skills and organizing initiatives these tools enable them to complete.

Training	Initiatives
Info Management #1 ● **WordPress Basics** ● **Google Drive Management** ● **Spreadsheets and Mapping** **Info Management #2** ● **WordPress Management** ● **CiviCRM Basics** ● **CiviCRM Design**	**Human Services Data** ● **Convene a data standards group** ● **Establish a schema and taxonomies** ● **Convert info into open standards** ● **Make it pretty and useful** **Facilities Review** ● **Develop and deploy facilities survey** ● **Build and share an asset map**

Initiative: Human Services Information

People need information about resources available to people affected by Sandy:

- DCMs
- Affected folks
- Funders, policy makers and analysts

Problem:

- Siloed data: each network manages its own resources.
- Only FEMA provides an (understandably) incomplete directory of services.

From a Document to a Database

A Solvable Problem

Sunlight Foundation's "Open Data Guidelines"

http://sunlightfoundation.com/**opendataguidelines/**

What Data Should Be Public

1. Proactively release government information online

2. Reference and build on existing public accountability and access policies

3. Build on the values, goals and mission of the community and government

4. Create a public, comprehensive list of all information holdings

5. Specify methods of determining the prioritization of data release

6. Stipulate that provisions apply to contractors or quasi-governmental agencies

7. Appropriately safeguard sensitive information

How to Make Data Public

8. Mandate data formats for maximal technical access

9. Provide comprehensive and appropriate formats for varied uses

10. Remove restrictions for accessing information

11. Mandate data be explicitly license-free

12. Charge data-creating agencies with recommending an appropriate citation form

13. Require publishing metadata

14. Require publishing data creation processes

15. Mandate the use of unique identifiers

16. Require code sharing or publishing open source

17. Require digitization and distribution of archival materials

18. Create a central location devoted to data publication and policies

19. Publish bulk data

20. Create public APIs for accessing information

21. Optimize methods of data collection

22. Mandate ongoing data publication and updates

23. Create permanent, lasting access to data

How to Implement Policy

24. Create or appoint oversight authority

25. Create guidance or other binding regulations for implementation

26. Incorporate public perspectives into policy implementation

27. Set appropriately ambitious timelines for implementation

28. Create processes to ensure data quality

29. Ensure sufficient funding for implementation

30. Create or explore potential partnerships

31. Mandate future review for potential changes to this policy

Four Ingredients

Schema (Column Headers) to define **services**.

Google.org's CivicServices Schema is sufficient.

Taxonomy (Terms) to classify service type and eligibility.

We've got a good start on services types and need to work on eligibility.

Format (Files) so we can easily exchange information.

PDFs are bad. Documents are okay. Spreadsheets are best.

Databases without APIs are bad. Databases with APIs are good.
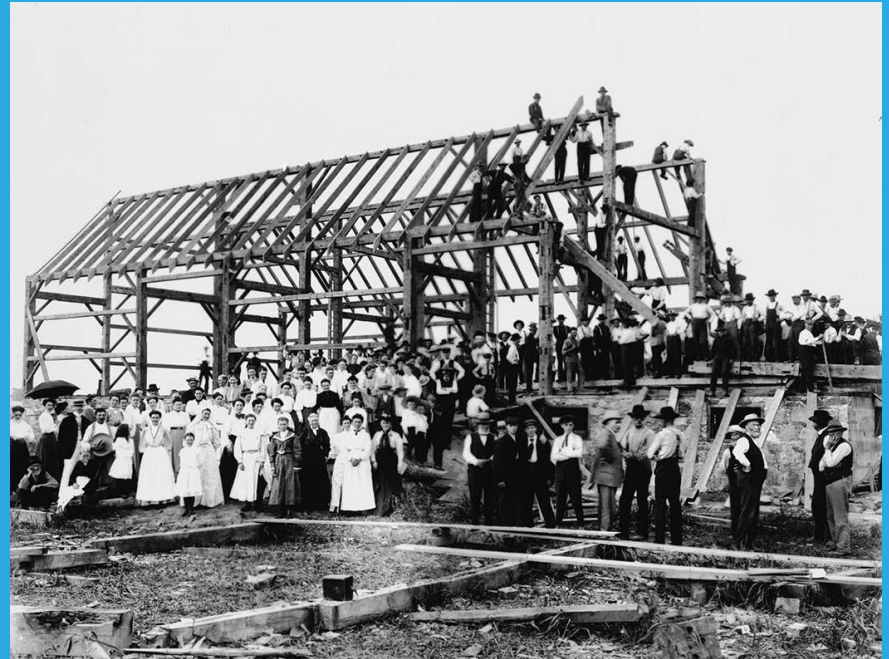
Licenses (Rights) that allow us to share.

Copyright is bad. No license is okay. Creative Commons is good.

Towards a Knowledge Commons

Moving 100 pages of services data is a lot of work for one person.

If the 5 LTRGs and 200 nonprofits get people to do the work, everything becomes a lot easier.

It's an old fashioned idea and the best way for nonprofits to benefit from big data.

Training: Info Management #1

Manage a WordPress Website

(a) add page, (b) add event, (c) add and categorize post, (d) send newsletter, (e) create and move menu items

Share Files and Collaborate with Google Drive

(a) create docs, (b) create folders, (c) permission docs and folders, (d) create folder hierarchy, (e) share folders with Google Groups

Collect, Analyze, Visualize and Map Data

(a) build a form to collect data, (b) create reports, (c) activate Fusion Tables, (d) import/export tables, (e) visualize and map data tables, (f) define it in repositories, (g) embed results on webpage

Training: Info Management #2

Build and Administer your own WordPress Website
(a) buy a domain, (b) point to server, (c) deploy WordPress installation, (d) install themes and plugins, (e) configure menus and widgets, (f) manage user permissions.
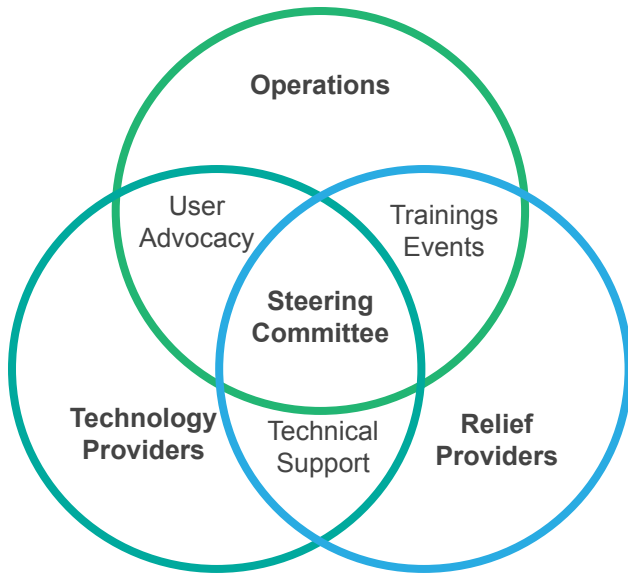
Manage a CiviCRM Constituent Database
(a) create groups, (b) send newsletters, (c) manage donation and event pages, (d) create and manage memberships, (e) form building (f) reporting

Collect, Analyze, Visualize and Map Data
(a) create, assign and manage a case (b) modify a case configuration, (c) build custom reports, (d) design and implement a configuration

Organizational Structure

Operations

User Advocacy

Trainings Events

Steering Committee

Technology Providers

Technical Support

Relief Providers

A board of **advisors** provides advice and support to the steering committee.

A board of **directors** will form if advisors and steering committee members decide to create an organization.

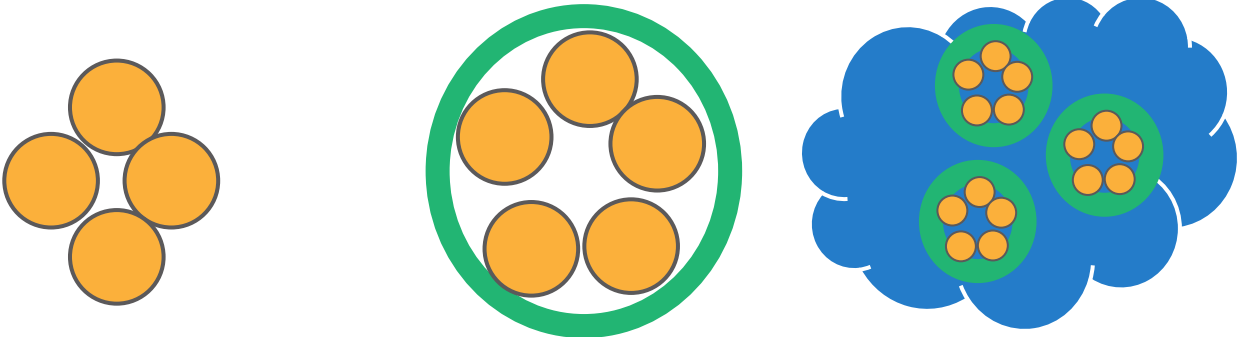**A local steering committee** consisting of technology providers, relief leaders and our operations team.

- managing a technical development roadmap
- organizing user groups & training events,
- supporting our communities

Steering
Technology
Operations
Relief

Directors
Federation
Steering
Advisors
Legal/Account

Advisors
Networks
Experts
Resources

Milestones

|	Short Term (Q2 2014)	Mid Term (Q3-Q4 2014)	Long Term (2015)
Technology	Release version 1 toolset in NYC.	Add mobile app, community mapping, single user signon.	Launch integrated "cloud suite" deployable in minutes at low cost.
Organization	Convene steering committee and co-create tech roadmap.	Distribute toolset and trainings throughout NYC and beyond.	Create a federation to support local initiatives and manage technology.

Result

Local Impact & Global Contribution

In New York City, we're putting together a comprehensive set of technical solutions any group can use to enhance their relief and resilience work.

By packaging and sharing our work under free/libre/open-source licensing, we ensure that groups in future disaster contexts around the world can access and build on our work — building a global, integrated commons for disaster-related technical tools.
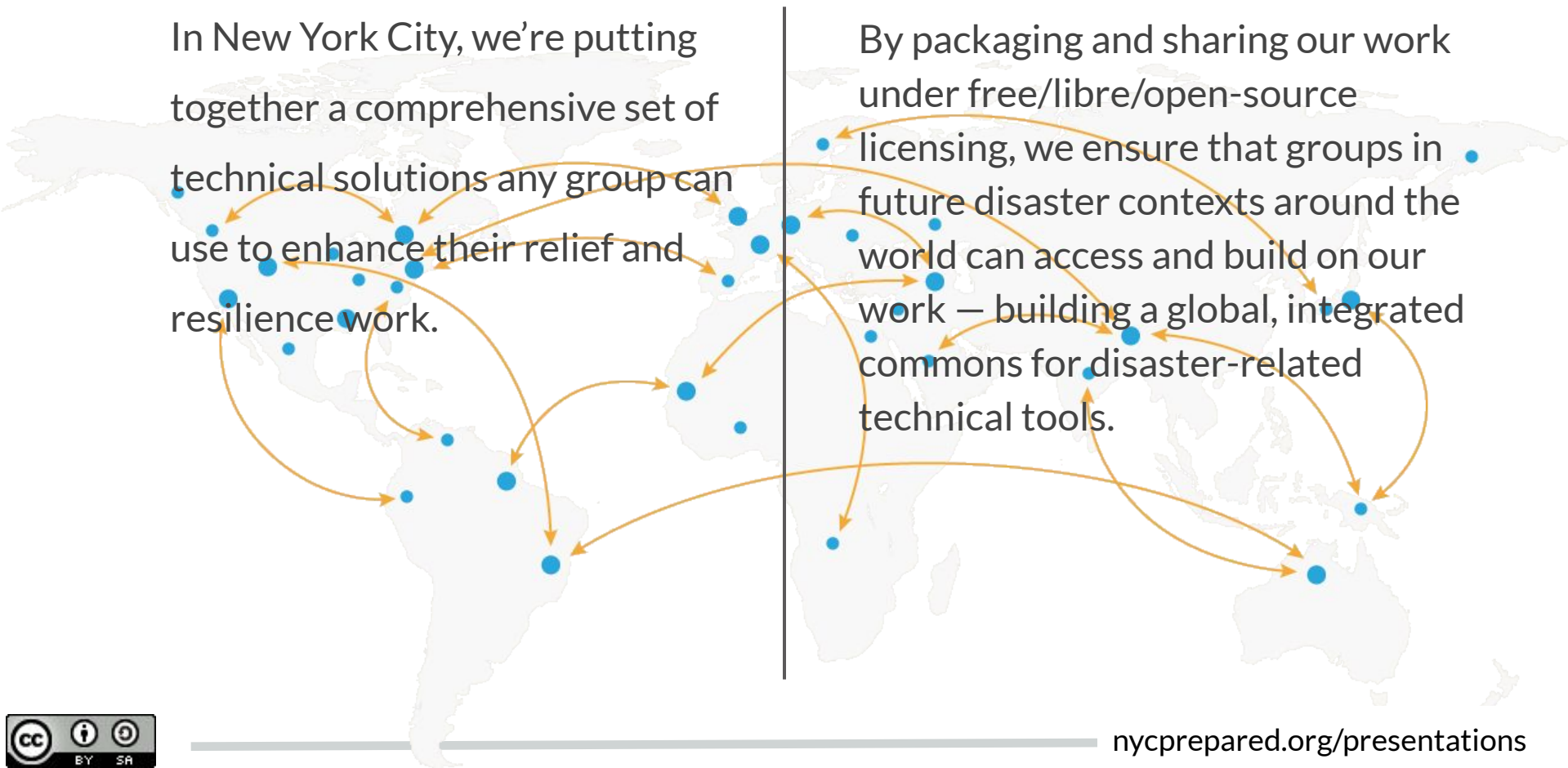
Connect

Volunteer Opportunities

Turn important documents into useful data.
Support local organizations using WordPress.
Hack on a FLO software projects.

volunteers@nycprepared.org

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nycprepared.org

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