Crisis, Tragedy and Recovery Network (CTRnet)

A Global Human Network and Distributed Digital Library

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CTRnet Team

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Outline

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- Challenges
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- Results
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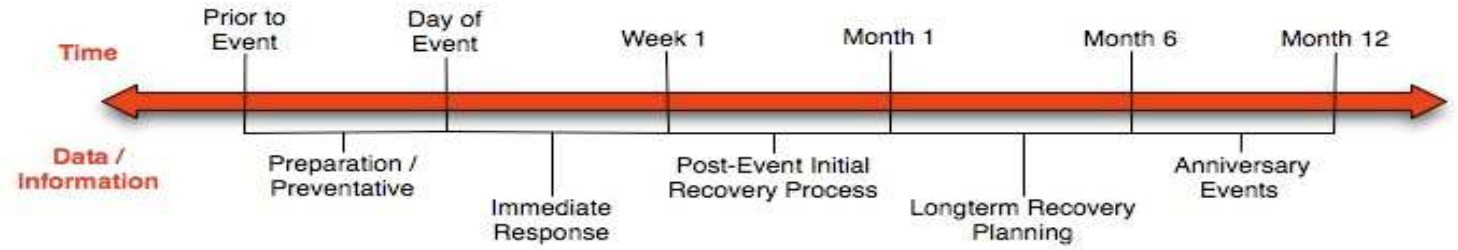
Introduction

- Human tragedies that result from natural and man-made events affect communities significantly.
- Series of information needs have to be addressed, during or after the tragic event.
  - During the event – there is a need to communicate, get accurate information, etc.
  - After the event – there is need to analyze, recover, prevent future instances, etc.



Introduction (Cont'd.)

- Not enough reliable information available always – in terms of quality and quantity

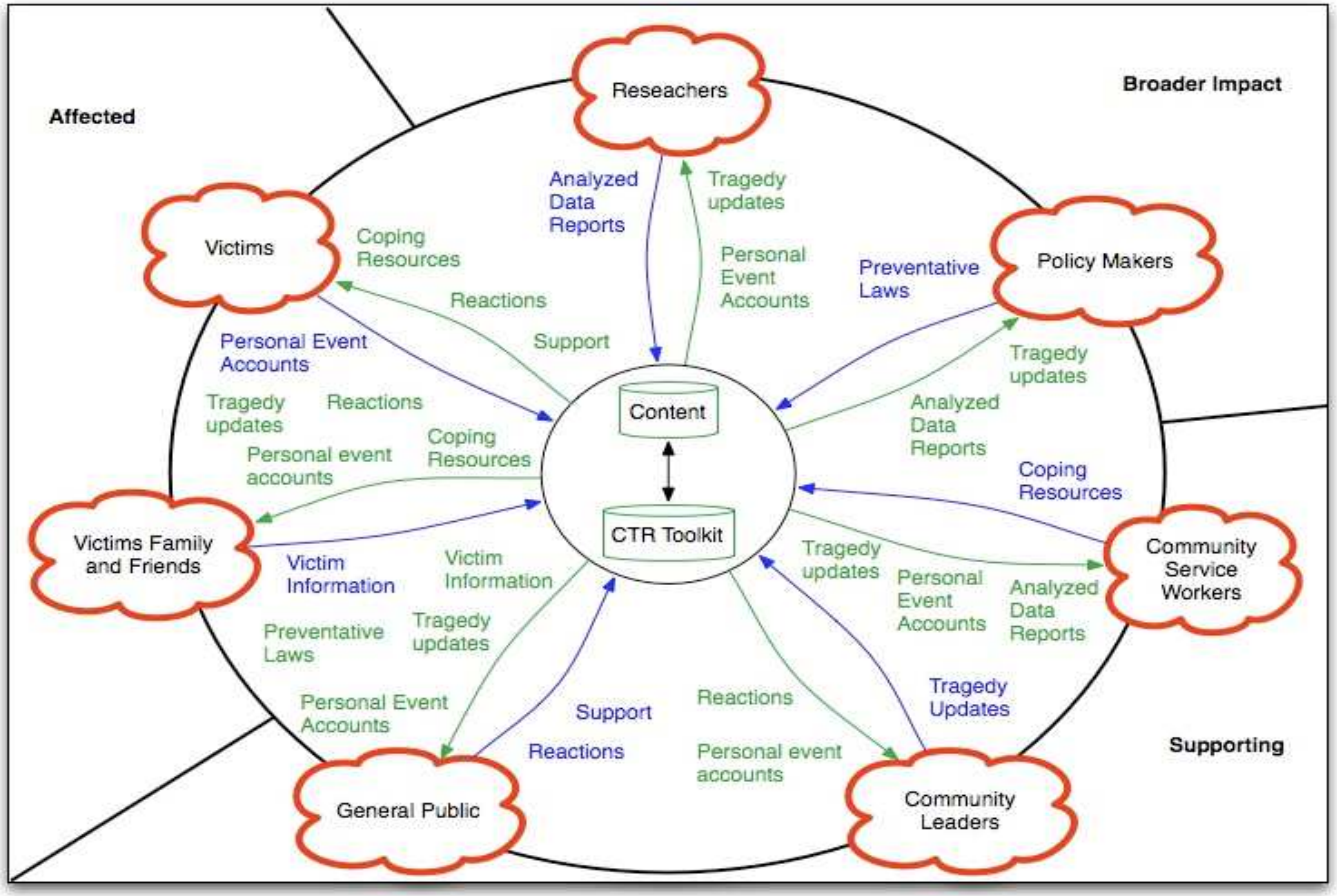
Year	Event	IA Collection #	Wikipedia suffix, other URLs
2004	Asian Tsunami	2004	Indian_Ocean_earthquake , tsunami.archive.org
2007	Burmese Uprising	937	2007_Burmese_anti-government_protests
2007	California Wildfires	877	California_wildfires_of_October_2007
2008	Georgia and Russia Conflict	1120	2008_Georgia–Russia_crisis
2005	Hurricane Katrina	174	Hurricane_katrina, www.hurricanearchive.org, hellicane.blogspot.com, everythingandnothing.typepad.com katrinapoetry
2008	Iowa Flood	1092	Iowa_flood_of_2008
1998	Matthew Shepard murder	1075	Matthew_Shepard
2008	N. Illinois U. Shooting	970	Northern_Illinois_University_shooting
2008	Tibet protests	1044	Tibet_protests
2007	VT April 16 Shooting	694	Virginia_Tech_massacre, www.april16archive.org
2008	Zimbabwean crisis	1048	Zimbabwe, www.crisiszimbabwe.org

CTR related collections at Internet Archive

Vision

- Supporting Crisis, Tragedy and Recovery (CTR) specific information needs
- Supporting diverse groups of stakeholders
  - Victims, family/friends, researchers, policy makers, general public
- Intelligent information integration
  - Not just archiving, but also analyzing information
- Rich ***Digital Library*** services
- Building a global collaborating community
- **Current focus is on school shootings** (but will be expanded later).

Vision (Contd.)



Challenges

- Many CTR events to crawl
- Sometimes too little data is available.
- A vast amount of data needs to be crawled.
  - Information integration is a key aspect of the project.
  - Must crawl different kinds of data
  - **"Scoping" crawls for each event independently is not practical.**
- Considerable amount of non-relevant data arrives in each category.
  - Makes data analysis very hard
- Likely to run out of budget very quickly
- **Some general principles, best practices needed**

Methods Outline

- Internet Archive's Archive-It tool to collect data
- Data in 6 major categories (where available)
  - News
  - Web 2.0 (blogs, social networks, forums, etc.)
  - Images
  - Videos
  - Academic publications (books, journal articles, reports, etc.)
  - Organizations (Red Cross, UN, etc.)

Experiments

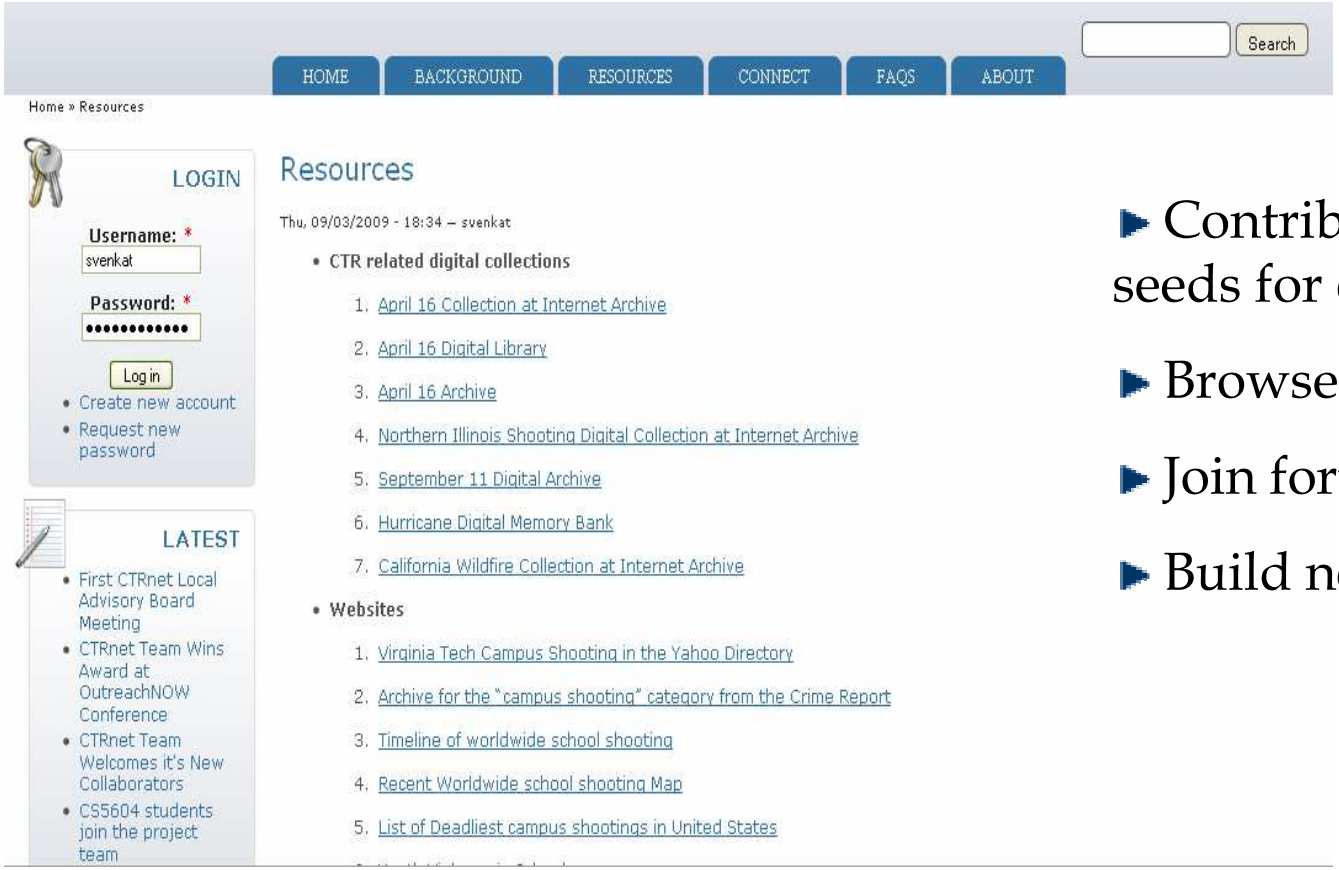
- Crawl using a local Heritrix set-up
  - Try to get a lower bound on what to expect (worst case scenario)
  - See how much of data is likely to be relevant
  - Learn how to select seeds
  - Learn some general principles (using the above) that can be used for crawling CTR events
- Crawled for recent typhoon in Asia-Pacific (Ketsana)
- Also tried to learn using our April 16 shootings collection (at IA)

Results

- Some results from pilot experiments
- Very low precision
  - For April 16 data, we crawled ~4million URLs. Only ~100,000 of them contain the word “shootings”
  - Many crawled results are non-relevant.
  - For Ketsana, we crawled ~600,000 URLs. Only ~10,000 had the word “Ketsana” in them.
- **Crawl broad and not deep**
  - Crawl with more seeds
  - **Need a way to set crawl depth with Archive-It.**

CTRnet Outreach

CTRnet website (http://www.ctrnet.net)



- Contribute resources, seeds for events
- Browse collections
- Join forums
- Build network

Conclusions

- Strong case for adding **focused crawling** feature to Archive-It
  - Determine on the fly if the webpage is relevant or not
  - If not, then do not follow links from there
  - Substantial savings in resources
    - 1 news story = 47 URLs (from our experiments)
- Especially useful when building multiple collections
- Also, the idea of crawling, then filtering to get rid of non-relevant documents, and using the result instead of the full crawl, might aid users.
- **Virginia Tech and some partners are interested in working on this for possible integration with Archive-It** .