The MightyMoRiver Project
Curating 2011 Missouri River Flood Info

Knowledge Discovery / Modeling & Simulation (KDMS) Workshop
Knowledge Discovery and Data Mining (KDD) Conference
August 20th, 2011, San Diego, CA

Founder: Chris Augeri, PhD
Co-Founder: Bill Sousan, PhD
Core Team: Folks in MI, MO, NE, PA, & others
Extended Team: CO, VA, TX, Canada & elsewhere
Technical Support: Africa, Asia, Europe, & South America
Challenge we were tackling

Key Objectives

- Crowd-sourced
- Text & faceted search
- Accessible to populace
- Geo-temporally referenced
- Illustrate “what’s possible”

Data Sources

- Multiple sources
  - Mainstream Media
  - Social Media Venues
  - Non-Profit Initiatives
  - Government Agencies
- Plaintext – no context
- No temporal reference
- No geospatial reference
- Predictive searches

Map highlights:

- Fort Calhoun, NE
  - Emergency Shutdown
- Omaha, NE
  - Save Eppley - $25M
- Council Bluffs, IA
  - ARC Evac Center Opens
- Nebraska City, NE
  - Senator receives tour
- Holt County, MO
  - State Trooper & K-9 Lost
- St. Joseph, MO
  - Levee Break
- Watson, MO
  - Benefit Photos
- Kansas City, MO
  - Flooding Midweek?
- Missouri River
  - Main Channel
- Amtrak Routing
  - freight trains moved south
- NASA Satellites
  - Photo Overlay
Behind the scenes @MightyMoRiver

Yahoo! Pipes

RSS Aggregator

Curated reports w/ map overlays

cross-post
cross-post
custom search
key events
keep up w/ data flood

Mobile Site Viewer Plug-in

Per State!
Crowdmap Capabilities

- Interactive Map
- Dynamic Report Clusters
- Report Timeline
- Report List (map alternative)
- Time Scroller
- Category Filters
- Map Overlays
- Twitter & News Feeds
- Media Links
- Faceted Search & Alerts
- Search
Report UI
(for user)

- Geo-Temporal Reference
- Category Pivots
- Images & Videos
- Report Text
- Report Links
- Validate & Verify Status
- Report Overlays
- Related Reports
- Image FOV
- Map Features
- User Comments
Report UI (for admin)

- Report Title (tweet format)
- Report Text (HTML)
- Temporal Reference
- Category Selectors
- Curator Info (optional)
- Overlay Info
- Media Sources
- Images
- Video Links
- Video Links
- Report Overlays
- Location Set & Info
- Start Over
- Validate & Verify Status
Crowdmap Facet Search

- Query Results List View
- Temporal Facet
- Query Results (Map View)
- Categories Facet ($1 - k$)
- Location Facet (point & Range)
- Source Facet
- Media Facet
- Validity Facet
Get Alerts

Step 1: Select your city or location:

Or, place a spot on the map below, and we will alert you when a report is submitted within 20 kilometers.

Select Location

Select Range

Or...

Obtain report alerts via feed

Enter Email

Step 2: Send alerts to my:

- Email address: enter email address
  - concerned@gmail.com

Step 3 (Optional): Select Categories

- Alert Zones
- Populated Areas
- Infrastructure
- Photos
- Audio
- Relax & Recovery
- Humanitarian Aid
- Cleanup
- Info & Training Notings
- Coordination & Telecom
- Our Team
- Donations
- Special Collections

Register Alert

Save My Alert

Check Registered Alerts

RSS Feeds (copy the url below):

http://mightymoriver.crowdmap.com/feed/
Additional Resources

- Twitter (reports & tweets)
- Twitter Lists (external sources)
- Map Layers (external & searches)
- Facebook Wall (cross-post)
- Google CSE (for search)
- Wikipedia (reference)
- Mobile View (plug-in)
- RSS Feed (reports)
- Daily paper
- Demo video
What didn’t we cover?

- Most of back-end, especially feed generation
- Tech glitches – multiple overlays, outages, pages
- Yahoo! Pipes – translation, aggregation & filtering
- Dynamic Ontology – 3+ cat iterations / changing ops
- Operations Processes – feeds, reports, cross-checking
- KML – upload as KMZ, no folders, HTML → description
- Crowd-Sourcing – geography segments, virtual teaming
- Tech hacks – ghost images & categories, date categories

Use cases other than disaster response...

...for example...

*Tracking dynamic events, competition, enterprise info*
Suggested Best Practices

• Use Faceted Filter View (use as default view?)
• Pick one {Twitter, G+, FB} & cross-post to others
• Use Twitter lists & searches (RSS) – makes it easy
• Consider Paper.li &/or Summify – when gets “too busy”
• Use social media to build traction, check via Google Analytics
• Construct overlay searches of key areas – can’t keep up
• Create orthogonal ontology (can we make standard)
• Use RSS reader / aggregator &/or Yahoo! Pipes
• Create demo video – makes easy for new users
• Engage directly on social media – get tips & aids keeping up
• Enable mobile view (links → description) & full-screen view
• Segment reporters by geography – easy to agree on
• Only ingest feeds that lead directly too reports, else too much
• Do use report overlays if time permits – increases quality
• Engage community manager & use forums for bug reports
• Do use public overlays – river basin, county outlines, etc.
What would we do differently?

• Start social media engagement earlier
• Fix orthogonal category ontology at start
• Use map overlays earlier – increases quality
• Do better at balancing reports & social media use
• Prep “new curator guide” → more & higher-quality info
• Engage community manager & use forums for bug reports
Want more info? Watch our video demo!

Want yet more info? Surf to these links!

• MightyMoRiver Project – http://mightymoriver.crowdmap.com/
  • Project Feed – http://mightymoriver.crowdmap.com/feed/
  • About Tab (tech info) – http://mightymoriver.crowdmap.com/page/index/14
• MightyMoRiver Gazette – http://paper.li/MightyMoRiver/1310136752
• Twitter
  • MightyMoRiver account – http://twitter.com/#!/MightyMoRiver
  • Geographic Lists – http://twitter.com/#!/MightyMoRiver/lists
• Google Custom Search Engine (CSE) – http://google.com/cse/home?cx=006208124472531338309:6w8w6tuiz1e
• Facebook (cross-post) – https://www.facebook.com/pages/The-MightyMoRiver-Project/226261607402028?sk=wall
• Crowdmap – http://crowdmap.com/
• Ushahidi – http://www.ushahidi.com/

& our Omaha Chamber of Commerce Demo Night Video
Still to come?

Resource permitting...in appropriate venues...

• Full Tutorial – “the back-end”
• Alternate Tools (e.g., Sahana)
• Interactive Training Sessions
• Best Practices Guide

Stay in touch

• Twitter – @aghilmort
• Blog – social media channel
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