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Warnings for this talk

Software, not the disaster.

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Earthquake

- 22 February 2011
- 12:51pm
- It's bad.. 185 :deaths
- 1500–2000 injuries

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Social Media

- I am Okay.

  - One update, reaches everyone.

  - One Tweet.

  - One Facebook update.

- Further away: Was that an earthquake?

- Are you OKAY?

- Where is $person?

State of SocMed

- On the verge of "common"

- Web browser and sms interations

- No official native twitter smartphone clients

- Dumbphones / xhtmlmp / Wml

- SMS

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State of SocMed

- Twitter

- Facebook

- Google Buzz*

Hashtags

- #eq
- #nzeq
- #eqnz
- #CHCH
- #Christchurch
- #ChristchurchQuake

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Questions

- Need petrol to get out of town
  - Only diesel available within hours
  - Petrol reserved for emergency vehicles

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Official info under strain

- Official canterbury info maintained by people in canterbury

  – Small over worked team

  – Would rather be with their family (and possibly were)

  – Housed in Art Gallery, in red zone, with power issues

  – Mobile internet damaged and swamped

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Council Self Hosted in chch

Standby Task Force 22 Feb

- Volunteers for the Queensland flood crisis response.

- Tim McNamara Nzer involved.

- crisis commons activated its standby volunteers immediately after the earthquake who went into action

- using skype as a communication channel

Why Skype

- "free"
- Multiplatform
- Txt based

But Skype was awful

- Battery drain

- Nobody in Christchurch could join on crappy internet

- Or mobile

- Message replay – every connect = minutes of waiting for replay

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14:15 (1 hour after the quake)

- People start building things
- Things pop up:
  - PiratePad
  - Google Docs
  - Multiple Wiki installations
  - Couch Apps
  - Wordpress installs

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ChChNeeds
You can organise a fair bit with a #hashtag or two.

You are viewing: Tweets tagged with #eqnz or #chch or #christchurch

img

4 years ago | ↵

RT @ChristchurchCC: RT @ceragovtnz: CBD red zone public bus visits phone demand very high, more information on visits http://t.co/61eY8Gdu #chch #eqnz

Respond >>

justinemnz

img

4 years ago | ↵

CBD redzone public bus visits run weekends from 5 Nov-11 Dec, can cater for 3000 per weekend. Please be patient. #chch #eqnz

Respond >>

CERAgovtnz

img

4 years ago | ↵

RT @CherylBernstein: Here's Lianne Dalziel on why an important #eqnz land report was released on a Friday: http://t.co/Sf8ThkPU

Respond >>

PolarBearFarm

Add your own!
1. Tweet your **#offer** or **#need**
2. Include your location
3. Include the hashtag **#chch** or **#eqnz**

How This Works >>

In or at..:

Anywhere   canterbury   wellington   auckland   rangiora   lyttelton   christchurch_central   sumner   swannanoa   otago   new_brighton   addington   burwood   cashmere   riccarton   aranui   dunedin   darfield   linwood   parklands   waikato   avonhead   kaiapoi   rolleston   bottle_lake   ilam   sydenham   timaru   mt_pleasant   burnside   taupo   hornby   shirley

Chch Needs

- http://chchneeds.org.nz/

Built by Miles Thompson in lightning speed

- Still live today.

- CouchDB based app

- Live feeds of request and offer of things via twitter

-

3:15pm

- Catalyst funds staff to work on EQ response tech

- Begins work on a short code responder

  - Php

  - Postgres

  - Kannel

- Configures short code 4000 for non-urgent help (all telcos)

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SMS is a big thing

- Create SMS responder (shortcode)
  - 4000
- All three telcos approve zero-rating of the SMS shortcode

Telcos

- All telcos agree to coordinate their social media efforts with eq volunteers support the project

5pm

- Catalyst's Short code responder in action
- Advertised on telco twitter
  - @VodafoneNZ
  - @TelecomNZ
- And some word of mouth in Chch
- All the RT

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Report from CHCH people come in

- Mostly reports of info
- Volunteers start to process from a queue

5:15pm

Julie Starr
@starrjulie

Following

Is there anyone aggregating, collating or matching people looking for people in Christchurch? #eqnz

RETWEET
1

FAVORITE
2

5:15 PM - 21 Feb 2011

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Realisation, CD got nothing

Nat Torkington @gnat — Following

Bummer. A Kiwi (@elpie) built the first Katrina survivor-finder site, but CD doesn't have one in NZ ready to go for our own disasters.

RETWEETS 4 FAVORITES 2

5:52 PM - 21 Feb 2011

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Okay, so we'll Just Do it

Elpie @elpie · 21 Feb 2011
@gnat CD expressed interest then tied it all in red tape. Didn't even need to fund. Mexico is, I understand, still using it.

Nat Torkington
@gnat
☼ Following

@elpie How soon can you spin one up? I'll pay for domains and hosting.

6:03 PM - 21 Feb 2011

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5:53pm – Crowdmap Just Do it

Sean Gourley
@sgourley

✿ +🔲 Follow

crowdmap for christchurch quake is now live http://christchurch.crowdmap.com/ post any reports, information and updates here

↩ ⟲ ⩦ ★ •••

RETWEETS   FAVORITE
3   1

5:53 PM - 21 Feb 2011

rabid

6pm

Sean Gourley
@sgourley

Follow

Anyone in New Zealand with programming
skills want to set up an Ushahidi instance
to map the damage #eqnz see
www.ushahidi.com for how to

RETWEETS | FAVORITE
2 | 1

6:21 PM - 21 Feb 2011

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RED LION

GREEN LION

BLACK LION

YELLOW LION

BLUE LION

Let's Go Lion!
King of Hundred Beasts Golion and Lion Force Voltron

Ushahidi

- Swahili for "Testimony"
- Election violence in Kenya
- Generic Crisis Map
- Crowdsourced reports

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Christchurch Recovery Map
Community information for the Christchurch Earthquake of 22 Feb 2011.
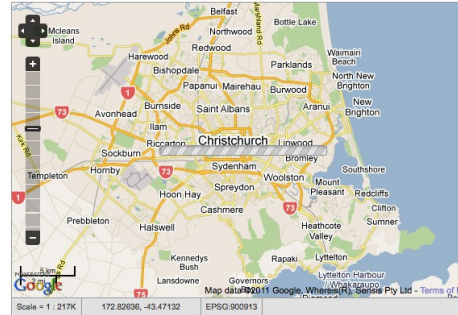
➕ SUBMIT A REPORT

HOME REPORTS SUBMIT A REPORT GET ALERTS CONTACT US ABOUT

GOOGLE PERSON FINDER ACCOMMODATION STUDENT VOLUNTEER ARMY

IF YOU HAVE AN EMERGENCY PLEASE CALL 111. The Quake helpline is 0800 779 997
If you are in Christchurch, you can contribute information via email (eqnzfeb@gmail.com) or free TXT 5627.

FILTERS → REPORTS NEWS PICTURES VIDEO ALL

FULL SCREEN MAP

Scale = 1 : 217K   172.82636, -43.47132   EPSG:900913

From: Feb 2011 ▾ to Feb 2011 ▾   ▶ Play

Feb 2011   2011

↓ CATEGORY FILTER [HIDE]

	ALL CATEGORIES
🔒	NOTICES AND INFORMATION
✈	OTHER
👪	SERVICES AVAILABLE
⚠	INFRASTRUCTURE DAMAGE
✚	MEDICAL RELATED
⚠	HAZARD ZONE
🎓	SCHOOL NOTICES
🍴	TAKEAWAYS
🚆	TRANSPORT
🏃	EVACUATION ZONE
⚒	HARDWARE STORE
🚰	WATER AVAILABLE

↓ OTHER LAYERS [HIDE]

	CITY COUNCIL WATER DELIVERY 25 FEB

How to Report
1. By sending a message to **5627**
2. By sending an email to eqnzfeb@gmail.com
3. By sending a tweet with the hashtag/s **#christchurch** or **#eqnz** or **#ChristchurchQuake** or **#nzeq**
4. By filling this form

Reports

TITLE	LOCATION	DATE
Vodafone truck providing cellphone recharging...	Hornby Mall	09:00 Feb 25, 2011
Road damge on Kilmarnock St	Kilmarnock St, Christchurch, NZ	01:31 Feb 25, 2011
RT @CEQgovtnz: CORRECTION - EVACUATIONS...		00:41 Feb 25, 2011
RT @CEQgovtnz: CORRECTION - EVACUATIONS...		00:40 Feb 25, 2011
PLEASE: ppl wanting to help the response...		00:16 Feb 25, 2011
RT @CEQgovtnz: The NZ Police website (www.police.g...		00:06 Feb 25, 2011
RT @CEQgovtnz: For local Christchurch information...		00:06 Feb 25, 2011
RT @CEQgovtnz: There are 228 people reported...		00:05 Feb 25, 2011
RT @CEQgovtnz: Approx 1146 people have been...		00:05 Feb 25, 2011
CONFIRMED EVACUATIONS SUMNER - Defender...		23:57 Feb 24, 2011

View More

Official & mainstream news

TITLE	SOURCE	DATE
Canterbury District Health Board update...	Environment Can...	22:11 Feb 24, 2011
CCC rental property update: 8.15pm Thursday...	Environment Can...	20:15 Feb 24, 2011
Water Tanker Timetable for Deliveries	Environment Can...	20:00 Feb 24, 2011
LPG Availability (9kg cylinders): 6.10pm,...	Environment Can...	18:40 Feb 24, 2011
Kerbside collections update: 6.30pm Thursday...	Environment Can...	18:30 Feb 24, 2011
Kerbside Collections: 6.30pm Thursday 24...	Environment Can...	18:30 Feb 24, 2011
Kerbside Collections: 6.30 pm Thursday 24...	Environment Can...	18:30 Feb 24, 2011
LPG Availability (9kg cylinders): 6.10pm,...	Environment Can...	18:10 Feb 24, 2011
LPG Availability (9 kg cylinders): 6.10...	Environment Can...	18:10 Feb 24, 2011
CCC water update: 5.30pm, Thursday 24 February...	Environment Can...	17:30 Feb 24, 2011

View More

6:45pm

anthonybaxter
@anthonybaxter

⚙ 👤 Follow

Google has people finder up for #eqnz
#christchurch http://bit.ly/i0aAle please RT
widely

RETWEETS   FAVORITES
664   8

6:42 PM - 21 Feb 2011

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Moved to NZ Control

- Crowdmap struggled under initial load
- Ushahidi database copy to Rob Coup's EC2
- Hackfest.
- Canterbury Themes
- Added mobile.

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Christchurch Recovery Map

➕ SUBMIT A REPORT

Community information for the Christchurch Earthquake of 22 Feb 2011.

HOME   REPORTS   SUBMIT A REPORT   GET ALERTS   CONTACT US   ABOUT   VOLUNTEERS

⚠ The Christchurch Recovery Map no longer provides up-to-date information. We have stopped our efforts because the normal communications channels have resumed. Thank you to the volunteers and organisations that have provided information to over 100,000 Cantabrians.

We recommend you visit http://canterburyearthquake.org.nz/ or call the quake helpline at 0800 779 997 for current information. If you would like any specific report removed from this site, please email crisiscampnz@gmail.com.

Where are you?
Locating where you are on the map helps identify what reports are most relevant to you.

| I am in... | Go |

Submit a report
Submitting a report helps others identify hazards/solutions in your area.

➕ SUBMIT A REPORT

Ask for help
Ask for assistance from the Student Volunteer Army.

➕ ASK FOR HELP

Click on map icons to see local reports

▣ Full Screen Map

⬇ CATEGORY FILTER [HIDE]

- 🔴 All Categories
- 🔒 Notices and information
- Other
- 🏠 Services available
- Infrastructure Status
- Medical
- ⚠ Hazard zone
- Transport
- Goods /Supplies
- Government agencies
- FYI
- Notices and information\FYI

⬇ OTHER LAYERS [HIDE]

- Payphones
- Tomizone Free Wifi
- Bank Branches (via

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8pm-ish More Ushahidi

- More Ushadihi sites are established in New Zealand

- including one by stuff.co.nz.

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Three Ushahidi

- Well that's a bit silly

- Modifications made to Volunteer's Ushahidi over night.

- Next day Herald and Stuff have embedded the volunteer Ushahidi.

- One website for all info.

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Government equip

- Chch City Council installed wordpress for their info
- Slow response
- Suspect hosted in Christchurch.
- Did not cope with load... or power loss?
- CCC advising people to access via a proxy to convince CDN to serve overseas mirrors
- Hard to find info in blog form

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Councils all hit hard

- Old info galore

- Confusing info about "The Earthquake" was really from September

- Staff under extreme pressure

Civil Defence

- Offical Info only

- Lotus Notes based website

- Falls over

- Anonymous Attack, long planned protest against DIA's web filter

- Takes out their co-hosted Civil Defence Site

Our Reliability

- Ec2 Hosted LAMP app

- Never missed a beat

- Made contact, reassured (some) authorities

- End of 23rd Feb:

    - 312 reports

    - 44k unique visitors

    - 78k page impressions

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SKYPE

- 100+ people in a skype chat

- Every reconnect, replays all messages missed – means 20 minutes waiting for skype to beep 500 times

- Cross platform, know to public, wins over irc

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Hash Tag

- Twitter users settled on#eq and #eqnz
- Thus eq.org.nz was registered

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Twitter responder

- Wired twitter hashtags to sms response
- Treated the same as an SMS

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23 February (1 day after eq)

- Volunteers all invited to Catalyst IT's training room full of volunteers

- 10+ people at any time, with training laptops, reading for info.

- Short training and you're volunteering

- Established shift times.

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Volunteers on company time

- Telecom
- Catalyst
- Numerous small companies
- Self-employed
- Liip & Google switzerland did night shift
  - And Night Hacking / code deploys

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Maps were a new thing.

- None of the authorities had mapping

- Authorities cautious of publishing anything not triple verified

- Eg. person offering water from private tank, Councils do no republish this

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Works on mobile

- Council & DHB websites were awful on small screens

- Telecom & Voda give free mobile traffic in Christchurch

Up to date

- Christchurch was not functioning
- Councils were not updating their websites
- Old info:
    - "e.g. the water is now safe to drink" announcements
    - Previous earthquake

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Mapped data

- Location of water (offered by residents)
- Charging stations for phones
- ATMs that work
- Petrol stations operating

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Official info under strain

- Official canterbury info maintained by people in canterbury

  – Small over worked team

  – Would rather be with their family (and possibly were)

  – Housed in Art Gallery, in red zone, with power issues

  – Mobile internet damaged and swamped

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Day 2

- 2nd night of coding: Adhoc scripts, read from official sources

    – e.g. water tank delivery times and locations

Day 3

- Well oiled machine of volunteers processing the queue
- Example day 3 mapped reports:
  - Road closures
  - Bakery at X giving away free bread.
  - Fish'n'Chip shop open
  - Bouncy castle in park
  - Water distribution
- Volunteer places info on the map.
- Tim Kong becomes volunteer first contact / director

Day 4

- Official Data

- Official messages on twitter were processed by volunteers (to add location)

- Gave logins to employees from every bank

  - Map which ATMS work

  - Updated all day as ATMs empty or lose power

Example query:

- – "My car was parked at X, it's not there now. Where do I get it?"
- – Volunteers rings around
- – Reply "Cars from this area have been towed to Turner's car auctions for storage."
- Example Info
  - – Locations nearest neighbour with a BBQ
  - – Water tank deliveries
  - – Neighbours with water
  - – Where to buy lime for you garden hole toilet

Government

- Power structures want to talk to power structures
- We didn't have one
- New Zealand Geospatial Office
- hosted a briefing for officials and media on eq.org.nz
- Several government departments attend.
- Some Officials opt-in to be volunteers themselves

Red Cross

- New Zealand website toast
- Unable to accept donation
- Mysql related error.
- Found Mysql contributors in open source community (from Australia) and put in contact.

Lesson Learned

- Computer world article about Red Cross
  - Red Cross' contracted techies talking about how they fixed their site
  - Misleads into thinking they fixed it
  - Alienated the tired volunteers that helped them.

So MUCH Just Do It

- No precious feelings that week
- No rank
- People did it then showed people what they did

Who do you know

- Amazing network of contacts in NZ tech community

- Need something?

  – Whois their website domain name

  – Recognise their tech contact

  – Contact

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Catalyst Army

- Catalyst IT fund a dozen of its staff to eliminate Twitter and sms queues for weeks

  – Hosted and trained other volunteers

- Every enquiry

- Every Info volunteered

- Wading through all the manual Retweets

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Victoria University of Wellington

- provides space for volunteer training
- (and their Urban Rescue team goes to Christchurch)

Google

- amends Google Search to have the map as the first result for when searching for "christchurch"

Optimal Usability

- staff and venue host weekend training of volunteers

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Trademe

- links to our site from its earthquake resources page

Fair Go

- features http://eq.org.nz on its Christchurch Earthquake special

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Student Volunteer Army

- partnership formed;

    reports that site is heavily used by community groups for needs assessment

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The project appears on TV3 News

- And TV3 staff become volunteers

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Department of Internal Affairs

- and other public sector bodies promote the site heavily via their Twitter feeds

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Google

- Places link on main search landing page

InternetNZ

- funds Tim McNamara to fly to Christchurch

- to make local connections and provide advice about how the organisation can help

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Printable Maps

- Custom printable maps from our data available, updated at 10m intervals

- Printed and handed out in Eastern Suburbs of Christchurch

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The map reaches 100,000 visits

Days turn into weeks.

- Search and Rescue ends

- Focus on those who have stayed in Christchurch

- Continue to map data, but only part time

Normality (kinda)

- normal information channels resumed;
- Site usage drops off
- 5,000 reports mapped
- 130k front page web requests over 3 weeks.

Wrap up

- Decision made to announce "Mission Accomplished"
- allow volunteers to rest
- No more shifts

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The End of eq.org.nz

- eq.org.nz redirects to canterburyearthquake.org.nz

- SMS shortcode reconfigured for SVA use

- Anonymised copy of database passed to researchers

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Pragmatic

- Modifiable code
- LAMP
- We used the tech that volunteers brought to us.
- No fluffing with licencing
- mostly open source or cost-free.
- Closed, open – less important than cross platform

Why Open Source

- Modifiable to NZ within hours
- FOSS devs have team collaboration skills
- Geographically diverse
    - Wide timezone variance as useful
- Volunteers from closed source world couldn't:
    - Install a webserver
    - Work out collab version control (no git)
    - Communicate online e.g. irc

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Upstream

- Our code helped Japan, Libya, and many others since

Burned Bridges?

- Did better job than some gov agencies
- Credit taking*

Would we do it today?

- Windows, Mac & Linux

- Iphone and Android

-

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If we did it today?

- Tablets are a thing now.
- Possibly ec2 again (Amazon wiped our bill in the end. THANKS AMAZON)
- Maybe Insta-provisioned crowdmap in the cloud
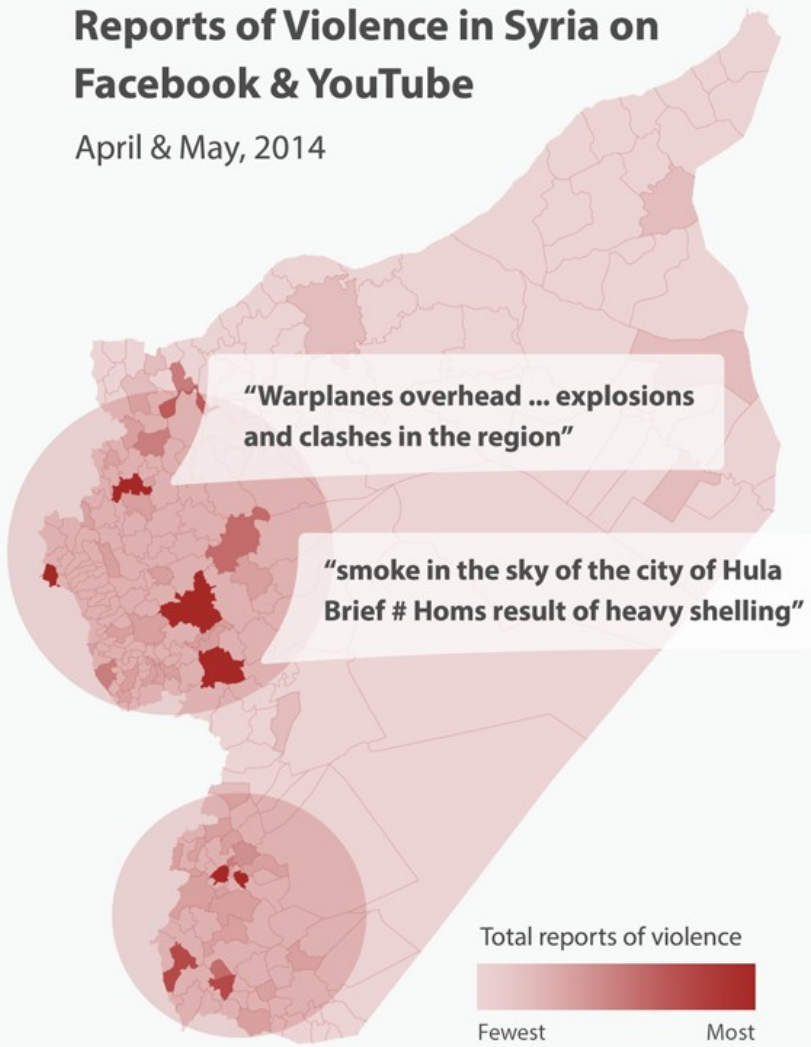- But then we can't hack the code.

Future

- Comply with Phone Low Power mode
- Work without native apps / Browser based
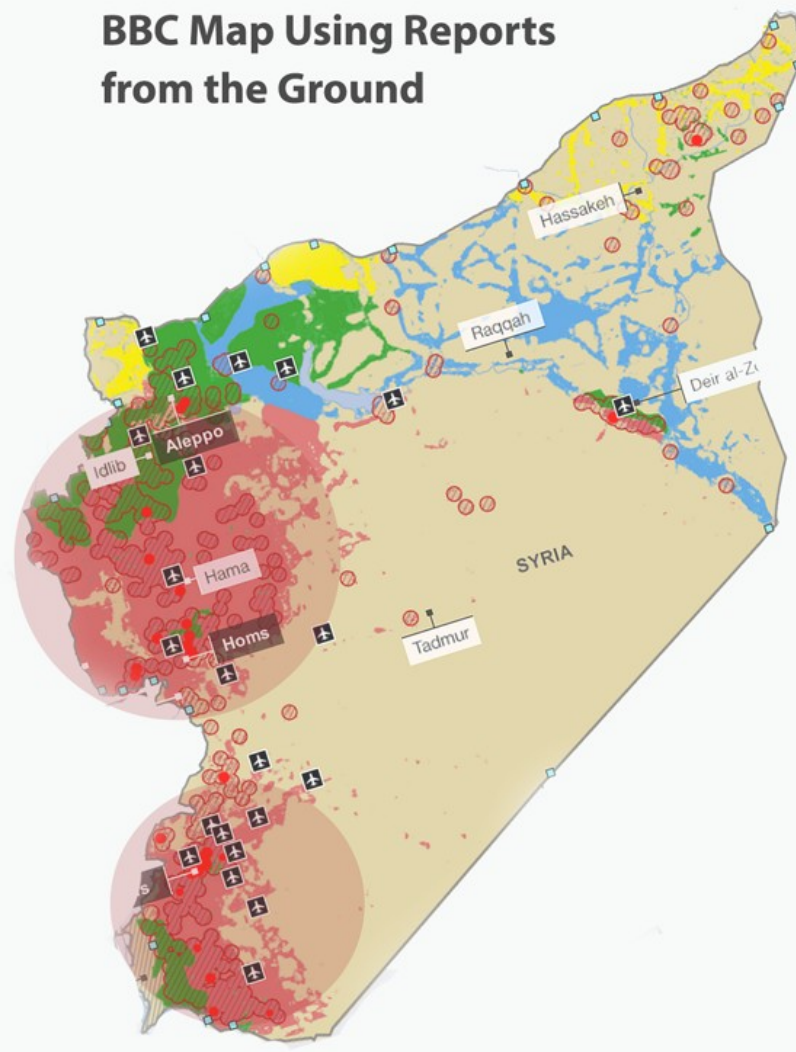- More Open Street Maps
- Sms
- Twitter
- Facebook shareable

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Mapping Violence in Syria

Reports of Violence in Syria on Facebook & YouTube

April & May, 2014

"Warplanes overhead ... explosions and clashes in the region"

"smoke in the sky of the city of Hula Brief # Homs result of heavy shelling"

Total reports of violence

Fewest　　　Most

Powered by CRISIS NET

BBC Map Using Reports from the Ground

Hassakeh

Raqqah

Deir al-Z.

Aleppo

Idlib

Hama

Homs

Tadmur

SYRIA

Key Points

- Modification of code was powerful

- SMS as an API works in crisis

- Non code contributors rock

- People who care will form voltron

People To Thank

- Justine Sanderson & Robyn Gallagher for their amazing dedication by each filtering tens of thousands of messages

- Rob Coup, Nigel McNie, Richard Clark, Brenda Wallace & Sam Minee for providing tech skills.

- Josh Forde for SVA liason and coordination

- Tim Kong, Melia Meggs & Demelza Wood for being terrific with volunteers

- Anthony Baxter, Nóirín Shirley & Penny Leach for coordinating international support

- Tim McNamara

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Images used

- https://www.flickr.com/photos/ourcage/6880600438/

- https://www.flickr.com/photos/sherihall/5857579938/

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