

Twitcident

Filtering Twitter to obtain real-time intelligence

Richard Stronkman, Founder & CEO



Today's challenges



Mr. Farmer
FEMA

“

“Polling meaningful information”

“Sifting thousands of tweets during hurricane Irene”

“Getting situational awareness”

“Finding the eye's on the ground”

“Twitter is quick and timely”

“Messages can be overwhelming”

”



Mr. Kaji
Japan Cabinet Secretariat

“

“Finding actionable information”

“Providing timely reaction”

Contents

1. Introduction
2. What is Twitcident?
3. Two case studies

Partners



<http://twitcident.org>



<http://tno.nl/twitcident>



<http://twitcident.com>

Research



Projects



ProRail



UrbanFlood.eu

Why monitor Twitter?

- 340 million tweets per day (source: Twitter, '12)
 - Netherlands ranks #1 in Twitter penetration (source: ComScore, '11)
- Twitter users publish about “anything”
 - Work/private life
 - Interesting events
 - Etc.
- We view users as **social sensors** and **citizen journalists**

Our goals

1. Prevention

- Twitter users publish early signals that might indicate an increased risk or potential incident.

2. Law enforcement

- (Eye-witness) Twitter users disseminate information about incidents which can support operational emergency services.

3. Post analyses

- Analyzing incident data in retrospect to measure the effectiveness of emergency services.



Pukkelpop 2011

Storm incident with casualties

80.000 tweets in four hours

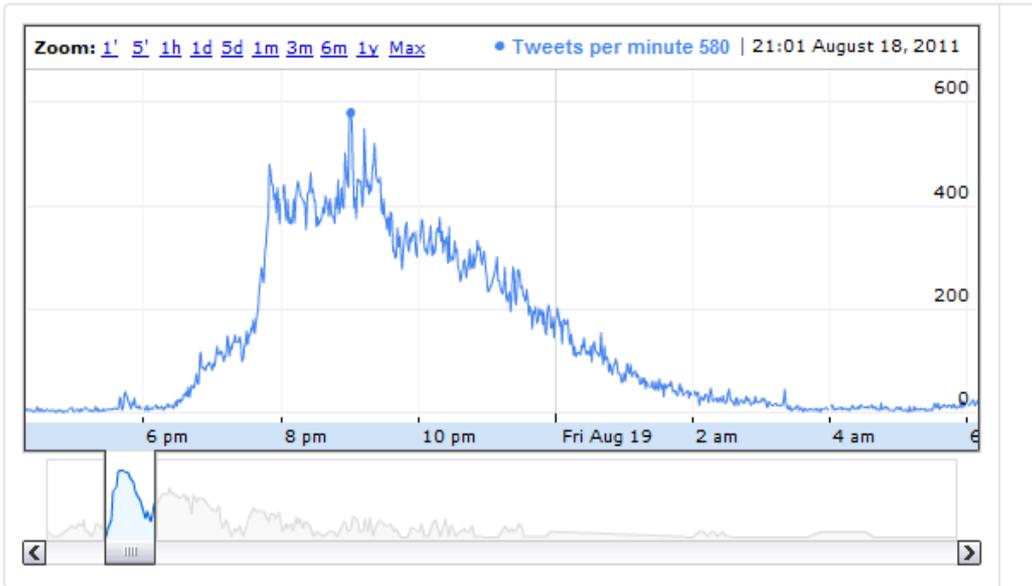


Kiewit Storm

Started on Aug 18, 2011 6:15:00 PM

- Tweets
- Stats
- Map
- Pics
- Videos

Number of tweets over time



Current selection:

179,497 tweets | 73,884 users

Search in Pukkelpop Storm tweets

Filter tweets

Tweet property

Authority

Topics of interest

Time slot

1st, 2nd, 3rd, 4th, 5th, 6th 10 minutes; 1st, 2nd, 3rd, 4th hour;

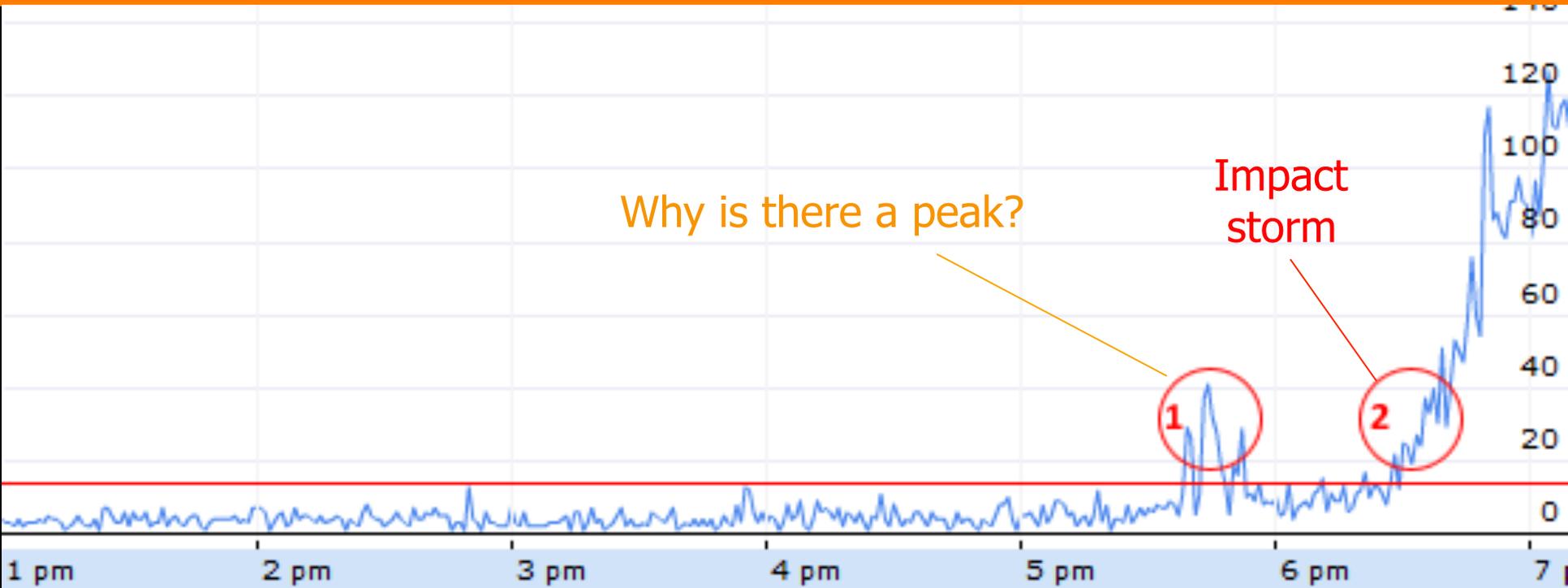
Remove filters

Sort tweets on

Sort options

600 tweets per minute

Could we see this impact coming?



Semantics 25 minuten before incident

“

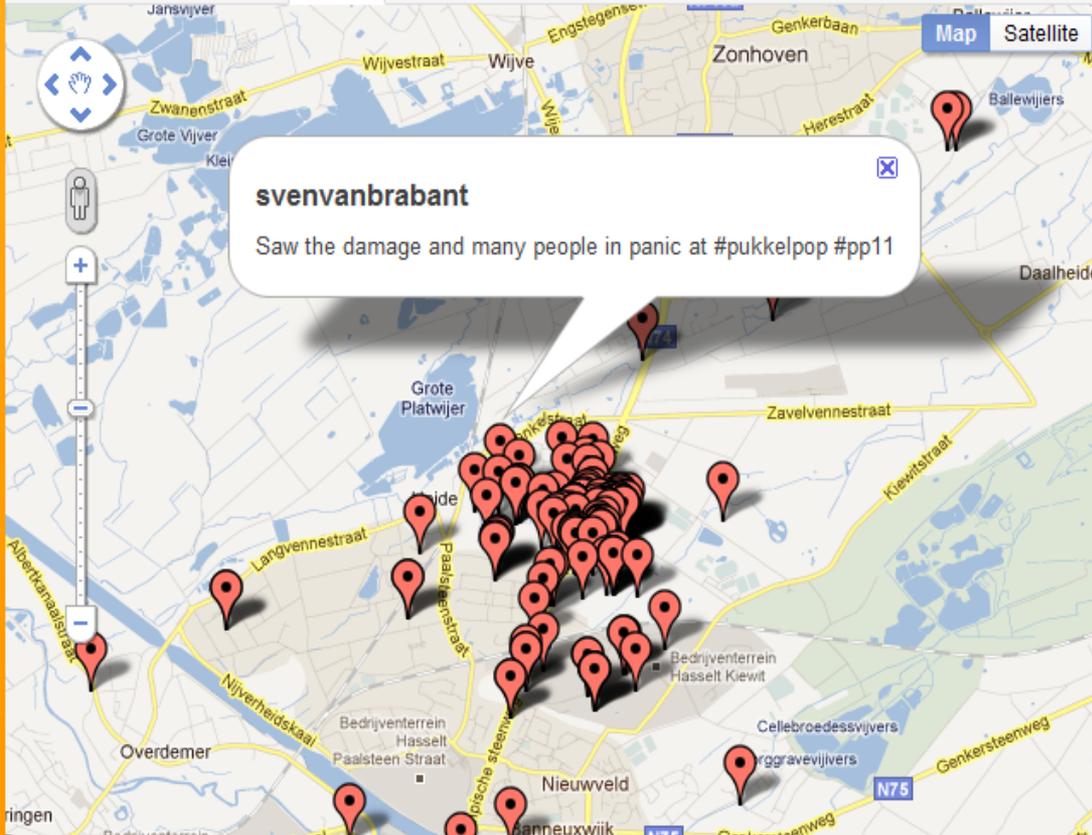
1. **Weather:** storm, cloud-burst, wind,
2. **Locations:** Brussel, Gent, Hasselt, ...
3. **Intensity:** heavy, crazy, massive...
4. **Impact:** hail balls, falling trees...

”

Kiewit Storm

Started on Aug 18, 2011 6:15:00 PM

- Tweets
- Stats
- Map
- Pics
- Videos



Current selection:

1,693 tweets | **1,008** users

Search in Pukkelpop Storm tweets

Filter tweets

Tweet property

Authority

Topics of interest

Time slot

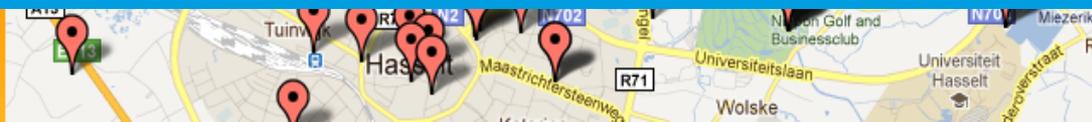
1st, 2nd, 3rd, 4th, 5th, 6th 10 minutes; 1st, 2nd, 3rd, 4th hour

Remove filters

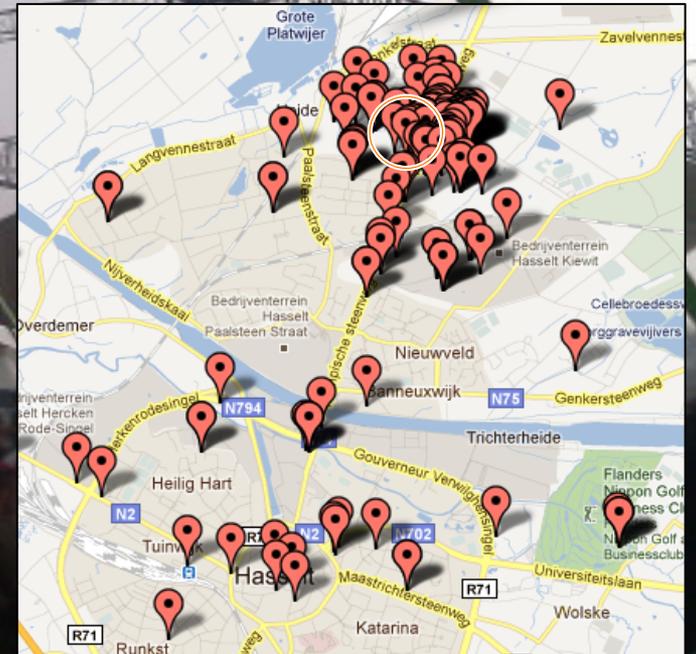
Sort tweets on

Sort options

Damage reports from the incident site



Real-time intelligence by photos





Case: Utrecht

Queen's Day 2012

Real-time incident dashboard

Dashboard Time ▾ Locations ▾ Themes ▾ Filter ▾

Search

	Terrorism	Revolt	Violence	Fire	Accident	Heavy weather	Drugs	PT	Failure	Sentiment
Royal house 27214	46	31	47	16	3	16				
Rhenen 1041		22	1			1				
Veenendaal 4975	1		46	1	2	5		2		
Utrecht 15790	19	78	75		25	33		24		
Amersfoort 5823		10	11		7	1		2		
Nieuwegein 1006		8								
Soest 715		1	1	3						
Woerden 1676	2	3	1	3	1		1			
Zeist 956		1	11		11	27				
Other 3685		10	14			20	1			

catastrofe - ramp - calamiteit -
 noodsituatie - onheil - onheilspe-
 ellende - illegaal - nood - grote klap -
 rampspoed - ellende - malaise - miserie
 - misA're - tegenslag - narigheid -
 fataliteit - drama - tragedie - heftig - hevig
 - gruwelijk - extreem - ongehoord -
 ongerijmd - onmatig - onredelijk -
 teugelloos - tomeloos - verbazend -
 verre gaand - abnormal - exceptioneel -
 ongekend - onvergelykelyk - verdomme -
 klote - balen - verdorie - verduiveld -
 vervloekt - weergaas - alle donders -
 allemachtig - drommels - jeminee -
 verdomd - verdorie - afgrijselyk - akelig -
 belabberd - besodemieterd - droevig -
 ellendig - erbarmelyk - hopeloos -
 jammerlyk - kwakkelyk - miserabel -
 moeilij - onaangenaam - vervelend -
 vervloekt - afschuvelyk - bedroevend -
 beroerd - erbarmelyk - gebrekkig -
 hopeloos - jammerlyk - klote - lamendig -
 lamzalig - malheureus - miserabel -
 ongelukkig - onzalig - rampzalig - rottig -
 slecht - treurig - help - faya - fok op -
 lelij - woede - klote - kut - tering -
 godver - gvd - wtf - damn - hell - wow -
 omg - hoerzoon - kankerlijer - kankerlyer

Classified tweets on Terrorism

Time ▾ Locations ▾ **Terrorism** ▾ Filter ▾ Settings ▾ Search

All tweets 68 tweets 4 geo-tweets Archive Back | Next (1/2)

 **Timon..** JustTimon
@asdfghjimm **harmelen is dood** -.-
mei 1, 18:25:02 | Link | Mark

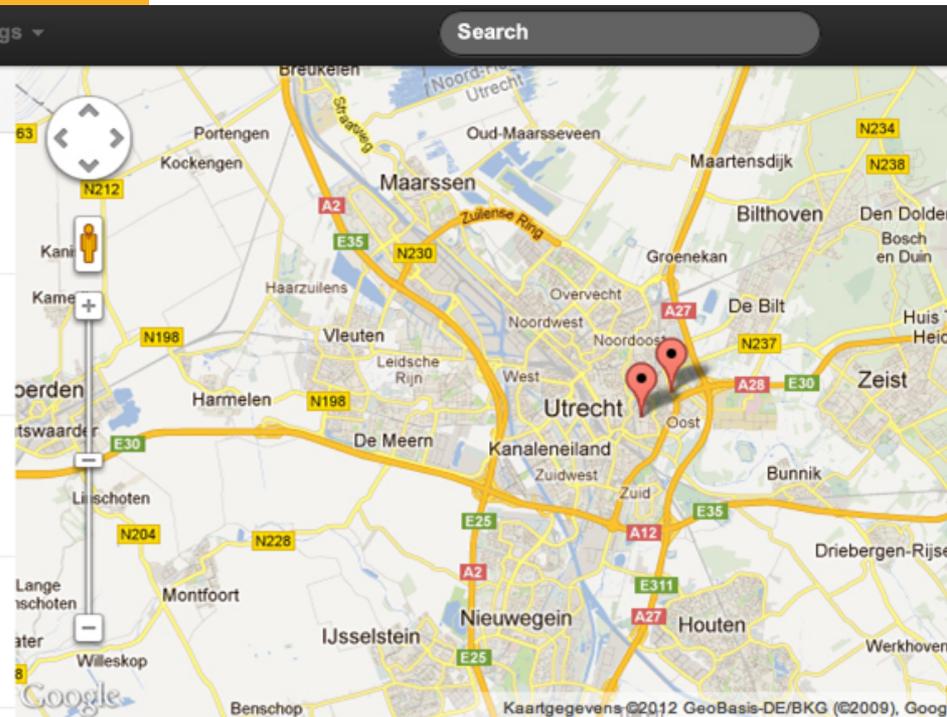
 **Rens Roeleveld** rensroleveld
Veenendaal is trouwens een dorp waar je niet dood gevonden wilt worden.
mei 1, 14:43:30 | Link | Mark

 **Twan van der linden** ik_ben_Twan
@xvaleriee **je koningin is dood**
mei 1, 10:21:09 | Link | Mark

 **sigrid van der meer** sigrid66
Dacht ik gisteren welke **idiot** het bedacht **Beatrix** op dat gammele krukje te zetten.. Staat ze nu op de voorpag. Telegraaf en DvhN op de kruk
mei 1, 09:55:07 | Link | Mark

 **Eva x** xoxoEvaaxoxo
@joeymeul :maak liever een feestdag als de koninging **dood** is
mei 1, 09:34:17 | Link | Mark

 **Utrecht Nieuws** Utrecht_krant
#Utrecht GO Tweede inval zaak **dode** juwelier - AD.nl: AD.nlTweede inval zaak **dode** juwelierAD.nlDe politie heeft i... <http://t.co/uxZlrtln>
mei 1, 09:24:47 | Link | Mark



No pictures or video found

Results Queen's Day

- Data
 - 24 hours: 62.491 tweets collected
 - Twitcident made it easy to find ± 200 relevant tweets
- Among relevant information
 - Increased risk towards Queen and Royal family
 - Presence of hooligans in Utrecht
- Result: Police visits suspects based on data found by Twitcident

Challenges

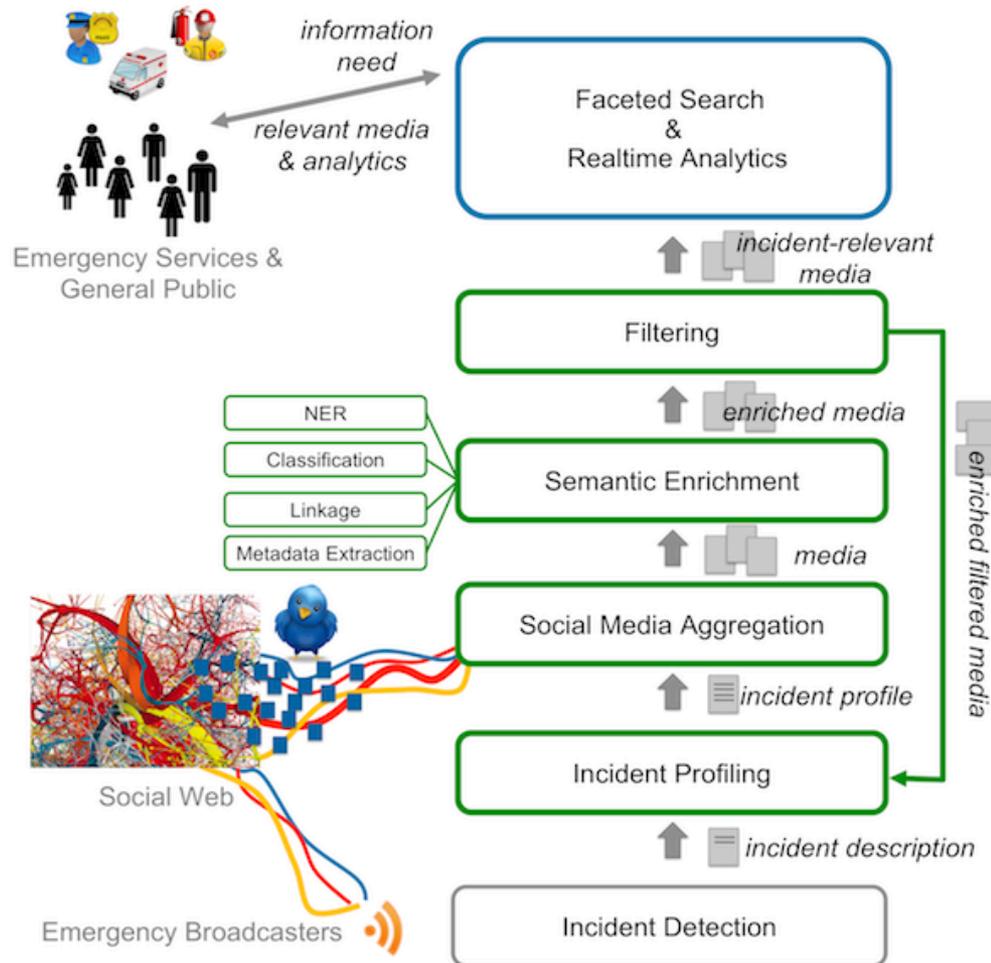
1. Identifying rumor propagation

- Social correcting: we try to measure 'doubt' in replies to rumors.

2. Finding quality information

- We try to find 'eye-witness reports' and filter away all noise

Technology



Thank you

twitcident.com



@twitcidentapp

@rstronkman

NewScientist

WIRED

BBC

**WALL STREET
JOURNAL**

THE VERGE

**Technology
Review**