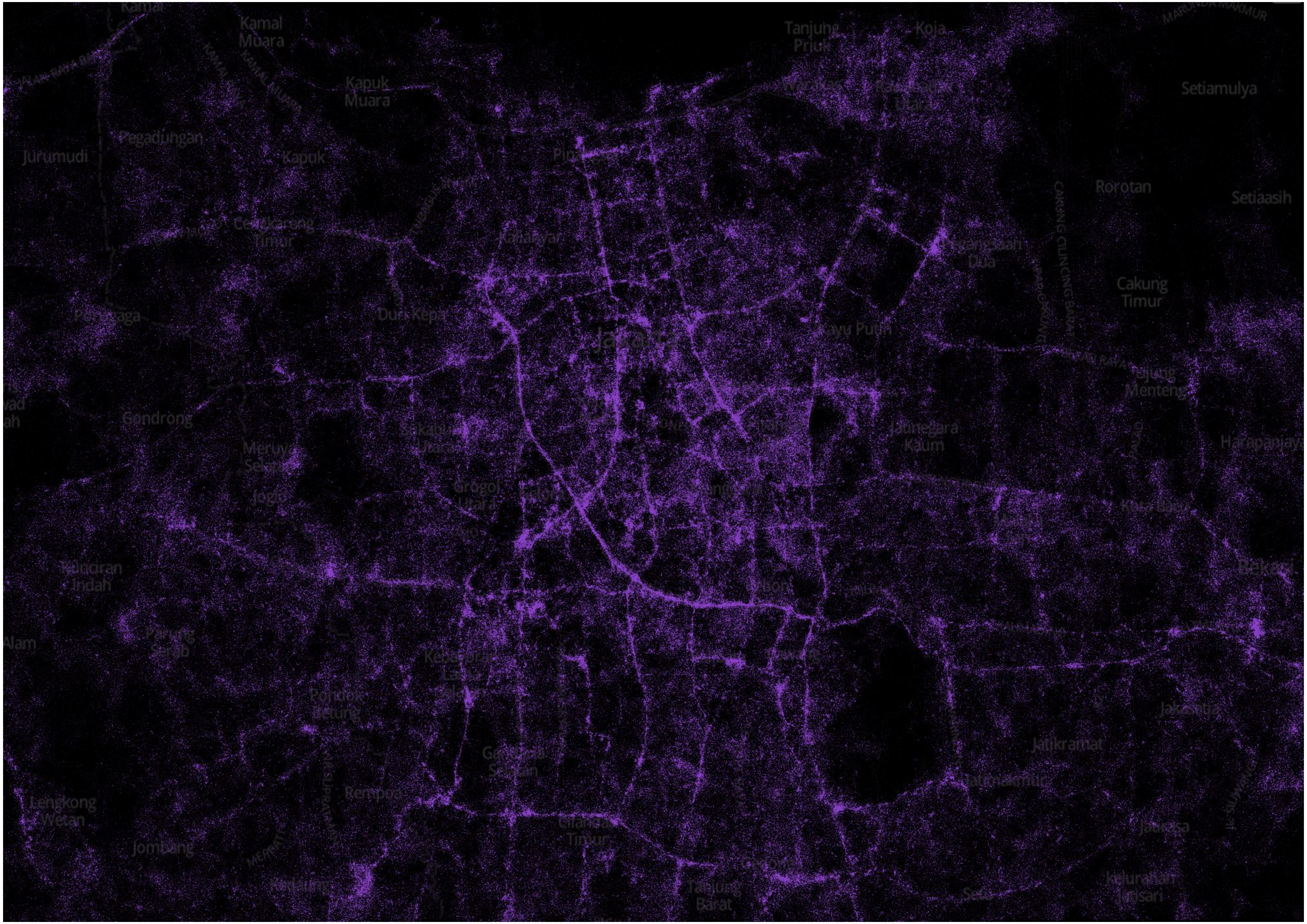
Bigdata: what opportunities for better public services?

Giulio Quaggiotto
Pulse Lab Jakarta, Manager
@gquaggiotto
#data4id

PULSE LAB JAKARTA

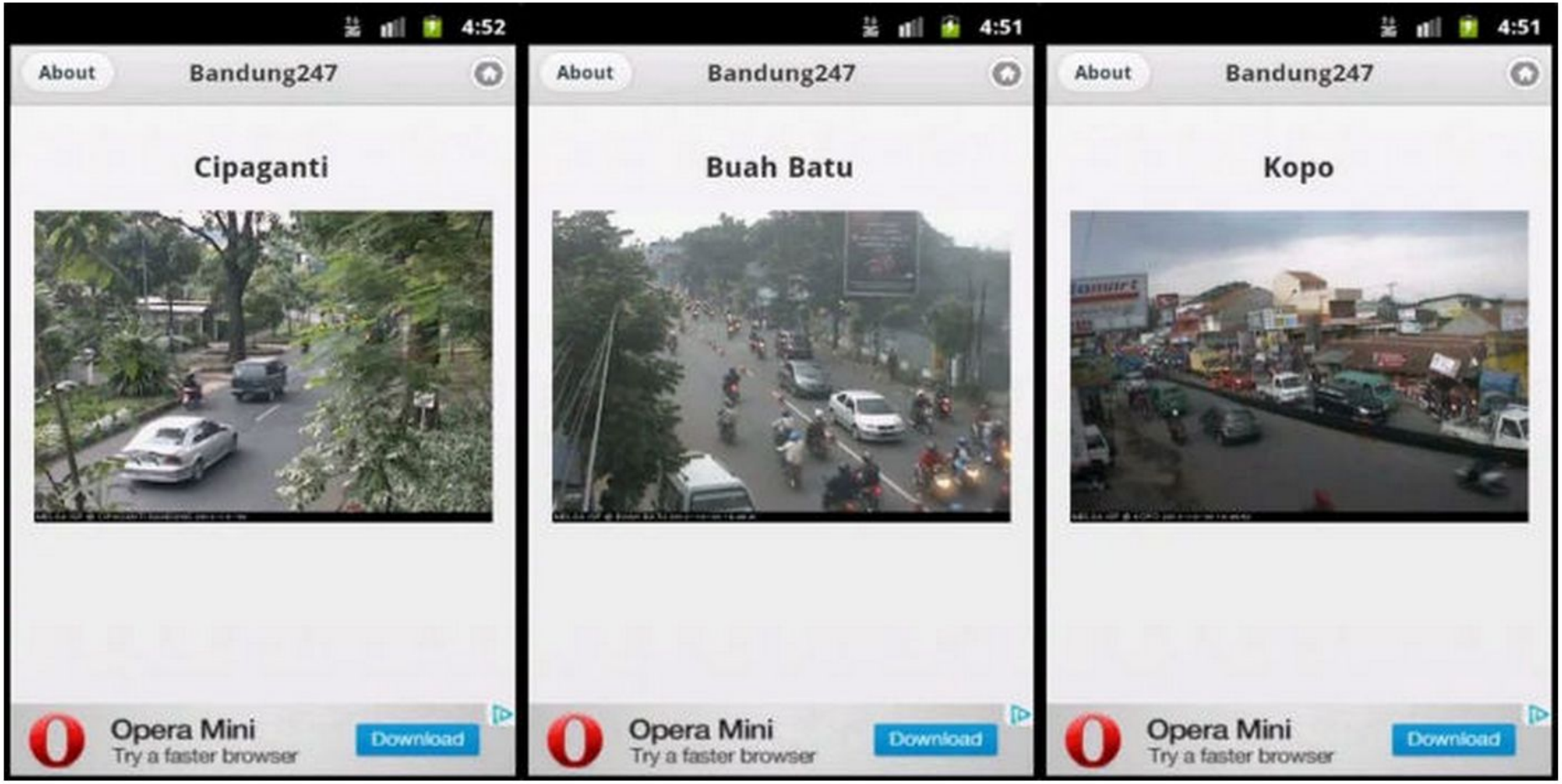
A world of digital traces….

Imagine…


Kamal
Muara
Kapuk
Muara
Tanjung
Priuk
Koja
Setiamulya
Pegadungan
Jurumudi
Kapuk
Rorotan
Setiaasih
Cengkareng
Timur
Cakung
Timur
Duri Kepa
Kayu Putih
Gondrong
Ujung
Menteng
Jatinegara
Kaum
Meruya
Selatan
Kembangan
Indah
Jatikramat
Lengkong
Wetan
Jombang
Cilangkap
Timur
Tanjung
Barat
Kelurahan
Jatisari

Foursquare

2. Bandung 247

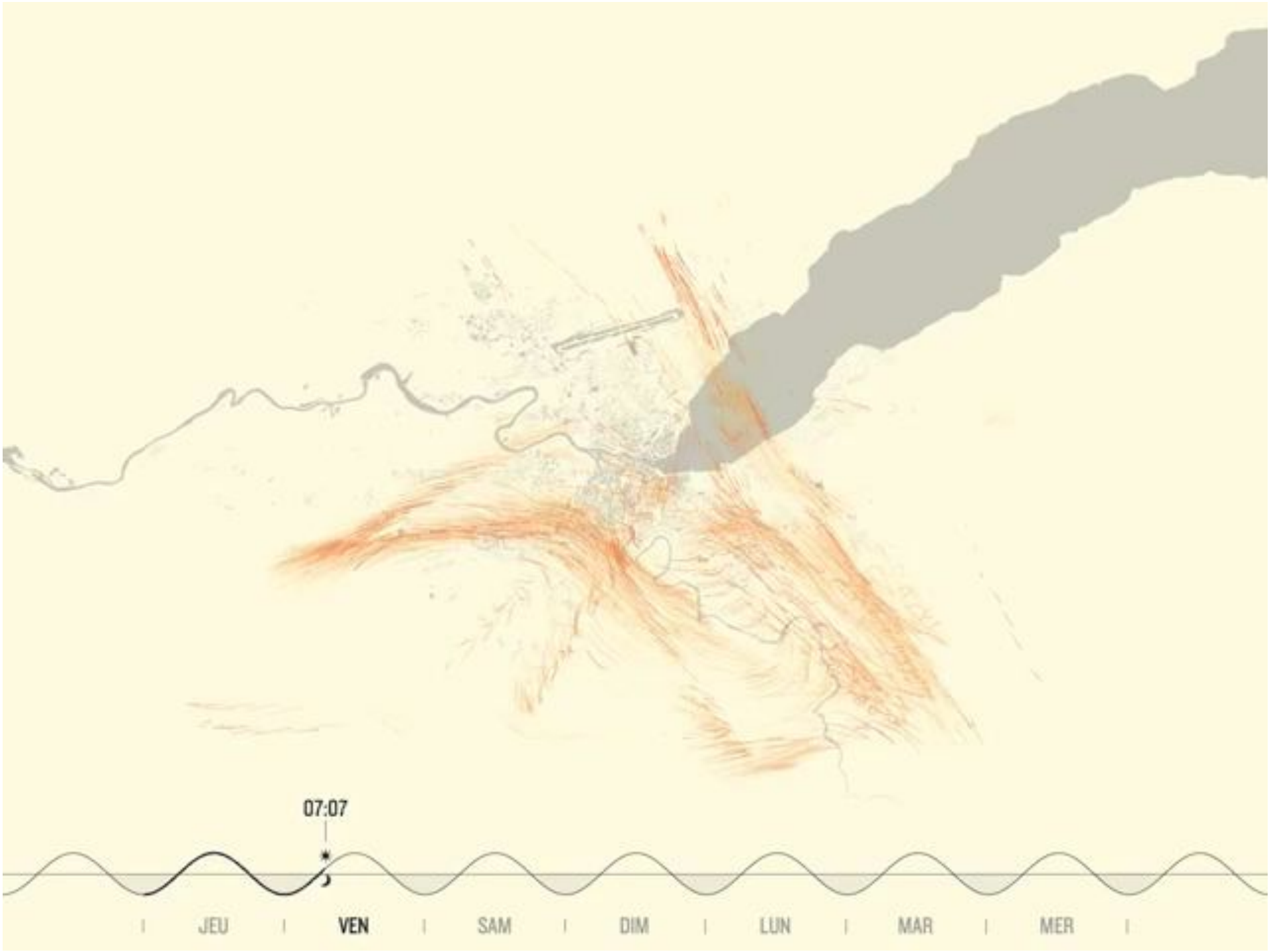


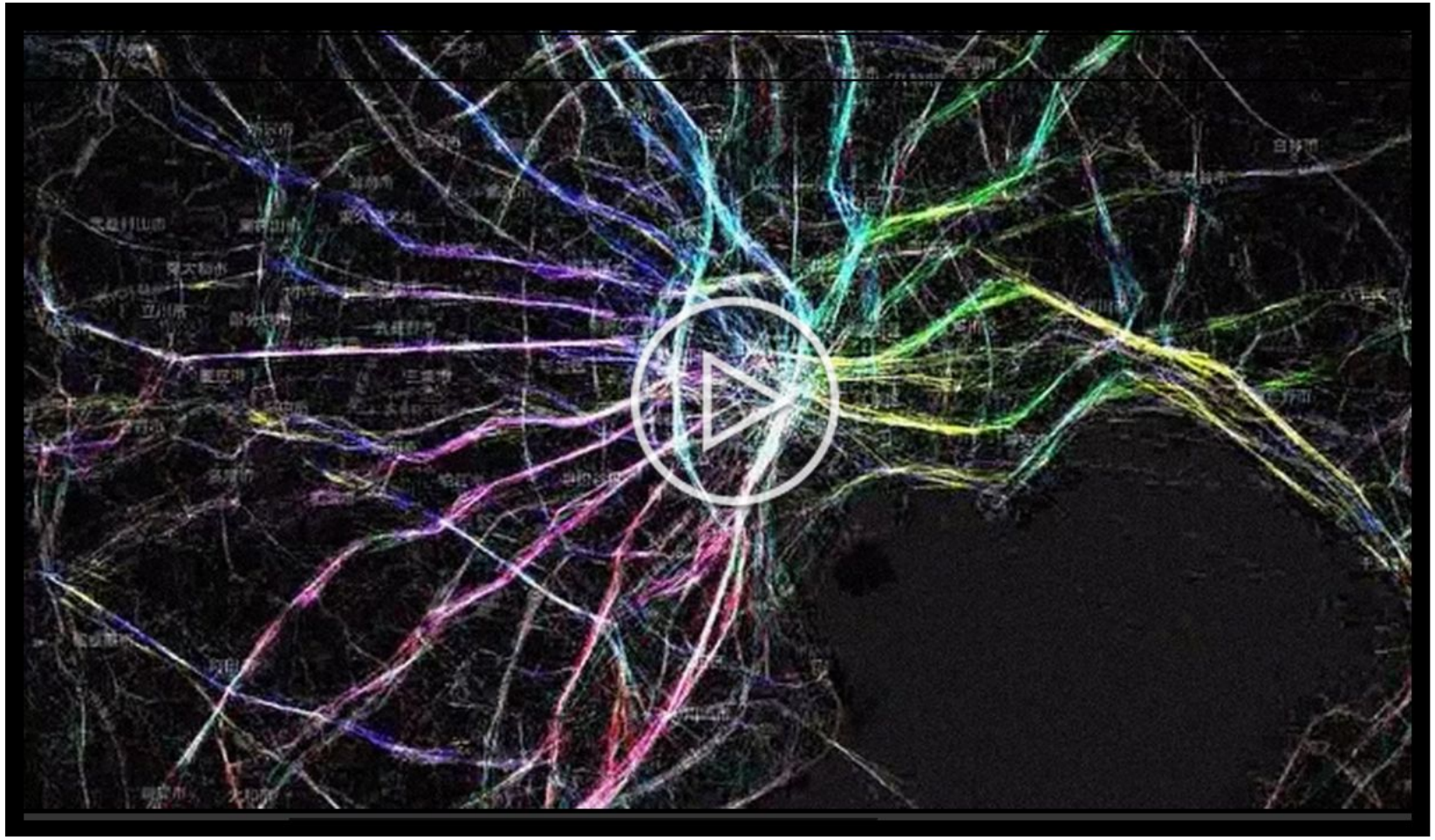
Bandung is a restful city that has become a weekend retreat for many Jakarta citizens. This makes the

1. Public service users produce an increasing amount of **“digital traces”**

2. They increasingly expect **real-time** feedback

Would you cross the street based on information that is five minutes old?


07:07
JEU
VEN
SAM
DIM
LUN
MAR
MER



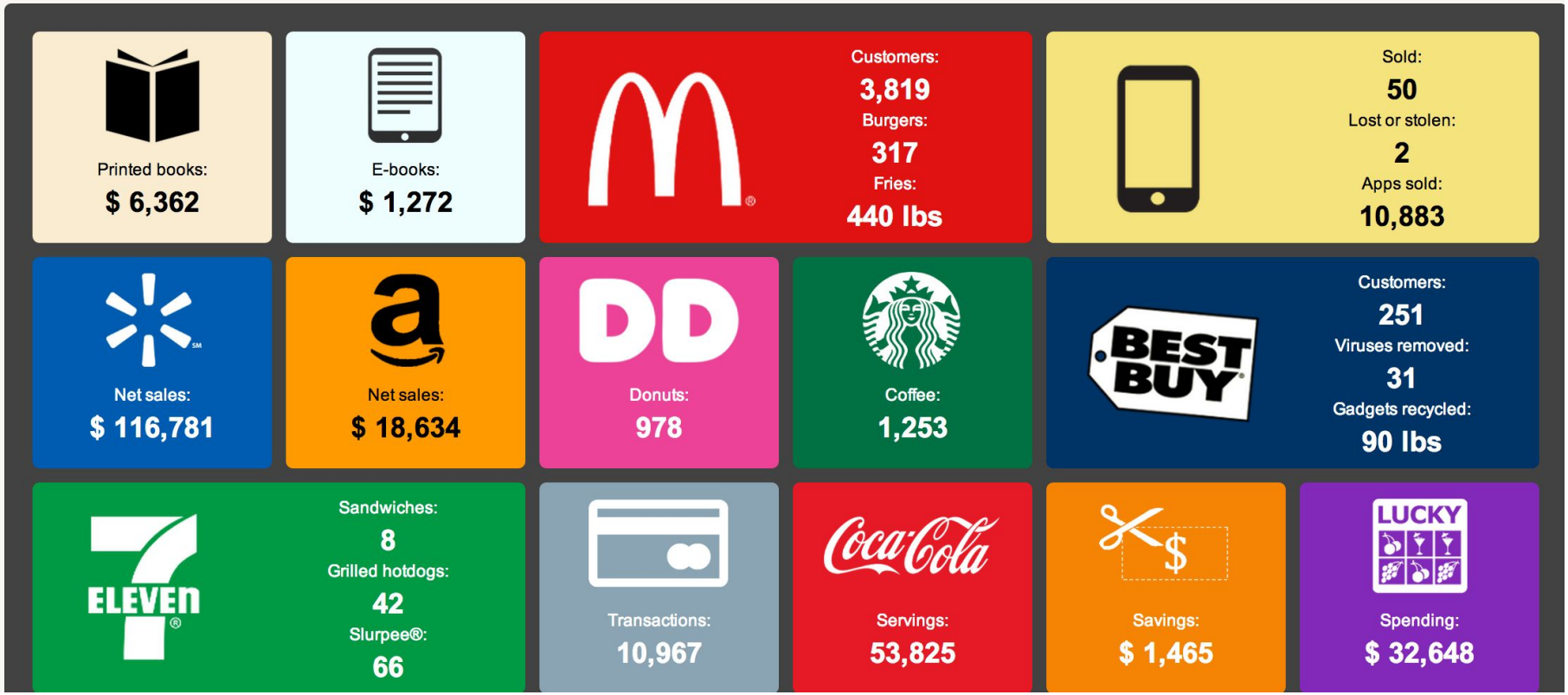
http://www.fastcoexist.com/3034990/scientists-can-now-predict-where-people-will-run-when-an-earthquake-strikes

6h
12h
18h
24h
senseable city lab::: BBVA
1000€ 500€ 100€
APRIL 2011 TRANSACTIONS IN
GAS STATIONS

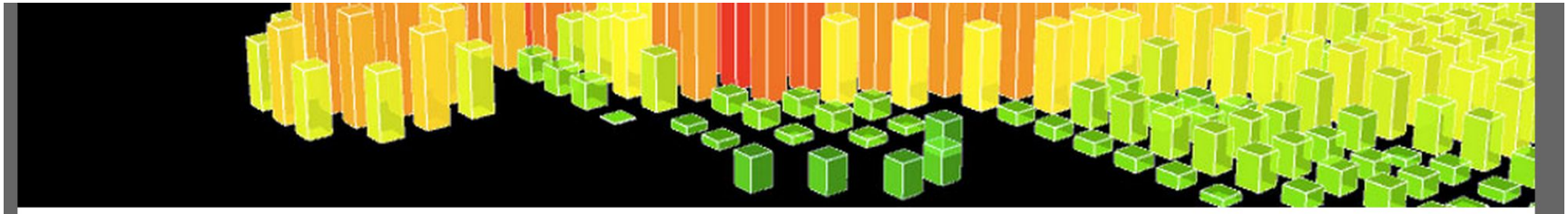
Retale

Retail in Real-Time

In **13** seconds **$ 120,548** has been spent on retail online and **$ 1,218,874** has been spent offline in the US:[1]



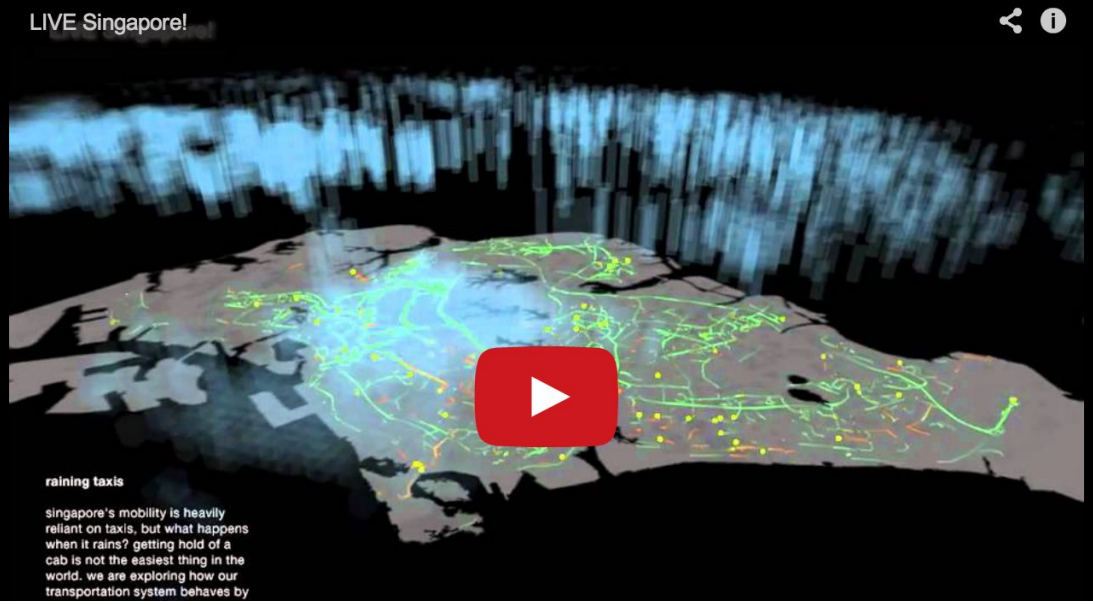
http://www.retale.com/info/retail-in-real-time/



LIVE Singapore! project research exhibition visualizations press

The Real-Time City is Now Real!

After an initial process of data analysis from several data streams, six visualizations have been delineated that investigate different areas of interest and of relevance to the city of Singapore. The visualizations aim to provide greater understanding of some of the city's dynamics.



TEAM

Carlo Ratti, lab director
Kristian Kloeckl, project leader
Afian Anwar
Assaf Biderman
Rex Britter
Xiaoji Chen
Pedro Cruz
Jennifer Dunnam
David Lee
Till Nagel
Darshan Santani
Oliver Senn
Aaron Siegel
Christian Sommer
Anthony Vanky
Dustin York

1. Public service users produce an increasing amount of **“digital traces”**

2. They increasingly expect **real-time** feedback

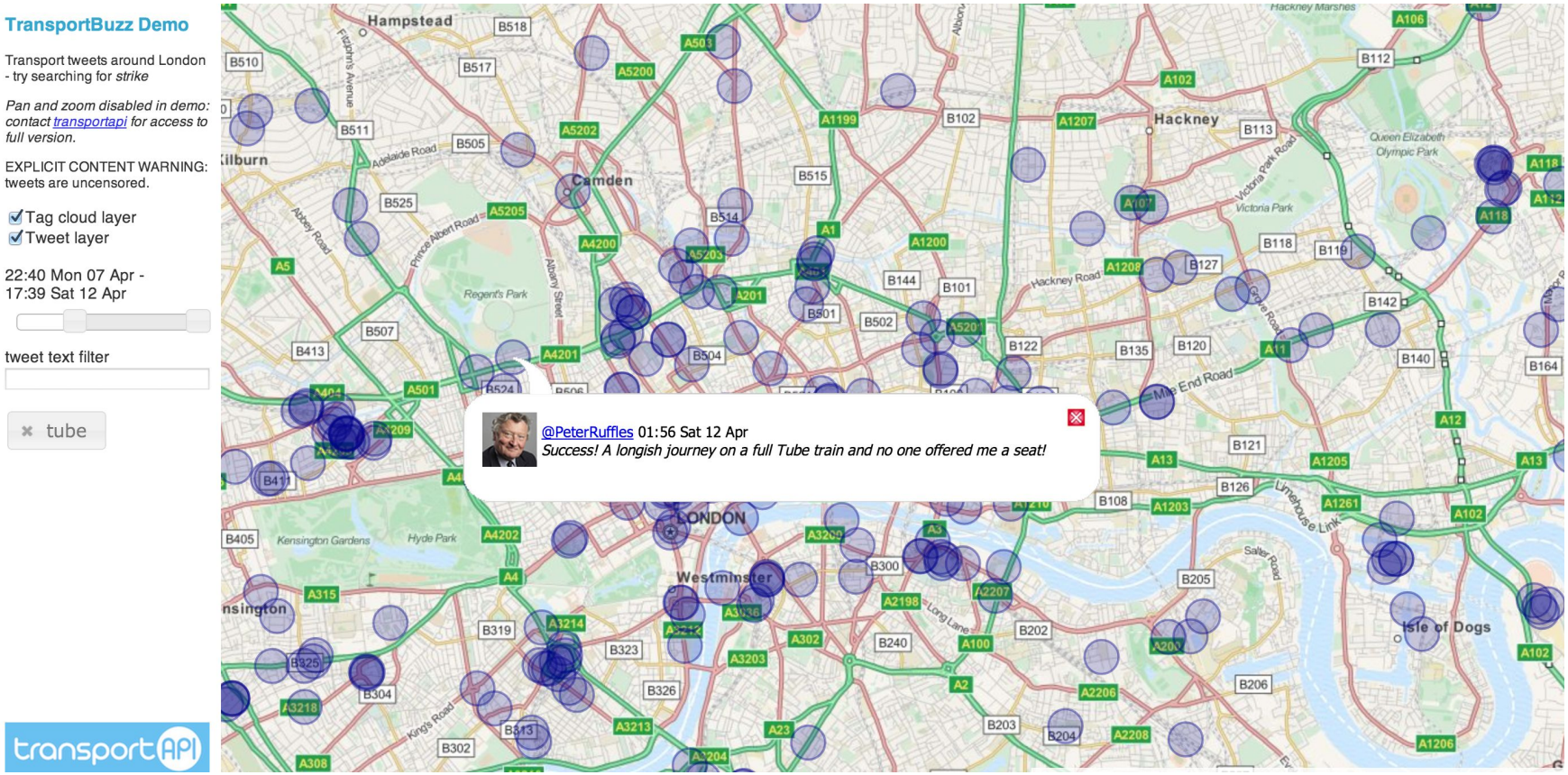
3. Service providers can harness digital traces to better understand needs, predict issues

Big data

- Real time
- “Already there” – not designed for collection
- Massive quantity
- End of sampling?
- 100% accuracy is overestimated

Real time feedback

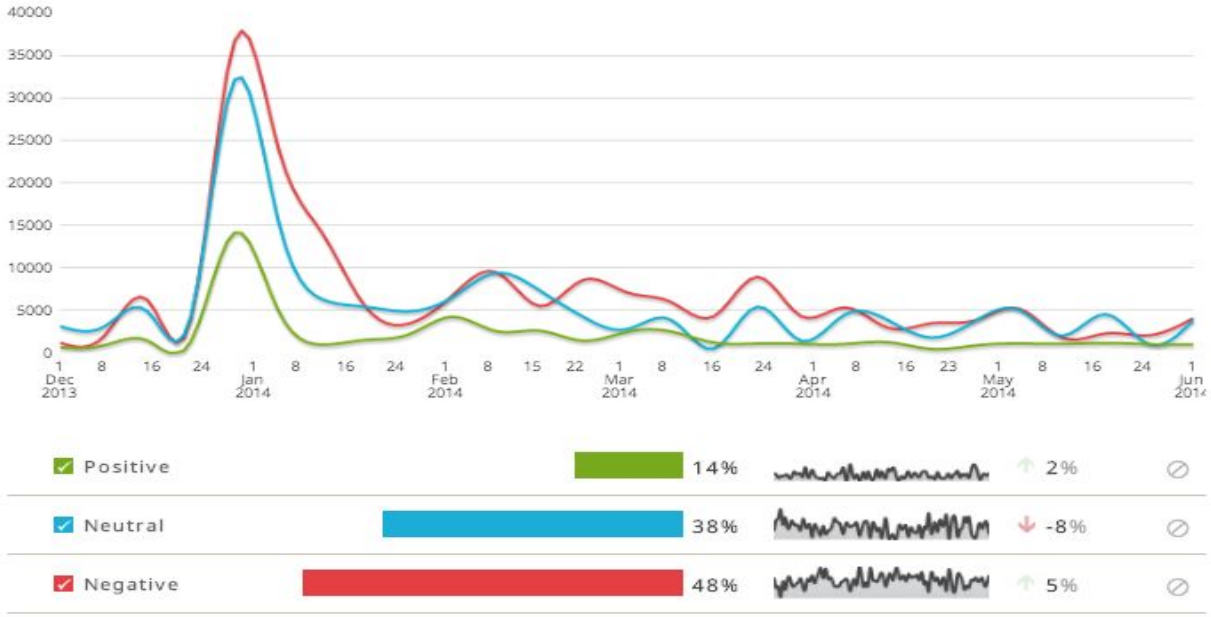
Listening to citizens realtime



www.transportbuzz.com

Jaminan Kesehatan Nasional (Universal Health Coverage)

A Quick Study on Social Media (Twitter) – Sentimen Publik terhadap program JKN



Taxonomy/keywords:

"Program Name"
(Jaminan Kesehatan Nasional/JKN)
OR
"Responsible Institution"
(Badan Penyelenggara Jaminan Sosial/BPJS)

Timeline: 1 Dec 2013 – 11 June 2014

Total Relevant Tweets: 399,825

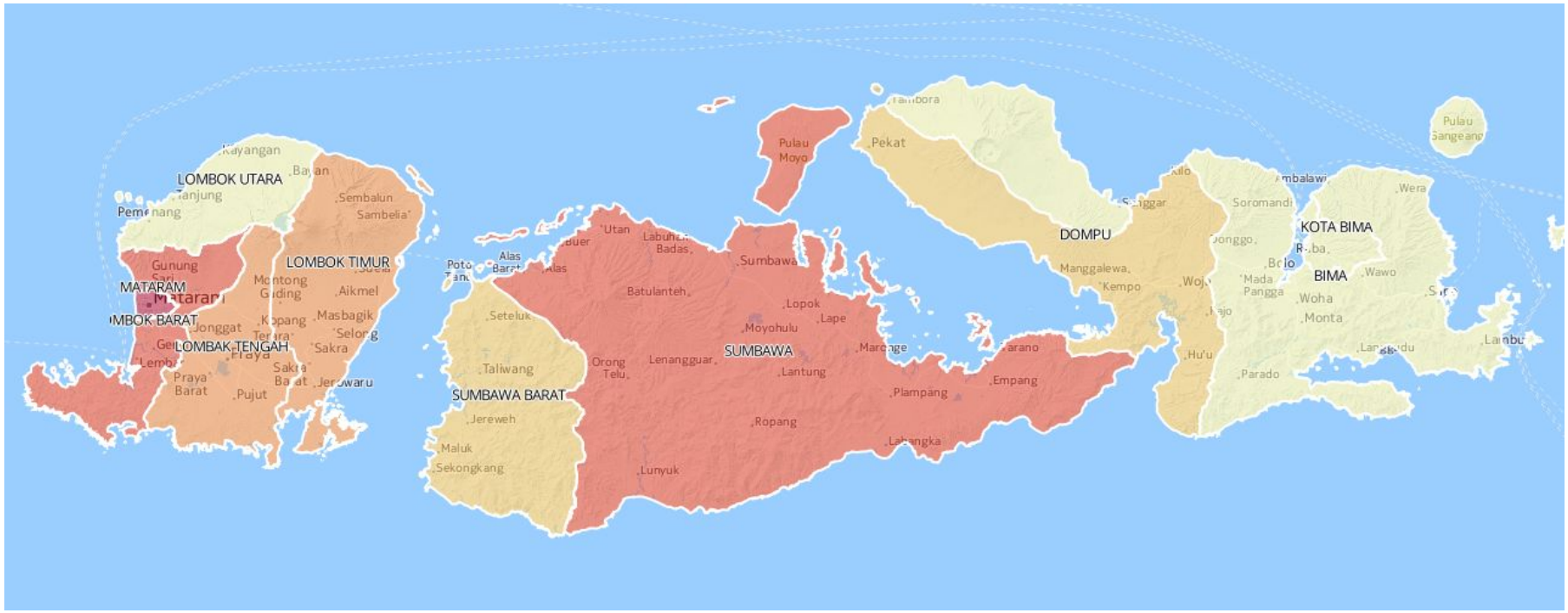
Sentiment Category:

+ Positif: Twitter post yang menekspresikan dukungan dan persepsi positif tentang program JKN e.g.: ”Tertarik dengan program BPJS dan JKN”

- Negatif: Twitter post yang menekspresikan kekecewaan, meremehkan, atau persepsi negatif tentang program BPJS dan JKN.”
e.g.: ”Sejujurnya, saya tidak yakin dengan program BPJS.”

~ Netral: Twitter post yang tidak memihak atau netral
e.g.: ” kita lihat saja program BPJS yang baru diresmikan oleh presiden..."

Twitter – NTB tweet volume by location



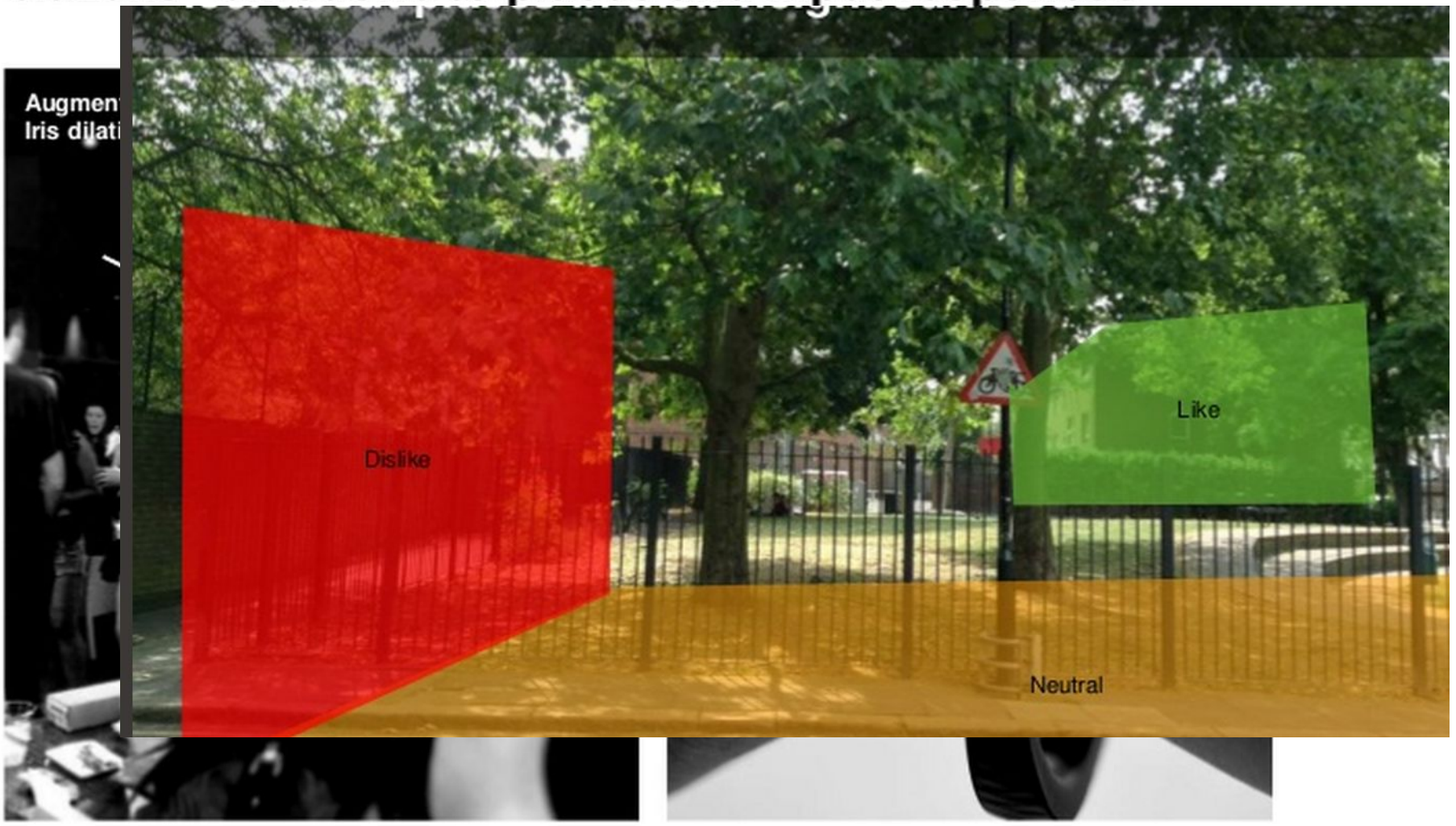
Mataram	430,579	Lombok Tengah	47,784	Sumbawa Barat	8,890
Lombok Barat	134,407	Sumbawa	37,951	Dompu	5,570
Lombok Timur	67,380	Bima	26,331	Lombok Utara	1,605

Twitter topics in NTT and NTB

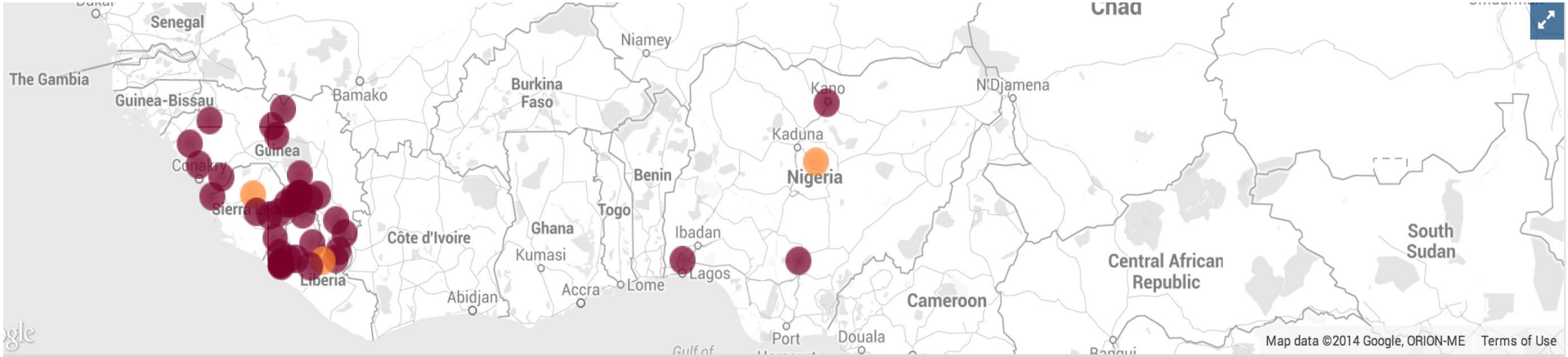
Economic Issues	**Labor**	**1,153**
	Business and investment	365
	Budget	257
	Trade	204
Social Issues	Poverty and social protection	154
	Education service	25
	Health service	338
	Public service	32
Infrastructure related Issues	Transportation	1,206
	Electricity	424
	Water	32
	Administration	0
Environmental Issues	Housing	279
	Public space	17
	Land usage and management	7
	Pollution	2
	Urbanization	0

Commonplace uses high street wearables to sense citizens' emotions to places and input responses

Share



Predicting implementation issues



August 16

Guinea 519 cases 380 deaths Sierra Leone 810 cases 348 deaths

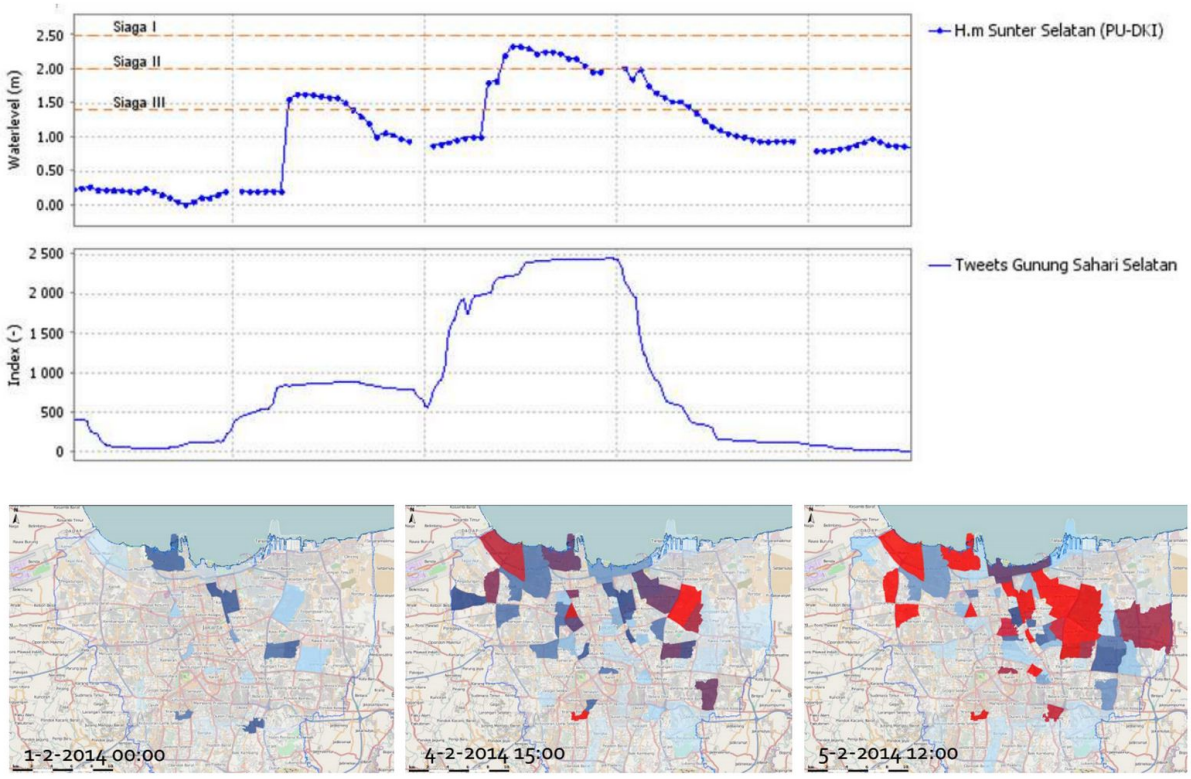
Liberia 786 cases 413 deaths Nigeria 12 cases 4 deaths

* suspected case and death counts from WHO

Data Mining for flood and disaster management

output Jakarta

Connection with J-FEWS: Flood Information System for Jakarta



Source: Floodtags

'NOWCASTING' COMMODITY PRICES IN INDONESIA

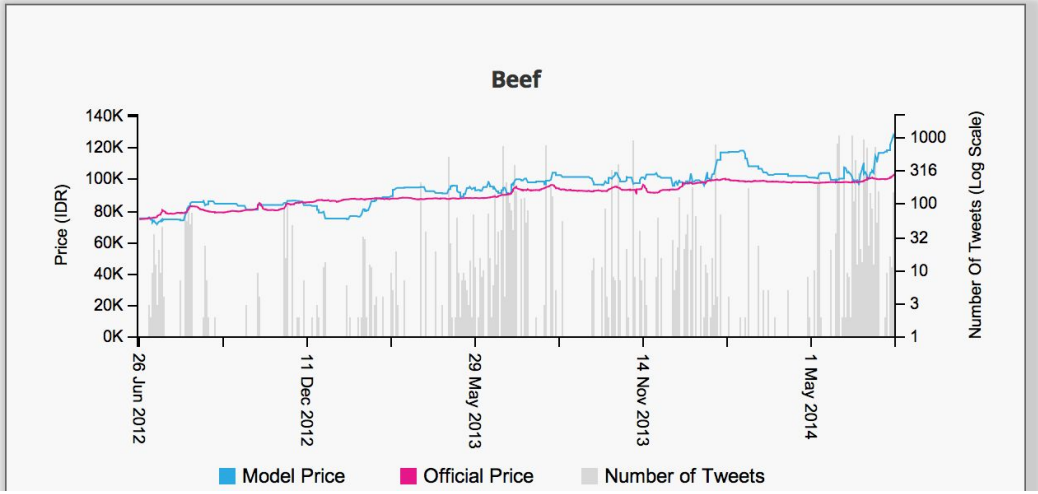
Can estimates of food prices be extracted from social media?

How do these estimates compare to official statistics?

Pulse Lab Jakarta conducted a research project to investigate the feasibility of 'nowcasting' commodity prices in Indonesia, a country famously addicted to social media. This page presents near to real-time price information on three staple food commodities: beef, chicken and onion, using tweets about food prices in Indonesian language Bahasa Indonesia.

This project has been done in collaboration with the Indonesian Ministry of National Planning Development (Bappenas) and the World Food Programme Indonesia.

For more information on this project, please visit: http://www.unglobalpulse.org/nowcasting-food-prices



Chennai (2627)	102.9	0	0	
Chennai, Tamil Nadu (2235)	40.3	▾2.9%	▾14.5%	
Kanchrapara, West Bengal (1960)	73.1	▾19.7%	0	
Kolkata (1790)	105.6	▴0.8%	0	

http://v

google.org Dengue Trends

An

ttp://twitter.com/phanzulbtb

ttp://twitter.com/Info_JawaE

ttp://twitter.com/ASB_Offici

ttp://twitter.com/InfoSoloRa

ttp://twitter.com/muhammac

ttp://twitter.com/exokswag/s

Google.org home

Flu Trends

Dengue Trends

Home

Indonesia

Download data

How does this work?

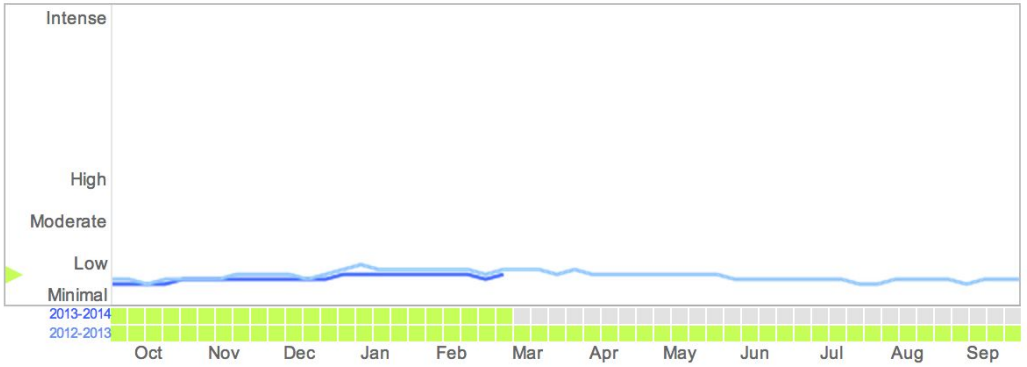
FAQ

Dengue trends - Indonesia

We've found that certain search terms are good indicators of dengue activity. Google Dengue Trends uses aggregated Google search data to estimate dengue activity. Learn more »

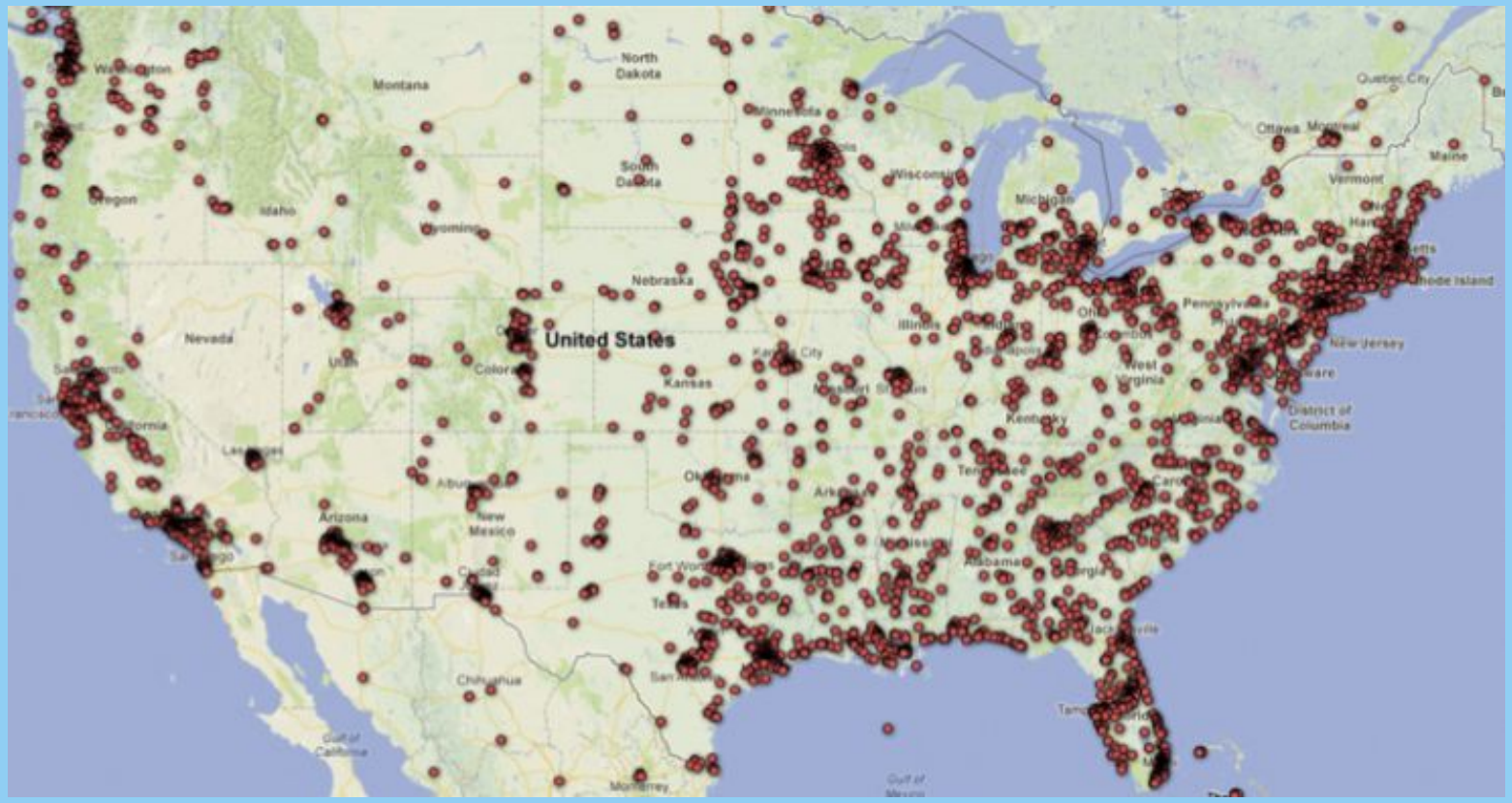
National

2013-2014 2012-2013



Dengue activity was estimated using a model that proved accurate when compared to historic official dengue activity data. Data current through March 9, 2014.

Tweets about sex and drug use predict HIV

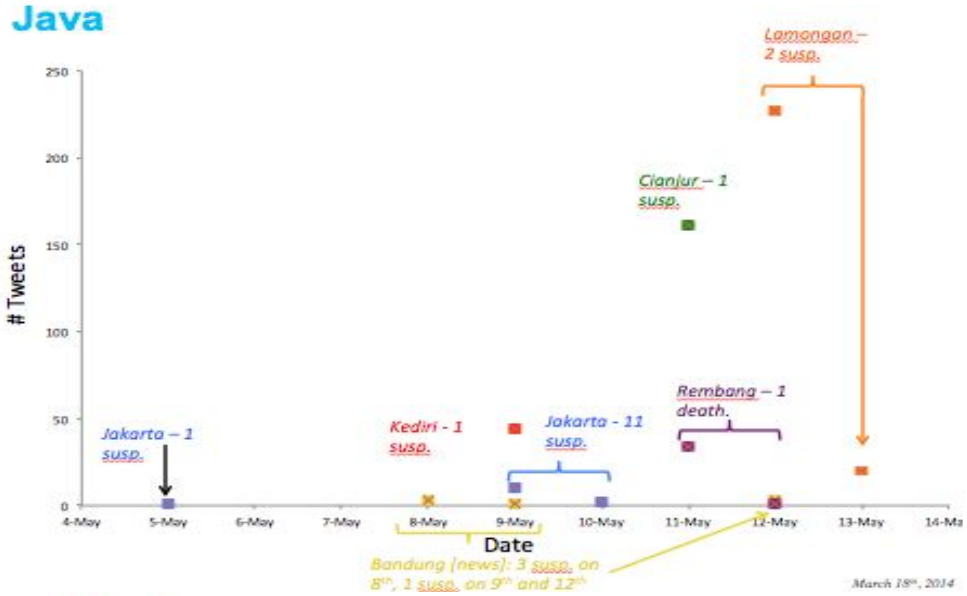


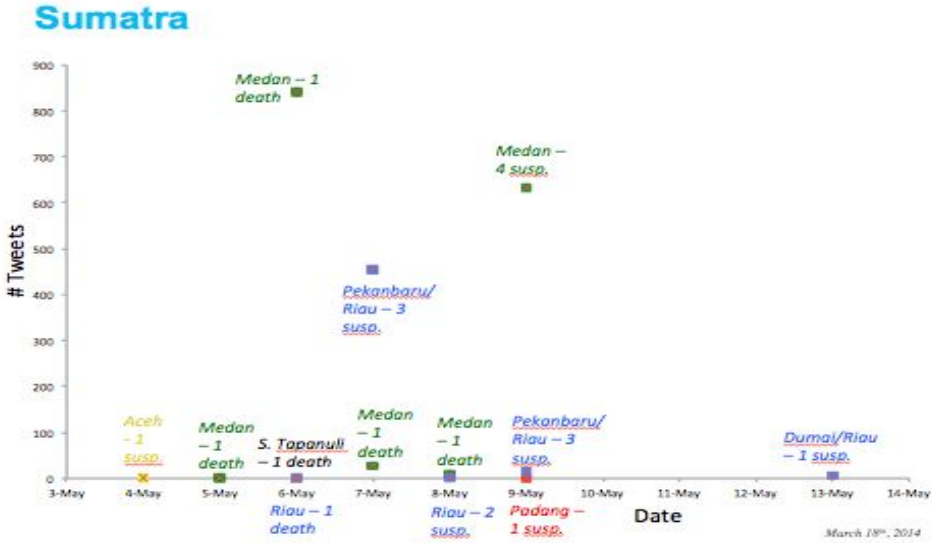
Methods of using real-time social media technologies for detection and remote monitoring of HIV outcomes. Sean D. Young, Caitlin Rivers, and Bryan Lewis. Preventive Medicine. 8 February 2014.

PULSE LAB JAKARTA

PenggunaanTwitter untuk Disease Surveillance (Middle East Respiratory Syndrome - MERS)

Gejala kasus MERS yang ditemukan





Taxonomy/Keyword

SUBJECT
Pulang (return)

AND

ACTIVITY
Umrah/Umroh
Haji (Hajj)

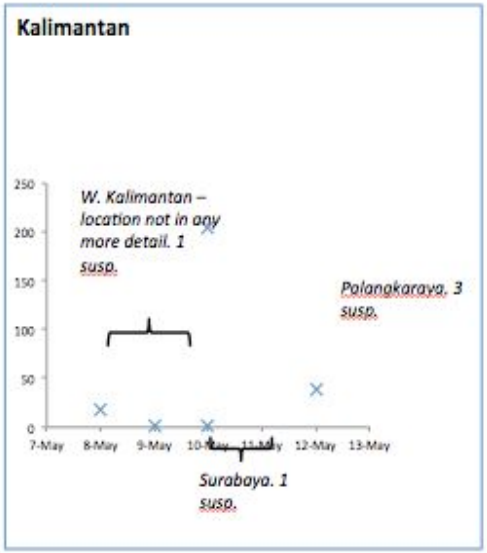
OR

LOCATION
Timur Tengah (Middle East)
Arab (Saudi Arabia)
Jedah (Jeddah)
Mekah (Mecca)
Riyad (Riyadh)
Tabuk
Madinah (Medina)
Najran
Asir
UAE/United Arab Emirates
Turki (Turkey)
Mesir (Egypt)
Tunisia

AND

SYMPTOMS
Demam (fever)
Batuk (cough)
Sesak (shortness of breath)
Flu
Influenza
Tidak enak badan (not feeling well)
Sakit (ill)
MERS

Kalimantan and Sulawesi



Sulawesi

9th May: 3 cases in Kendar

13th May: 1 case – Indonesian citizen who tested positive returning from Saudi Arabia

Leading healthcare operator making the move to Big Data and analytics

JULY 29, 2014

New technologies and processes have the ability to substantially overhaul how a business operates, and that's why many organisations are now ramping up adoption.

One such organisation, the Bundamedik Healthcare System in Indonesia, is using IBM Big Data and analytics to overhaul administration and financial management systems throughout the hospital network. The first of these hospitals, RSIA Bunda Jakarta, has recently been announced as the first to be upgraded.

Big Data and analytics provides a number of benefits for enterprises, including increased understanding of trends and better future planning. By enabling a significant amount of data to be stored and subsequently analysed, businesses are rarely in the dark.

By using this trend at RSIA Bunda Jakarta, Bundamedik will be able to gain detailed insight into the spending and budget status of the hospital – something that's key when operational costs need to constantly be kept down. By using Big Data, the hospital will be able to stay in line with growth plans.

ABOUT US

Overview

Executive Team

Delivery Capability

News

Events

Case Studies

Careers

RECENT POSTS

Understanding technological convergence

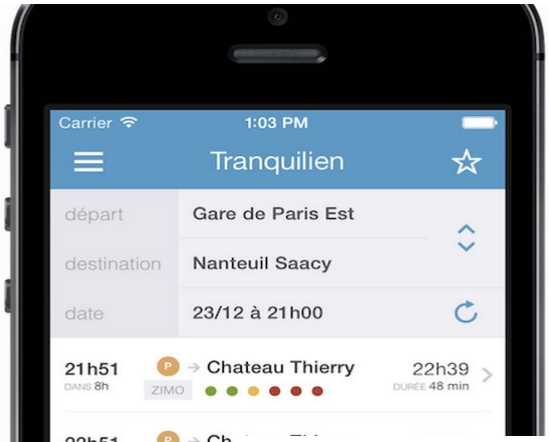
IBM set to expand security offerings following acquisition

Understanding data lakes

Medical information to become easier to access with new MobileFirst apps

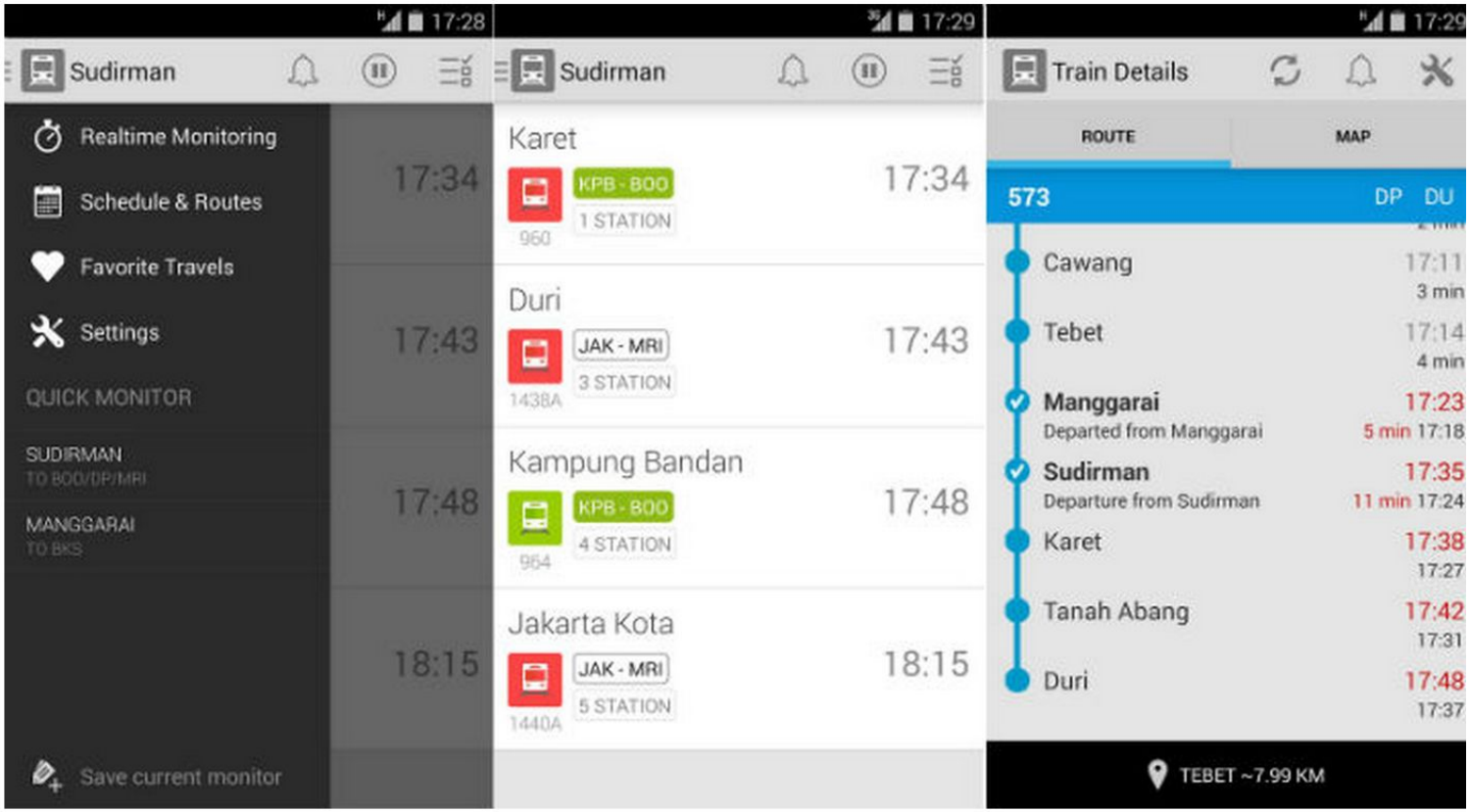
High performance cloud computing on the way

NEWS SECTIONS


Carrier
1:03 PM
Tranquilien
départ
Gare de Paris Est
destination
Nanteuil Saacy
date
23/12 à 21h00
21h51
DANS 8h
Chateau Thierry
22h39
DURÉE 48 min
ZIMO
22h51
DANS 9h
23h51
DANS 10h
05h51
DEMAIN
06h51
DEMAIN
07h51
DEMAIN

Carrier
1:04 PM
Détails du trajet
vers Chateau Thierry
ZIMO
Départ 21h51 Paris Est
5 arrêts
Arrivée 22h39 Nanteuil Saacy
Durée: 48 min
Paris Est
Meaux
Triport
Changis Saint-...
La Ferte sous ...

11. Info KRL


17:28
Sudirman
Realtime Monitoring
Schedule & Routes
Favorite Travels
Settings
QUICK MONITOR
SUDIRMAN
TO BOO/DP/MRI
MANGGARAI
TO BKS
Save current monitor
17:34
17:43
17:48
18:15
17:29
Sudirman
Karet
KPB - BOO
1 STATION
960
17:34
Duri
JAK - MRI
3 STATION
1438A
17:43
Kampung Bandan
KPB - BOO
4 STATION
964
17:48
Jakarta Kota
JAK - MRI
5 STATION
1440A
18:15
17:29
Train Details
ROUTE
MAP
573
DP
DU
Cawang
17:11
3 min
Tebet
17:14
4 min
Manggarai
17:23
Departed from Manggarai
5 min 17:18
Sudirman
17:35
Departure from Sudirman
11 min 17:24
Karet
17:38
17:27
Tanah Abang
17:42
17:31
Duri
17:48
17:37
TEBET ~7.99 KM

Memahami Persepsi Masyarakat tentang Imunisasi melalui Twitter

Case1: efek samping dari imunisasi

Taxonomy/Keyword

kipi, reaksi, efek samping, efek simpang, panas, demam, sakit, lumpuh, kelumpuhan, bengkak, kejang, kejang-kejang, kejang2, autis, meninggal, mati, keracunan, keluhan, nangis, menangis, muntah, muntah-muntah, muntah2, nyeri, luka, abses, syok, shock, alergi, sesak napas, sesak nafas

AND

dtp, dpt, dpt-hb, dtp-hb, DPT-HB-Hib, DTP-HB-Hib, BCG, polio, campak, pentavalen, pentavalent

OR

imunisasi, imun, vaksinasi, vaksin, diimunisasi, diimun, divaksin, divaksinasi

Case2: Launching vaksin Pentavalent

Taxonomy/Keyword

pentabio, pentavalen, DTP+HepB+HiB, DPT+HepB+HiB, vaksin baru

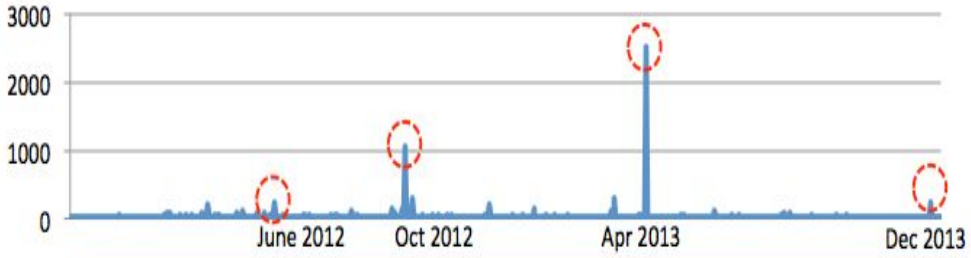
OR

(imunisasi, imun, vaksinasi, vaksin, diimunisasi, diimun, divaksin, divaksinasi)

AND

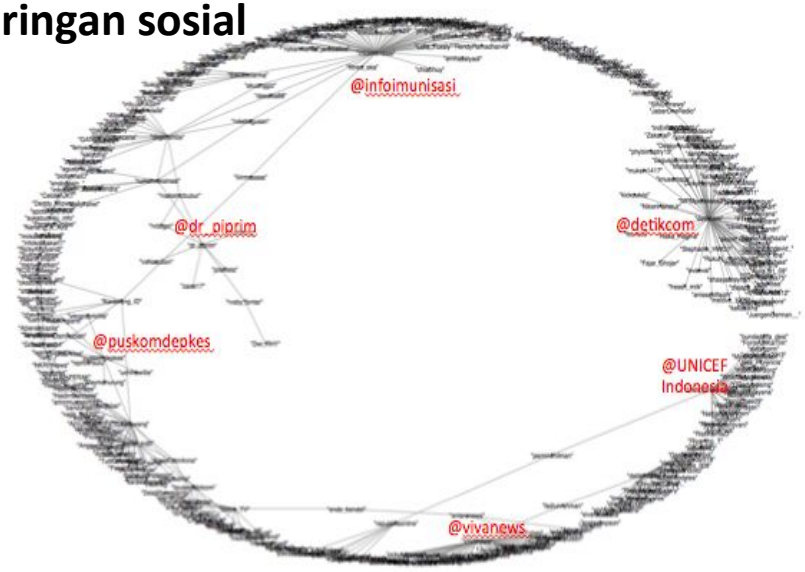
(5 in 1, 5in1, peluncuran, meluncurkan, luncurkan, canangkan, mencanangkan, pencanangan, pengenalan, mengenalkan, kenalkan, introduksi, launching)

Efek samping paling sering dibicarakan



Rank	Overall	2012-06-20	2012-10-08	2013-04-28	2013-12-23
1	Autism (5048)	Autis (213)	Meninggal (1030)	Deman (1498)	Meninggal (224)
2	Fever (5000)	Meninggal (5)	Panas (14)	Bengkak (1494)	Demam (3)
3	Death (2108)	Sakit (4)	Sakit (4)	Nyeri (1491)	Nangis (1)
4	Fever (1929)	Panas (2)	Nangis (3)	Autis (1011)	Autis (1)
5	Swelling (1887)	Nangis (1)	Demam (3)	Panas (4)	-

Bagaimana informasi mengalir melalui jaringan sosial



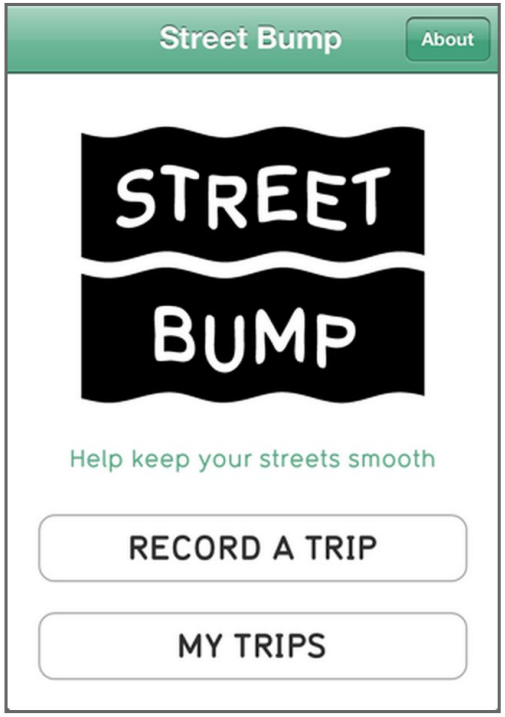
Complementing existing data collecting

http://cities.human.co/posts/bangkok.html

Moovit's map on the big screen in Rio's Department of Transport's control room; (Photo via Moovit)

About

t Street Bump



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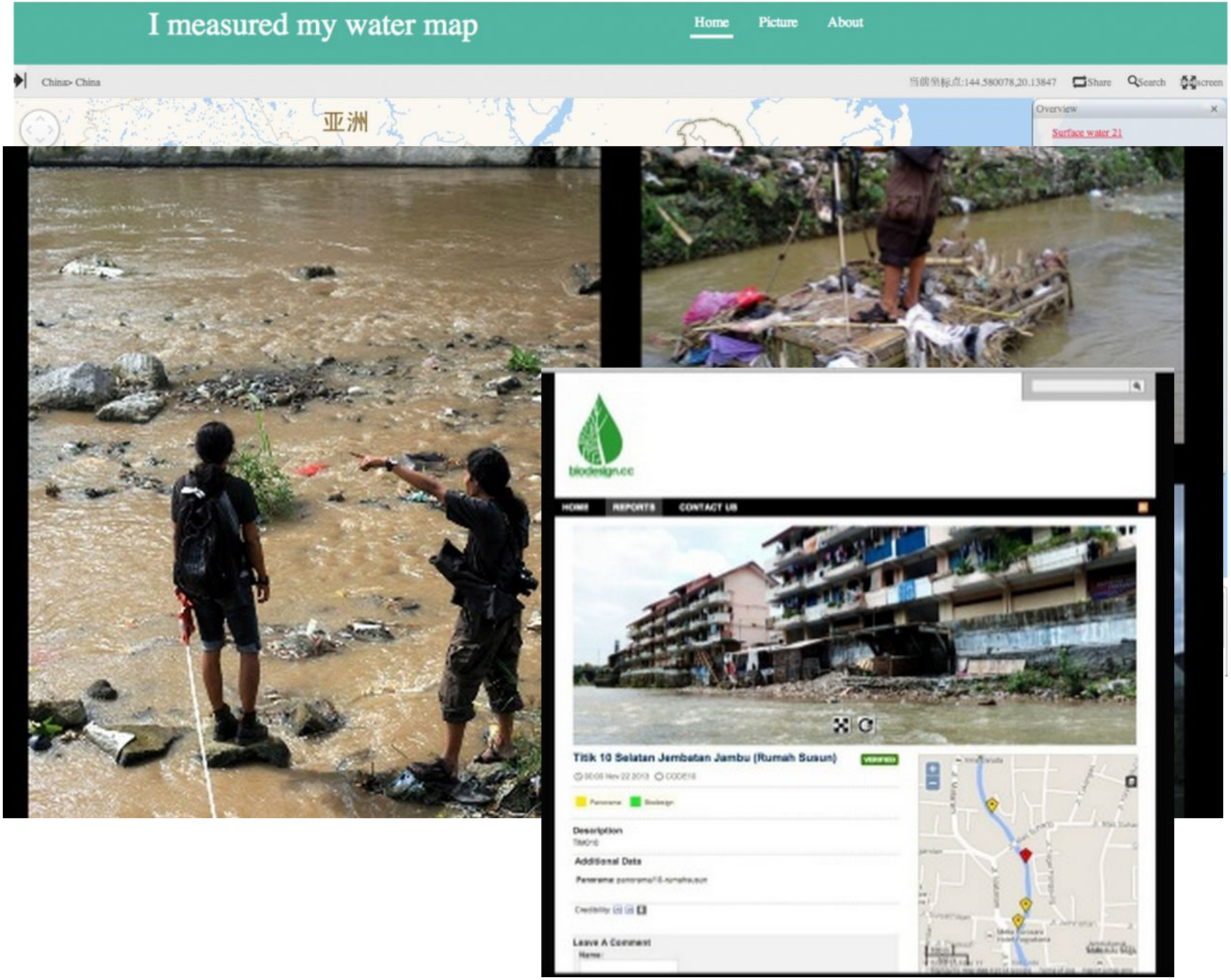
Have Questions?

Contact us

p Keep Your Streets Smooth


I measured my water map
Home
Picture
About
China> China
当前坐标点:144.580078,20.13847
Share
Search
screen
亚洲
Overview
Surface water 21
biodesign.cc
HOME
REPORTS
CONTACT US
Titik 10 Selatan Jembatan Jambu (Rumah Susun)
Description
Additional Data
Leave A Comment

Quantified self

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Bellabeat: Prenatal Tracking Review

By Tia Ghose, Staff Writer | April 01, 2014 05:26pm ET

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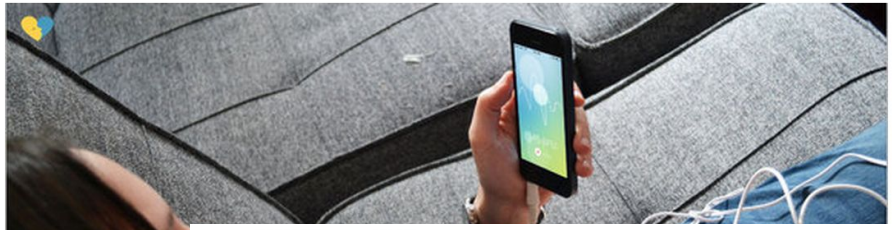

The Bellabeat feta
track their babies'
Credit: Bellabeat

Quantified Self
Guide to Self-Tracking Tools

Login with: Google

Tools Members Forum Search for tools, companies, members... Go Profile About

Tags

Android (82)
API (20)
energy (36)
fitness (124)
food (54)
gadget (43)
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health (185)
iPhone (185)
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lifelogging (122)
lifestyle (76)
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bedpost BETA

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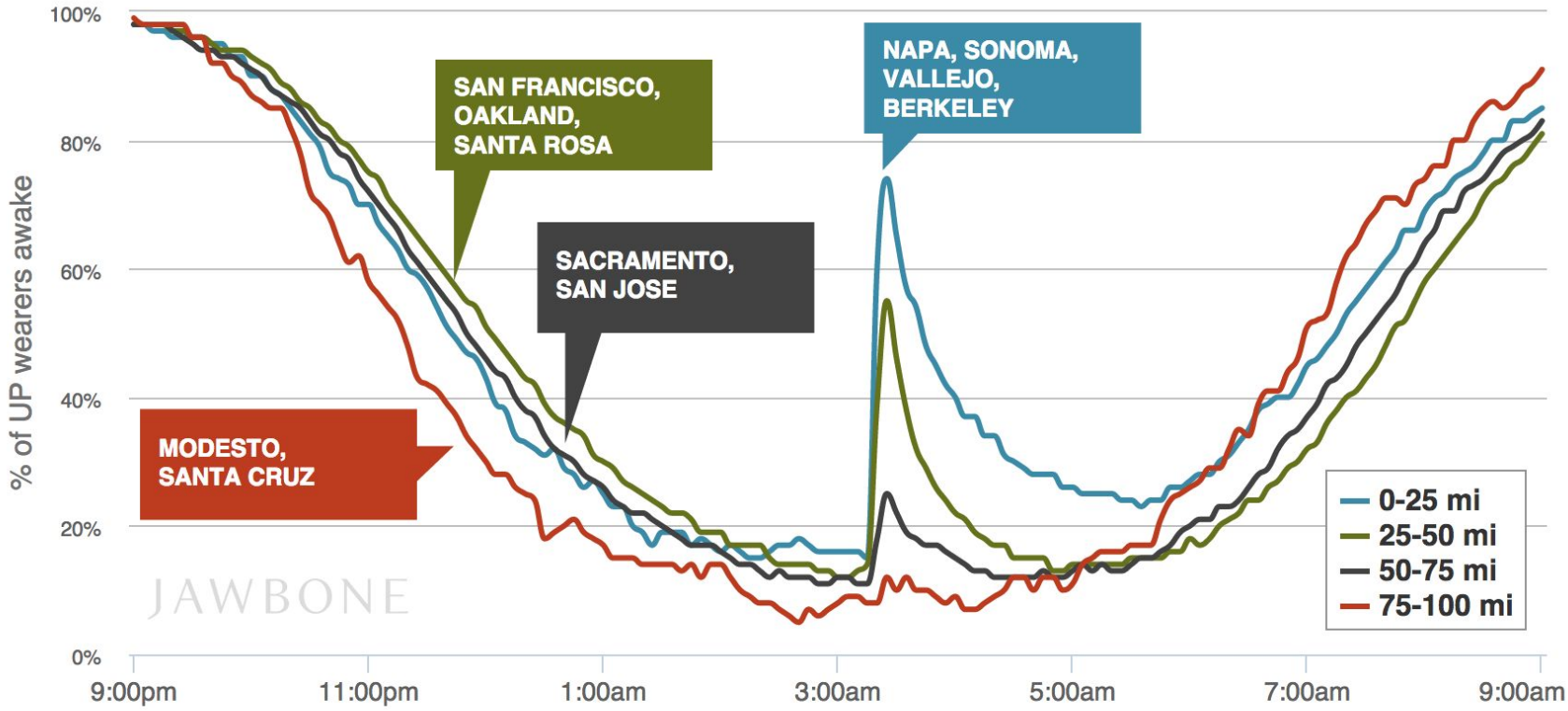
Bedpost

(0 reviews)

Bedpost is a personal web application that will give you some insight into your sex life. The site has features to record every you have sex. You fill out a few simple fields such as time, how long, your rating, with whom, and some descriptive tags. Over time, you will have a record of your sex life visualized on a calendar. The site has no social networking features to ensure that your data is private. They are working on a feature to allow partners to log in to the same account.

http://bedposted.com/

Tags: lifestyle, web app
Price: free



We wish all the people in the Bay Area who were affected by the earthquake a speedy recovery and a good night's sleep.

Yelp Reviews Help Track Food Illnesses

By MARIA NEWMAN
May 22, 2014

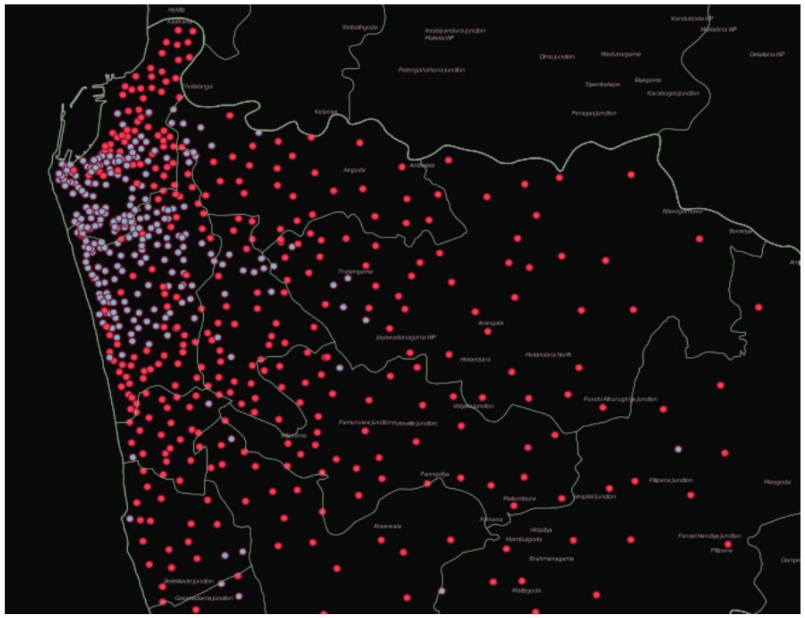
After a particularly bad restaurant meal, you may be moved to post a review on the website Yelp, warning other diners. But now someone else is listening in: New York City health officials, who may try to track you down if you complain that the meal made you sick.

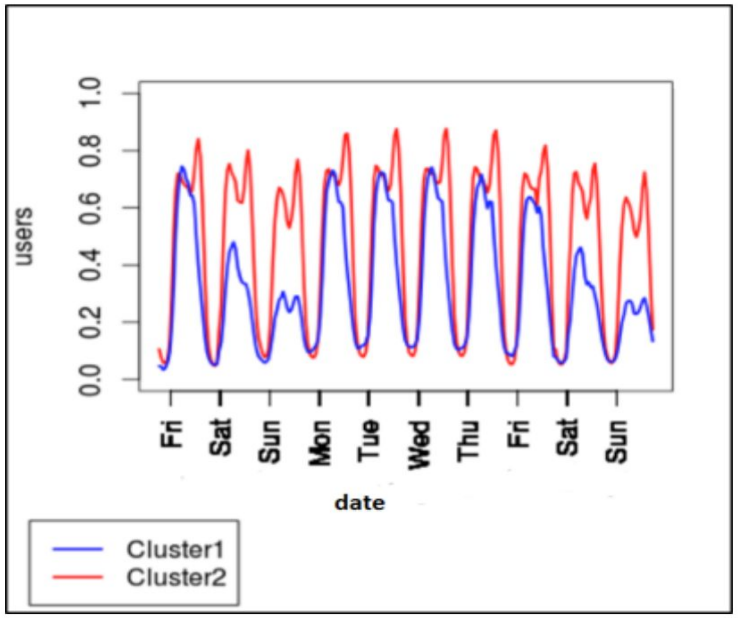
The federal Centers for Disease Control and Prevention released a report on Thursday saying that the city's Department of Health and Mental Hygiene had completed a pilot project that used Yelp reviews to help identify unreported outbreaks of food-borne illness.

Using a software program developed by Columbia University, city researchers combed through 294,000 Yelp reviews for restaurants in the city over a period of nine months in 2012 and 2013, searching for words like "sick," "vomit" and "diarrhea," along with other details. After investigating those reports, the researchers substantiated three instances when 16 people had been sickened. Those people had eaten the house salad, shrimp and lobster cannelloni, and macaroni and cheese spring rolls at three restaurants that the agencies are not

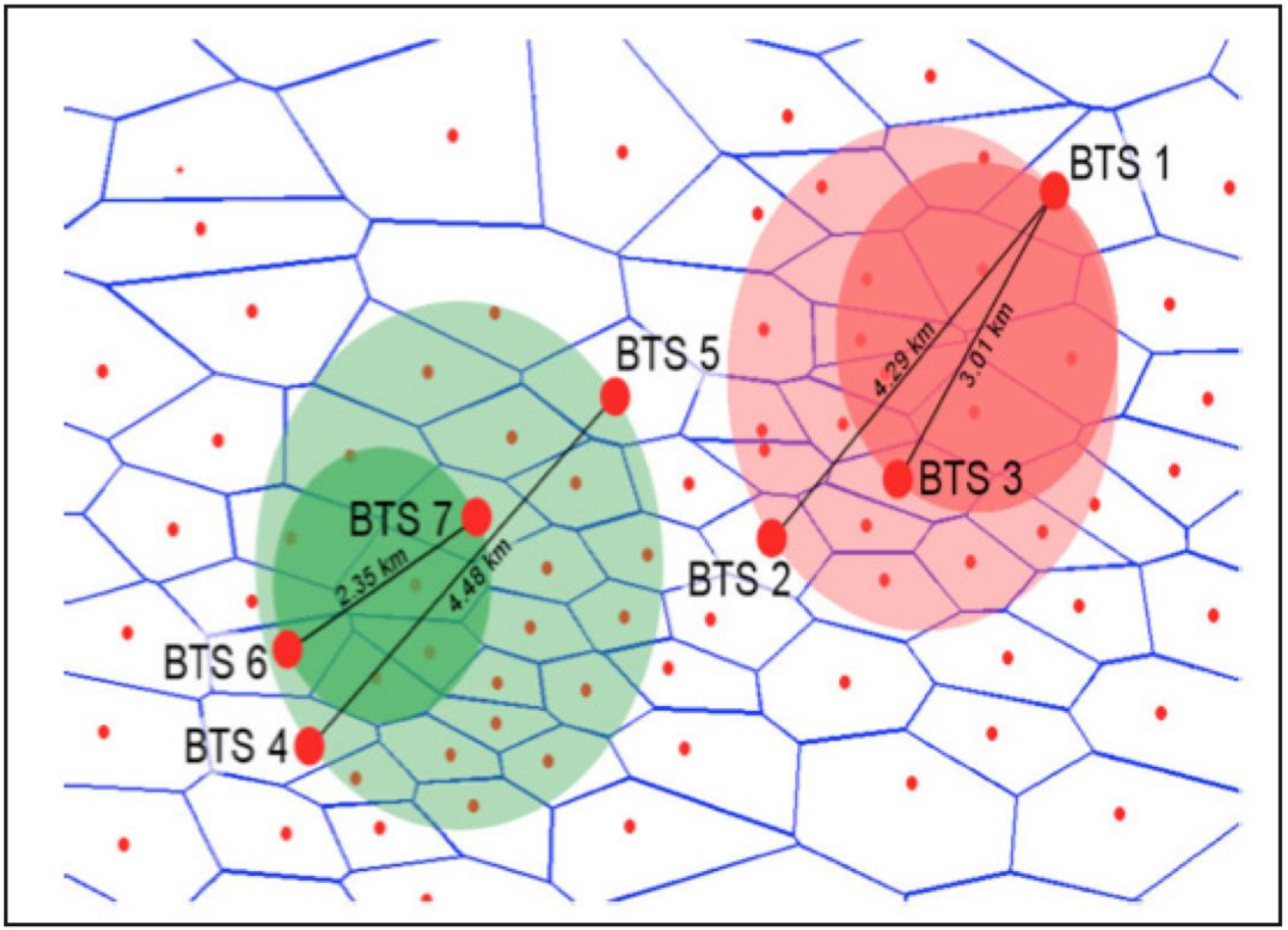
Evaluation of policy

Distribution of base stations in Colombo district





Using mobile records to evaluate health policy real time?



A mobility index to evaluate H1N1 response in Mexico City

Telefonica Research, 2011 (http://www.unglobalpulse.org/publicpolicyandcellphonedata)

To sum up

1. Real time feedback
2. Anticipate/predict near term trends
3. Identify implementation issues
4. Program evaluation

A big data project value chain

DEXTRA

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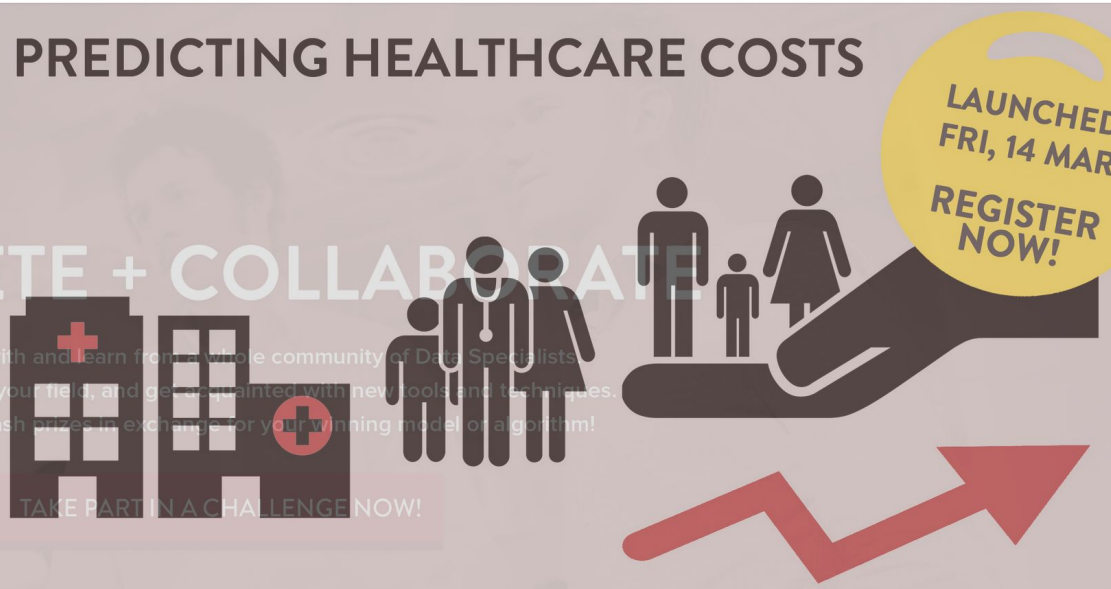

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