Smart City Challenges

Challenge 1: Wellbeing Indicator for London

Dianna Smith (Queen Mary) and Kirk Harland (University of Leeds)

UK a great place to live and work, says OECD

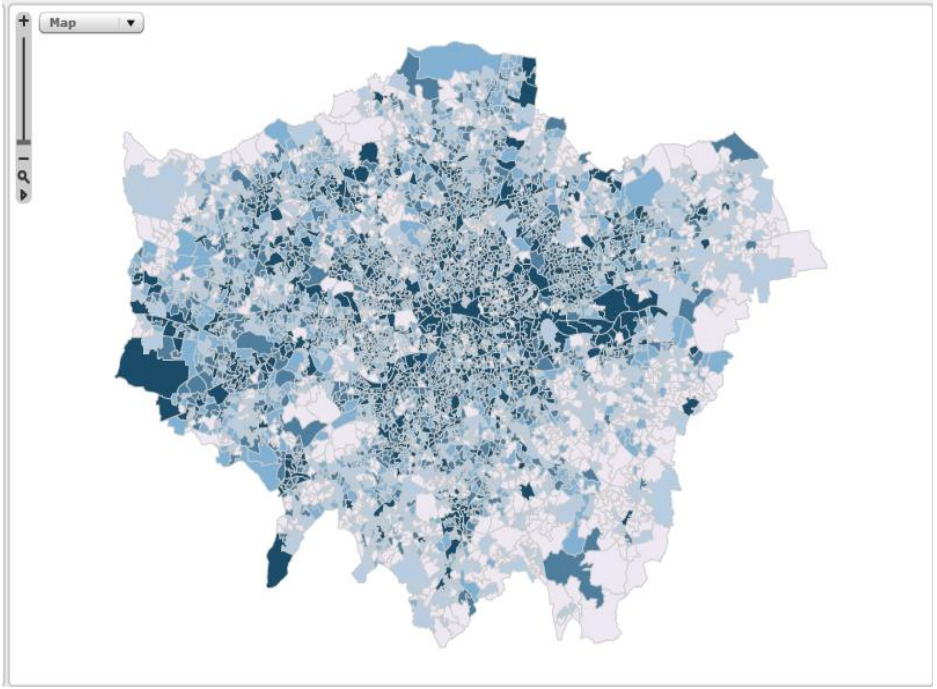
Better Life Index ranks UK above average on jobs, earnings and housing – but below average on education, skills and equality

Katie Allen
The Guardian, Tuesday 5 November 2013 11.45 GMT
Jump to comments (1224)

Hampstead Heath in the summer. The average British household was only 'modestly' affected by the financial crisis, the OECD says. Photograph: Dan Kitwood/Getty Images

Bespoke wellbeing index

- Allows the user to prioritise factors of wellbeing as appropriate
- Includes cost of living considerations
- Dynamic, updating monthly as new data is available
- Offers maps and tables
- Interactive area profiling showing index contributing factors



Challenge 2: Cycling in the City

Ed Manley and James Cheshire (CASA)

BARCLAYS
CYCLE HIRE
3817

BARCLAYS
CYCLE HIRE

BARCLAYS
13167

Cycling in the City

London Bike Hire Data

Ed Manley

James Cheshire

All 856,572 trips between London bike hire docks

20th May to 19th June 2012

What can you do with it?

Ideas…

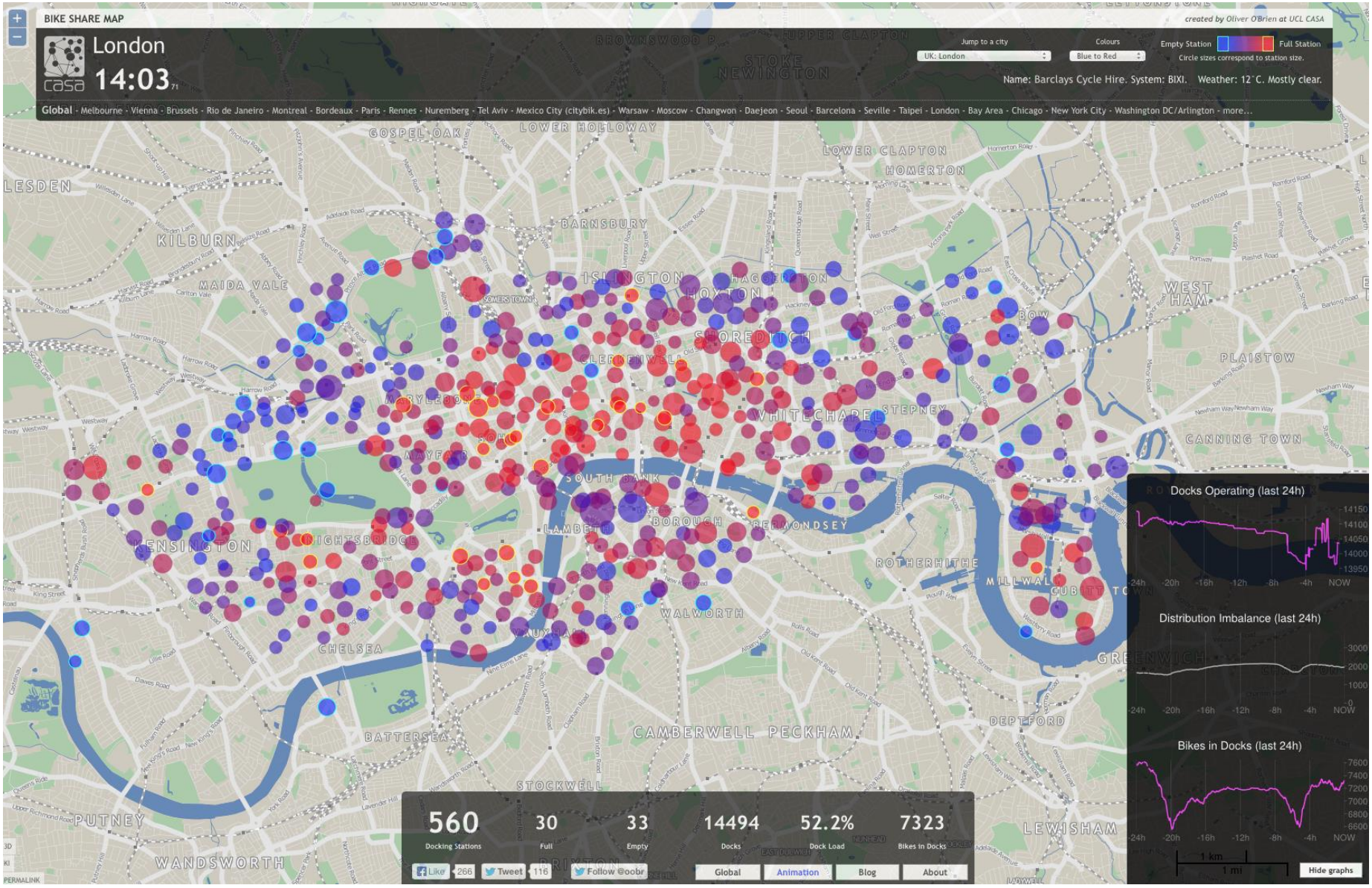
Spatial trends? Usage Trends?

Temporal trends? Weather influence?

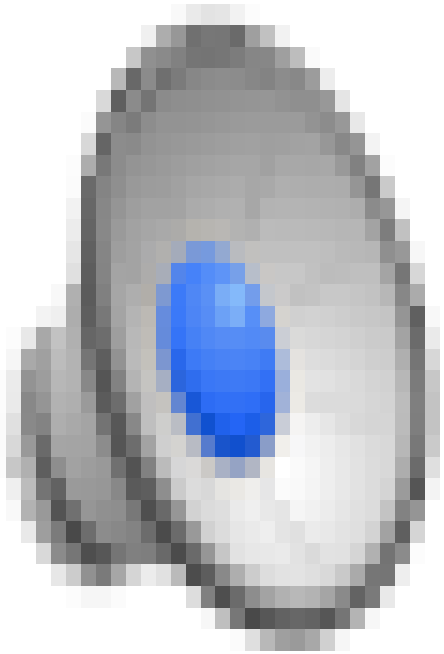
Impact of events? Visualisations?

Applications? Types of User?

Redistribution? Types of Usage?



[Ollie O'Brien's Bike Share Map]



Challenge 3: Building a Social Radar for the City

Steven Gray (CASA)

Challenge 4: Mobile Gaming in the City

Richard Milton (CASA)

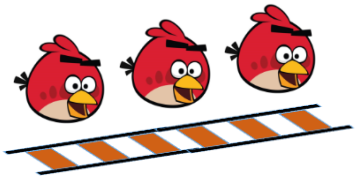
Mobile Gaming in the City

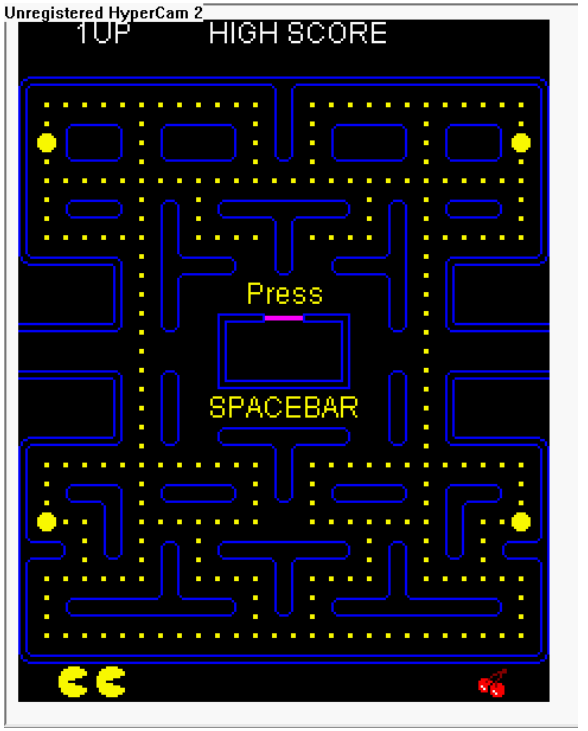
Aim of the Challenge

Come up with a game that uses locations in the city or people traveling around the city in order to discover new and exciting places that they may not know about. Maybe a citywide game of Pacman using Tube lines or bus routes to gain points? Maybe a real version of Monopoly using house prices data or stock market data and users use their phone to buy/sell property they are standing outside of? Or come up with a fun idea yourself, using the sensors you have in your phone.

Tools/Data

PhoneGap, Unity, Lumion, WebGL (GLGE), XNA, Java?
Real-time APIs, archive of October tube and bus data.





Challenge 5: The Weather in London

Linda See and Richard Milton (CASA)

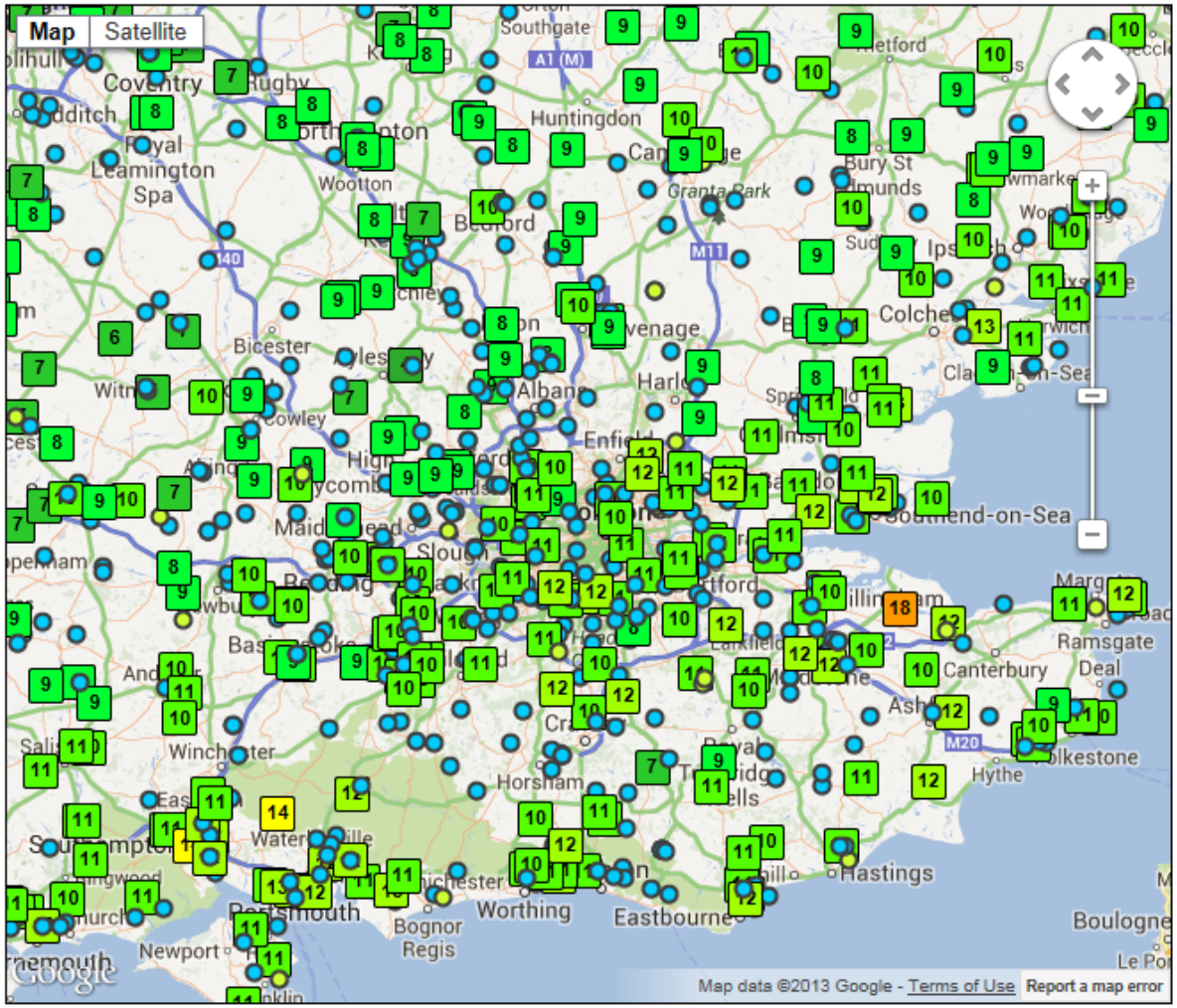
Sign Up | Login

Met Office WOW
WeatherObservationsWebsite

Units: **Standard** / Alternative
Timezone: (GMT+0:00) Europe/London

Home | Sites | Enter Observations | Photo Gallery | Support | Education | Forum

Some example searches: "Exeter, UK", "50.737, -3.405" or "Exeter Airport". The time slider below changes the time period on the view.



Weather

- (•) Temperature
- ( ) Rainfall Rate
- ( ) Present Weather
- ( ) Wind Speed / Direction
- ( ) Humidity
- ( ) Pressure (MSLP)
- ( ) Snowfall
- ( ) Soil Moisture
- ( ) Weather Impacts

Other

- ( ) Photos

Filters +

Map legend -

Temperature (°C)

Aim of the Challenge

- Use the data in an interesting way, e.g.
  - Create a visualization of the latest storm that hit the UK on Sun 27/Mon 28 Oct to see how this affected the city of London
  - Build a web app that shows rainfall data surfaces from the WOW website on top of rainfall radar images taken from 'Datapoint' (http://www.metoffice.gov.uk/datapoint/product/rainfall-radar-map-layer) to see how well they line up. Consider a slider bar that allows you to scroll through the day and watch radar and WOW data change.
  - More potential questions on the hackathon website

Skills Needed for the Challenge

- If you want to do simple visualisations, you can do this via:
  - a GIS package such as QGIS
  - CASA's MapTube Creator
  - the open source 'Processing' language
- If you want to build an app to display the maps dynamically, e.g. on a website that uses Google Earth or Bing Maps, then you will need skills in web programming

Challenge 6: Improving Transport in Britain

Open for a Challenge Lead

How can we improve transport in Britain? Pow wow

By **viv**, 21 November, 2012 3:56 pm

Tweet 0

How can we improve transport in Britain? GeoVation Powwow.

A summary of the Problem Pow Wow facilitated at the London Museum of Transport on 19 January, 2011.

Categories

Select Category

Blogroll

- GeoVation Challenge
- GeoVation on Google+
- GeoVation on Linked in
- GeoVation on Pinterest
- GeoVation on Slideshare

Aim of the Challenge

- Find a solution to one of the problems posed on the GeoVation website
- An example:

  How do you help travellers better understand the reality of how long journeys on different modes of transport take? People underestimate journey times by car (it always takes longer) and overestimate public transport (it is usually quicker).

- It also has financial and health implications and opportunity costs

Skills Required

- Depends on how you choose to solve this challenge:
  - Overall design of a solution
    - Anyone with an interest in the solution – would involve drawing up what such an app might look like, what information is needed, where to obtain it, etc.
  - Website that draws in information in real-time
    - Web designers / programmers
    - Programmers that can access information online via APIs or scraping
    - Individuals who can research the internet for information, e.g. petrol consumption for different engines, calories burned, health related information

Challenge 7: Hacking with Pigeon Sim

Steven Gray, Richard Milton, other CASA staff

Challenge 8: Creating your own City Dashboard

Steven Gray, Richard Milton, other CASA staff

What Happens Next?

Drink and Be Merry

- And talk to challenge leads about challenges you are interested in
- Talk to CASA staff about their technologies
- Tell us what you are interested in learning (post-its and pens provided)
  - Could become a lightning talk held during the event
  - Could become the subject for a future workshop
- Tell us if you want to give a lightning talk (post-its and pens provided)

8/9 Nov: Haldane Room

Friday 8 Nov (5 to 9pm)

- An open opportunity for anyone wanting to pitch a challenge
- Challenges will be set up around the two rooms
- Find the challenge you are interested in or talk to leads
- Start working on the challenge
- Beer from 5pm onwards; pizza from 6pm onwards

Sat 9 Nov (9am to 5pm)

- Continue work on your challenges throughout the day
  - Breakfast of pastries, buffet lunch and coffee/tea provided
- From 3 to 4: Put together a short presentation about your solution or your team's work – 'show and tell' (max 5 mins)
- From 4 to 5: Presentations, awards presented (500 pounds Amazon vouchers + other goodies) and general feedback

Internet Access

- Instructions will be provided tomorrow
- For those wanting to access the internet this evening, connect to the UCL Guest Wireless Network
- Open a browser and you will be directed to a login page
- Click on the Self Service link, enter your details and enter Hackathon_07/11/13 as the Event Code
- Click on Generate Account and then take note of the details for logging into the internet during the weekend

Any Questions or Comments?

Let the hacking begin….