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Open (location) data: the next  
challenge for LBS

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# The data problem for LBS

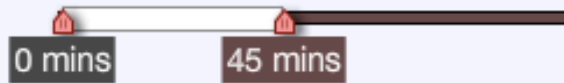
- LBS are tools for the delivery of contextual info
- Positioning technologies, databasing and application logic for LBS are now well developed
- However, service provision with LBS depends on the availability of datasets to deliver services
- Most data sets are collected by the public sector but are not sufficiently available in most countries
- This is the next key challenge for LBS

# The data LBS can use

- LBS can leverage data on:
  - Space and place information e.g. maps, addresses
  - Transportation options e.g. real time running
  - Facilities and services e.g. surgery opening
  - Environment and hazards e.g. weather, floods
  - Consents, licences e.g. planning appeals
  - Events and times e.g. public meetings
  - Prices and transactions e.g. house prices
- These are the issues people care about

# My Society mashups

Areas from 0 mins to 45 mins travel by public transport to the Department for Transport by 9am where the median house price is between £0 and £200,000



# How do LBS get data?

- Collect it (not always possible)
  - Get it yourself eg London TubeExits
- Buy it (often extremely expensive, or not for sale)
  - e.g. Pay £7.5K for National Public Transport Database
- Take it (usually illegal, at best ambiguous)
  - Scrape the postcodes from websites e.g. [ernestmarples.com](http://ernestmarples.com)
- Share it (many real time datasets are unavailable)
  - Contribute to OpenStreetMap, OpenCellID or freethepostcode
- Reuse it (many unlocking requests are being ignored)
  - Access data under OPSI reuse regs e.g. Welsh footpath DB

# Alfred Ernest Marples, Baron Marples of Wallasey loves postcodes and thinks you should do too.



Your postcode?

How do you like it?

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## What's this all about eh?

Post codes are *really* useful, but the powers that be keep them closed unless you have loads of money to pay for them. Which makes it hard to build useful websites (and that makes Ernest sad).

So we are setting them free and using them to run [PlanningAlerts.com](http://PlanningAlerts.com) and [Jobcentre Pro Plus](http://Jobcentre Pro Plus). We're doing the same as everyone's been doing for years, but just being open about it.

Hopefully the Government and Royal Mail will realise the value of this service and license us to offer it officially, reliably and for free. If not, and this website gets shut down, we'll close the websites we've made that make use of this site's lookup service. Permanently.

# Why is this data inaccessible?

- Policy: government 'user pays' decision e.g. OS
- Lock-in: private sector handling data e.g. TrDirect
- Tendering: data sterilised e.g. London iBus data
- Revenue raising: data retailing e.g. National Rail
- Terms unfair: claim of ownership of derived data e.g. OS
- Format block: data is published as a PDF §21 FOI DCSF
- Data protection: e.g. Lambeth empty houses breach DP
- Security: endangering public e.g. TfL Traffic lights timing

# How do we release (location) data?

- FOI
  - Use of Whatdotheyknow.com to request data
- Unlocking
  - Use of the OPSI data unlocking service
- Regulator intervention
  - Rail Regulator competition case on Train running data
- Shaming
  - Guardian 'Free Our Data' Campaign
- Policy change
  - Sir Tim Berners-Lee UK Government Data Czar
  - Power of Information Taskforce

# Ongoing issues

- Commercial interests
  - FOI does not affect ‘previously traded data’ such as OS maps, Royal Mail postcodes etc.
- Many exemptions
  - FOI requests have cost, therefore, scope limits
- Derived data
  - The OS argues that it owns any content created during access to its IPR: for many, a roadblock

# Derived data

 Futuresonic Urban Festival of Art, Music & Ideas Manchester UK

## Climate Bubbles: Manchester

Environment 2.0 Participation Projects

[GO BACK](#)

### Step 2: End Point

Move the **END** marker on the map to show where you ended your Bubble Chase. Use the zoom controls to zoom in and position the marker as accurately as possible.

Once the marker is positioned, click the below button to continue to the next step.

[GO TO STEP 3](#)



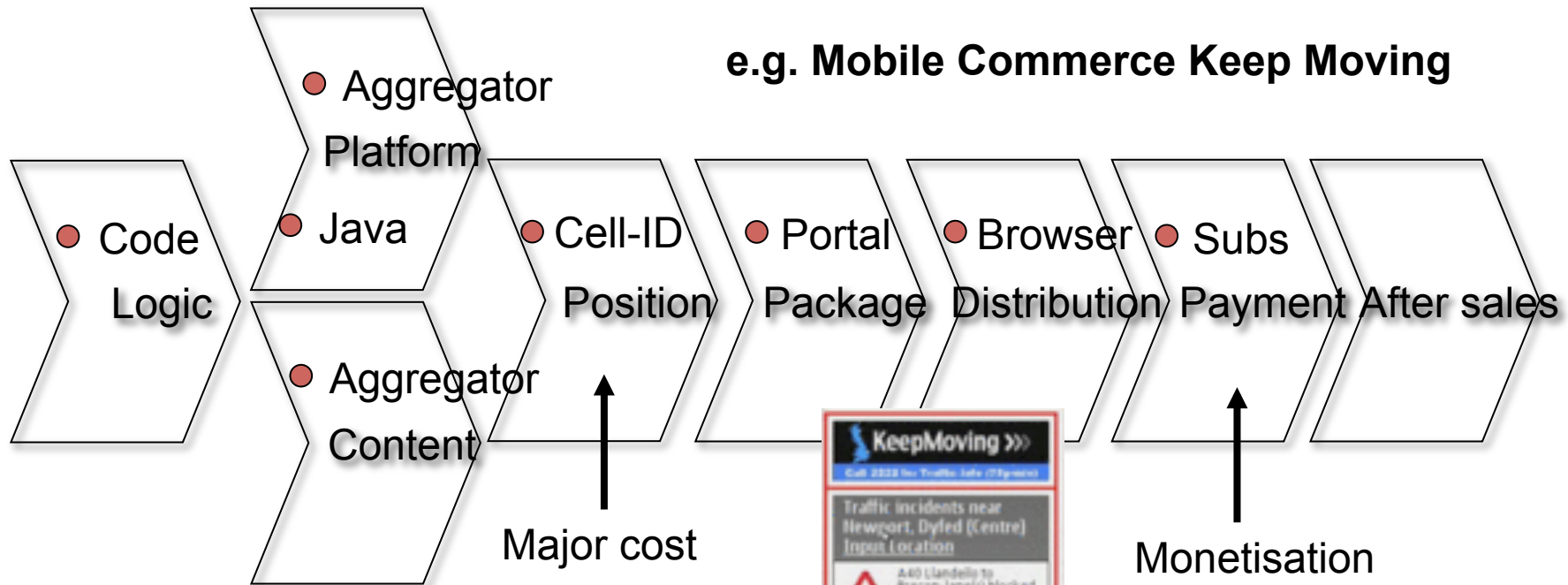
Even with a simple application like this, created for the Met Office and Lancaster University, I cannot use the OpenSpace API. If I were to use OpenSpace, then Ordnance Survey claims derived data copyright over whatever data the public contributes. Now I cannot share this data, or use this data myself if I or the third party are not paying Ordnance Survey license fees. So much for the goals of "promoting innovation for economic benefit and social engagement" or "supporting the sharing of information across the whole of the public sector".

# The implications for LBS

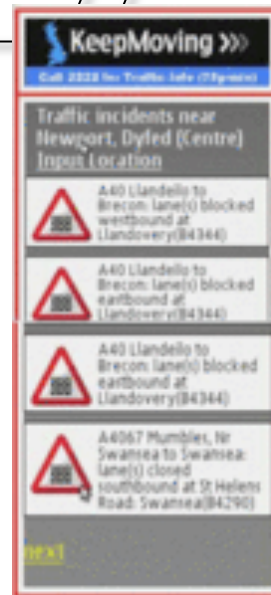
- LBS need to become more ‘data-centric’
  - Less function bloat... more content
- LBS need a ‘platform’ strategy
  - Data for LBS will come from external sources requiring middleware
- LBS projects need a privacy policy
  - Use privacy enhancing technologies
- Need to consider the business model
  - LBS must be designed for specific content sources

# Operator portal sale model

Developer   Aggregator   Operator   Developer



Limited precision of positioning  
constrains functionality



# App store sale model

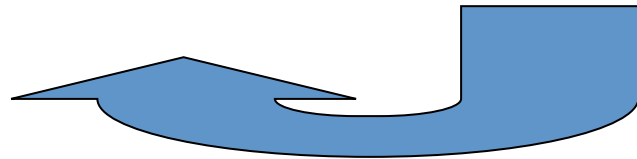
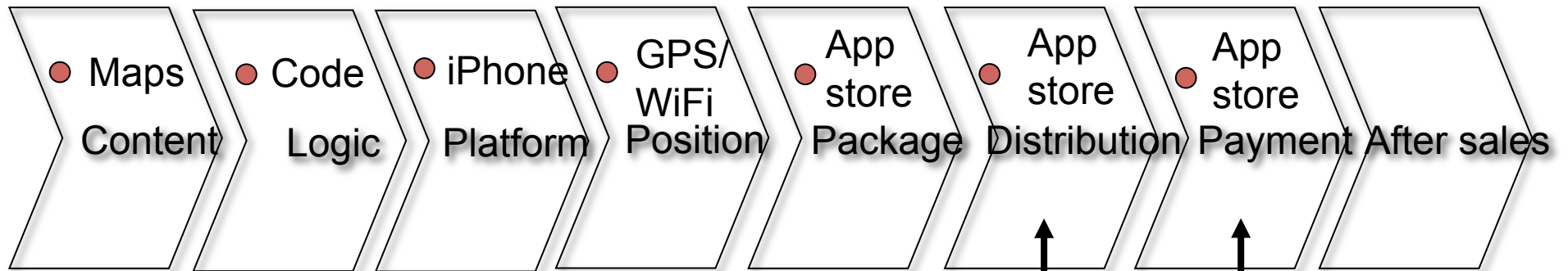
Supplier

Developer

App store

Developer

e.g. Total Hotspots iPhone app



'Black-box' positioning makes service reliant on commodity

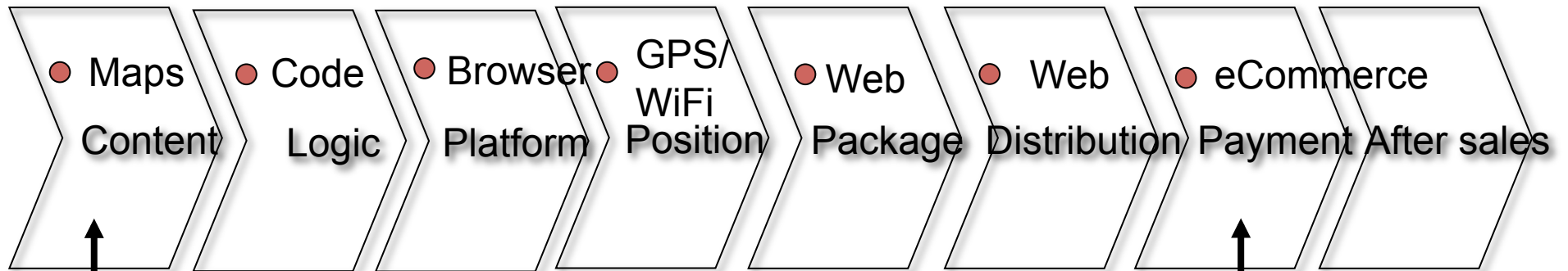


Major cost Monetisation

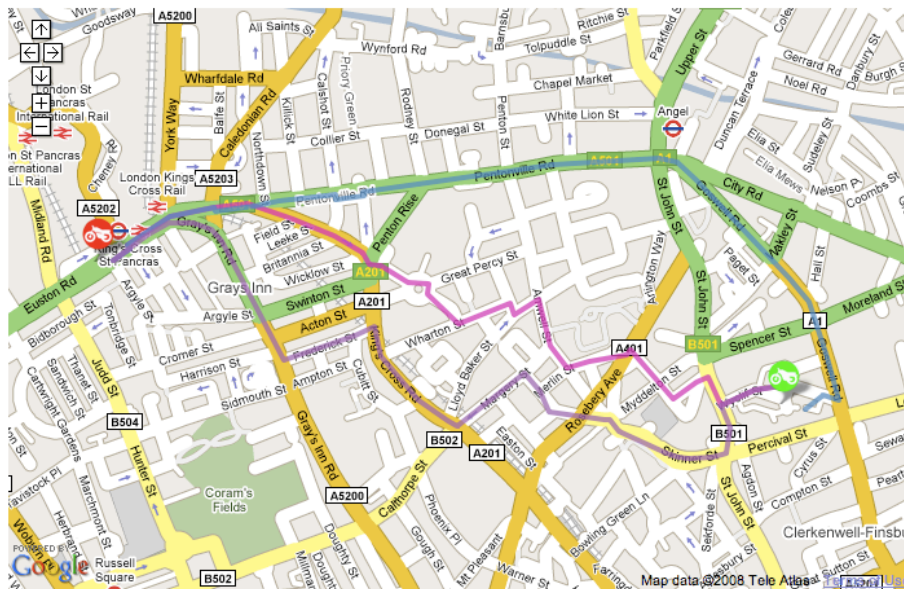
# Mobile browser sale model




Supplier   Developer   Browser   Web   Provider   Developer

e.g. Placr Travel Demon



Major cost ↑



-  0hr 33min 30sec
-  0hr 5min 50sec
-  0hr 4min 36sec

↑ Monetisation

placr

# Geo-privacy protection

If we look at privacy as a transaction, does it come with sufficient protection or rejection without consequences?

	<b>Accept transaction</b>	<b>Reject transaction</b>	
<b>Protection sufficient</b>	'Privacy by Design' ideal	"Respect for private life"	← You can run
<b>Protection insufficient</b>	Enforcement of the law	Dystopia where cannot reject transaction	← You can't hide

# Conclusions

- Data for LBS is not like GIS data... it is alive!
- LBS projects should start by jail-breaking the data
- LBS data must always develop public support through privacy enhancement
- LBS can be critical tools of democratisation... time to escape the Starbucks token cliché and make the services people really want...

# Questions

- Role of INSPIRE in this process?
  - Not fast enough
- Is public data good enough quality to release?
  - Mostly, but where not, openness will > quality
- Thoughts
  - Create data release sandpit to help public sector
  - Define relations to sensor-based data sources

# Contact

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