

## LOCATION-BASED TARGETING

### *A Survey of the Technologies, Opportunities and Risks*

Presented by Peter Furness  
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Slide 1

## Topics

- ◆ The technology
- ◆ The opportunities
  - Vehicle telematics and pay-as-you-drive services
  - Virtual (and parallel) worlds and 'augmented reality'
  - Retailing – tracking the customer journey in-store
  - Social media – location-based networking
- ◆ The risks - privacy and data protection
- ◆ Some predictions

Further information on many of the topics covered in this presentation may be found at the Real Time page of the Geodemographics Knowledge Base: [www.geodemographics.org.uk](http://www.geodemographics.org.uk)

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## The Technology (1)

- ◆ Location tracking
  - Global Navigation Satellite Systems (GNSS) - GPS and Galileo..and others
  - Mobile Phone Station Location
  - WiFi triangulation
  - SDR beacons
  - Digital TV triangulation
  - Acoustic sensing
  - Radio Frequency Identification (RFID) tagging
- ◆ Location-aware devices are becoming ubiquitous



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## The Technology (2)

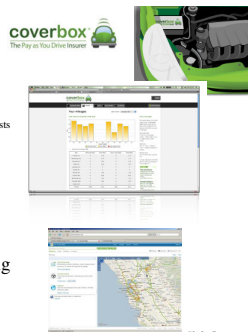
- ◆ Surveillance
  - CCTV
    - e.g. National Surveillance Network
  - Satellite imaging and remote sensing
  - Data mined surveillance (e.g. Twitter mood maps)
  - Smart Dust
- ◆ Virtual worlds – the 'infrastructure'
  - Representing people and things in time and space
    - Cooltown and 'The Internet of Things'
    - Second Life/ViOS/ActiveWorlds
    - Massively Multiplayer Online Games (MMOGS)
  - Advanced data visualisation
  - Semantic Web (and Linked Data)

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## Telematics – Pay-as-You-Drive Services

- ◆ Motor Insurance
  - Coverbox
    - GPS tracking device fitted in car
    - Choice of insurers
    - Pricing based on usage
    - Additional services, e.g.:
      - Dashboard – to help manage motoring costs and usage
      - Car theft tracking
    - Coverbox is part of Cobra Wunelli
  - Products from Aviva and MoreTh>n have been withdrawn in the UK
  - Many providers in USA, Europe and elsewhere, e.g. GMAC, Progressive, MileMeter
- ◆ Traffic forecasting and routing
  - E.g. Trafficmaster/SmartNav, TrafficAid, ClearFlow (Microsoft)

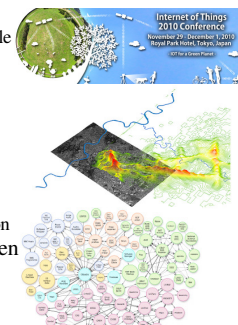


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## Virtual 'Real' Worlds

- ◆ Cooltown
  - HP Labs. Web presence for people places and things
- ◆ The Internet of Things
  - Nov-Dec 2010 Tokyo
- ◆ Real Time Rome
  - MIT SENSEable City Lab
  - Integrates data from cellphones, buses and taxis
  - Use of advanced data visualisation
- ◆ Semantic Web and Linking Open Data (LOD)
  - DBpedia



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## Virtual 'Virtual' Worlds

- ◆ For example, Second Life
  - Created by Linden Labs
  - '3-dimensional online, digital world, imagined, created and owned by its residents'
  - Being used by 'real world' companies such as IBM, Sun, Nissan and Reuters:
    - Product & service promotion, employee communication and teaching
  - Market research from e.g. Market Truths (NZ) and Reperes (France) targeted at Second Life residents



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## Augmented Reality

- ◆ Augmenting a view of the real world with computer generated imagery and data
- ◆ Examples:
  - Google Goggles
  - DBpedia Mobile
  - Layar
  - Acrossair Nearest Tube App
  - .... Many others...



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## Retailing – Tracking the Customer Journey In-store

- ◆ Case Study
  - Wharton Management School with Sorensen Associates
  - PathTracker@ technology
    - Shopping trolleys with RFID tags
    - Use of video technology
  - Analysis of the patterns followed by grocery shoppers

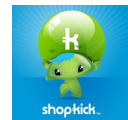


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## Retailing (2)

- ◆ Shopkick
  - App-based
  - Responds to audio signal in store (more accurate than GPS)
  - 'kickback' rewards for entering store and for scanning products using smartphone camera
  - Clients include Best Buy, Macy's, Sports Authority
- ...but not all good news:
- ◆ P.R.I.S.M. (Pioneering Research for an In-Store Metric) Project
  - Led by AC Nielsen with major FMCG and retailers
  - Claimed as 'the first truly scientific measurement of the effectiveness of in-store sales tools such as shelf location and promotional displays'
  - Suspended 2009 after withdrawal of Walmart



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## Social Media – Location-based

- ◆ Geosocial networking
  - Linking people, places, events and providers
  - Collect rewards and offers from local businesses and suppliers
  - Check-in links with Facebook and Twitter
- ◆ Examples include:
  - FourSquare
  - GoWalla (Alamofire)
  - Loopt



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## The Risks - Privacy & Data Protection

- ◆ Increasing public concern about surveillance technologies, and data security but..
  - General acceptance that data has to be exchanged in order to receive innovative and cost-effective products and services but..
  - This requires companies to be faultless over privacy and data protection, otherwise customers will just walk away
  - Many consumers are naïve about over-sharing
- ◆ Some big (and nasty) surprises coming...



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## Some Predictions

- ◆ Rapid evolution of all the applications discussed
- ◆ Emergence of new players specialising in analytics for the real time spatial world
- ◆ Someone will pick up the 'Cooltown' baton and seize the initiative to lay down a global infrastructure:
  - Google? Microsoft? IBM? Apple? Nokia?
  - ...Or, perhaps, it will emerge naturally via the Semantic Web (and Linked Data)?

## References

1. Further information on many of the topics covered in this presentation may be found at the Real Time page of the Geodemographics Knowledge Base [www.geodemographics.org.uk](http://www.geodemographics.org.uk)
2. 'Real Time Geodemographics: New Services and Business Opportunities (and Risks) from Analysing People in Time and Space', Furness, P., Journal of Direct, Data and Digital Marketing Practice, Vol.10, No.2, Pp 104-115.
3. 'Linking Spatial Data from the Web', Becker, C., Furness, P., Journal of Direct, Data and Digital Marketing Practice, Vol.11, No.4, Pp 317-323.

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