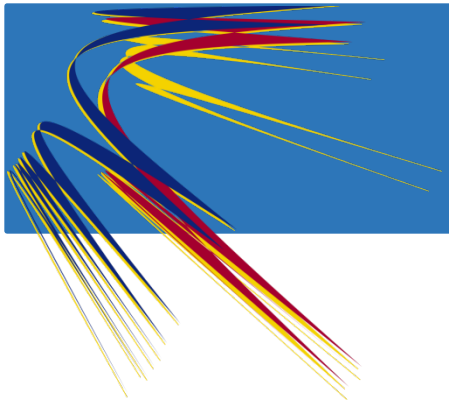

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Location in Context

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The University of Nottingham

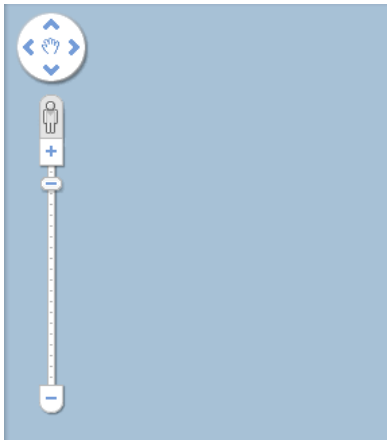
What I did on my holidays

- Two weeks ago I took two compass bearings applied the local 3°5’E variation, referred to a map and found I was at:

  38° 25.8’ N, 20° 47.3’ E

  (was within .1’ of the GPS!)

- Google maps returns



- What location based service might I want?

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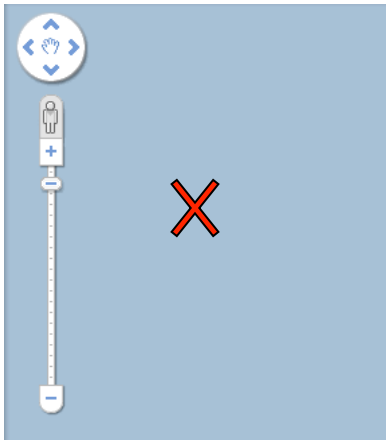
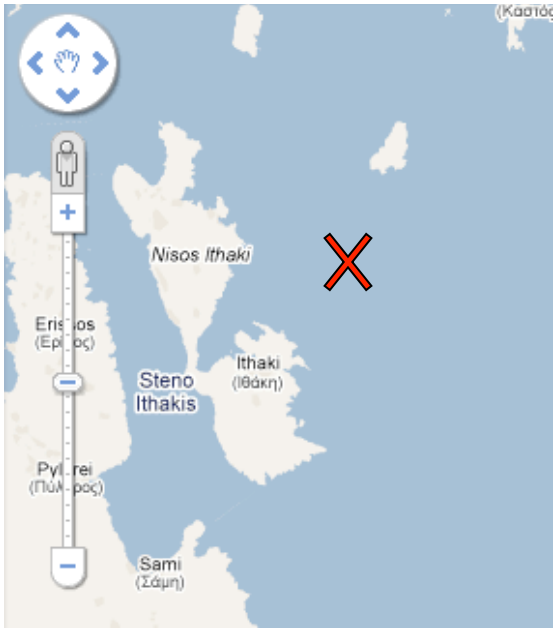
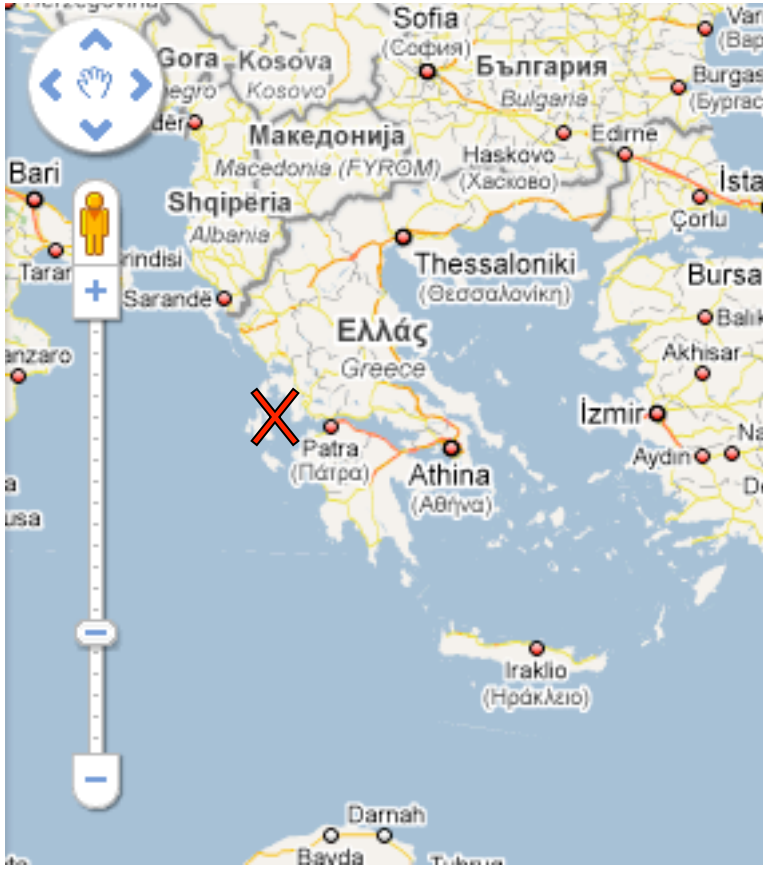
I knew where I was…







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Scenario 1; “Help!”

- I really need someone else to know where I am

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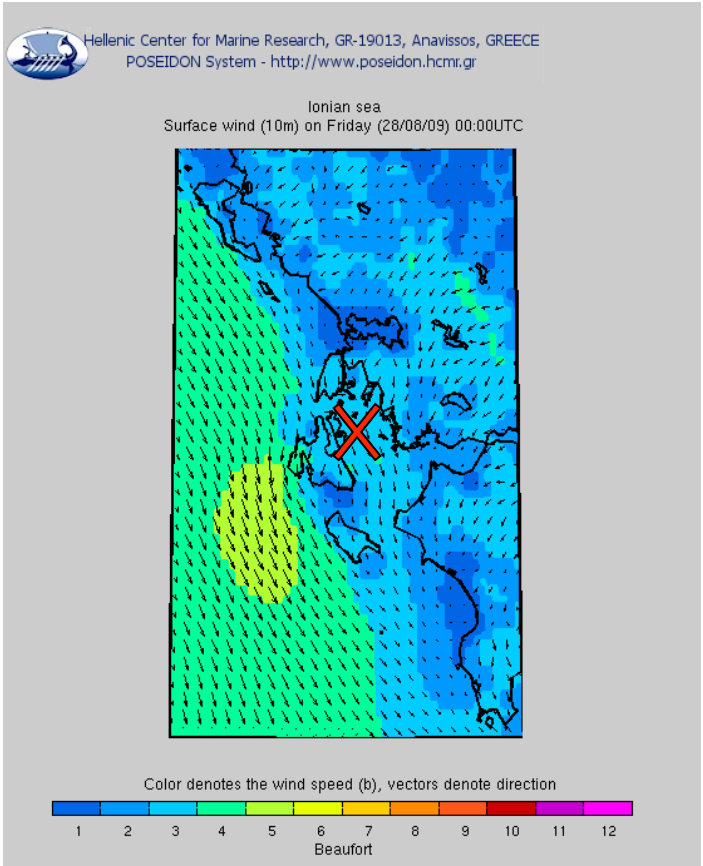
Scenario 2: “Navigator”

- With a North Westerly at Force 3 I can beam reach to Vathi harbour on Ithaca making about 6 knots
  - ETA about an hour
  - Crew can read books until harbour duties
  - ‘ware Greeks driving ferries



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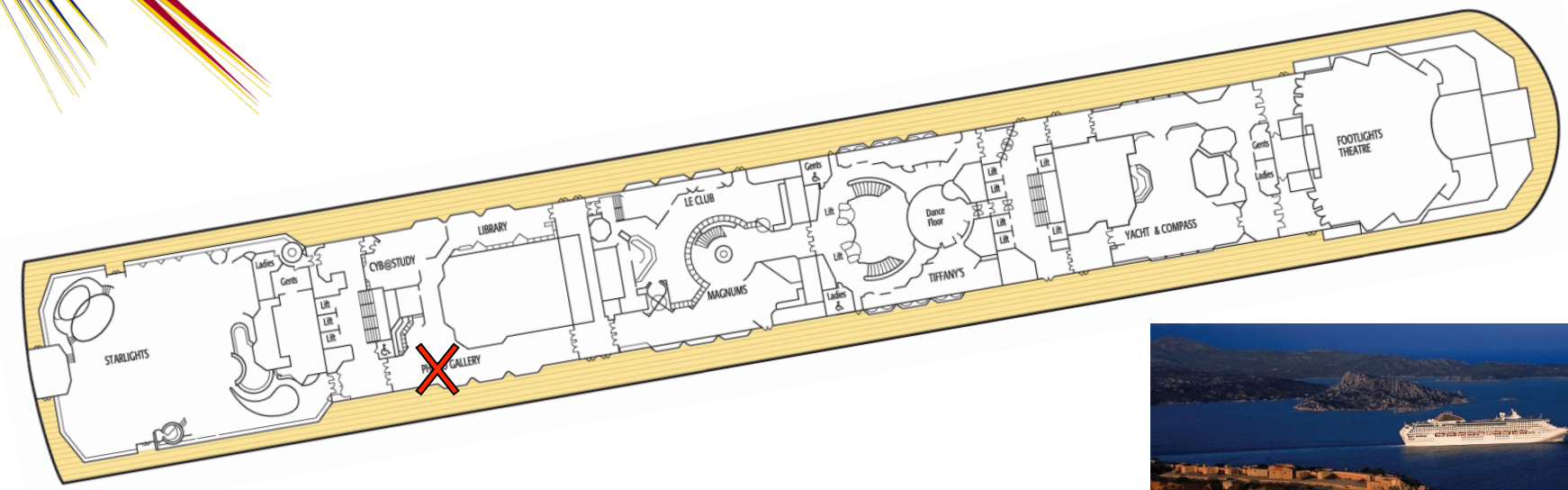
Scenario 3: “The bar moved”



- Where’s the nearest bar?
  …sometimes we really want relative location

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Context

- The three examples so far give different physical contexts in which applications might operate

- We also want to understand applications that consider the social context… to understand this we must look into:
  - The transient and temporal nature of social context
  - The acceptable level of information sharing in different social groups
  - Ownership and "licensing" of use

Scenario 4: “Day in the park”

- Social context is for “a day” and includes sharing information between a family and/or friends and the park…
- Services:
  - Where are the kids?
  - I’m lost please return me to my parents
  - Where are my buddies?
  - Where are the short queues?
- Who retains what rights to the data at the end of the day?

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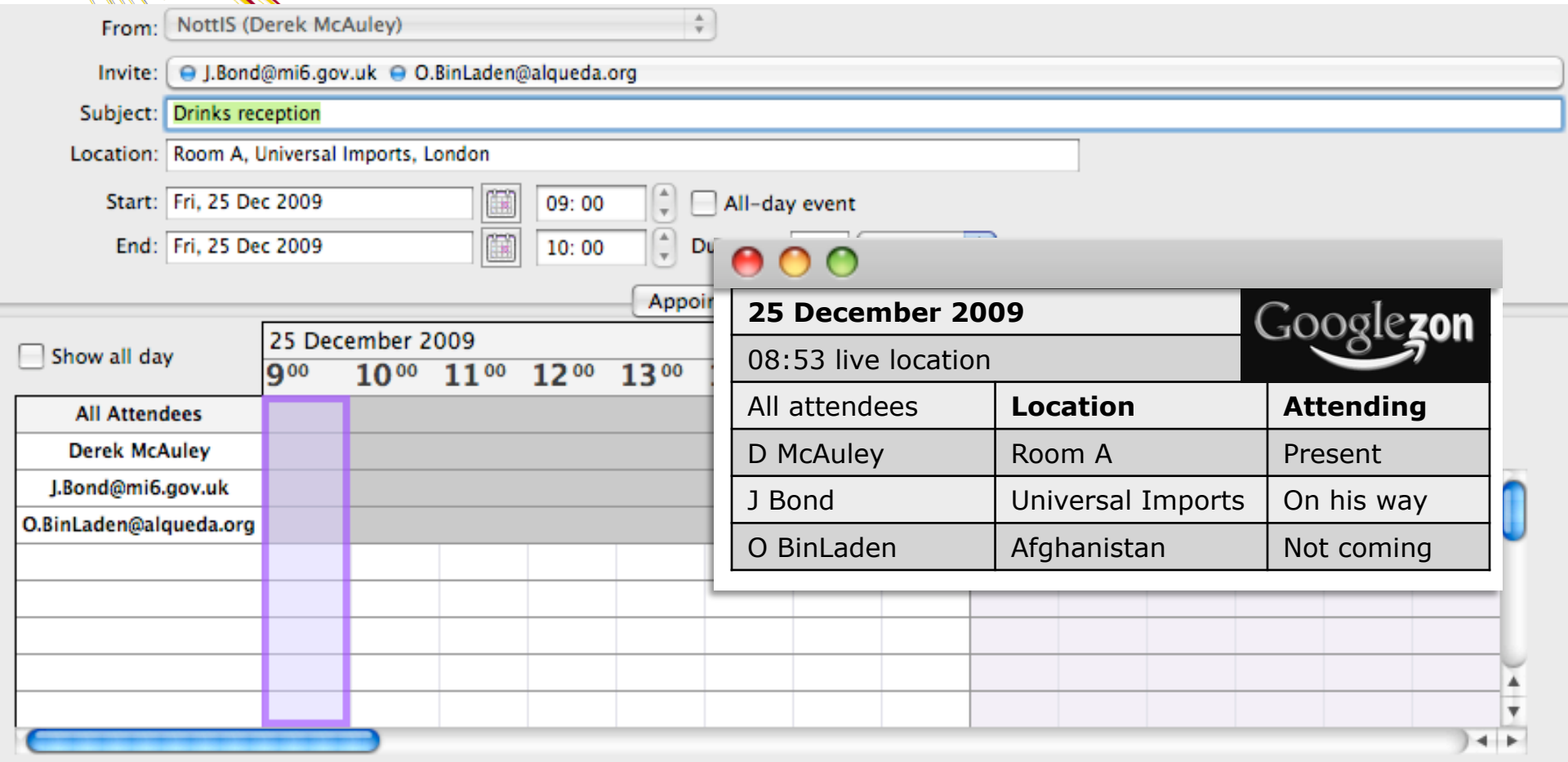
Scenario 5: “Attendees”



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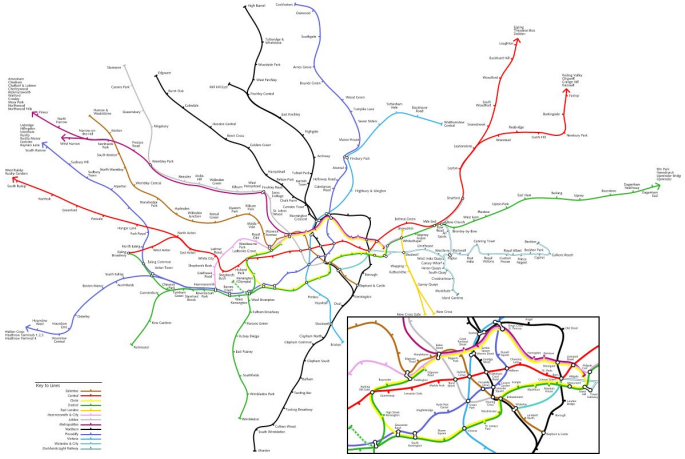
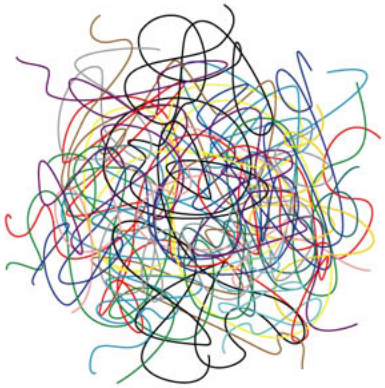
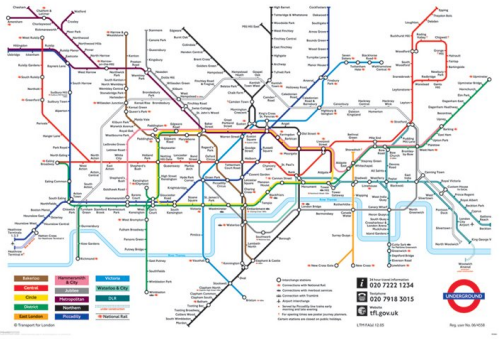
Space and place

- Keeping it simple ☺
  - Space – the geographic and mathematical representation
  - Place – the social context and human model



(Of course the argument that geography and maths are themselves human constructs leds to a deeper discussion…)





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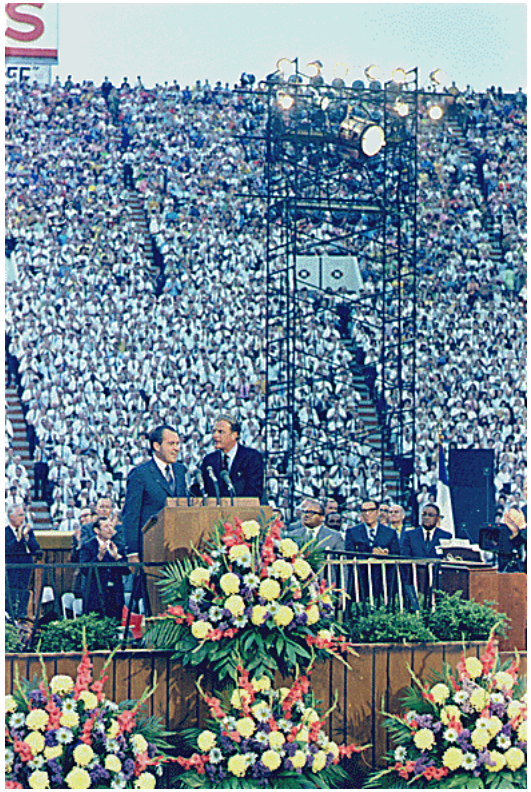
Scenario 6: “Worship”



- A space can be a different place at different times

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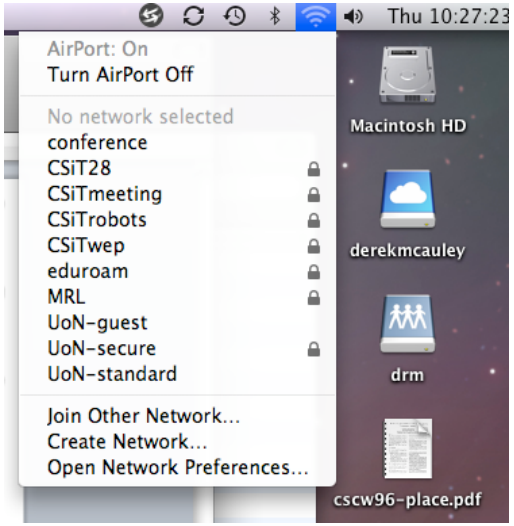
Spaces overlap

- In ubiquitous computing we start to consider other "spaces"
- These spaces do not have simple Euclidean distance metrics…



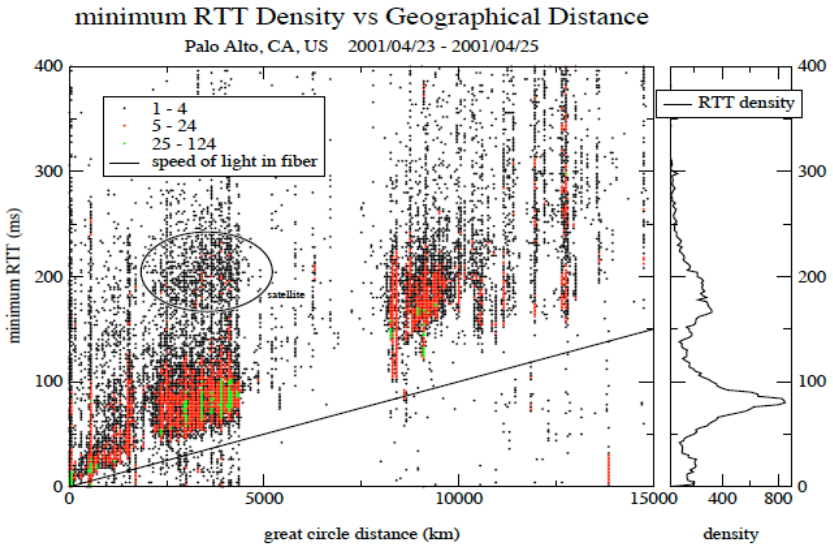


Fig. 3. Minimum RTT density vs geographic distance for CAIDA topology monitor in Palo Alto, CA, USA. 25 April 2001.

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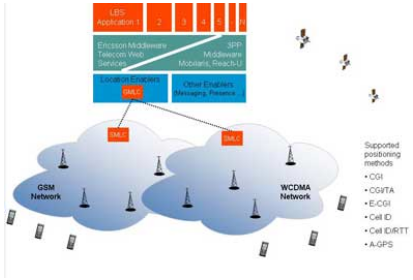
Who's data is it anyway?

"It's ours"

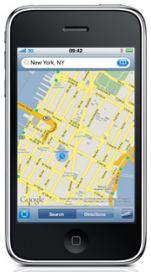
- Liam Maxwell, Centre for Policy Studies

Google health beta

"Google stores your information securely and privately, but you always control how it's used." - Google



V.



"Can Spam" and "EU Data Retention Directive" – it is ours!

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"Enclosed and humanized space is place; Compared to space, place is a calm center of established values. Human beings require both space and place." - Tuan

Successful location based services will address these human issues….

Questions?

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