Crowd-sourcing in the metro context

Drawing lessons from concrete examples

Nishanth Sastry
Computer Laboratory,
Cambridge University
For managing traffic...

Sensing Speed Traps and hidden policemen (trapster.com)

Finding parking spots in NYC (SpotSwitch.com)
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- Sensing Speed traps and hidden policemen (trapster.com)

Works only if crowds are willing to participate: crowdsourcing to catch speeding cars unlikely to be successful.
For catching outlaws...

- Incentives ensure participation
- ... reacting in time to reported outlaw sighting was difficult
- NW 253 Nigerian terrorist was allegedly reported by his father, but watch-list has 550,000!
For catching outlaws...

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- Reacting in time to reported outlaw sighting was difficult
- NW 253 Nigerian terrorist was allegedly reported by his father, with a reward of 550,000!

Reacting to sensed data can be a bottleneck.
For sensing weather...

- #uksnow tops global twitter trends when it snows in UK!
- Data may not be reliable (even if the tweetters are weather crazy Britons)
- Coverage more dense than the Met Office but not uniform
  - self-regulates to population density

mashup that visualizes tweets
#uksnow <loc> <snowscore>
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Processing/aggregation needs to handle data heterogeneity.

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Passive vs active sensing

- The act of sensing can be a barrier to participation: Make it a passive by-product of another activity
- Google flu-trends: Predicts flu season based on search terms
  - Faster than Center for Disease Control!
- Do tweets correlate with credit card sales in the UK?
  (us, in collaboration with Institute for Manufacturing, Cambridge + MPI-SWS, Germany)
  - useful for priming supply chains (e.g. during run up to holiday season sales or anticipated new OS from Apple/MS)