

# Smartphone Mobile Computing

CSEP590B/F Winter 2011 (first offering)

5<sup>th</sup> Lecture, 7 February 2011

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# Overview for Today

- **Finish up on communication topics from last week**
- **WiFi, GPRS, WiMax, NFC**
- **Q/A on communication**
  
- **Group projects: questions on homework and projects**
  
- **Participatory sensing**
- **Video of talk by Prof. Deborah Estrin of UCLA**
- **Q/A on participatory sensing**

# Issues to consider

- **Why would a user participate?**
  - Is app for personal and/or community benefit?
- **What incentives are there?**
  - Users use up resources: battery, bandwidth
  - Does benefit outweigh loss?
  - Monetary incentives? Social incentives?
- **Who vouches for integrity of data?**
  - Are contributions verified? Is bad data filtered/removed?
  - Are user reputations part of the equation?
- **What about contributors' privacy?**
  - Much can be gleaned from streams of correlated data
  - Who owns the data? How is sharing implemented?
  - Can distribution rights be revoked?

# Other technologies

## ■ Social networking

- manage reputations
- only consider data from friends of friends

## ■ Mechanical turk

- get others to validate data
- mobile turk to check out specific places

## ■ Security

- sensors attach certificates to data they generate
- may be needed in important areas such as medicine/health

# Application domains

- Personal health
- Environmental monitoring
- Description of spaces
- Homeland security
- Tourism
- Social networking
- ...