Cityware for Facebook

Understanding spatial and transpatial social networks

Vassilis Kostakos





UNIVERSIDADE da MADEIRA Information and Communication Technologies Institute

Focus

- How people socialise
- How people spend their time
- Face to face (no technology) vs. technology (facebook, phone, email)

Outline

Background - why did we do this?
Cityware for Facebook
data collection
Results - exploration

Motivation

- Charter the digital urban landscape
- What technologies are out there?
- How do they move?
- Data collection adapted from Space Syntax

Gatecounts











Discrete device

Gatecount timelines



Gatecount 5



Galecount 9





Gatecount #



Gatecount 3











Presence

Frequency



 $y = x^a$

Information









Remove Friends















Cityware for Facebook

• US

- MIT
- Stanford
- Boston
- Urbana-Champaign
- Michigan
- Portland
- Oklahoma
- New York
- Ohio
- UK
 - Cambridge

- Oxford
- Nottingham
- Lancaster
- Warwick
- Bristol
- Manchester
- Melbourne
- Bremen
- Cairo
- Iceland





Facebook

Bluetooth

Bluetooth vs. Facebook





o - Facebook x - Bluetooth









Bluetooth & Facebook



Importance of links



How small is the world?

Relationships between scanning sites

- Node: a physical location on the earth
- Link nodes that have been visited by same individual (bluetooth)
- "Heavy links" have many people travelling on them







How do people spend their time?



• Bluetooth

• Phonecalls (6 month dataset)

• Enron

Frequency of social behaviour



Duration of DISTINCT social interaction



Duration of ACCUMULATED social interaction



Why this bimodal distribution?

- Hypotheses:
 - Men vs.Women
 - "In a hurry" vs. "not in a hurry"

Men vs. Women

No gender data available for

- Bluetooth
- Phonecalls
- Explore Enron dataset

Enron



Gender effect?

Bimodality is not (clearly) to gender



Gender effect?



On average, men talk more. However, men may perceive that women talk more because men talk less to women than women talk to men.

Late-breaking results

• How people spend their time

on the bus



Conclusion

- People appropriate communication media
- They socialise in similar ways across multiple media

- Face-to-face appears to be more "important"
- People that we socialise the most with have less to offer (i.e. are replaceable) compared to strangers
- Face-to-face offers more opportunities

- Groups of men speak more than groups of women
- Men are likely to receive longer communications

- Information is best spread via strangers
- Viruses best spread via friends

- People travel a lot!
- Vast geographic distances are easily overcome with hopping

Thoughts on DTNs

- Contain DTN within a city? Think global.
- Packet lifetime => heavy influence on path to choose:
 - Hop proximity
 - Geographic proximity
 - Time proximity

Thoughts on DTNs

- How are these measures of distance related?
 - Hop distance
 - Geographic distance
 - Temporal distance

Thoughts on DTNs

- Expect similar (human) behaviour on various communication media
- Targeted communication?
 - or, browse the world through "my friends' eyes"

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Questions?

vassilis @ cmu . edu