Lausanne Data Collection Campaign – Mobility Patterns in the Wild
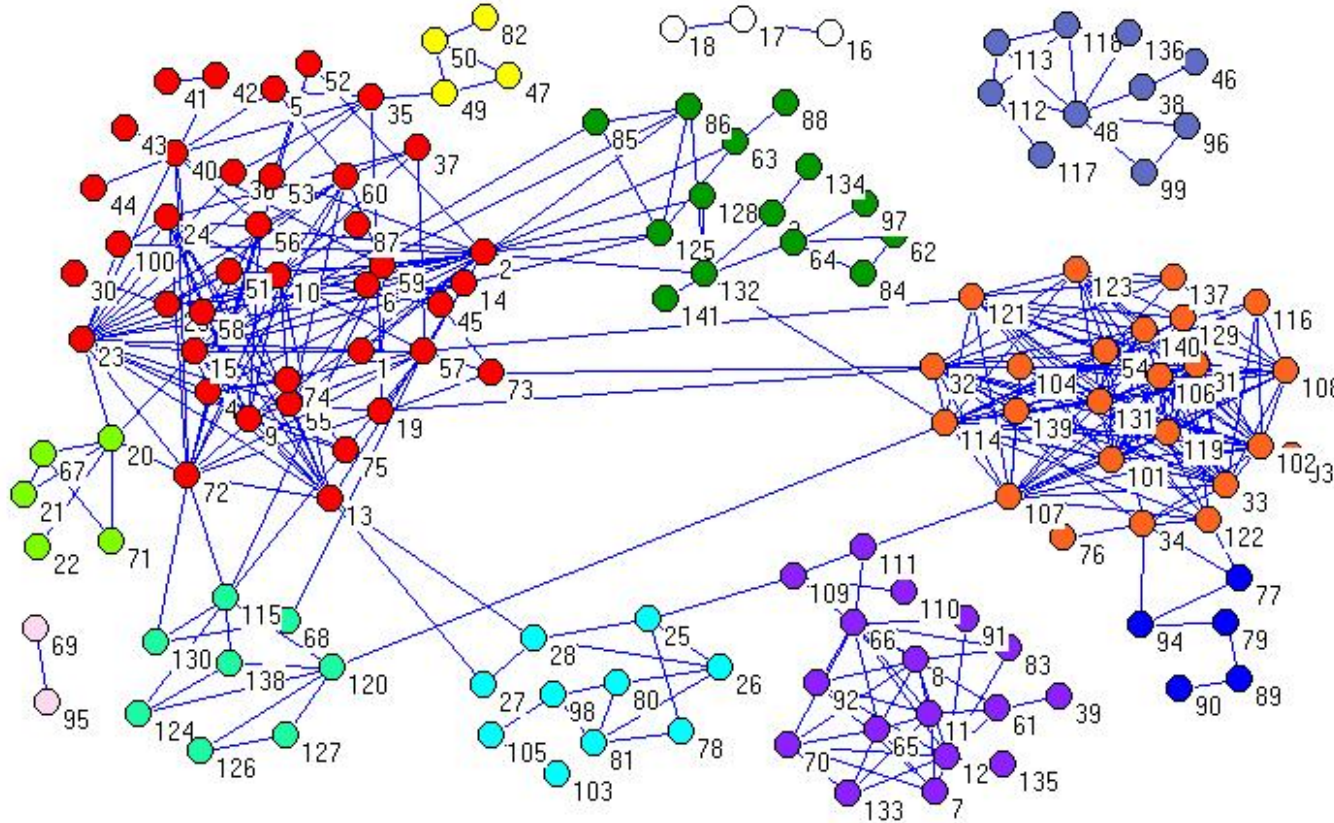
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Lausanne Data Collection Campaign

Since Sep. 2009
Nokia smart phones
200 participants

Connected sample

Detecting communities

Communities detection based on technique called **modularity optimization** (Nikolai Nefedov, NRC-Lausanne)

Color-code indicates community number

141 users form

8 connected + 3 isolated communities (based on call and SMS log data)

Regrouped to improve visualization

8 connected communities may be agglomerated into 2 large communities connected by 1 community

Collected mobility data

Location

• GPS coordinates
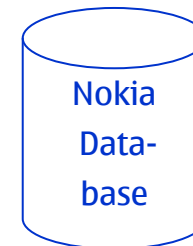• WLAN MACs
• SSIDs
• Cell-IDs

Social Interaction

• Phone and SMS logs
• Address book info
• Calendar events
• BT mac addresses

Phone usage

•Communication applications
•Multimedia and games
•Internet usage
•Etc. etc.

Data collection client
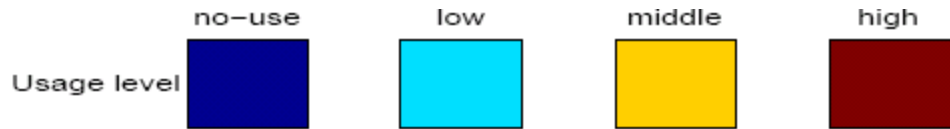
WiFi access point

Nokia Data-base

What else is known about individuals?

Surveys reveal
- Demographic factors
- General ICT usage patterns
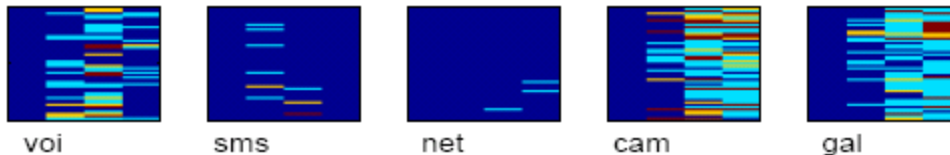- Personality of the participants

- Nature of connections to most important contacts
- Nature of top locations of individuals
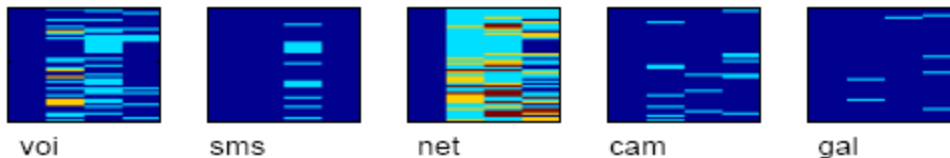
Classification of participants based on phone use

Type 1: "Basic communicator"

Low use of voice call in the morning and evening. High in the afternoon. Some SMSs sent through the day.

Type 2: "Observer"

Some use of voice call through the day. Very low use of SMS and browser. Camera (and gallery) gets used in the afternoon and evening.

Type 3: "Mobile Internet user"

Some use of voice call in the morning and afternoon. Relatively high use of browser from morning to evening. Sporadic/ low use of other functions.

For more details on this piece of research, see:

T. Do and D. Gatica-Perez. By Their Apps You Shall Understand Them: Mining Large-Scale Patterns of Mobile Phone Usage. in Proc. ACM Int. Conf. on Mobile and Ubiquitous Multimedia (MUM), Limassol, Dec. 2010

Personality and mobility data

Big Five Personality scale administered on the participants

Openness to experience

Emotional stability

Agreeableness

Extraversion

Conscientiousness

Personality and mobility data

<u>Examples of significant correlations (N=86)*</u>

Openness to experience   Low tendency to miss phone calls

Emotional stability   Average SMS word length is high

Agreeableness   Incoming calls tend to last longer

Extraversion   Less likely to use the browser frequently

Conscientiousness   Less likely to use multimedia

*Results will be published in an upcoming paper
by Chittaranjan, Blom and Gatica-Perez

Visit the project web page:

http://research.nokia.com/page/11367

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