

Life in the 22nd century: Living with the Internet of Things

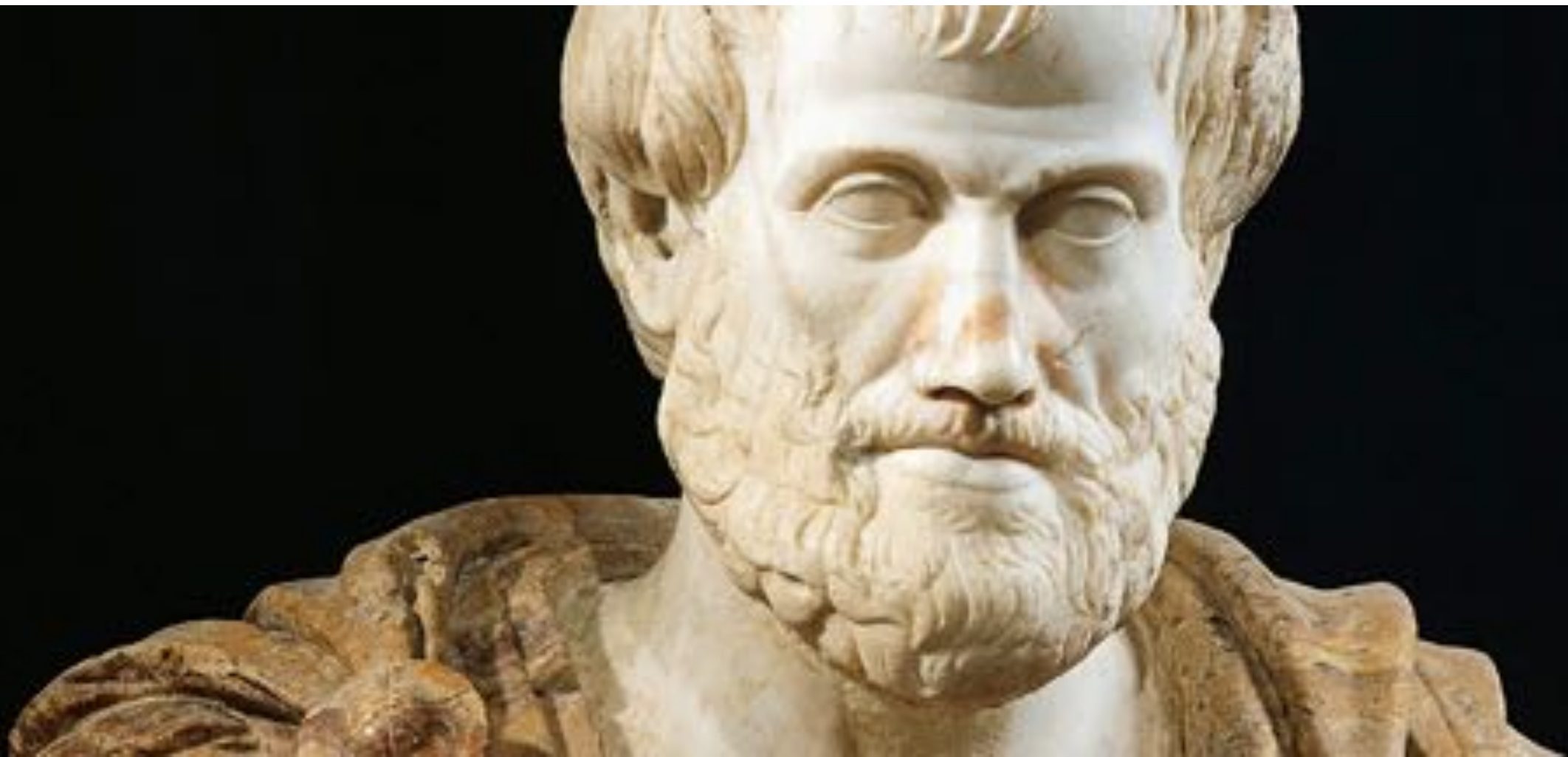
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School of Computing and Information Systems
University of Melbourne

*25 May 2019
Talk given at the Melbourne Knowledge Week
Melbourne, Australia*

Part I

What makes us human

The “supreme good” for a *polis* is...



Self sufficiency

Self sufficiency

Man was created to live in polis.
Polis makes a citizen's life complete.



Humans do not make cities

Humans do not make cities

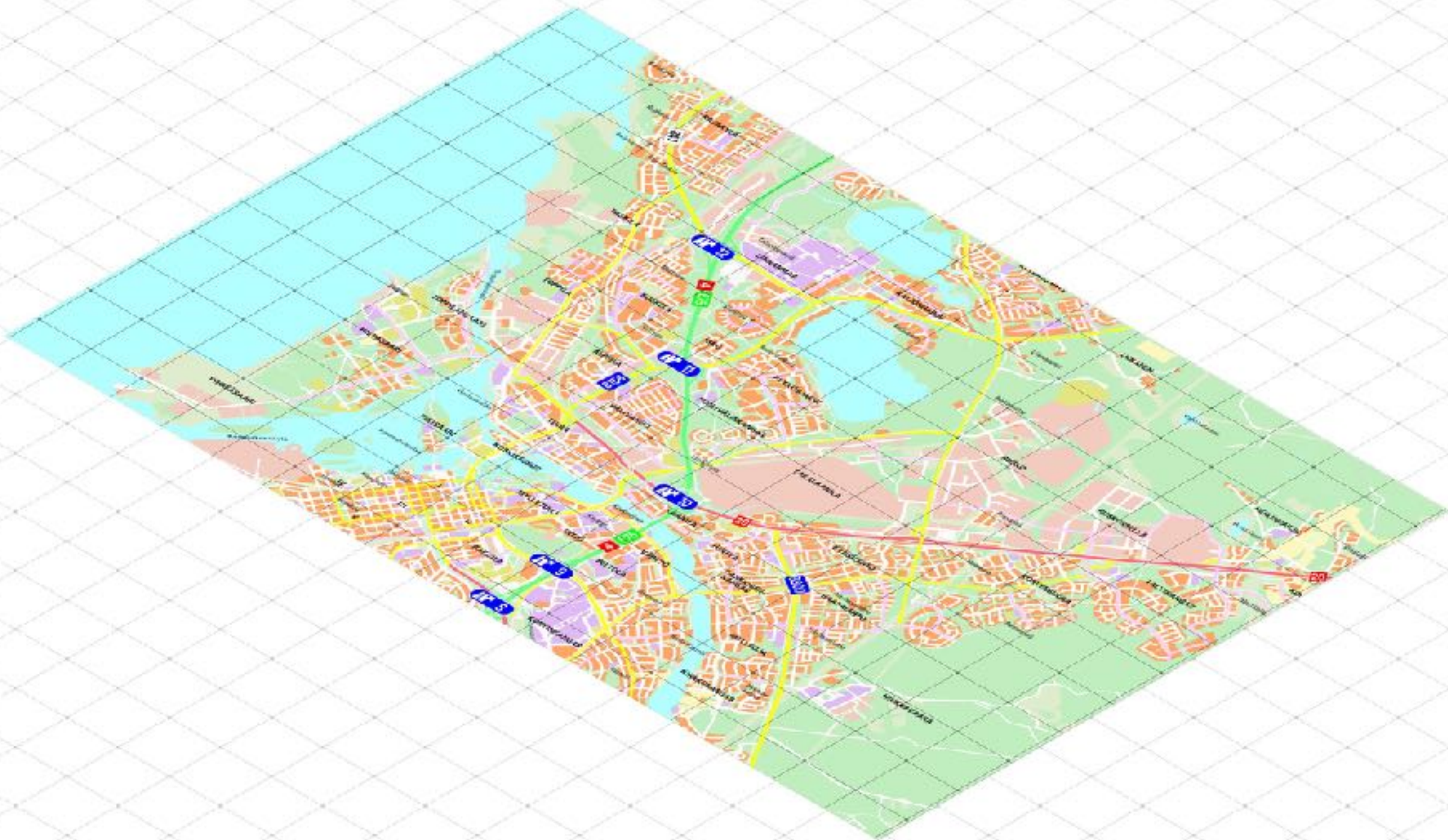


Cities make us human

Cities make us human



Study cities to understand humans







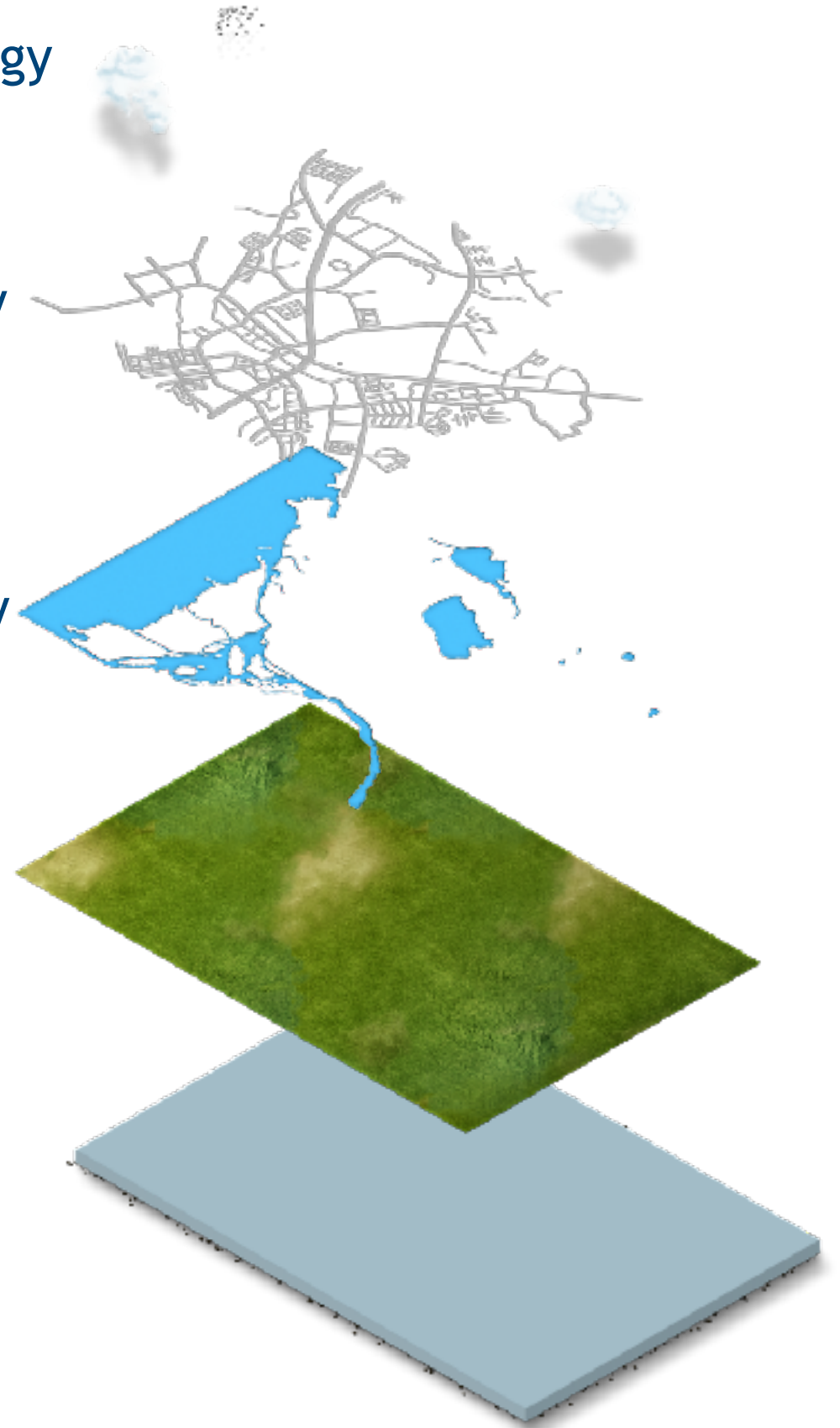
Climatology

Coniology

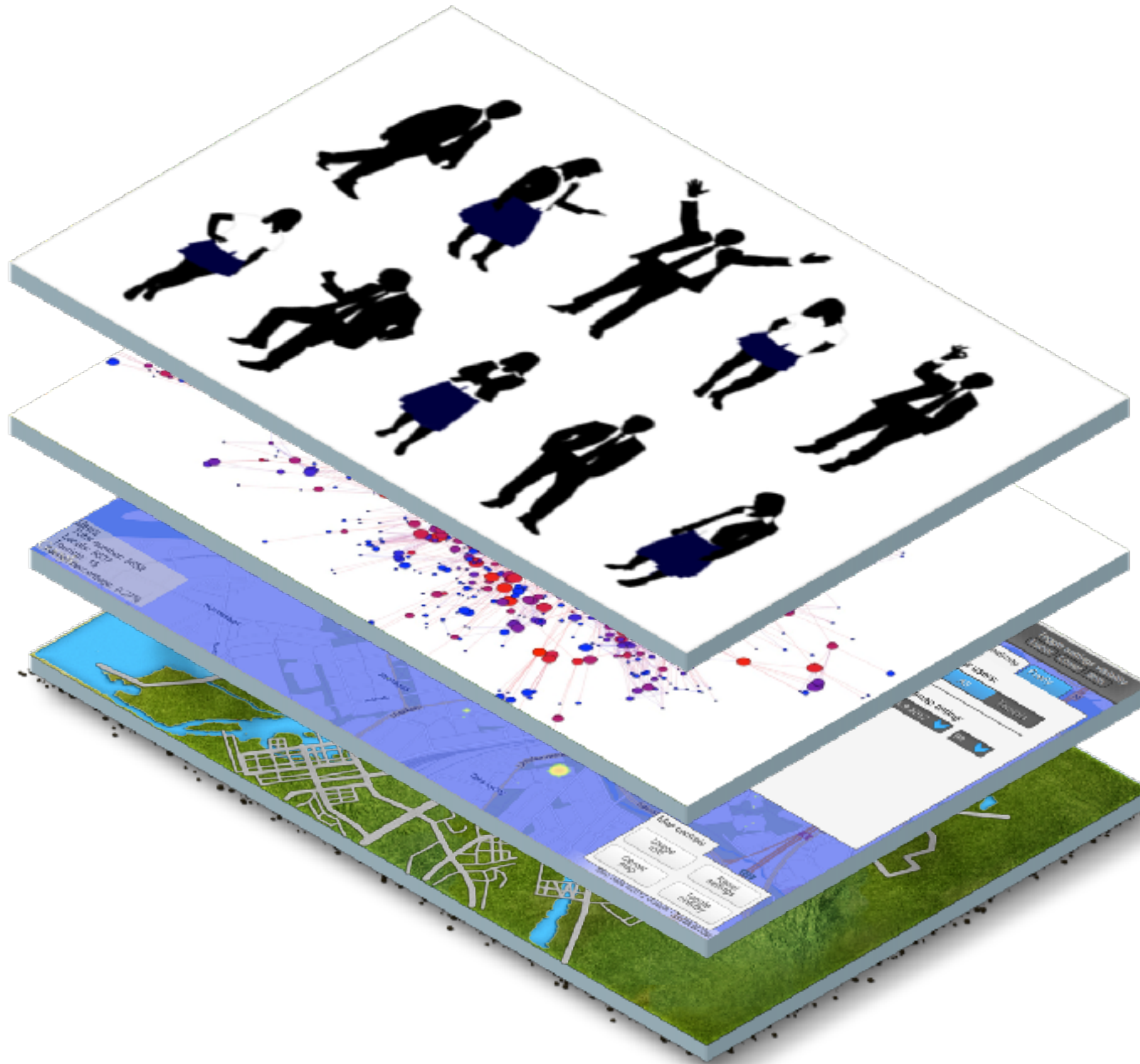
Hydrology

Ecology

Geology







Behaviours

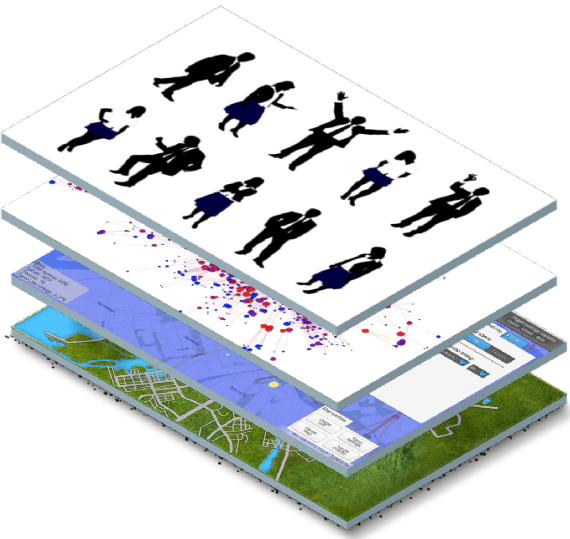
Socialise

Move

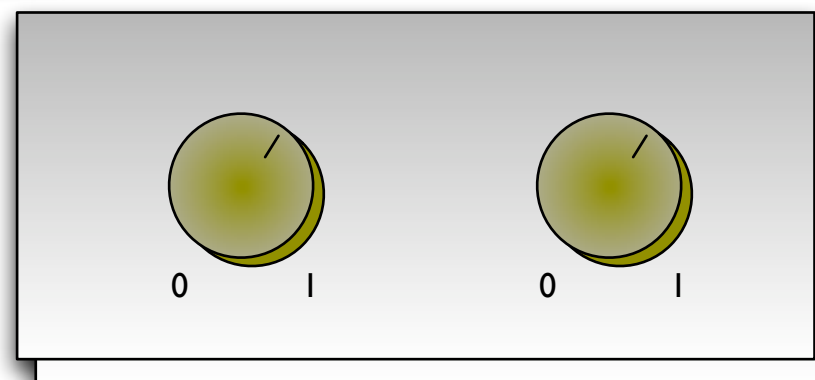
Environment



Move: universality



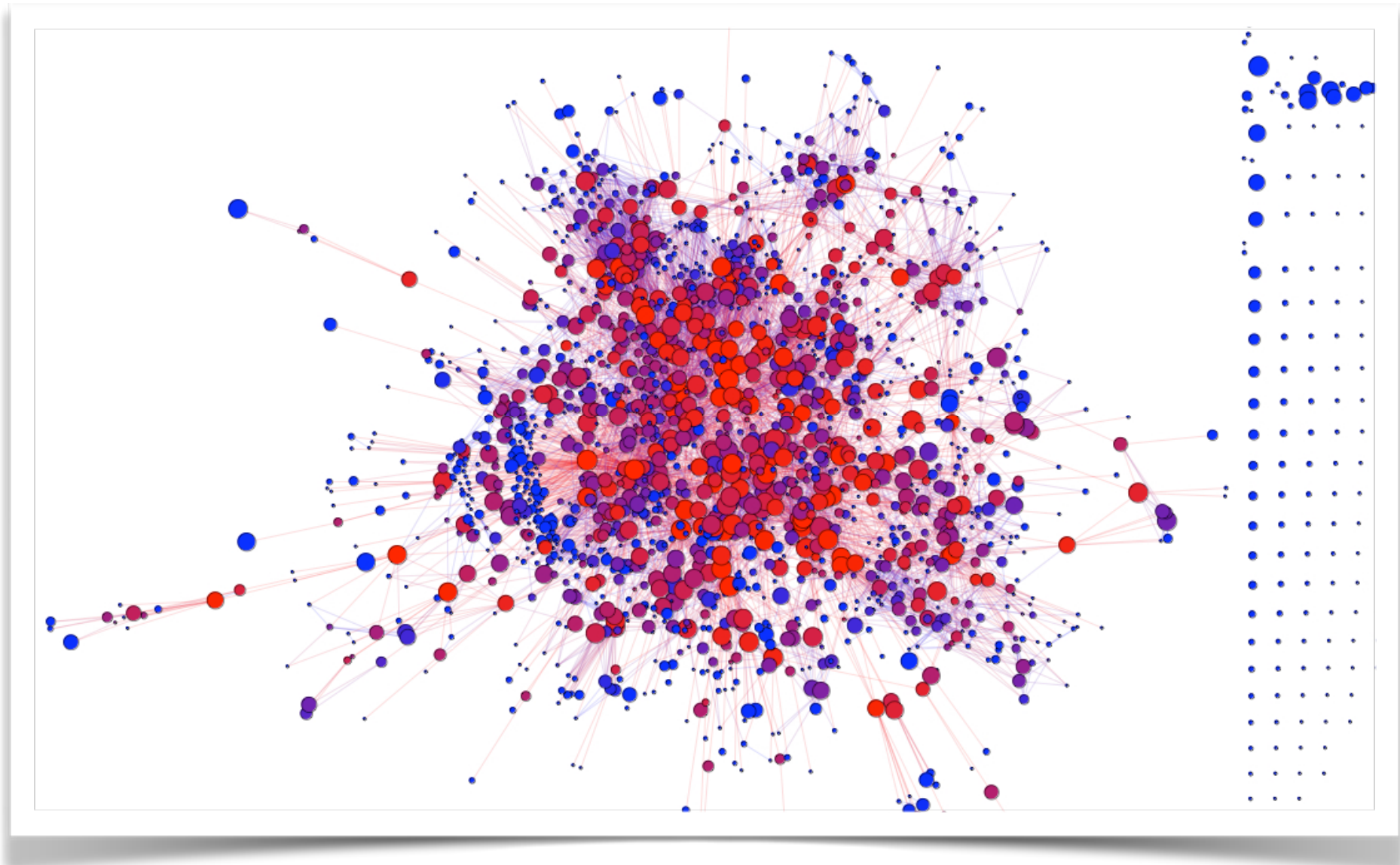
Pedestrians
Tourists
Daily/time
Transport needs
Effect of shops



Socialise: small world

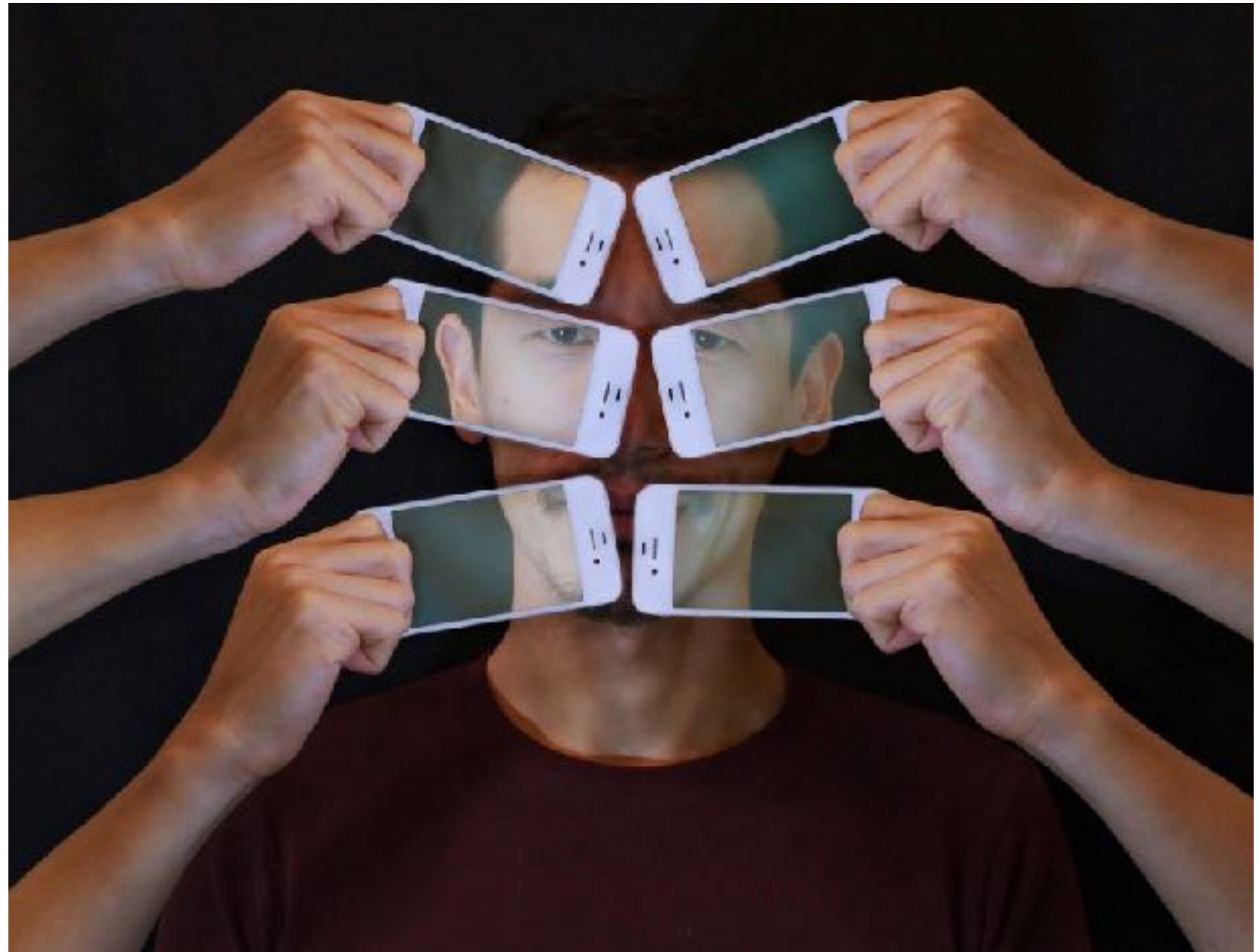


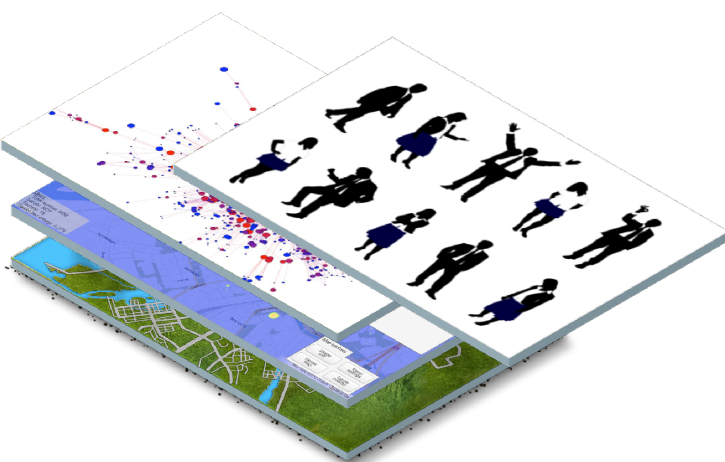
Encounters
Social isolation
Quality of life
Key times
Key locations

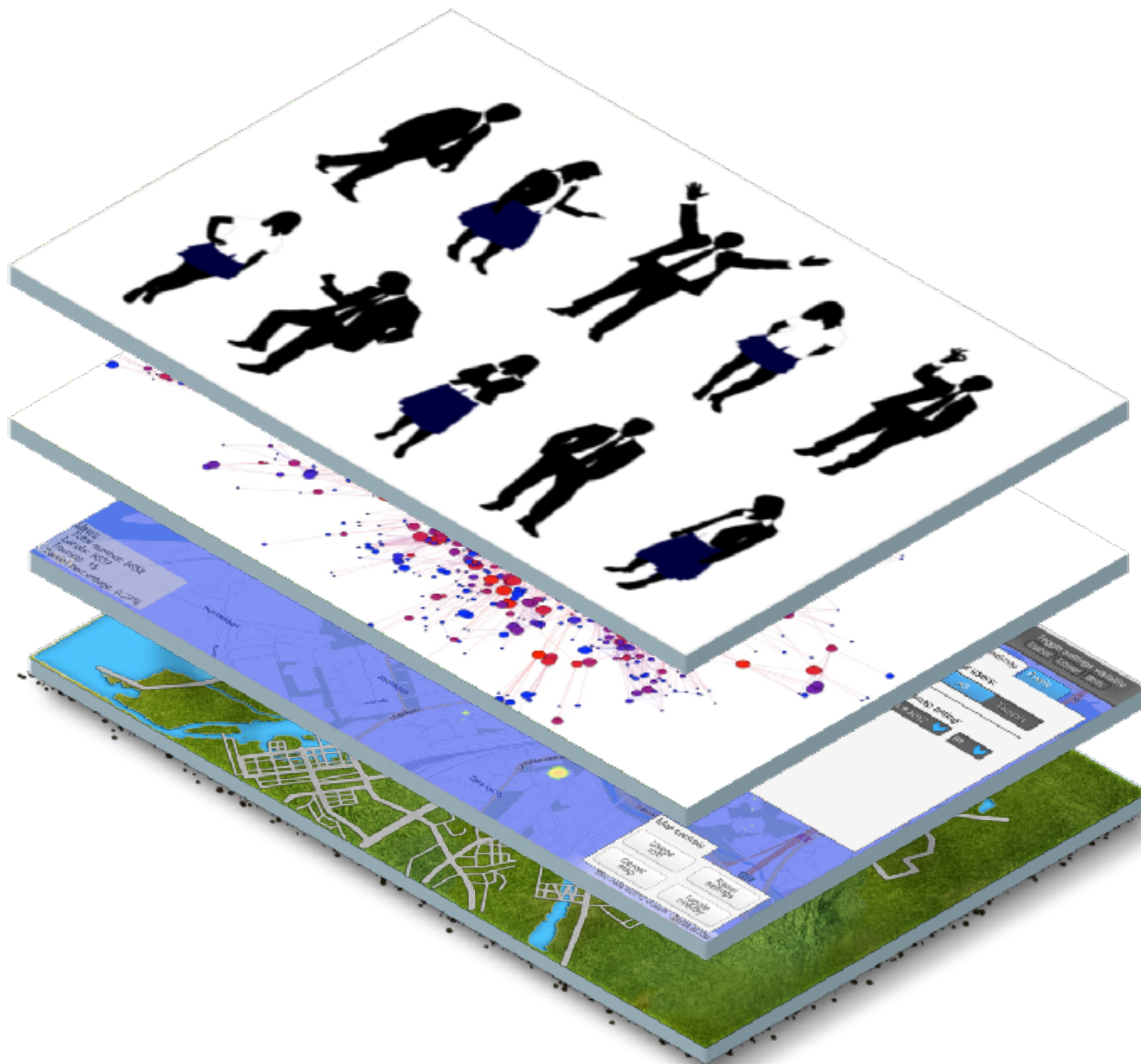


Behaviours: the final frontier

Depression
Schizophrenia
Drunk
Pain
Happiness
Leadership
Introversion







Behaviours

Socialise

Move

Environment

→ 21st century

→ 20th century

A grand challenge for smart cities



Capture, Understand, Cultivate behaviours

Part 2

Smart technologies

Brief history of computing



1960's



1980's



2000's

3 “Waves” of computing

1960's



1980's



2000's



Capabilities



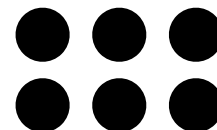
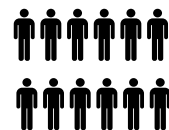
Size

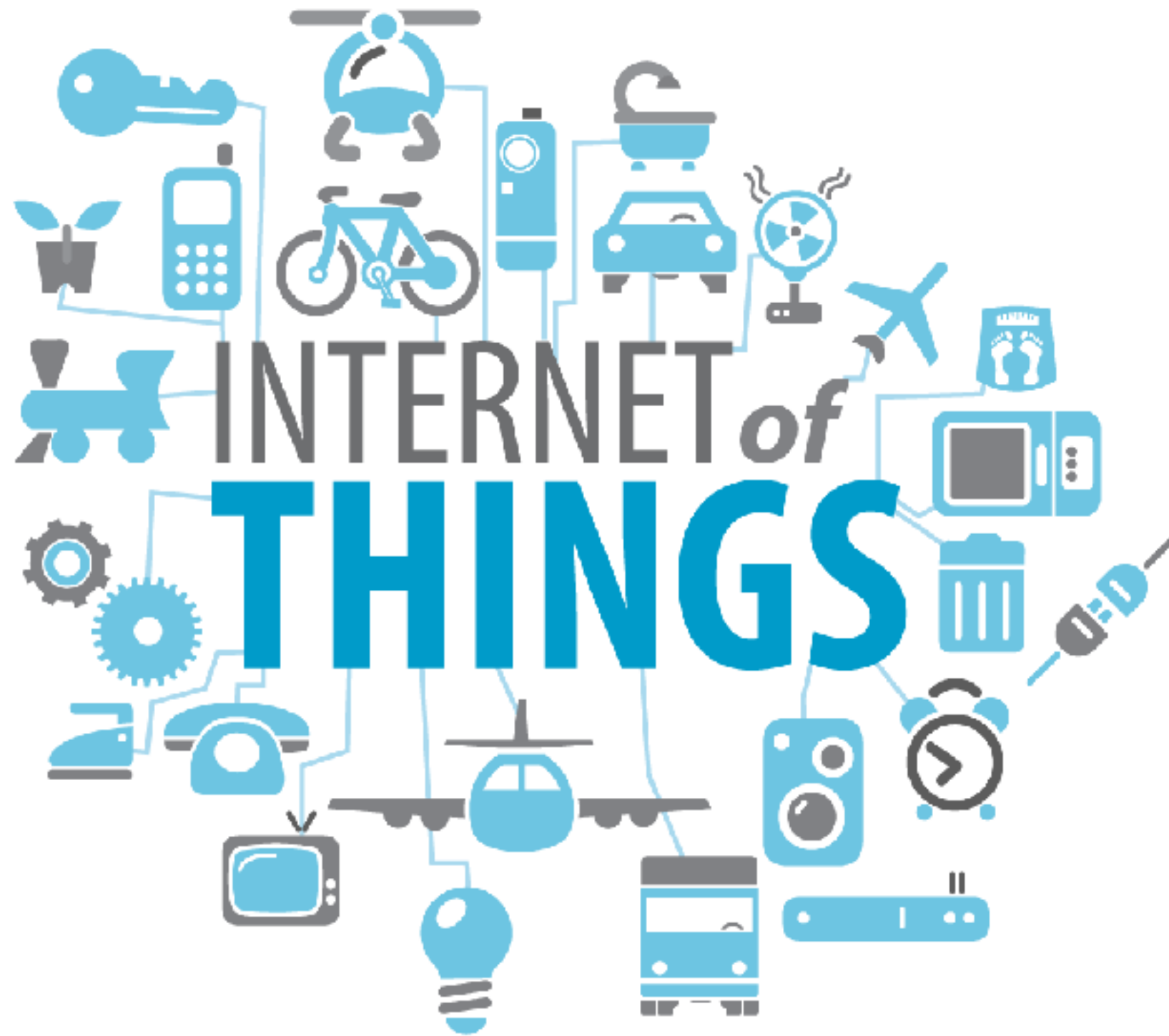


Usage

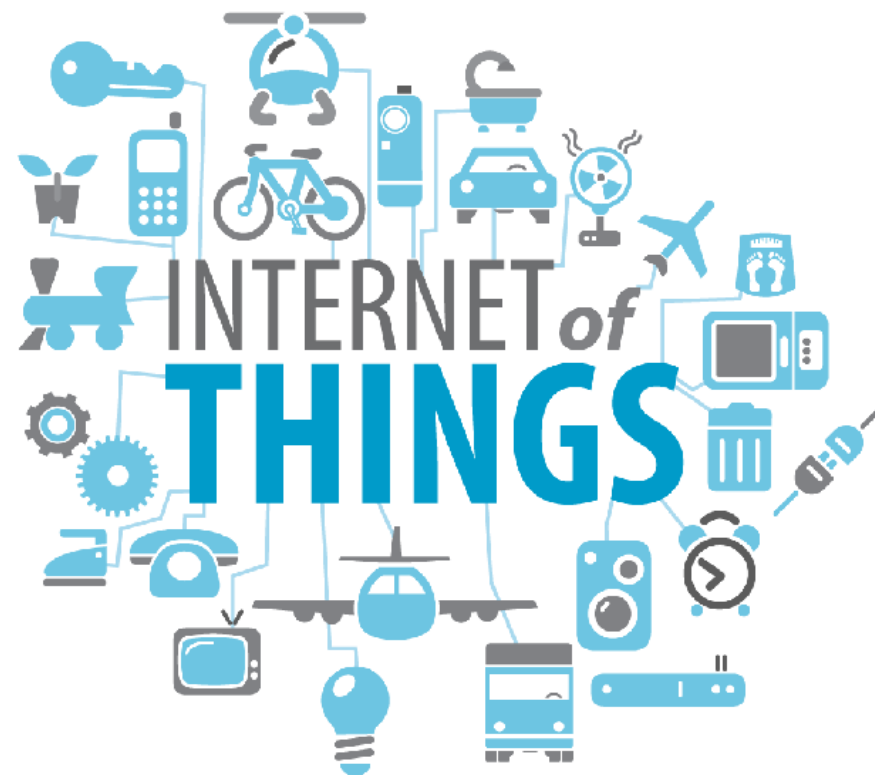


2020's





Understand people -> build better technology



Study technology -> better understand people

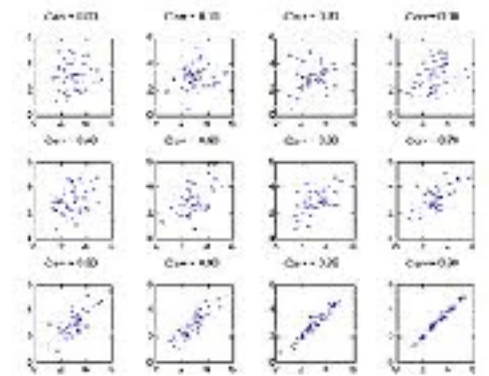
Modus operandi



Smartphone/Sensors



Calculate metrics



Establish correlations
Describe behaviour



Behaviour, attitudes,
questionnaires, etc.



Calculate metrics

Sources

Social Media
Smartphone use
Smart city
Interaction



Insights

Happiness
Personality
Habits
Exposure

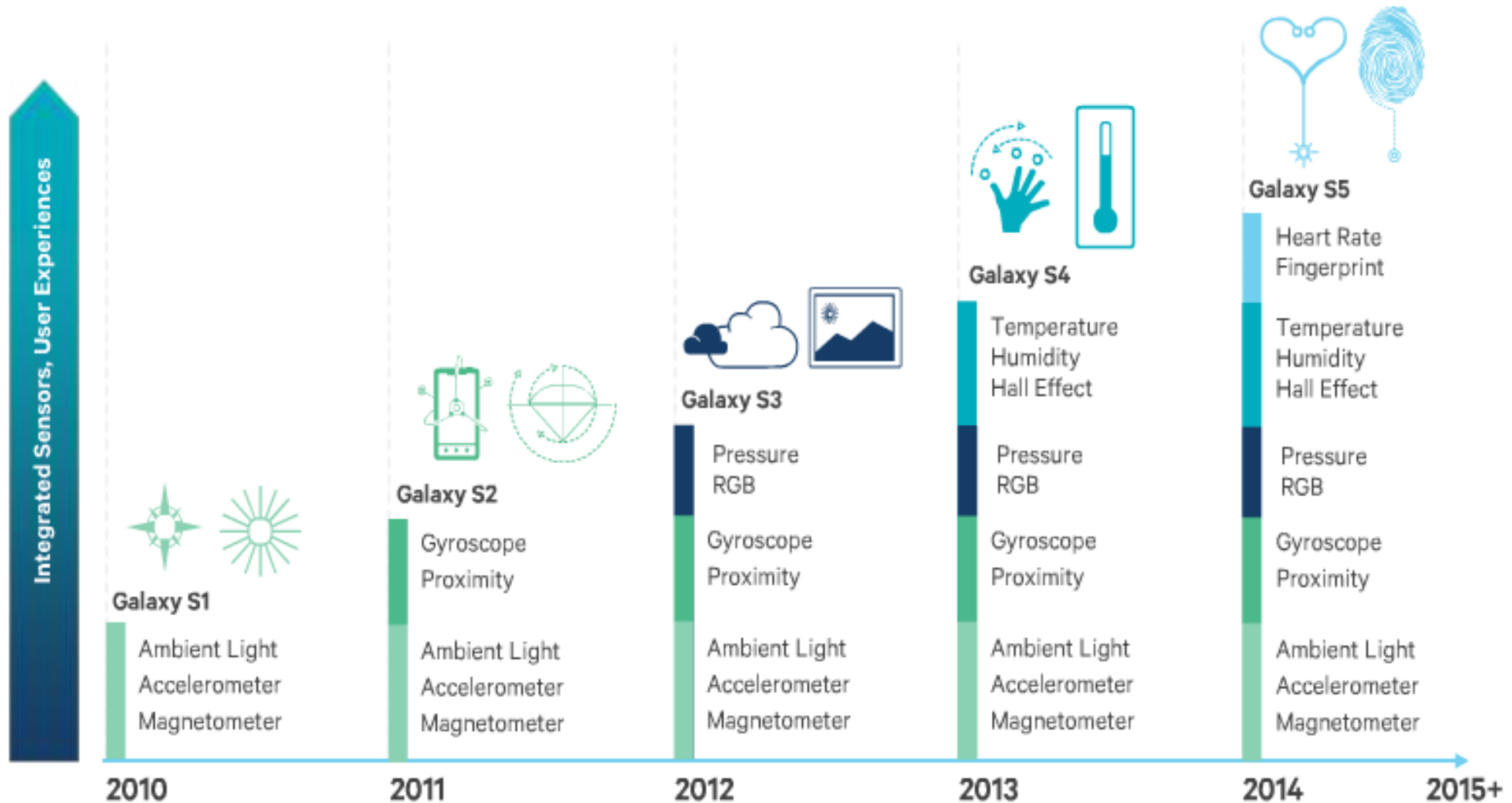
Methods

Smartphone sensing
Crowdsourcing
In-the-wild methods

Smartphones for science

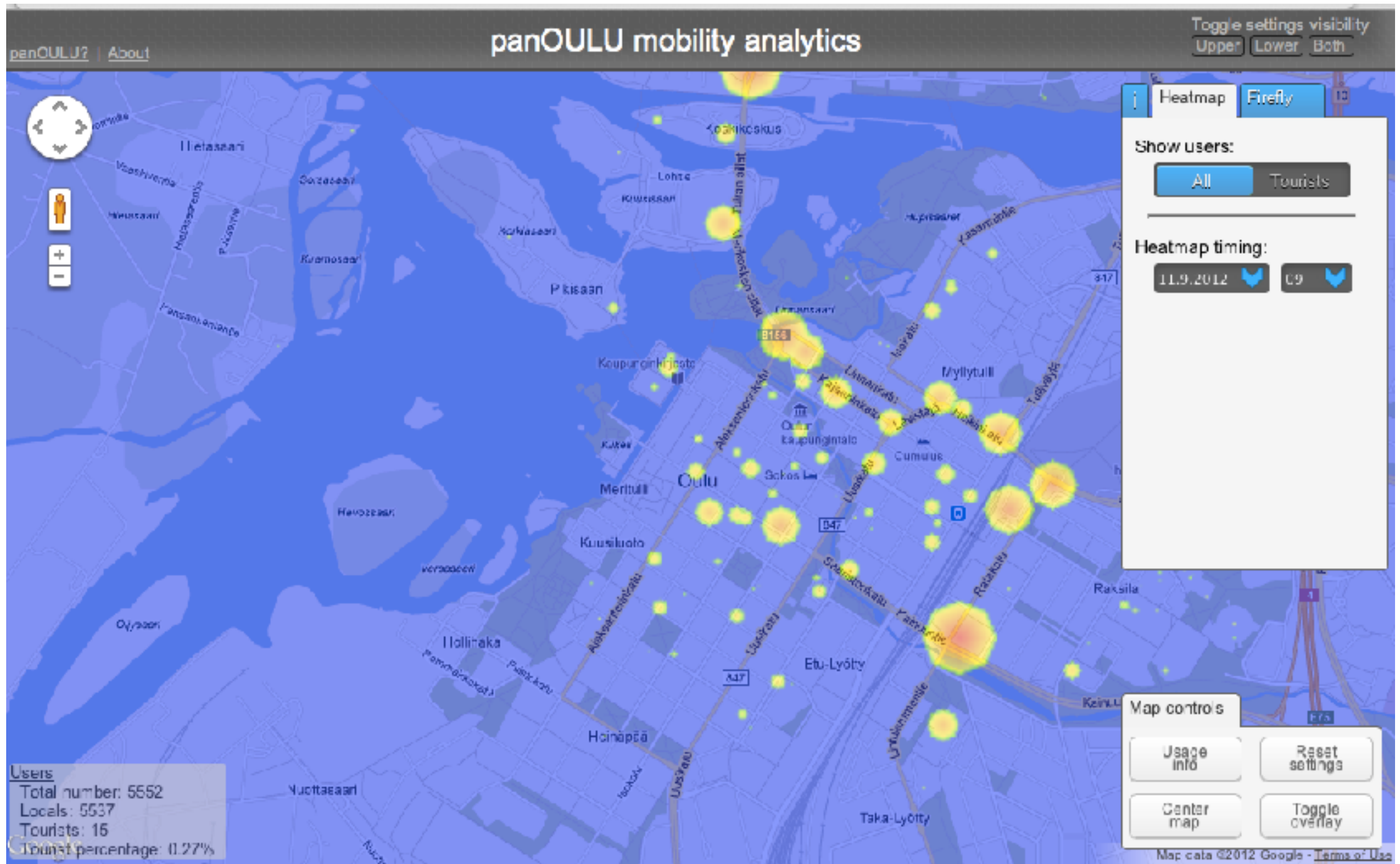


Sensor growth in smartphones

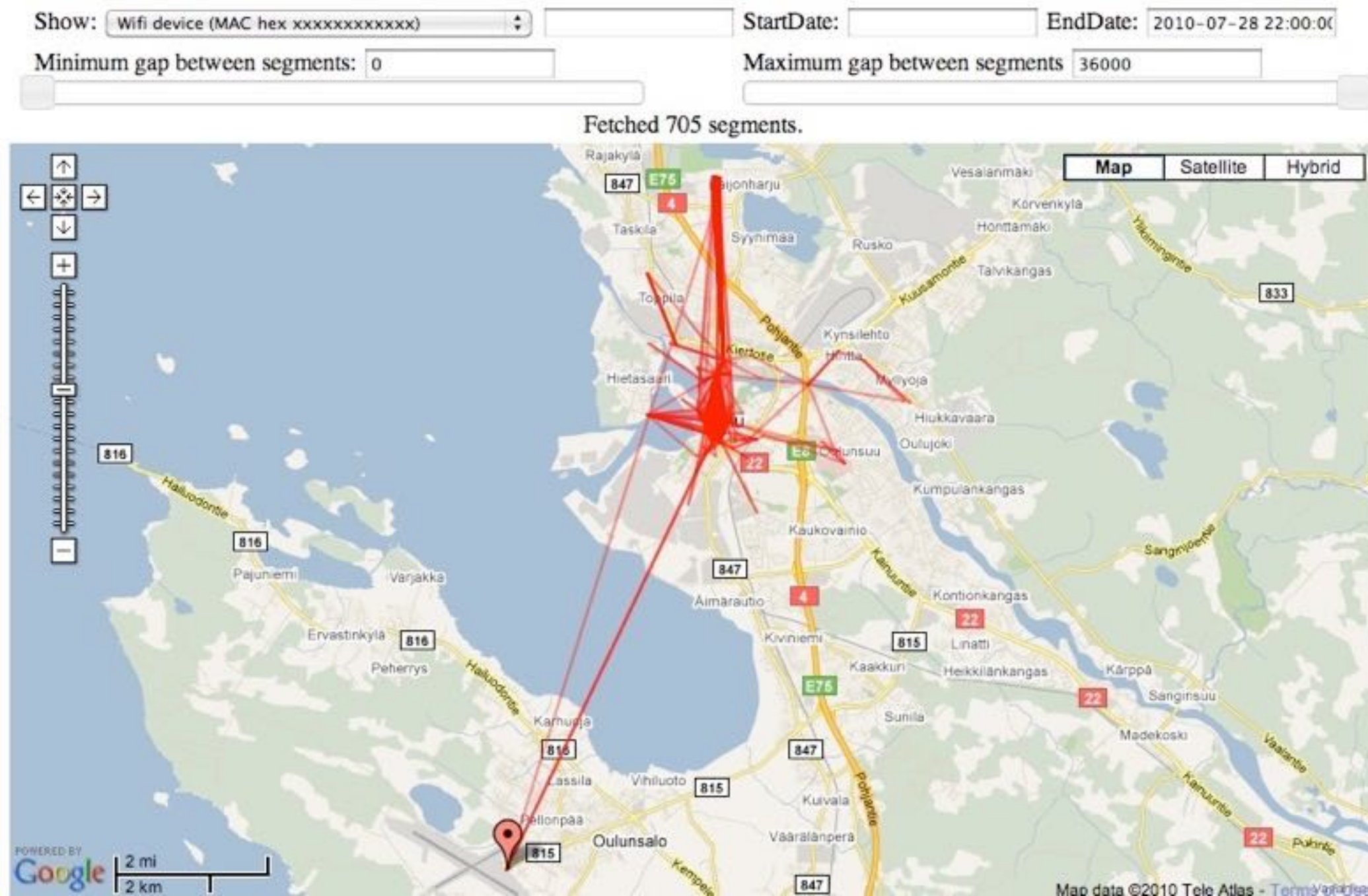


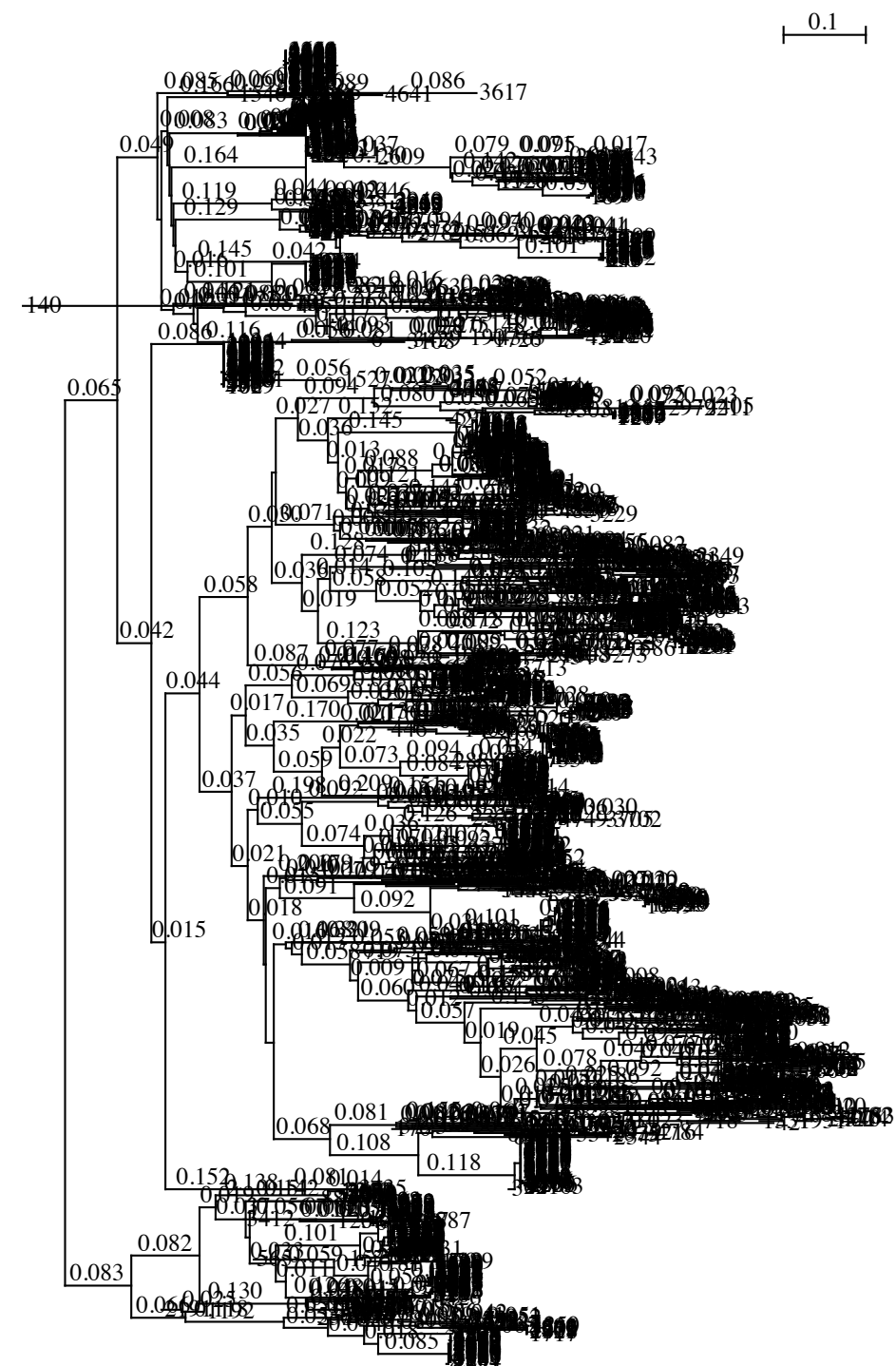
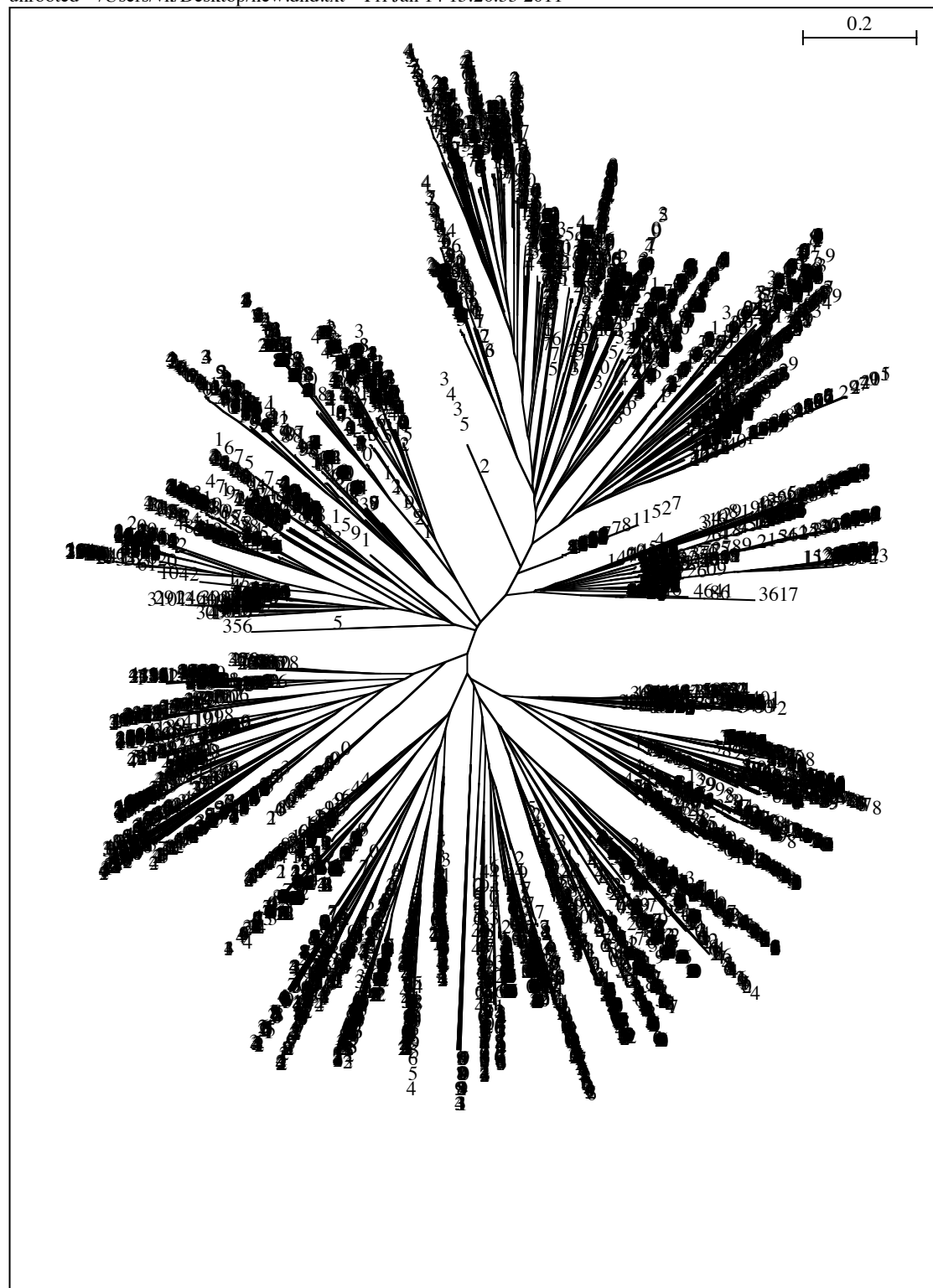
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Smart cities - public goods

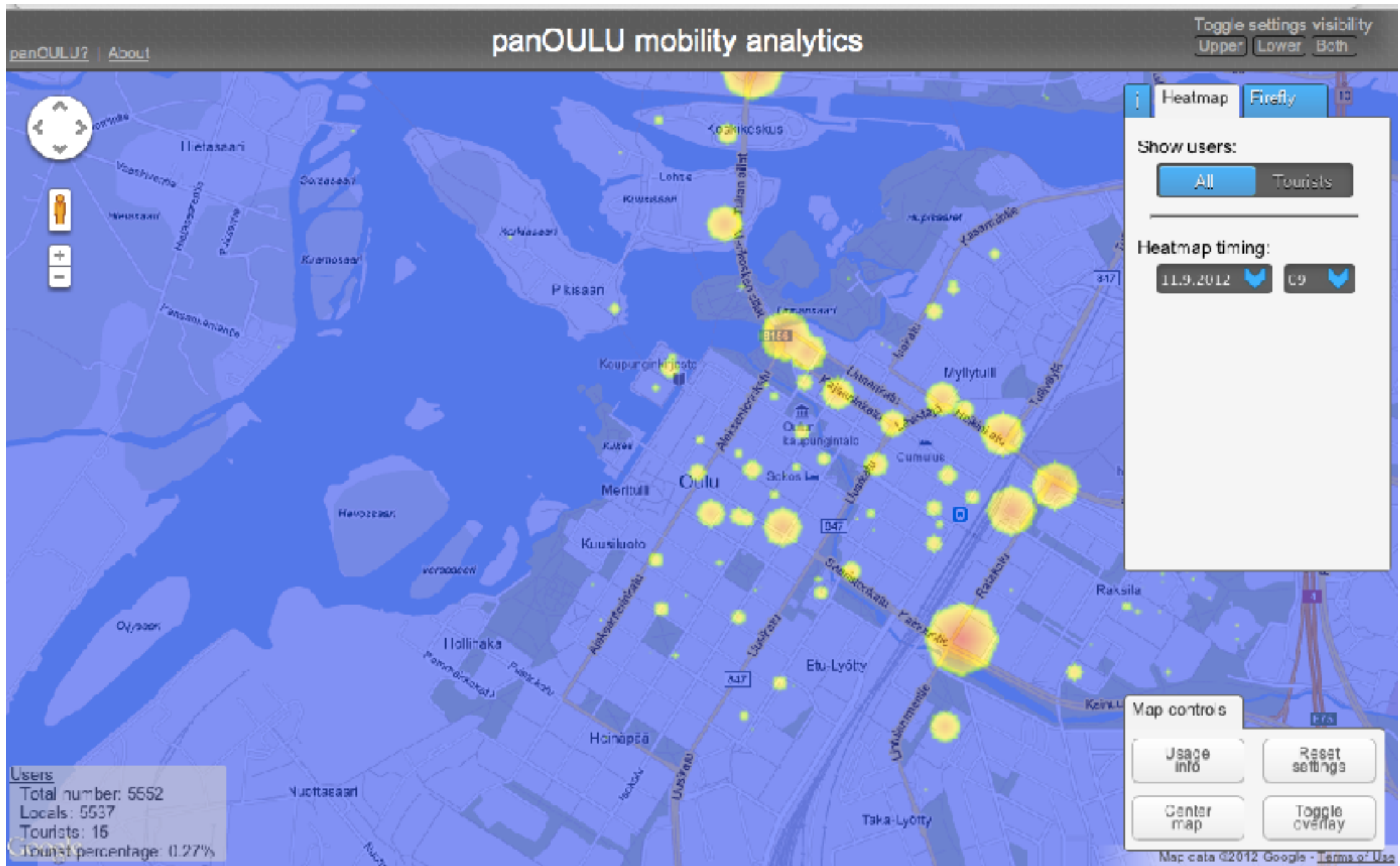


Profiling people





Smart cities - public goods



Lifestyle sensing



What can we sense?

Hardware



Software



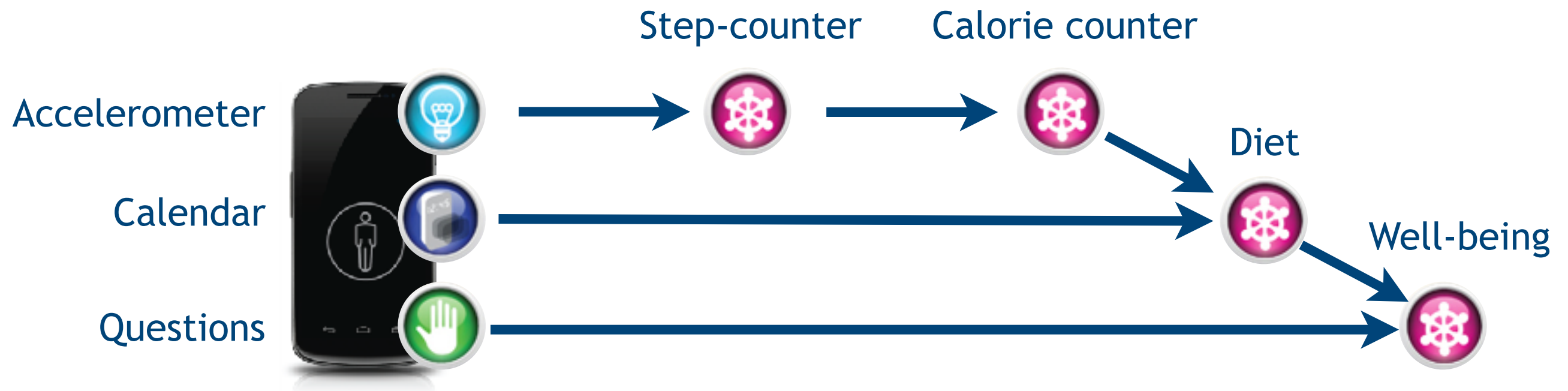
Human



Meta



“Smart” tech





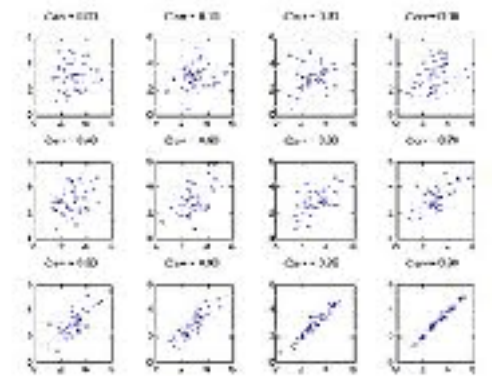
The future



Digital phenotype



Calculate metrics



Establish correlations
Prescribe treatment



Treatments



Calculate metrics



BIG BROTHER



IS WATCHING YOU





A grand challenge for smart cities



Capture, Understand, Cultivate behaviours

The end!

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