



Design for a Changing Campus

Matthew Chalmers
School of Computing Science

Designing for change in an ancient campus

UoG's new strategy around 'people, place and purpose'

Active learning from and adapting to the needs of people and place

New forms of learning, internationalisation, markets, urban roles...

Glasgow's campus extension: an inflection point

A time to design and engender new forms of education, work and community

A 'future city', but less constrained in infrastructure, protocols, politics...

Evidence-based approaches to the implementation of the strategy

Who does and needs what... and where and why... with what outcome?

Lessons from early future cities projects

Focus on central authorities & firms

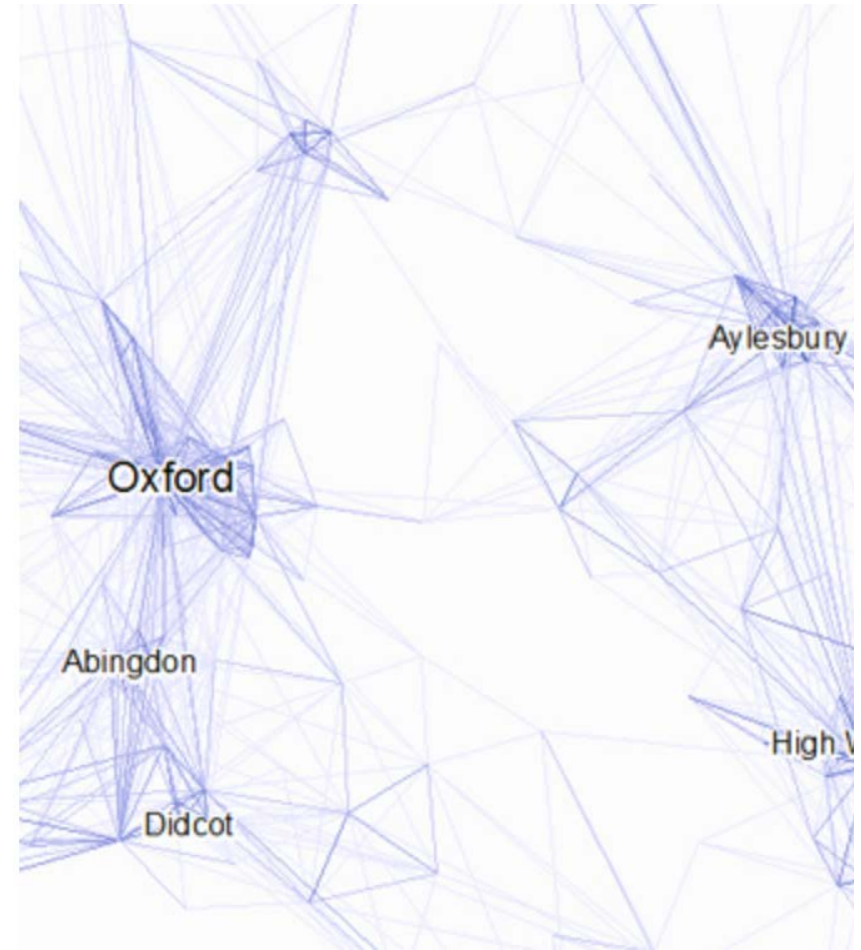
Control/optimisation of common services

Very little consultation, engagement, 'utility' w.r.t. individuals

Metrics/aims far from citizens' priorities

What does optimising overall traffic flow (etc.) mean to a randomly chosen citizen?

...and so why would one share data anyway?



Journey to work flows

From one university to many students, staff...

Uni: using new infrastructure to improve campus services

Optimising space/energy use, via sensing of and feedback to campus users

Informing new plans for buildings/infrastructure, and assessing old ones

Guiding educational strategies, and developing new ones

Individual: can I improve my study/job/community...?

Where can my tutorial group meet up, in 10 minutes' time?

What 'active travel' approach would fit with me and what I do?

Are my patterns of work and leisure taking me towards a good degree?

Contrast with the 'quantified self' movement

Quantifying oneself

Physical activity/exercise but also diet, sedentary time, sleep patterns...

...and apps used, Internet and electricity use when mobile and at home, financial transactions...

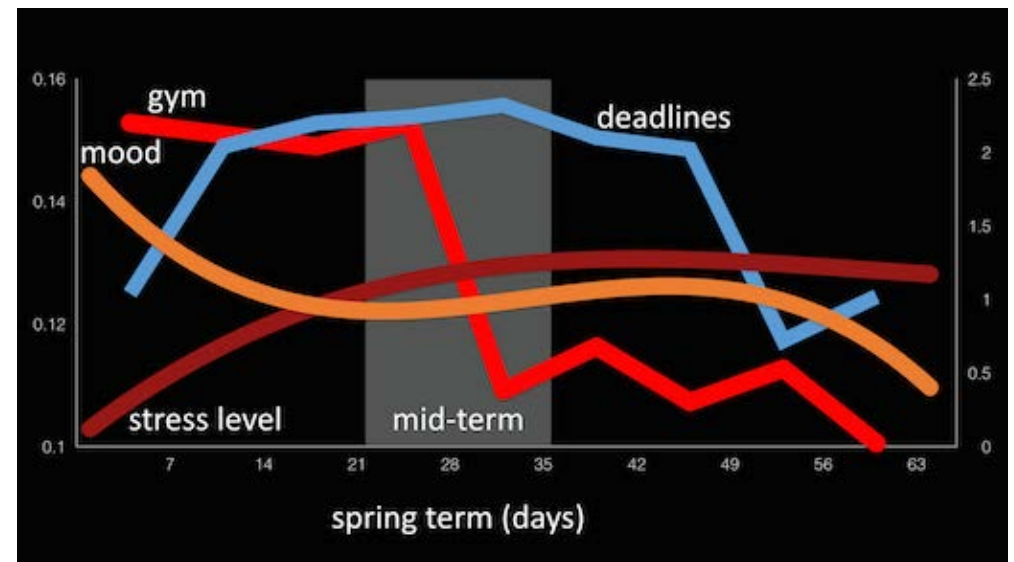


StudentLife (Dartmouth College)

Phone data used to predict a student's GPA to within ± 0.18

No correlation of grades and class attendance, conversation positively correlated, movement negatively...

Small paid cohort, limited data, preliminary results, but... really, really interesting



Evidence

Make it worthwhile for people to share data on what happens where
A trustworthy group of sensors, apps, services that collects and collates
Support everyday activities: 'matric card', timetabling and checking in to
lectures/labs, room booking, finding a good place to chat, tracking use of
online course materials, course progress...
Open the data up to those who share it with us

Design for analysis, discussion and change

Model and study educational outcomes, energy choices/effects...

Feed findings/models/metrics into Estates, IT Services, architects, college boards... and to those who are modelled

Open up wider questions about community, education and design

Adapt the campus in an informed and iterative way

Improve the structure and quality of our evidence, models, apps, services, teaching, work, experience... and the buildings themselves



Thanks.

matthew.chalmers@glasgow.ac.uk
<http://www.dcs.gla.ac.uk/~matthew>