Welcome to Web Science: What’s It All About?

Dr Leslie Carr
3rd October 2011
Why Web Science Matters

The Web has become an essential part of humanity, an essential part of the current and future economy, science and technology.

- Understanding the Web is a challenge as big as any other global cause.
Why Web Science Matters

Is the Web making us weird?
Web Science at Southampton

- Web & Internet Science Research Group
- 20 Faculty Members
- Doctoral Training Centre
- Research areas include
  - OA, OER, OD, OGD
  - Semantic Web
  - Memories for Life
  - Trust, privacy and provenance
  - Learning & education
Web Science Beyond Technology

- Heath Sciences
- Sociology
- Archaeology
- Criminology
- Psychology
- Law
- Maths
- Management
- Linguistics
Doctoral Training Centre

- Create a cohort of web scientists
  - Leaders and advisors in the UK’s Digital Economy
  - £6 million over 8 years for 50 students
  - Funded by RCUK’s £250 million DE programme*
    - rcukdigitaleconomy.org.uk

- Promote a deep understanding of the Web in society

- Carry out significant research
  - analytical, practical & constructive
  - forming a hub for research investment

*A Research Councils UK cross council initiative led by EPSRC and contributed to by AHRC, ESRC, and MRC
1. Web Science Issues (22%)

2. Web Technologies (17%)

3. Multi-disciplinarity (17%)

4. Performing research (11%)

5. Research project (33%)
Taught Curriculum (MSc / First Year iPhD)

- Research Questions, 22%
- Research project, 33%
- Multi-disciplinarity, 17%
- Web Technologies, 17%
- Research methods, 11%
Dear Francis Maude,

DIRECTGOV 2010 AND BEYOND: REVOLUTION NOT EVOLUTION

You asked me to oversee a strategic review of Directgov and to report to you by the end of September. I have undertaken this review in the context of my wider remit as UK Digital Champion which includes offering advice on “how efficiencies can best be realised through the online delivery of public services.” This means that I have not reviewed Directgov in isolation but as part of how the government can use the Internet both to communicate and interact better with citizens and to deliver significant efficiency savings from channel shift.

This letter sets out my findings and key recommendations.

Directgov as an organisation does two different things. It provides access to online transactional services such as student loans, car tax and Jobseekers’ Allowance, and it publishes government information for citizens in one place.
Current PhD Topics

Can Our Knowledge of Social Networks and the Human Immune System Help to Develop Network Security?

Blogging on the job: The Consequences of Employees Blogging for Employers

Novel Reintermediation in the B2C Value Chain

Co-evolution of Web Users and Networks

Adaptive networks

Co-evolution of Web Users and Networks

The research involves investigating whether there is a co-evolving process between web users and the technology of the network they are embedded in. Co-evolutionary mechanisms like selection and inheritance will change the structure of the network and its users and vice versa. A multidisciplinary approach is followed, applying Network Science, Psychology, and Evolutionary Game Theory.

Current PhD Topics

Co-evolution of Web Users and Networks

The web is not a thing acting alone, but rather systems with interacting users and computers together remote evolve, continuously forming a bigger system.

Adaptive networks

This is an example of an adaptive network. It is a network where the nodes and connections can change over time in response to changes in the network or the environment in which it operates. This can happen through processes such as growth, decay, or adaptation. Adaptive networks can exhibit a wide range of properties and behaviors, depending on the specific rules governing the changes.

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Case Study

- MSc summer project with SOCA (UK’s Serious Organised Crime Agency)
  - How do patterns of online criminal activity in China deviate from those in known regions (EU, US & Russia)?

- Outcomes
  - new insight for SOCA
  - distinction at MSc
  - further collaboration
  - poster presentation at recent Royal Society workshop
  - invited speaker at Cambridge Computing Labs security group
  - dissertation requested by FBI
The Web Science Network of Laboratories (WSTNet) combines some of the world’s leading academic researchers in Web Science, with new academic programmes that will enhance the already growing influence of Web Science. The member Labs will provide valuable support for the ongoing development of Web Science. There are ten founding WSTNet labs.
Web Science across continents

• Astronomers obtain a very high resolution picture of the sky from small telescopes a long distance apart.

• Many web labs, contributing across the globe, help build an accurate picture of human activity at planetary scale.
  – transcending parochial social, political, economic, legal interpretations