Tom Lodge Research Fellow, Full-stack developer

I am a research fellow and developer at Nottingham University. I have worked on a broad variety of projects, with a wide range of industrial partners and have built up expertise in technologies right across the stack, from low-level network infrastructure (building home routers) to front and backend web development. I'm also a director/lead developer for an early stage start-up that is developing software for high-rise residential communities. My doctorate investigated the utility of ad-hoc, short-range (Bluetooth) networks for large-scale data collection. My most recent work has centred on data capture (user network and location data) and visualisation.

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| **Recent projects** | IoT Databox EPSRC Funded  Role: Researcher  2015-present  This [project](http://www.databoxproject.uk/) is developing a clean-slate privacy-focused infrastructure to provide users with full control of their personal data. It is principally focused on IoT data; the number of devices that capture and record information about us is expected to rise to unprecedented levels, creating challenges around privacy and data liability. The project is a collaboration with ***Cambridge University*, *Queen Mary, University of London* and various industrial partners.**  User Centered Networking European Union Funded  Role: Researcher  2014-present  This [project](http://usercentricnetworking.eu/) is a multi-institution collaboration (***Technicolor, Eurecom, Fraunhofer, Intamac, University of Cambridge, University of Nottingham, Martel Consulting, Inria, Portugal Telecom***) which is developing content and recommendation systems based upon user networking behaviour. In collaboration with ethnographers, I have built data visualisation tools (d3.js) which support detailed analysis and tagging of network data being collected in households across France and the UK.  Communities in the Clouds Research Councils UK Funded  Role: Principal Investigator  2014  I ran a [pilot project](http://www.upintheclouds.org/) in collaboration with ***Microsoft Research*** which investigated the role that technology might play in supporting residents living in high-rise and high-density communities. The project was composed of several strands: data analysis and visualisation (of forum data), ethnography and a workshop with industry professionals. One exciting outcome from the project has been the chance to run technology trials in a large flagship East London housing estate.  Becoming Dataware Horizon Digital Economy Funded  Role: Researcher  2012-2014  This project investigated how users might take greater control and ownership of their 'digital footprint' by considering a locally controlled hosted and managed personal data store that permits constrained queries by third parties (energy companies/supermarkets etc). I developed and extended code (python) to create a proof-of-concept home router that collected energy and network data which could be interrogated by (OAuth) permitted third parties. The software ran on a small form factor, Linux arm computer (dreamplug).  Homework EPSRC Funded  Role: Researcher  2009-2012  A four-year, five-institution (***Nottingham, Imperial, Glasgow, Nottingham, Microsoft and BT***) collaboration looking at the design and provision of tools to improve support for home networking. I was part of a team that built a Linux router (running [Nox](http://www.noxrepo.org/)/[Open vSwitch](http://openvswitch.org/)) and developed two iphone/ipad apps that supported novel visualisation and control of a local home network. | | | |
| **Key Tech Skills** | | Frontend  React  Redux/Flux  Knockout  D3  iOs (Objective-C)  Android (Java)  SASS LESS  Webpack Grunt Gulp  HTML CSS | Backend  Node.js  Flask/Bottle (Python)  Jekyll  Javascript  Java  Python  Objective-C  PHP  Drupal | Devops  Amazon EC2  Heroku  Docker  Vagrant  Apache  Nginx  Varnish  Haproxy  Squid  Mysql  Postgresql  SQLite  MongoDB  Neo4j |

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| **Employment** | University of Nottingham Horizon Digital Economy  Research Fellow  2013-Current  Queen Mary, University of London Open & Distance Learning  Research Associate  2002-2005  University College London Networks & Multimedia Research  Research Associate  2002-2005  Education  University of Nottingham Phd  Opportunistic Data Collection in People Centric Sensor Networks  2006-2012  University College London MSc  Data Communications Networks and Distributed Systems  Award: Distinction  1999-2000  Queen Mary, University of London BSc  Computer Science  Award: First class, Drapers award for *'outstanding academic achievement'*  1996-1999 |

Publications

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Mortier, R., Houghton, R., Skatova, A., Wagner, C., Lodge, T., Shao, J., Goulding, J., Madhavapeddy, A. and Crowcroft, J., **Becoming Dataware.**

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Lodge, T., 2012. **Opportunistic data collection in people-centric sensor networks**(Doctoral dissertation, University of Nottingham).

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Sventek, J., Koliousis, A., Sharma, O., Dulay, N., Pediaditakis, D., Sloman, M., Rodden, T., Lodge, T., Bedwell, B., Glover, K. and Mortier, R., 2011, May. **An information plane architecture supporting home network management.***In Integrated Network Management (IM), 2011 IFIP/IEEE International Symposium* on (pp. 1-8). IEEE.

Flintham, M., Greenhalgh, C., Lodge, T., Chamberlain, A., Paxton, M., Jacobs, R., Watkins, M. and Shackford, R., 2011, November. **A case study of exploding places, a mobile location-based game.***In Proceedings of the 8th International Conference on Advances in Computer Entertainment Technology*(p. 30). ACM.

Lodge, T. and Radenkovic, M., 2007, March. **Towards mass scale environmental monitoring by the public.***In Proceedings of the Third IASTED European Conference on Internet and Multimedia Systems and Applications (pp. 69-74).* ACTA Press.

Flintham, M., Greenhalgh, C., Greenman, A., Lodge, T., Mortier, R., Jacobs, R., Watkins, M. and Shackford, R., **Towards a Platform for Urban Games.**

Radenkovic, M. and Lodge, T., 2006. **Engaging the public through mass-scale multimedia networks.***IEEE MultiMedia*, (3), pp.12-15.