# Some Topic and Project ideas for RM1

## Areas in which usability type inquiries could be used

How to embed advertising into computer games

Buyer feedback mechanisms in Trademe

Kickstarter crowd funding

Bitcoin

Flow and engagement in computer games

Heart of Winter audio game

Culture differences verses individual personality differences in users

# MSOC topic areas

Database architecture on the cloud

Resolving latency on the internet

Redressing the imbalance in international UDP traffic

The impact on the organisation of cloud deployment

Policy-based Pricing for Pervasive Services in Future Heterogeneous Wireless Access Networks

A distributed security model to defeat coordinated network based attacks

Protecting Cloud from Cross-VM Side Channel Attacks

Resource optimisation on the cloud

Research on Improve Algorithm of Authentication for data in cloud environment

Virtualisation of class images

Multitasking in different screen setups

Effects of social networking on work output

Mobilising community eg ifwerantheworld.com

# Network-oriented topics

Energy-Efficient Network Design for Greening Cloud System. D. Kliazovich, P. Bouvry, and S. U. Khan, "GreenCloud: A Packet-level Simulator of Energy-aware Cloud Computing Data Centers," Journal of Supercomputing, vol. 62, no. 3, pp. 1263-1283, 2012.

Greening Mobile Core Networks. M. Dräxler, F. Beister, S. Kruska, J. Aelken, and P. D. H. Karl, "Using OMNeT++ for Energy Optimization Simulations in Mobile Core Networks," in Proceedings of the 5th International ICST Conference on Simulation Tools and Techniques (SIMUTOOLS), 2012.

Evaluating Network Attacks. L. Sánchez Casado, R. A. Rodríguez Gómez, R. Magán Carrión and G. Maciá Fernández, "NETA: Evaluating the effects of NETwork Attacks: MANETs as a case study". Advances in Security of Information and Communication Networks (SecNet 2013). 2013. pp. 1-10.

# Older users

\* Multimodal interaction with older adults

\* Mobile input and visual interaction with older adults

\* Older adults and ubiquitous computing

\* Participatory design process for older adults

\* Mobile interface evaluation with older adults

\* Novel physical interaction for older adults

\* The effect and implications for mobile design of the ageing process

\* Interdisciplinary perspectives on mobile design for older adults

# Internet Porn

for ideas see: <https://www.youtube.com/watch?v=wSF82AwSDiU>

# NLP topics

Part-of-speech tagging for Tweet messages.

Question: Difference in the structure of Tweet messages that makes POS-tagging difficult.

References:

* Gimpel, K., Schneider, N., O’Connor, B., Das, D., Mills, D., Eisenstein, J., … Smith, N. A. (2011). Part-of-speech tagging for Twitter: annotation, features, and experiments. In Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies: short papers - Volume 2 (pp. 42–47). Stroudsburg, PA, USA: Association for Computational Linguistics. Retrieved from <http://dl.acm.org/citation.cfm?id=2002736.2002747>
* Leon Derczynski, A. R. S. C. (n.d.). Twitter Part-of-Speech Tagging for All: Overcoming Sparse and Noisy Data. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.367.6981>

Building Intelligence from Tweet messages.

Question: What Types of Information can be extracted from Tweet messages?

References:

         Barbosa, L., & Feng, J. (2010). Robust Sentiment Detection on Twitter from Biased and Noisy Data. In *Proceedings of the 23rd International Conference on Computational Linguistics: Posters* (pp. 36–44). Stroudsburg, PA, USA: Association for Computational Linguistics. Retrieved from <http://dl.acm.org/citation.cfm?id=1944566.1944571>

         Balasubramanyan, R., Routledge, B. R., & Smith, N. A. (2010). From Tweets to Polls : Linking Text Sentiment to Public Opinion Time Series.

         Asur, S., & Huberman, B. A. (2010). Predicting the Future with Social Media. In *Proceedings of the 2010 IEEE/WIC/ACM International Conference on Web Intelligence and Intelligent Agent Technology - Volume 01* (pp. 492–499). Washington, DC, USA: IEEE Computer Society. doi:10.1109/WI-IAT.2010.63

# Topic areas offered by staff

<http://www.aut.ac.nz/__data/assets/pdf_file/0019/373330/CIS_thesis_dissertation_suggested_topics_-May2013.pdf>

# Masters Theses

**2014**

* An approach of managing backups and their properties for a vast number of heterogeneous systems in a business cloud computing environment
* Analytics of high secure desktop virtualization network systems
* Analytics of visual cryptography
* Development of tools to trace blood and other products in hospital environment
* Identification and evaluation of methods for tracing blood products in New Zealand hospital environment
* A study of Wi-fi based vehicular ad hoc network (VANET) using field trials measurements and simulation
* Compressed Fourier-Based Decision Tree for Mining Data Streams
* Enhancing Auckland Council’s Heritage Strategy Through Mobile Devices
* Evaluation of existing database systems performance on in the cloud
* Information Extraction using POS Technique
* The security model for a data mining application in cloud computing environment adopting private information retrieval
* A Fourier spectrum-based method to represent Naive Bayes algorithm for data stream mining

**2013**

* Assessing The Socio-Technical Impacts of Cloud Computing in New Zealand Organisations: An Exploratory Study
* Data Mining Log File Streams for the Detection of Anomalies
* Is A Multitouch Gesture Interface Based On a Tablet Better Than a Smart Phone For Elderly Users?
* An automatic semantic information extraction algorithm for XML documents
* A Case Study Evaluation of the Telemedicine Project  in Saudi Arabia
* E-Learning in the KSA: A taxonnomy of learning methods in Saudi Arabia
* Guiding tourists who travel in New Zealand with the help of smartphones or tablets in both the outdoor and indoor environments
* EEG Based BCI Wheelchair system
* Human face recognition within a complex environment
* Evaluation of systems and tools for penetration testing
* Anti-malware scanners for cloud security

**2012**

* Implementing a mobile robot to perform cognitive mapping using vision
* Developing an application for an android tablet to help parents keep their children motivated for learning
* A novel system for improving energy efficiency in mobile computing
* Computerized Tanker Cargo Operation
* Applicability of SEIM technology in network and IT security operations
* Integrating knowledge based features for document categorization
* MataNui - A Grid Data Infrastructure
* RFID usage for monitoring drug dispensing in healthcare
* Agent-based modelling for understanding software process activities, actions and interactions
* Comparisons of the online buying behaviour in Saudi Arabia and New Zealand: A comparative Case Study
* Trust-based Geographical Routing For Green SmartGrid
* Contemporary Computational Methods and Systems for personalised modelling applied in Bioinformatics
* Examining the expectations of user involvement in software development
* Design and Evaluation of a Joint Energy Efficiency and QoS aware Routing Protocol for MANETs
* Spiking Neural Network for Image Recognition
* Enhancing Energy efficiency in Smart Building with RFID technology
* Supporting participation and learning with mobile technologies
* A study if the effect of people movement on Wi-Fi link throughput using propagation measurements and simulation
* Development of an android application for event management and timing using near field communication technology
* Optimisation of learning kernels in Spike Pattern Association Neurons