

Radio Frequency Identification (RFID) for Assisted Living: Testing the Aura Object Location Model

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AURA Lab

Collaborative Links



- Kathryn McPherson, PhD
Professor of Rehabilitation
(Laura Fergusson Chair) at
AUT University



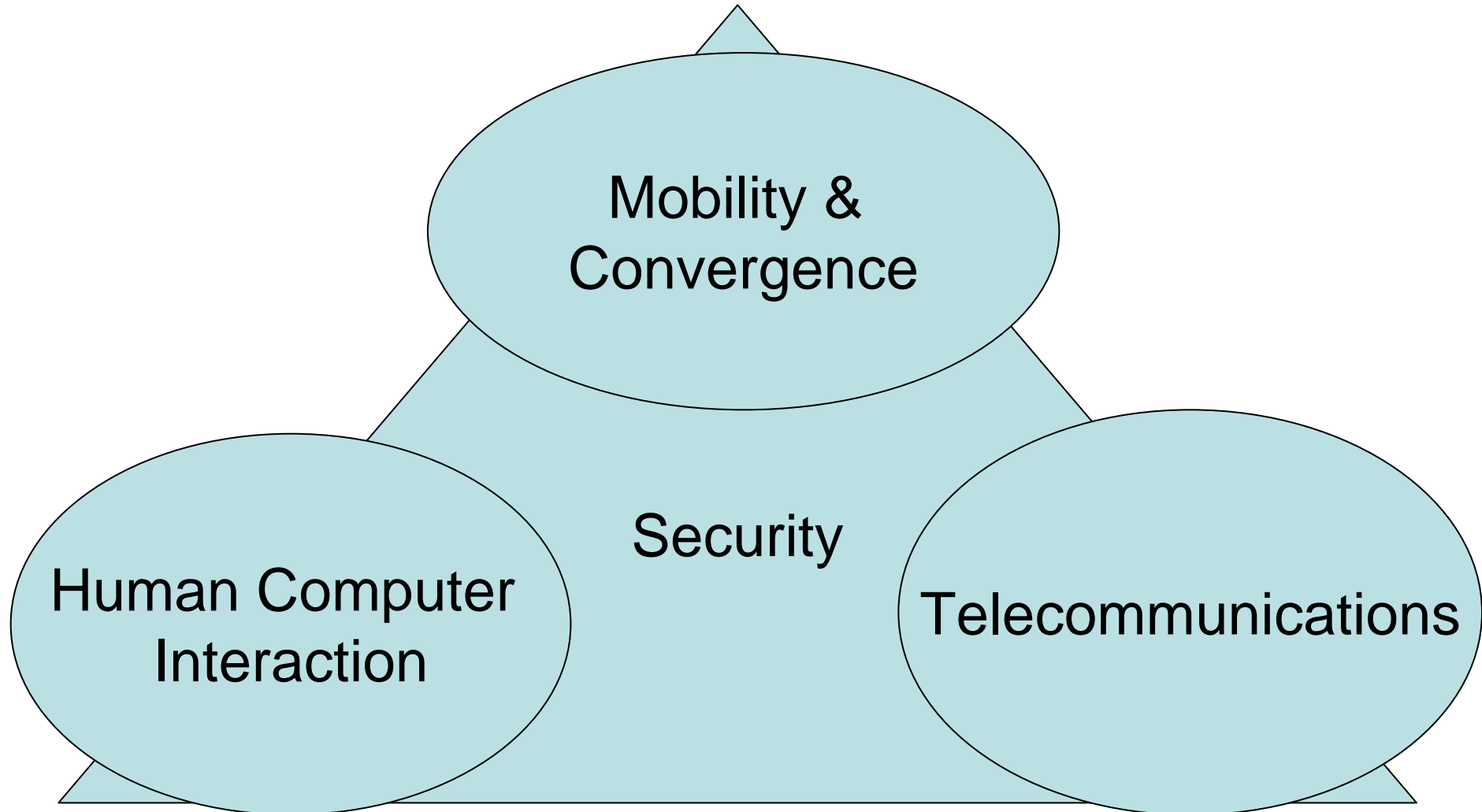
Dave Parry, PhD
Co-director of AURA Lab at AUT
University.



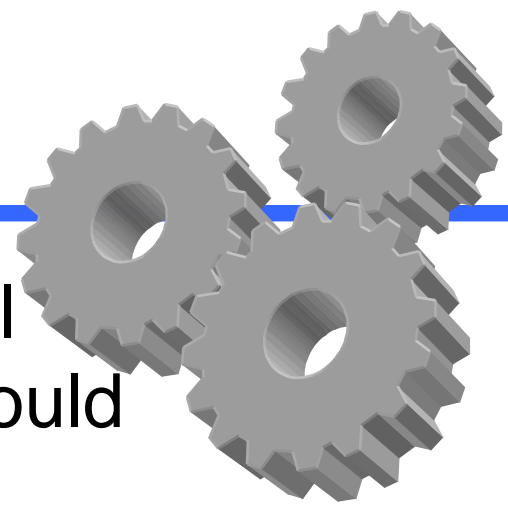
John Ayoade, PhD
Security Consultant
USP, Suva, Fiji.



Pervasive Opportunities in IS



Spimes



Spime is a single word for 6 trends, all encompassing. And the 6 trends it should encapsulate are:

- interactive chips, rfid objects that can be indentified
 - goelocalisation and precise positioning systems
 - powerful search engines
 - 3D virtual models of objects
 - rapid prototyping of objects, fabbing
 - cradle to cradle recycling
- (Sterling 2006)

Internet of Things

- The Internet of Things refers to a, usually wireless and self-configuring, network between objects, such as household appliances. (Sterling 2006)



Internet of Things

- The term "Internet of Things" has come to describe a number of technologies and research disciplines that enable the Internet to reach out into the real world of physical objects. Technologies like RFID, short-range wireless communications, real-time localization and sensor networks are now becoming increasingly common, bringing the Internet of Things into commercial use. (Internet of Things 2008)



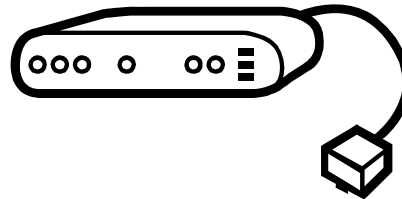
Assisted Living

- Be cared for in your own home longer.



RFID

- Tag
- Interrogator
- Processor



Aura Object Location

- Record the presence of objects that were within a person's "Aura" at specific "Landmarks".
- The Aura is a person's personal space, either on the body or very close to the body.
- The Aura concept is based on the work of Satoh (2005)

RQ

- What aspects of the Object Location system are important to the user for locating personal belongings within the home?
 - How useful is the ‘Where is my’ object location method? (Object Location)
 - How useful is the ‘What is near me now’ object location method? (Real-time Location Sensing)

Design Science

- Design
- Build – Java on Windows CE
- Evaluate – Usability Testing



Artefact



Welcome to RFID for
Assisted Living

Where is my...?

What's near me now?

Where have I been?

Keep track of a new...



Five Landmarks

Entry



Wardrobe

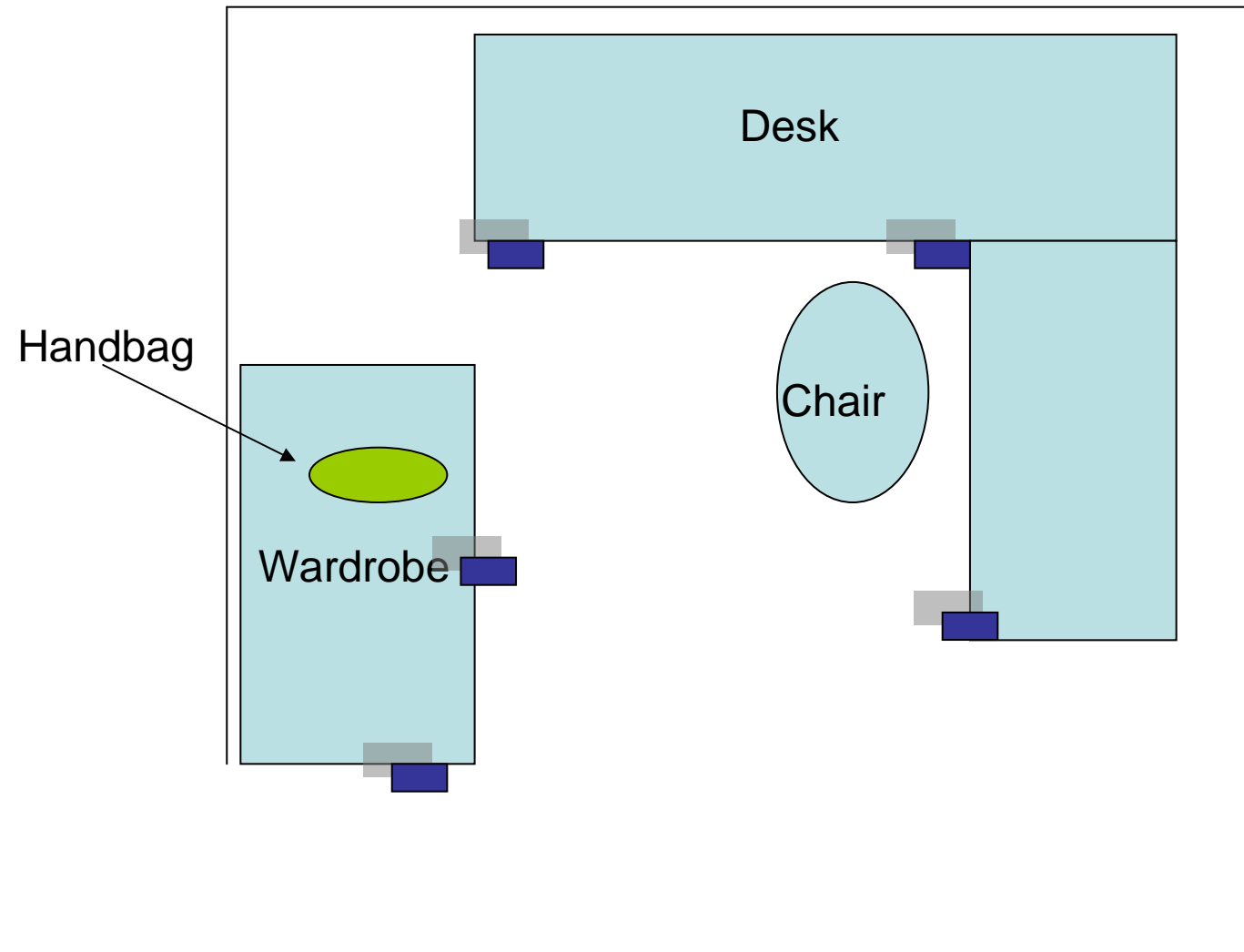


Three locations on my desk.

Three Objects



The Physical Environment



Artefact



Welcome to RFID for
Assisted Living

Where is my...?

What's near me now?

Where have I been?

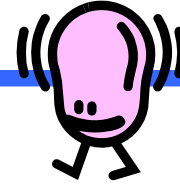
Keep track of a new...



Findings

- AI hard (Greenfield 2006)
- 1. Where is my? (Object Location)
- 2. What is near me now? (Real-time Location Sensing).

Brain Food



- Everywhere by Adam Greenfield
- Shaping Things by Bruce Sterling
- Thoughtful Territories by David Beer (City 11(2))
- <http://www.rfid.net.nz/>

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