

LANCASTER
UNIVERSITY



Meaning

Nigel Davies

School of **Computing**
and **Communications**

School of Computing and Communications | InfoLab21 | Lancaster University | LA1 4WA
Tel: 01524 510302 | Email: scc@lancaster.ac.uk | www.scc.lancs.ac.uk

Research methodology

create systems and deploy them for use by members of the general public ... go beyond lab based prototypes ...

- MOST : a system for use by field engineers in the electricity industry (1994-1996)
- GUIDE : context sensitive tour-guide systems for visitors to Lancaster (1998-2000)
- NEMO : health and safety systems (2006-2010)
- e-Campus : networks of pervasive public displays (2004-)
- Our Travel : crowd sourced travel information (2009-)

An Example of Meaning



436 people were killed and 16,625 people seriously injured 2005 as a result of accidents in workplaces.

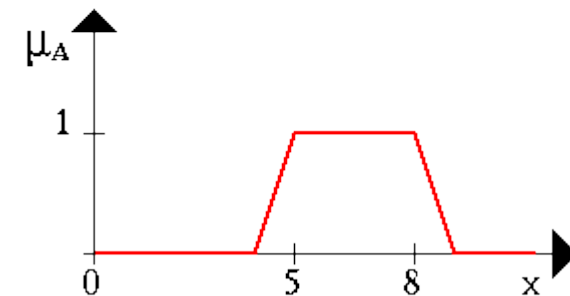
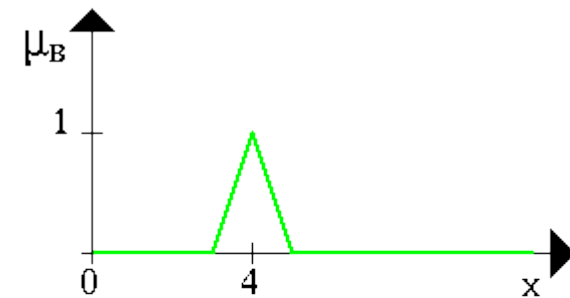
... contd



Design Challenges in Determining Meaning

Dealing with Uncertainty

- Empirical Uncertainty: due to sensor errors
- Cognitive Uncertainty: due to our vague understanding of activities
- Should we adopt a fuzzy approach - truth is modelled as a distribution that represents different degrees of uncertainty.
- How and when should we act ?



Creating Systems with Meaning

NEMO provides us with an example of a system with both forms of meaning:

- it goes beyond context to try and present a high level view of activities in the field
- it has the potential to “make the world a better place”

Drove a new direction for my work – helping develop and deploy commercial mobile and ubiquitous systems

... and an interesting discussion on quality.

Disposable Ubicomp

In mobile computing we understand what makes a good quality system (or at least we can recognize quality when we see it)

For pervasive systems how do we build, measure and convey quality ?

Is quality fundamentally at odds with ubiquity ?

Is quality an irrelevance in a disposable culture ?

Public displays

Increasing numbers of displays being deployed

How do we make these displays enhance our lives ? – not just music television and adverts :)

How do we increase the quality of the content and display functions ?

How do we understand the “deep” context in which a display and a viewer is operating to determine the right content ?

How do we end up where society values the displays ?

Challenge : Quality not Quantity

How do we build pervasive systems that developers take pride in, that consumers aspire to own and that children look forward to inheriting ? How do we understanding the meaning of data and then act in meaningful ways ? Is quality fundamentally at odds with ubiquity ?

Contact Details

Nigel Davies

School of Computing and Communications

InfoLab21, Lancaster University

nigel@comp.lancs.ac.uk

Tel: +44 (0)1524 510327