The Socio-Cultural Construction of Ubiquitous Computing

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What is UbiComp?

- "The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it." (Mark Weiser, The Computer for the Twenty-First Century)
 - UbiComp = Mobile Computing + Pervasive
 Computing (Lyytinen and Yoo, CACM, 45, 12)
- ...is this a North American view?

UbiComp - A Collaborative Technology because... (?)

- its spectrum of application: the world
- its ultimate goal: "enhancing" our relationship with the world (tighter control over inanimate objects + a closer link to other human beings)
 - UbiComp = Mobile Computing + Pervasive Computing + Humans (Environment)

Dealing with Culture

- Hofstede Cultural Dimensions
 - A concept introduced to explain the behaviour of people towards other people within a particular society... but what about interactions between people mediated by computing technologies or between people and pervasive technologies?
- Ethnographic research
 - 1. Use of computing technology under different constraints (e.g., power supply, network availability, social customs, etc).
 - 2) Appropriation of computing technologies (the "secret life" of ICT, Bell).
 - 3. 3) Mismatch between work settings and its applicability beyond the desktop

What Questions?

- Is the behaviour described by Hofstede's *cultural dimensions* distinguishable in the use of ICTs among people from different countries?
- Can *cultural dimensions* be used to predict acceptance or rejection of novel technologies?
- Can *cultural dimensions* be used to understand the use, appropriation and naturalization of UbiComp technologies?

Pilot Study

- In-depth, semi-structured interviews with three international students from China, Spain and Brazil between the ages of 18 to 22 years old.
- In the UK at the time of interview for not more than five months.

Ongoing Study

- In-depth, semi-structured interviews with fifteen male and female master students from fields other than computing science at the University of Glasgow
- Five subjects each from China, India and Greece between the ages of 22 to 28 years old
- In the UK for no more than six months at the time of the interview
- The interview seeks to understand
 - 1. participants' previous experience with ICTs
 - 2. how this behaviour might have been altered since their arrival to the UK

Rationale

- This method would produce a rich narrative
- Sample of international students given limited resources to conduct fieldwork
- These countries represent a rich cross-cultural sample according to *cultural dimensions*
- Enough exposure to British conditions (Internet connectivity and mobile network providers)
- Memories of previous living conditions are still fresh
- "Normalizing" conditions
- Use and appropriation of ICTs Ubiquitous Computing? *Vector of research across countries*

Limitations

- Sample is restricted to a very particular segment of the population from each country surveyed
- Conducting interviews in a second language like English prevents participants from fully expressing their inner thoughts
- Valuable information might be "lost in translation"
- Small sample to draw any conclusion that might apply to an entire population

Very Preliminary Findings (?)

- Social Networks: aversion, indifference, ignorance, steady use
 - A collectivistic identity in the digital realm, or the natural integration of ICTs to a lifestyle because of a longer exposure to these technologies?
- Generalized adaptation to a different technological milieu
 - An instance of the endless ability of humans to adapt to changing circumstances, or is the socio-cultural context irrelevant in the use and appropriation of computing technologies?

Future Work

- Are there any *alternative visions* for the development of UbiComp because of different circumstances, needs and expectations towards computing technology?
- How do we *understand* those other socio-cultural contexts?
- Through *what processes* are computing technologies appropriated by their users?
- What is *the role of the socio-cultural context* in this process of user appropriation?
- How can we apply that understanding to the construction of *alternative views* of UbiComp?

Call for Participation

- A cross-cultural study addressing the limitations and questions indicated before specially:
 - Lost in translation (e.g., what is important and why?)
 - More representative sample
 - Different locations