

# 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. 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