Mobile IT systems and home care applications

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http://www.it.uu.se/research/hci

Mobile work

Mobile...
IT systems for mobile work

- It is often important that information is available at exactly the right place and time
- Mobile systems can support work that is mobile
- Mobile systems can make work more mobile
- Usability in mobile systems is problematic…

Mobile usability

- Different technology – different possibilities and problems!
- Examples of this?

Environmental aspects

- Temperature, precipitation and lighting conditions might affect performance of mobile hardware.
- Noise make mobile system hard to fully interact with.
- Users move from place to place and mobile systems must be usable on the move.
- Competition for attention in multitask mobile settings
- Users might need to manipulate other physical objects during interaction with mobile systems.
Mobile usability

**Hardware Limitations**
- When mobile devices are to be carried the device itself has to be small enough and easy to bring along.
- Speed of network traffic and connection is still relatively slow and unreliable.
- CPUs are slow in advantage of being inexpensive, small and less power consuming.
- Memory size is limited as well as its speed.
- Battery times are short.
- Network connections are today unpredictable and far from geographically complete.
- Screen size is small and information presented is hard to read for people with bad vision.
- This results in bad readability and is one of the most commonly treated issues about usability in mobile systems, the design for mobile graphical user interfaces.

Usability

**Interaction with Mobile Devices**

**Input**
- Write directly on the screen.
- Mobile and smart phones also uses buttons 0-9*# for input of text.
- Devices with a stylus can provide a virtual keyboard.
- Some devices offer a small hardware keyboard.
- Technology to control IT systems with the voice.

IT in home care

- Home care
  - Home health care, can be advanced
  - Care for the elderly
  - Communication
  - E-health
IT in home care

- Many projects and systems exist.
- Search for “IT in home care” etc, MANY hits!!
- Few (none?) systems have been successful.
  - Why?

Example - VIHO

- Specify a vision of future home care work, improving the work, service to the elderly, quality and innovative use of IT

VIHO

- A vision seminar process – the future work in home care.
- Analysis of today’s work – problems…
- How can innovative use of IT support a positive development?
  - Higher skills
  - Improved quality, service
  - Communication
  - Evaluation, quality assurance
VIHO…
Change of work organisation and processes, prototypes of new IT
- Economy
- Competence, education and training
- Use of working time
- Scheduling
- Work planning
- Work evaluation
- Communication
- Information support
- Leadership

Old @ home
- http://www.ehealth.uu.se/english.html
- http://www.medsci.uu.se/mie/project/closecare/
- The project aims at providing elderly people with improved health
  - immediate and ubiquitous access to patient-oriented data in specific work situations for different care providers,
  - decision support at the point of care and,
  - intuitive access to information services for the elderly and their relatives.

Home care – E-health