Mobile IT systems and home care applications

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http://www.it.uu.se/research/hci
Mobile work
Mobile...
Mobile...
Mobile...
Digital pen
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?
Mobile usability

Environmental aspects

• Temperature, precipitation and lighting conditions might affect performance of mobile hardware.
• Noise makes mobile systems 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 (touch 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 systems have been successful.
  – Why?
Example - VIHO

• Specify a \textit{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
Home care – E-health