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## Workflow on Mobile phones

ASK-IT Final Conference 2008  
Nuremberg, June 26-27

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## Mobile technology trends

- ▶ The mobile technology is maturing
  - stable, robust and powerful devices
  - high connectivity, 3G mobile services in large parts of the world
  - the global mobile penetration is about 50%
  - the western world mobile penetration is over 100%, ie mobile devices are common property
  - possible to reach large and diverse user groups, also users that do not have easy access to PC's
  - possible to offer complex and compound electronic services for mobile devices

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## Workflow on mobile devices

- ▶ Common characteristics of e-services:
  - often connected to enterprise business processes
  - consisting of many tasks and sub-tasks
  - sometimes interaction with several service providers are necessary (eg. authentication and payment) to complete the main task
  - need for user interaction and user input
  - sometimes there is need for complex calculations according to specific rules and interdependencies
- ▶ Is it possible to present such services in a user friendly way on a mobile phone?

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## Design guidelines for mobile workflow

- ▶ What advices did we find?
- ▶ General usability and accessibility guidelines for the web
- ▶ Design guidelines for mobile devices, eg.
  - W3C Mobile web best practices
  - Little spring: designing the mobile experience
  - ITU-T: Telecommunications accessibility guidelines for older persons and persons with disability
  - etc
- ▶ Research in mobile workflow has mostly focused on technical aspects, and some on device centric aspects
- ▶ Need for user centric research and design guidelines for mobile workflow

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## Essential UI requirements

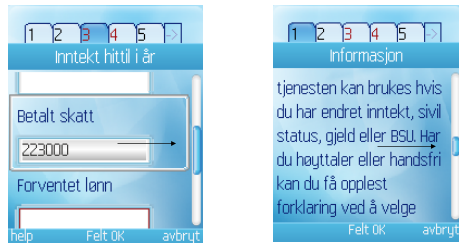
- ▶ Synthesised from existing guidelines we emphasise:
- ▶ Navigation and work flow
  - consistent
  - User must know where s/he is in the application
  - Show progress
  - Possible to terminate anytime, save work done
- ▶ Input and error handling
  - Minimize need for input by pre-written values to chose from and pre-selected values where relevant
  - Informative error messages
  - Possible to escape from error conditions
- ▶ Our design suggestions follows:

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## Task cards, and marking of the active card

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## Elastic scroll bar showing the relative position.



## Changes in the colour scheme indicate invalid input



## Usability, accessibility and flexibility



- ▶ Alternative skin,
  - ▶ context sensitive information
  - ▶ audio help
  - ▶ magnifying current field
- Challenges:
- ▶ Multimodality
  - ▶ Flexibility and complexity
  - ▶ Interoperability with assistive technology

## The Osiris project

The Norwegian Osiris project is part of the International Osiris project: <http://www.itea-osiris.org>

The Tax Card Demonstrator is one of several demonstrators

Thanks to Osiris and research teams of

- Tellu
- Karde
- NR

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