



Mobile Devices and Internet

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Mobile Devices

- Mobility may mean one or more of the following:
device can be carried by the user (eg cellphone, PDA, wrist watch, etc)*, device is autonomous (eg robot), or device (eg car computer) is embedded in a moving object/device (eg car)*
- Laptop, cellphone, PDA, smartphone, wrist watches eg Casio GP2, digital cameras, etc.



The case for Mobile Devices

- ubiquity
- portability (easy to carry) and handling (easy to handle)
- opportunity for context-aware applications
- more personal than a standard PC
- software availability: one can benefit from software everywhere (e.g. reading emails)
- An opportunity to consider non-conventional and new interaction mechanisms
- democratization of information systems.
- More opportunities to use information appliances in working environments (e.g. for doctors, mechanics, travelers)
- Unique opportunity for users with disabilities



Some Drivers

- Convergence of (and advances in) technologies and devices in wireless/mobile communication, digital broadcasting and networks
- Customer needs/demands: people's needs, interests, desires, preferences and expectations
- Sales/profits: network, service and content providers consider mobile to be an opportunity to increase their sales if they improve their services or support new services. Moreover, they also consider mobile computing to be an opportunity to reach more people/potential customers ("anywhere, anytime")
- Mobile devices can host applications that permit users with special needs and/or acting in special contexts to be actively involved in Internet activities like ordinary users



Some Challenges

- Cost, reliability and quality of the services
- Device Limitations
- Multimedia Requirements
- Data overflowing
- Quality of the user experience
- Dynamic/changing contexts, often insecure, highly unpredictable and unstable
- Diverse technologies, channels, and devices
- Authentication and authorization needs
- Adaptation (to users, contexts, devices, networks)



Addressing some challenges

- Repurposing content
- Adapting for content
- Media conversion
- Adapting for user
- Non-conventional input and output paradigms
- Adapting for the constrained resources and context