Why are smart phones interesting for learning?
personal ubiquitous computing device
Personal information management

Learner knows the system

Personal computing device

lose to the learner
personal ubiquitous computing device

Environmental sensors

Network connectivity

Supports multi-sensorial interaction

Persistent information “on your fingertips”
personal ubiquitous computing device

Help to personalize and contextualize learning experiences in new ways.
What is inside?
What is inside?

Web-applications
• Multi Touch-screen
• GPS receiver
• Accelerometer
• Gyroskop
• Loads of Memory
• W-LAN
• 3G Connectivity

... more
• Camera
• Microphone
• Sound
• Clock/ Timers
• Vibration
Why should we go web-based on mobile devices?
Reason 1

Target audience has a great variance of devices and this will \textit{not} change
Vendor Images used without permission, but this slide is their fault
Reason 2

Native applications are very expensive
If you need to support for more than one device you need

• One developer team for each (sub-) platform

• Use different development frameworks

• Implement different UI guidelines

• Align to the deployment requirements of each platform
Reason 3

Most applications don’t really need system functions most of the time
Reason 4

Serious Smart Phones come with a HTML5 capable web-browser
Avoid the App-store Mania
How does HTML5 support the development of mobile applications?
HTML5 helps to reduce costs

1 application for several devices
HTML5 CSS Features

• Fancier styles and transitions
  • Web-apps can look as good as native apps
  • Consistent visual experience

• Lightning fast
  • First point for improving web-application performance
HTML5 features for Mobiles

• Offline Cache for static content
  • Users can be offline without losing the application

• Offline Storage for user data
  • No data-loss when returning back online

• Geo-location API
  • Adapt the application to the users location

• Multi-touch Event API
  • Use Fingers instead of Mice
A few examples
Social Networking

- Offline Cache for static content
- Offline Storage for user data
Widget-based Personal Learning Environments

- Offline Cache for static content
- Offline Storage for user data
- Geo-location API
Knowledge Exchange

- Offline Cache for static content
- Offline Storage for user data
- Multi-touch API
W-Augmented Reality

- Offline Cache for static content
- Offline Storage for user data
- Geo-location API
- Multi-touch API
And if we still need something special we can still go phonegap or titanium

Binding frameworks that expose native functions to javascript applications.

No loss of development time for re-implementing existing functions