Outline

- **Mobile devices**
  - Features
  - Categories
  - Platforms
  - Sensors
- **Mobile context**
- **Mobile application**
  - Native applications
  - Mobile web applications

Mobile features

- Key features
  - Portable
  - Personal
  - With the owner almost all the time
  - Easy usage
  - Always connected

Mobile device categories

- Mobile phones
- Low-, mid- and high-end mobile devices
- Smartphones
- Tablets and notebooks
- Non-phone devices
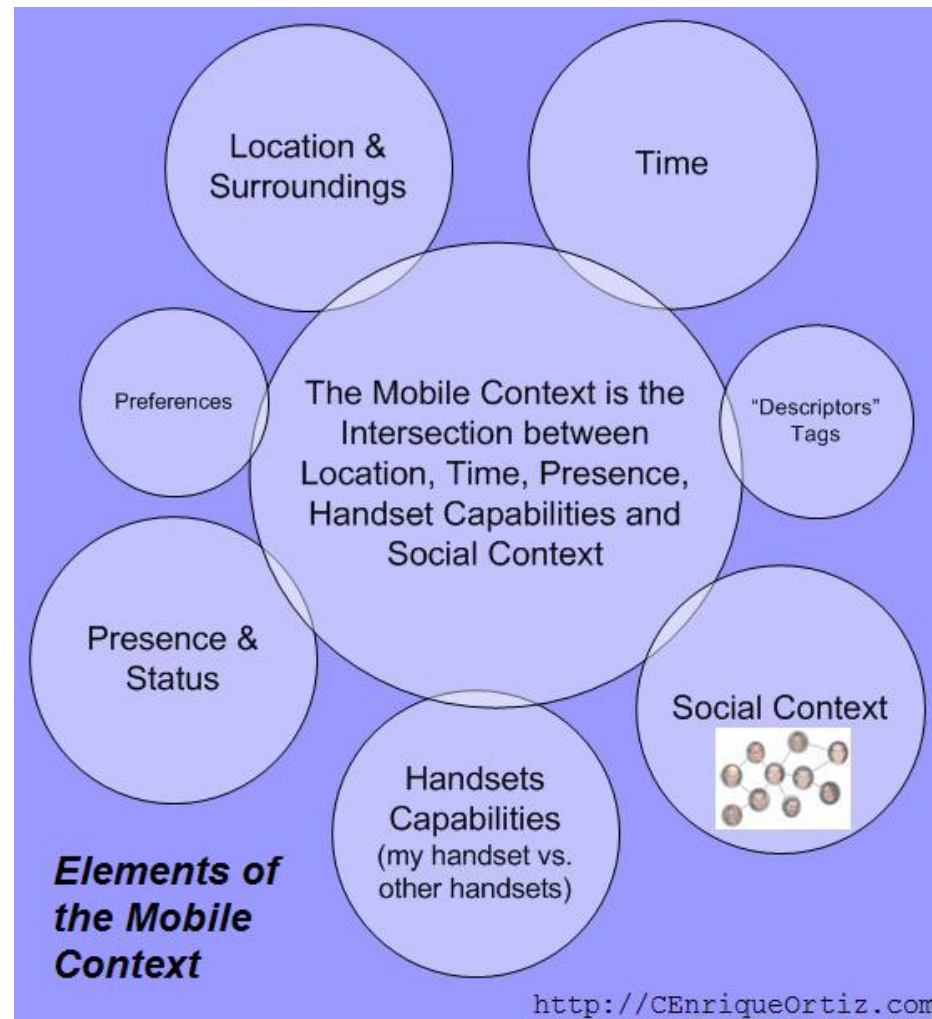- Small personal object technology

Diverse device characteristics

- Display
  - Resolution
  - Physical dimension
  - Aspect ratio
- Input methods
- Supported features
  - Geolocation
  - Phone calls
  - SMS
  - MMS
  - OTA application installation

Mobile device platforms

- Apple iOS
- Google Android
- Symbian
- Windows Phone 7/8
- BlackBerry RIM OS
- Proprietary OSes

The mobile context

Sensors on mobile devices

- Location
  - GPS
  - Accelerometer
  - Compass
  - Proximity
  - …

- Media input
  - Microphone
  - Camera
  - Light
  - …

- Communication
  - WiFi
  - Edge/3G/4G
  - Bluetooth
  - Near Field Communication
  - RFID
  - …

- Time
  - Clock
  - …

- …

Sample mobile applications

- Location based services

- QR scanners

- Augmented reality

Native applications

- Pros
  - Easy access to commercial market through app stores
  - Full access to hardware features

- Cons
  - Apps bound to a specific platform
  - Programming environment determined by platform
  - Repetitive compile-and-deploy cycles
  - Developer program fees

Web applications

- Pros
  - Tools known for web developers
  - Web design and development skills can be utilized
  - Apps may run on any device with a browser
  - Bugs can be fixed in real time
  - Fast development cycle

- Cons
  - Limited access to hardware features
  - Performance may not be the best
  - Generally no support for background applications
  - No commercial marketplace for apps
  - Sophisticated Uis a challenge

Conclusion

- The mobile device is personal and with the user at all times

- The mobile context is multi-faceted and should have an impact on the app design

- Mobile web applications complements native applications