

Portability of UIs

(To trigger further discussions ;-)

Overview

- Examples of Web based UI in Devices / Applications / Systems
- Portability - a key aspect to use web based UI
- Capabilities to support Portability
- Available Technologies
- Objectives for Discussion

Home Entertainment (STB, IPTV, Streaming Clients)



Source: www.oxyl.de

- Browsers are widely used for UIs
- Effort spent to integrate services (UPnP, HTML based, ...)
- Next step is Rich Media (SVG, Flash, ...) to make it (too ?) „sexy“
- Notion of Portability:
 - include other services
 - adopt (to some extend) style / branding of portals
- Usability: WAF ≈ 0 ,
 - Ok, there are exceptions:
 - a) significant effort in scripting / rich media
 - b) extensions to the browser
 - But, has to be specifically implemented for each page / scene

Automotive Infotainment

- First approaches to use a browser
- Highly performance optimised
- (so far) very fixed service configurations (about to change)

- Notion of Portability:
 - include, provide services: bring in devices, C2X, C2C
 - include „in car“ services

- Usability: quite good (WAF $\approx 0,7$)
 - Ok, the price to pay is the flexibility



Industrial Automation (Automation in Health Care)



- UIs also available for browsers
- Significant use of scripting
- Stability and timely behavior is critical
- Flexible configuration of services has become quite complex

- Notion of Portability:
 - include other services / configurations
 - support different devices

- Usability:
 - Critical especially for security functionalities
 - (WAF = usually not that critical ;-)

Desired Capabilities – Composition of Controls

- Portability Notion: Composition of Controls into one „Scene“ (manual composition envisaged at this point in time)

Desired capabilities:

- Extensibility of existing controls, e.g. support to include controls at the right place for
 - presentation (see also adaptation to devices)
 - navigation / interaction
- Adaptability of the style to facilitate visual integration or branding
- Interaction between Controls e.g.
 - to deal with concepts of prioritisation
 - to relate control states

Desired Capabilities – Adaptation to Devices

- Portability Notion: Adaptation to different devices (manual adaptation envisaged at this point in time)

Desired capabilities:

- Low computational complexity (applicability of approach)
- Reliable behaviour (functionality, timely)
- Separation of logic and presentation
- Scalability of presentation (modularisation, arrangement)
- Separation of presentation and navigation concept
- Mapping of events to navigation concepts (might also include output events)

Declarative Approaches

Basic Technologies

- Presentation: e.g. XHTML, SVG, VoiceML
- Data Processing: e.g. XForms, XQuery, XSLT
- State Control and Communication: e.g. SCXML, REX, EXI

Combination of above listed technologies can improve requested capabilities (e.g. combination of REX and SVG or EXI and SVG)

(Higher?) Model driven Descriptions

- Navigation Models: proprietary extensions of Browsers (not only mapping of keys but navigation concepts and principles)
- Composition Models: based e.g. on semantic labels of states and events

Objectives for Discussion

Further collection of use cases

Applicability of basic technologies

- Evaluation of technology combinations wrt desired capabilities
- Collect best practice

Identification of common higher Models in the discussed use cases