
OASIS HMI: An Elderly Friendly UI Approach

Jan-Paul Leuteritz, Vivien Melcher, Mary Panou, Asterios Leonidis



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Project objectives

- The older population is increasing very rapidly worldwide
 - Fewer working people to financially support the retired people
 - More and more “elderly” users of ICT. Barriers are to be removed
- Vision of the OASIS project
 - Improve the quality of life and autonomy of elderly people by facilitating access to innovative web-based services
- Objectives
 - Develop an ontology-based open architecture for web services
 - Make web services available to the elderly
- → Optimal user interfaces are necessary

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There is no “typical Elderly“



- 55-??
- Cultural background
- Computer literacy / Technology affinity
- Mobility
- Deteriorations



- Movement
- Perception
- Learning

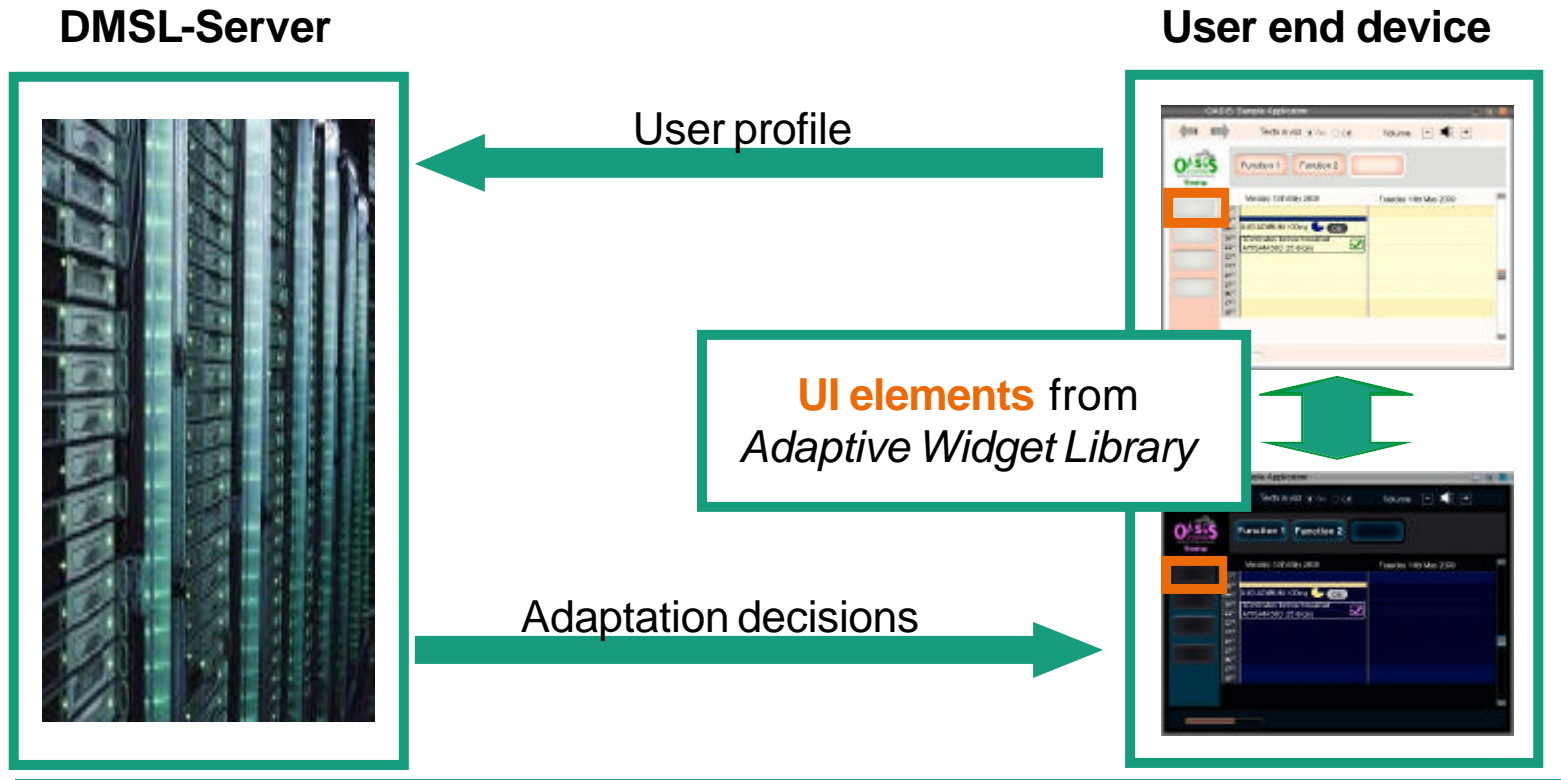
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A dynamic problem

- Evolution of end devices:
 - More memory, calculation capacity, better connections
 - Functional shift from server to client side
- Evolution of end users:
 - Digital natives vs. Digital immigrants?!
- Political decisions:
 - Affordability and „critical mass“ vs. Optimal usability?

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Adaptation based approach



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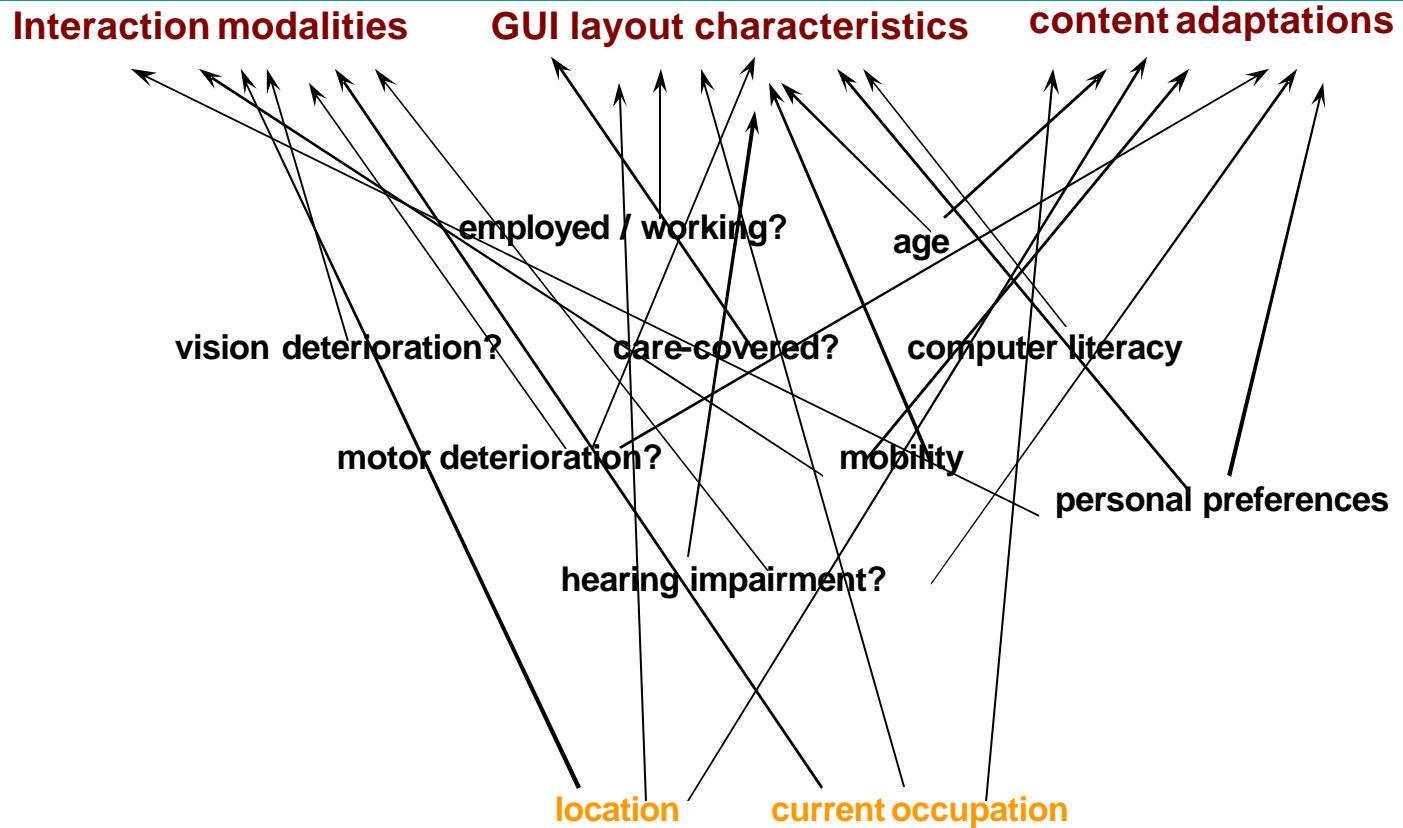
Adaptation rules development

1	If	[Elderly user's age = { <i>55-65</i> } or { <i>65-75</i> }] or [Caregiver's profession = <i>Doctor</i> or <i>Nurse</i> or <i>Hospital staff</i>] or [Elderly user's life situation = <i>Employed</i>]
	Then	Font size " <i>Normal</i> "

2	If	[Elderly user's life situation = { <i>76+</i> }] or [Visual impairment = [<i>Moderate</i> or <i>Severe</i>] or [Elderly user's computer literacy level = <i>illiterate</i>] or [Elderly user's life situation = <i>Care Covered</i>]
	Then	Font size " <i>Extra Large</i> "

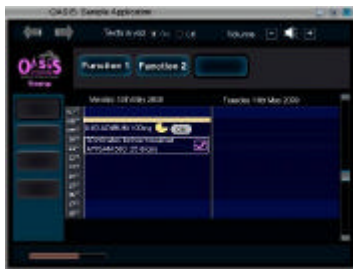
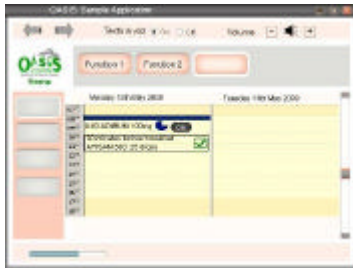
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Adaptation triggering parameters



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Adaptation rules development



- User requirements from literature analysis
- Testing of instances instead of single rules
- Keeping it simple:
 - Not too many rules
 - Not too many alternatives
 - Hierarchical rules

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Bridging the gap: The OASIS UI-Styleguide

■ Topics:

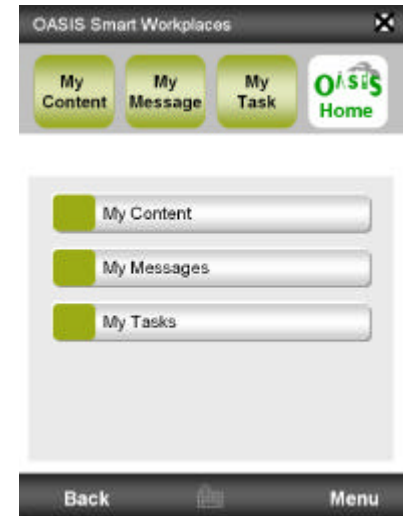
- General screen design guidelines
- Interaction & navigation principles
- Guidelines of use for UI elements
- Design guidelines for Icons etc.
- Accessibility
- Innovative interaction concepts

■ Advantages:

- Covers all relevant topics
- unified “look-and-feel” is expected to raise user acceptance

■ Disadvantages:

- Developer effort
- Author effort



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Conclusions – Future perspectives

- The styleguide – A never ending story
- Scientific research on adaptation rules?
 - In-built adaptivity in operating systems?
 - Content adaptation?