The MONA Project

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The MONA Project

**Experimental XML UI description language**

**Modality- and device-independent UIs**

**Integration of technology from partner companies**

**Prototype presentation server and two example applications**

**Prototype editing tool**

**Concepts for single authoring methods and tools**
UI Description Language

- Structure, style, content in 5 hierarchical levels

- User Interface Level
- Task Unit Level
- Widget Grouping Level
- Abstract Widget Level
- Content/Grammar Level
User Interface Level

Global UI attributes

- Title
- Suggested GUI background color or skin
- Voice reprompt and no-input phrases
- Global grammar for triggering voice help
Task Unit Level (work in progress)

- Pagination properties
- Global voice dialogue flow
  - flat vs. deep
  - direct-manipulation vs. dialog
  - user- vs. system-initiated

“Do you want to control the room lights or the A/V system?“
“A/V system!“
“Video beamer or audio system?“
“Video system.“
“You can switch the beamer off or select the video source.“
“Video source to RGB 1, please.“

“Light 1 brighter, please!“
“Light 1 brighter, please!“
“Light 1 brighter, please!“
“Light 1 brighter, please!“
Widget Grouping Level

- Layout optimized for screen width
- Set of simple layout rules

left-aligned
right-aligned
centered
justified
left-aligned list
right-aligned list
centered list
Abstract Widget Level

★ Describing intention rather than appearance
  - output, command, choice1ofN, ...
★ Transformation to widget micro-dialogue
★ Transformation to a suitable visual representation

Content/Grammar Level

★ Content – collection of multiple alternative contents for different modalities (text, image URL, TTS output, audio URL)
★ Grammar – keywords and phrases that activate widgets/micro-dialogs.
MONA Behavior Vocabulary

lığın processing model
Implementation as required for MONA sample applications
- Navigation
- Passing of parameters and (binary) content (e.g. recorded voice) to application

Events and actions – based on UIML model
- alert
- restructure
- submit
- “post“

Translation to markup or JavaScript by the presentation server
UIML

- **User Interface Markup Language**
  - Generic XML syntax for building a UI description language
  - Standardization by OASIS

- **MONA UIML vocabulary**
  - Language elements mapped to UIML `<part>` classes
  - Behavior vocabulary mapped to `<call>` elements

- **Positive**: Freedom to develop new UI language from scratch without ignoring all standards

- **Negative**: Verbose, some MONA requirements not satisfied

- MONA language concept **not restricted to UIML**
MONA Authoring

❖ “Natural“ design workflow as a key requirement
  - Use cases, scenarios, pen-and-paper sketches

❖ Bottom-up in the MONA language hierarchy
  - Concrete GUI sketch
  - Identify widgets, groups and layout rules, task units

❖ Tools to compensate for lack of predictability
  - WYSIWYG GUI previews, visual representation of voice dialog
  - Interactive editing in all views with real-time feedback in all other views
  - Option to import HTML
  - Concept and prototype tool under development
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http://mona.ftw.at/

QUESTIONS?