CRUISe: Composition of Rich User Interface Services

**MOTIVATION**

- Web as application platform: *Programmable Web*
- Back end: reusable, distributed (web) services
- Front end: costly development and maintenance
  - heterogeneous technologies and frameworks
  - heterogeneous user, usage, device contexts
- Application of the SOA paradigm to the presentation layer of web and esp. mashup applications
- Platform-independent modeling of mashup user interfaces from distributed UI services
- Dynamic, context-aware UI composition from reusable, generic user interface components

**VISION**

- Context-aware integration of distributed UI components into the skeleton at run time
- Control of UI integration and event flow by a platform-dependent *CRUISe Runtime*, e.g., for
  - Thin Server Architecture (TSA)
  - Eclipse Rich Platform (RAP)
  - Human Tasks (BPEL4People, WS-HumanTask)
- Dynamic invocation of the *Integration Service*
  - Context resolving (external *Context Service*)
  - Discovery of compatible UIS (*UIS Registry*)
  - Selection of most suitable UIS (*Ranking Strategy*)
  - Platform-specific wrapping of the generic UIS
- Dynamic integration of the UI component
  - Unique namespaces, class loading and initialization of the UIC via its interface
  - Transparent loading of additional UIC resources
- Dynamic adaptation of the UI mashup
  - Adaptive layout, UIC reconfiguration and exchange

**UI SERVICES**

- *User Interface Services (UIS)* provide UI components and resources, like images, styles, libraries
- *User Interface Components (UIC)* are client-side, reusable and configurable web UI parts with a generic JavaScript interface
- Classification and description by UISDL
- Registry manages UISDL instances

**UI MODELING**

- Platform-independent *CRUISe Composition Model* of the mashup UI defines
  - Layout and UIC configuration
  - Data and control flow
  - Adaptive behavior
- Model transformation to a platform-specific *UI Mashup Skeleton*

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**CONCEPT-AWARE UI COMPOSITION**

- Conceptual overview of the CRUISe system

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