

Engineering of Do-It-Yourself Rich Internet Applications

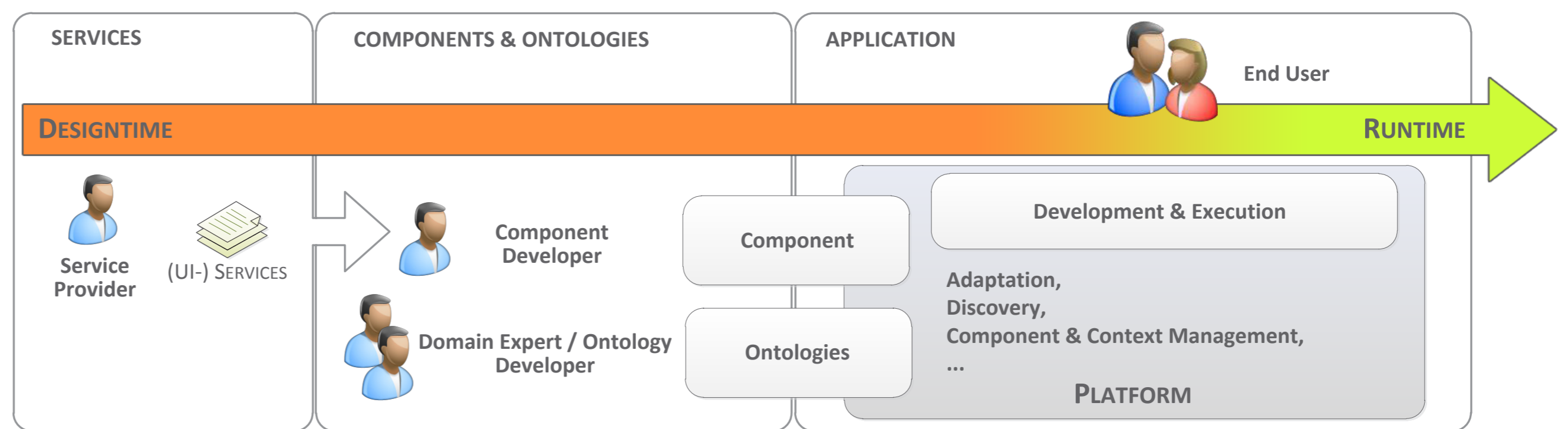
The EDYRA project aims at utilizing web services and mashup paradigms to provide a lightweight software development process for composite and ubiquitous web applications.

Motivation

- Current mashups focus on simple application scenarios with limited complexity
- Future mashups:
 - » Modeling and support of complex business processes
 - » Development and adaptation by domain experts and end users
- Service based prefabricated user interface and business logic components
- New development tools and methods enable ad-hoc creation of situative web applications without advanced programming skills

Research Focus

- Development procedures for ad-hoc design and implementation of composite and service oriented rich internet applications (cRIA) by end users
- Integrated development and runtime platform for cRIA with respect to mobile and collaborative application scenarios
- Novel concepts for implicit and dynamic instantiation and reconfiguration of task and composition models during design time and run time
- Quality management and test methods for cRIA to ensure efficient development and adequate quality



Development and Configuration Process for cRIA

End user development of cRIA requires innovative concepts and solutions for:

- Intelligent, semi-automatic real time decomposition of business processes into tasks
- Transformation of aggregated tasks into an application using a mashup model
- Identification and semantic specification of functional requirements at run time
- Retrieval, selection, and delivery of suitable mashup components
- Platform for cRIA development, execution and ad-hoc reconfiguration
- Seamless integration of development tools into the run time platform

Semantic Description of Mashup Components

Semantic models in conjunction with annotated mashup components are prerequisites to transform the concepts of EDYRA into a working platform. Core concepts of the CRUISE project, e.g. an universal, semantic composition model spanning all application layers in-

cluding the UI, will be continued and extended. Further research comprises:

- Means for specifying non-functional requirements like privacy, quality of service and contracting
- A registry for managing semantically annotated mashup components
- Semantic and context-sensitive search, ranking, and selection of mashup components
- Mediation of syntactic deviations between inputs and outputs of mashup components
- Design and prototype implementation of intuitive tooling as integral part of the run time environment

Adaptation of cRIA

Changing usage contexts require dynamic adaptation of cRIA. EDYRA strives to cover selected aspects of adaptation during run time:

- Acquisition, evaluation and formalisation of required context information
- Specification of methods for accessing context data, as well as, processing and exploitation
- User and device specific adaptation of single components and entire compositions

Collaboration

Collaboration support is focused on:

- Analysis and conceptual design of interaction and visualisation techniques for cRIA with respect to collaborative application scenarios
- Supporting synchronous and asynchronous collaboration within an ecosystem of heterogeneous personal and public devices

