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 including 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