Project Note

Spring-based SOA architecture at University College London

University College London has a set of business critical legacy systems that they want to leverage for new applications. Zühlke introduces a SOA-based architecture, and implements an exemplar application.

Task

UCL's Information Services Division (ISD) implements, develops, maintains and operates all UCL strategic information systems. Currently information systems within ISD's remit are procured off-the-shelf or implemented through vendors, such as Oracle and their integration is ad-hoc. ISD intends to migrate to an enterprise architecture that supports a systematic approach to IT system integration and has chosen a modern service-oriented architecture (SOA) to accomplish that vision. However, ISD staff have little practical experience in designing such architectures and need guidance on the technology that should be used for its implementation. Zühlke was contracted to design the Service Oriented Architecture for UCL and implement it, by offering exemplar services for an existing legacy timetabling system, based on Oracle.

Implementation

Zühlke designed and presented to all UCL stake holders a flexible Service Oriented Architecture based on Spring, Spring Web Services and Apache CXF, that can be used offer business level services from existing systems. The architecture was implemented to offer contract-first timetabling services from the existing UCL timetabling system. Connectivity to the legacy system was provided using JDBC. The implementation of the architecture serves as an exemplar to UCL ISD as to how to offer business services from their legacy systems. To demonstrate the flexibility of the architecture, both SOAP and RESTful web services were created, and the timetable data was offered in both XML and ICal formats.

Customer benefits

- Zühlke created business services from existing systems and to integrate the existing infrastructure in order to save costs.
- UCL was given a fully customizable architecture, implemented using very popular and open protocols, meeting all current requirements and being adaptable to future changes.
- The staff was trained during the project and could directly use the knowledge.

Technical Data

Operating system: Solaris

Back end: Java, Spring

Database: Oracle

Application Server: Tomcat, Oracle OC4J

Interfacing technologies: Web Services (Spring-WS), SOAP, Rest, Apache CXF

Development environment: Eclipse, Subversion, JDeveloper

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