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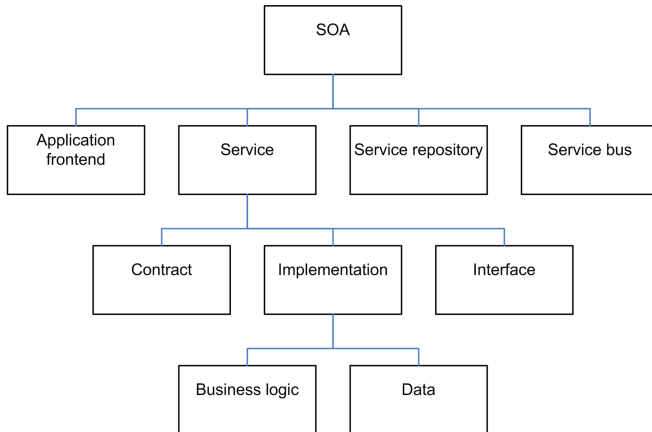innsbruck

Department of
Computer Science

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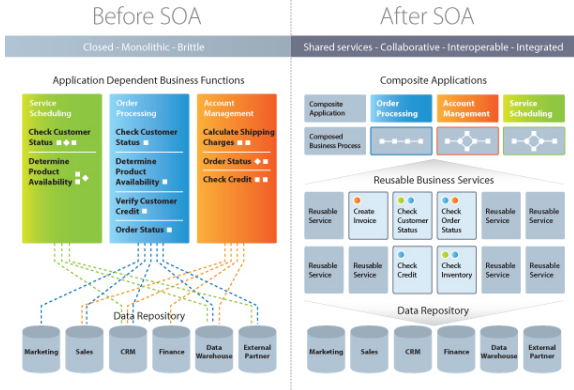
703128 PS/2 Web Services

Project Guidelines

Zaenal Akbar

Friday, 2017-10-06

Service-oriented Architecture (SOA) Elements Overview

Service-oriented Architecture (SOA) Illustration

(*) http://www.tridens.si/wp-content/uploads/2010/04/diagram-soa.jpg

Project Requirements

Objective

Apply different Web Service technologies to an idea that you find interesting

- Service (Server side part):
  - **Business logic** is implemented with one Web Application Framework and exposed as Web Service
  - **Data** is stored in a database
  - Connection to other Web Services via Web APIs or direct invocation of Web Service interfaces

- Application Frontend (Client side):
  - Implementation of a UI for a given platform (Desktop PC, Web browser, Mobile Device, etc.)
  - Use of client libraries to invoke Web Services

Web Service Frameworks

- Apache Axis2
  - A Web Services/SOAP/WSDL engine
  - `http://axis.apache.org/axis2/java/core/`

- Apache CXF
  - An open source services framework
  - `http://cxf.apache.org/`

- Metro (part of the GlassFish community)
  - A high-performance, extensible, easy-to-use Web Service stack
  - `https://javaee.github.io/metro/`

- Spring Web Services (Spring-WS)
  - A product of the Spring community focused on creating document-driven Web services
  - `http://projects.spring.io/spring-ws/`

Web Service Frameworks

- Reslet
  - An open source Web API framework for Java
  - `http://restlet.com/`

- Jersey RESTful Web Services framework
  - An open source, production quality, framework for developing RESTful Web Services in Java
  - `https://jersey.github.io/`

And many more:
`http://en.wikipedia.org/wiki/List_of_web_service_frameworks`

Client/Browser Frameworks

- Google Web Toolkit
  - A development toolkit for building and optimizing complex browser-based applications
  - `http://www.gwtproject.org/`
- ExtJS
  - A JavaScript application framework for building interactive web applications
  - `http://www.sencha.com/products/extjs`
- jQuery
  - A fast, small, and feature-rich JavaScript library
  - `http://jquery.com/`

And many more:
`http://en.wikipedia.org/wiki/Comparison_of_`
`JavaScript_frameworks`

IDE and Development Tools

- Eclipse Web Tool Platform
  - `http://www.eclipse.org/webtools/`

- Netbeans
  - `https://netbeans.org/`

- An automatic compilation and deployment tool:
  - Maven, `http://maven.apache.org/`
  - Ant, `http://ant.apache.org/`
  - Unit Test, `http://www.junit.org/`
  - Version Control (SVN, Mercurial, GIT)

Available Platform / Services

- Programmable Web
  - Source of news and information about Internet-based application programming interfaces (APIs)
    - Google Maps
    - Twitter
    - Weather (Yahoo, Weather.com)
    - Local Businesses (Yahoo, Yelp)
    - ... (18,395 APIs by 2017-02-10)
  - `http://www.programmableweb.com/apis/directory`

- List of publicly available web services
  - WebServiceX, `http://www.webservicex.net/`
  - Free Web Services, `http://free-web-services.com/`
  - XMethods, `http://www.xmethods.net/`

Student Project

Project Preparation

1. Form a Team
2. Define a Project Idea that is related to **"e-Tourism"**

- **Team**: 3-5 people, decide a name for your team
- **Project Idea** summary:
  - Define a project idea which is distributed infrastructure compliant
  - At least 3 available services must be included in the project (e.g. Social Networks, Task Managers, Calendars, Geo Locations, Internet of Things, etc.)
  - Discussion with the tutor about your idea is highly recommended
  - Your idea should be fixed by the third session (project idea presentation) on Friday, 2017-10-27

Student Project Example (1)

- Name: Travolo – Manage your travels

- Semester: WS 2014/2015

- Summary: "The idea of our project is to give the user the opportunity to manage and organize his travels by defining points of interest, looking at current weather data and store travel documents using our website."

- Services:
    1. Google Maps API
    2. Openweathermap API
    3. Facebook API

Student Project Example (2)

- Name: Snow

- Semester: WS 2014/2015

- Summary: "With this project we want to provide a platform for skiers in tyrol where they can get an overview of various ski resorts and suggestions based on conditions like snow, weather, avalanche danger, distance etc."

- Services:
  1. Google Maps API
  2. Worldweatheronline API
  3. Cloudbase API
  4. Avalanche API

Student Project Example (3)

- Name: HATI (Hiking and Transportation in Innsbruck)

- Semester: WS 2015/2016

- Summary: "The idea of HATI is a web application which offers you possible hiking routes around Innsbruck also including public transport to get to the starting point of the routes."

- Services:
  1. Openstreetmap API
  2. Outdooractive API
  3. Openweathermap API
  4. Yournavigation API

Student Project Example (4)

- Name: Hovent

- Semester: WS 2015/2016

- Summary: "The aim of our project was to provide people with the possibility of searching for events in Vienna with the option of getting a list of free hotel rooms near the event location and vice versa."

- Services:
  1. Google Maps API
  2. Open Government Data, Vienna
  3. EAN (Expedia Affiliate Network) API

Student Project Example (5)

- Name: TTL (Time To Talk)

- Semester: WS 2014/2015

- Summary: "The idea of the project is a service for arranging spontaneous meetings for people with shared interests. "

- Services / Technologies:
    1. Google Maps API
    2. Facebook API
    3. Android SDK

Task

Group assignment:

1. Download the template for project idea from the course webpage
2. Fill the template
3. Send it to the tutor no later than Friday, 2017-10-27

Notes:

- Remember the topic for a project, "e-Tourism" – the application of ICT in the tourism industry

Thank You