



# Undergraduate Project 2016-2017

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## **Project title: Web service suggestion system**

### Background

This project is designed in the context of existing research into allowing end-user defined and ran business processes. The business processes are created and executed on a central server, invoking services where appropriate (the system is designed as a service oriented architecture). The modularity allows for independent instances that have different modules replaced, thereby allowing experimentation and student projects.

This work is a very broad area, with many unsolved problems. Multiple student projects can work on this in parallel, and may or may not interact with each other (all projects need to be independent to a large degree) at all.

### Project description

As part of the problem, web services need to be coupled to process activities. As such, the process model editor needs to have the capability to suggest candidate services. This suggestion should be based upon contextual information including the model, other web services used in related activities, as well as textual search queries.

### Project aims

#### Research question

- How can custom data display or editing web widgets be combined into an overall task display?
- Which forms of contextual data are most relevant to suggestion of web services?
- What additional web service information is helpful in improving web service suggestion?

#### Additional aims and objectives

- Develop an artefact that fits within the context of the rest of the infrastructure.

## **Artefact**

This project is centered around creating a system that creates a list of suggested web services that match a query, a given process model (and target activity), as well as other context information. An extended implementation would integrate this list (possibly with as-you-type results) into a pre-existing process editor. The primary artefact is a web service that, given certain inputs, creates a suggestion for a web service.

The artefact should support service descriptions in WSDL 1 or WSDL 2 with documentation embedded, possibly including extensions for semantic annotation. Other formats could be supported as well.

An extension may be to actually create a full activity specification that combines activity inputs and outputs with sufficient information for service invocation.

## **Evaluation**

A significant aspect of the project is the use of a case study to evaluate the solution and the artefact. The discovery, adaptation and description of the case study is in principle up to the student.

## **Additional aspects**

You will be assumed to release your work under a suitable open source license to allow future extension.