Analysis Me

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Technical Report

Team: SOC team 5

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Enclosed in this document is the technical report of 18655 Service Oriented Computing.

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**Introduction**

Our team developed a conference management system that serves the functionality of online paper submission, review and registration. It is built with principles of service oriented architecture, and every function is exposed as a service.

**Motivation**

We wanted to implement the various service oriented architecture concepts into a real world application. Also, this project is an opportunity to gain experience in a modern, popular Play framework to implement SOA.

**Related work**

Our projects design is based on a reference application architecture provided by professor Jia Zhang.

**System design**

The project consists of 2 parts: one provides REST API, and another one is a client that provides web interface.

**System implementation**

MVC approach is used in both applications. MySQL is used for data storage on backend; on frontend such libraries as Scala templates, jquery and bootstrap are used. To make HTTP requests to an API from frontend, a Unirest library is used.

**Experiments and analysis**

During the implementation, we had 2 major research problems that we successfully solved:

* **Data exchange rules and format.** We settled on Ebean objects transformed to JSON in API, and then on frontend they are transformed back from JSON to plain java objects
* **Working with database via Ebean library.** Learned and applied Ebean functions like migrations and automatic joins via annotations

**Conclusions and future work**

In the end of the project we

* Developed a conference management system making use of service oriented architecture
* Learned SOA in practice;
* Appreciated the concept of separating concerns among services
* Prepared for development of real world applications

Still, our implementation is not ideal. First thing to do in the future development is to add more features for PC chair, such as assigning reviewers. Also, our project does not have automated tests, so to make it stable and easier for extension we advise to develop unit tests and integration tests. Then a continuous integration may be set up with automatic deployment on some server for public use.