Final Report
Student Admission System

Oleleksandr Osadchuk, September 2016.

1 Project Description

Tech Summary

name: "Admission System"

localisation: english, french

type: Java web application

Technologies: Java Web, JSP, JDBC/Hibernate, POJO, Spring IOC, Spring MVC,

api: jdk 1.8, Spring Framework+WEB MVC 4.0.1, JSTL 1.2.1, Hibernate 4.3 (JPA2.1), MySQL Connector/J 5.1.39, Java Mail Api.

environment: Apache Tomcat 8.0, jre 1.8.0_73, MySql-5.7.13, Netbeans 8, Git.

1 Project Description

Task description

Build web-application based student admission system, which would allow user to list, create, edit or remove records for Student, Course and Result.

The app would have following tiers:

1) presentation layer – web interface based;

2) controller layer – process data flow between presentation, data model and persistence layers;

3) model layer – describes logic of Student, Course and Result;

4) persistence layer – provides persistence into SQL DB.

Starting specification was provided Student-Course-Result admission app in Spring 2016. It fixed preliminary data model and relations map for the DB.

2 Realization

Solution

Application architecture is multi-tier based. Presentation layer, Data processing, and Data Storage layers can be physically separated.

Data storage (MySQL db) has 3 separated tables (Student, Course, Result). Logic interaction between entities is processed outside db.

Persistence layer (DAO) is based on Hibernate 4.3 api. Transaction are handled manually to have better visualization of data interaction.

Model is presented by POJO classes, which is good for ORM and MVC patterns. Hibernate mapping is done externally (hbm.xml).

Controller layer is based on Spring MVC.

Interaction between layers is done with help of Spring IoC container, which let us decrease dependency level and facilitates reusabilty.

2 Realization

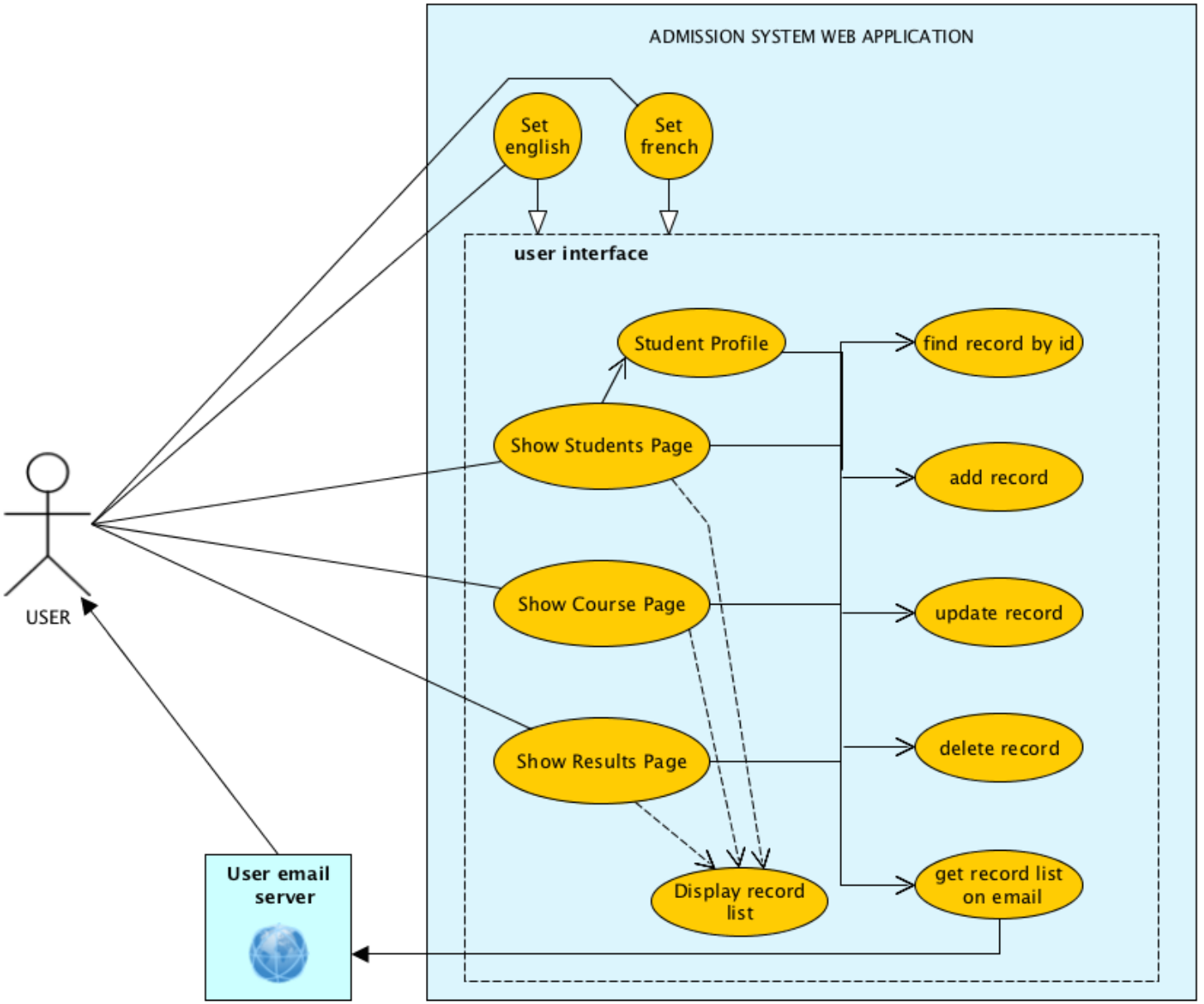
Functional Description

1. On starting page User can choose the category: Student, Course or Result

2. On each category page User can create, update, delete record, display record all records and get record list by email.

3. On each category page User can switch UI language (english, french).

2 Realization



3 UI

Admission System

EN FR

Students

Courses

Results

Find student by ID search! add a student

Profile of the student ID: 11

FirstName	LastName	Gender	e-mail	StartDate
John	Connor	M	johncon@gmail.ca	2003-06-01

Assigned courses and results:

Course ID	Course Name	Mark1	Mark2	Grade
1	SQL and DBMS	78	69	C
2	QA and Tests	45	98	C
5	Spring MVC	76	81	C

add a result edit profile delete profile

Get by email: provide your address: get!

3 UI

Admission System

EN FR

Students

Courses

Results

Find course by ID search! add a course

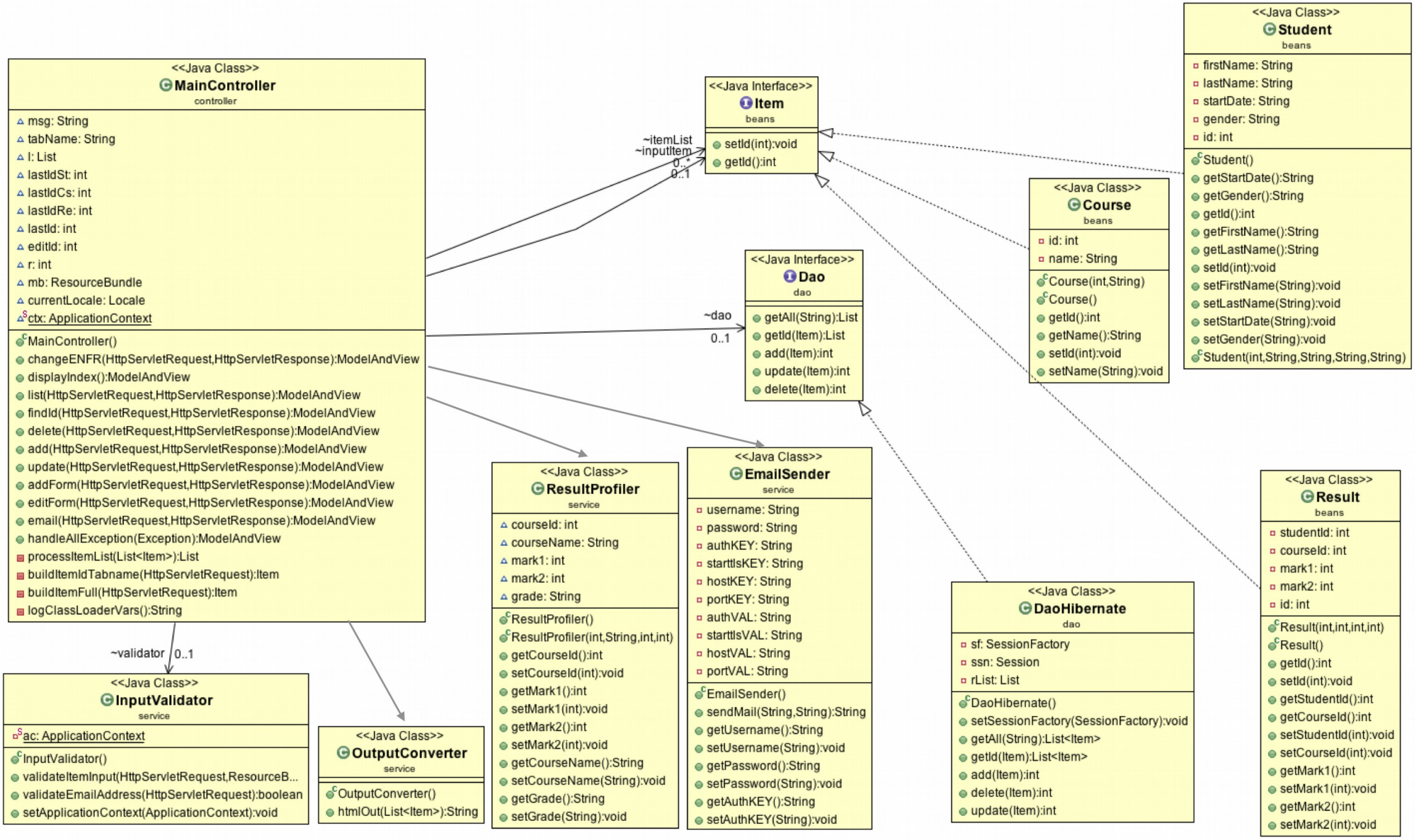
list of Courses

Course ID	Course Name	Action
1	SQL and DBMS	edit delete
2	QA and Tests	edit delete
3	JAVA+	edit delete
4	JDBC-Hibernet	edit delete
5	Spring MVC	edit delete
6	C++ and Pointers	edit delete
7	NodeJS	edit delete
8	Cordova Ionic	edit delete
9	REST services	edit delete

Get by email: provide your address: get!

3 UI

Class Diagram - Admission System



4 Conclusion

Aim of the project

1. Possibility to create and manage Student Admission System.
2. Simple and functional UI.
3. Maintainable, scalable application, open to further development and adaptation.

September 2016.

Oleksandr Osadchuk

Programming for Mobile Technologies.