MACAU UNIVERSITY OF SCIENCE AND TECHNOLOGY

Faculty of Information Technology

Thesis for Degree of Bachelor of Science

Title: Design and Implementation of a Simple Conference Submission System

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資訊科技學院

理學學士學位畢業論文

論文題目: 会议投稿系统的设计与实现

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Abstract

In this thesis, we develop a simple conference submission system. Utilizing this system, administrators can collect papers submitted by candidates, as well as assign these papers to different reviewers, schedule the conference agenda, and export the agenda as Excel files by Apache POI.

In our development, we use Java as programming language and Spring Boot as the web framework. With the minimal Spring configuration and the combinations of Spring Boot Starters and third-party libraries, we can have more time to focus on the logic level in features instead of wasting time on a lot of configuration files and struggling with the use of third-party libraries.

For better user experience, we develop one HTML file for each of candidates and administrators. All the operations are done by AJAX data transfer. In this way, we can improve the web page response time.

For the security of this system, we encrypt passwords. Every time a user set up a password or change a password, this system will use MD5 algorithm to encrypt the plaintext password, and save it in the database, which means that no one except the owner of this account will know the password.

In a word, this system is “small but complete”, since it almost has all the general features of a submission system. In addition, in the future maintenance work of this system, we should avoid adding redundant code.

Keywords: Submission system; Spring Boot; Apache POI

摘要

資訊科技學院會議投稿系統，是一個收集候選人投稿，並由管理員分配投稿論文以及安排會議日程並能夠將會議日程匯出至 Excel 檔的網站。

在眾多的網路程式設計語言與框架中，此網站採用 Java 作為主要程式設計語言，以及 Spring Boot 作為網路應用框架，是一個省時省心的選擇。由於 Spring Boot 框架的易用性以及除去冗餘配置的優點，以及 Spring Boot Starter 與眾多第三方庫的緊密結合，使得開發者能夠將更多的時間用於解決邏輯層面的難題，而不是糾結於繁瑣的配置工作以及第三方庫的使用難點。

為了更好的使用者體驗，傳統網頁的頁面間跳轉方式在這個系統裡將大大減少，使用者的所有操作，都將由 AJAX 技術傳遞資料，並將操作結果動態展示在相應位置。

至於系統的安全效能，首要考慮便是使用者的密碼存放。每當使用者設定密碼或修改密碼時，系統會採用 MD5 加密演演算法對使用者的明文輸入進行加密，並儲存到資料庫中，只有帳號的擁有者才知曉對應的密碼。

總而言之，用“麻雀雖小，五臟俱全”來形容這個系統再恰當不過了，它近乎擁有一個投稿系統的所有常規功能。在以後的維護工作中，只需要注意避免在代碼中加入過多不必要的部分以造成冗餘。

關鍵詞：Submission system; Spring Boot; Apache POI

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Chapter 1 Introduction

1.1 Background

Conference submission system for faculty of information technology in Macau University of Science and Technology is built as a website for both candidates and administrators. The key features of this system are, manage the paper submission, schedule the agenda of conference and export agenda in document format. As a concise submission system, only focus on the submission and agenda, the less redundant function, the better.

In this system, paper submission not only contains the PDF format document and the slide for presentation, but also some basic information relevant, like the name of author, some keywords and topics about the paper. It should be noted that each candidate can only have one submission in each conference. Before the submission is created, program will check if this candidate already submits a paper in the conference. After submission, the URL will be changed from “New Submission” to “My Submission”.

As for administrators, the main features include create the conference and follow-up agenda, choose paper for different session, check all the submissions in conference or some submissions after searching a specific candidate. However, administrator can only have the authorization to deal with the conference-related CRUD operations. Without candidate’s permission, the data of submission cannot be modified.

1.2 Thesis organization

Chapter 2, system structure design, just like laying the foundation before constructing a building. The previous work is the key to a perfect project, once these works are done, they cannot be modified just for some new features. The aim of this project must be done in the early stage.

Chapter 3, once after going through the system from top to down, the general impression of this system will be improved. This chapter will illustrate the whole process begin from the front-end, through the security framework, back-end Java code and arrive at the database management system, retrieve the data, return to Java code and get to the front-end pages at last.

Chapter 4, not like original Spring framework which has too much Spring configuration in XML files. Spring Boot has already cut down plenty of XML files, only need minimal Spring configuration.

Chapter 5, there are some homemade utility classes in this project which can provide a more concise implementation, without redundancy of the original ones.

Chapter 6, when someone signs up an account or someone forgets the password, system will send an email has the relevant content to the user’s email address. This will help the user to solve the problem.

Chapter 7, this chapter will demonstrate the private features for candidates, administrator and the common features for all users.

Chapter 8, conclusion of this system, and some note points for future work

Chapter 2 System structure design

Just like laying the foundation before constructing a building. The previous work is the key to a perfect project, once these works are done, they cannot be modified just for some new features. The aim of this project must be done in the early stage.

2.1 Preliminary work

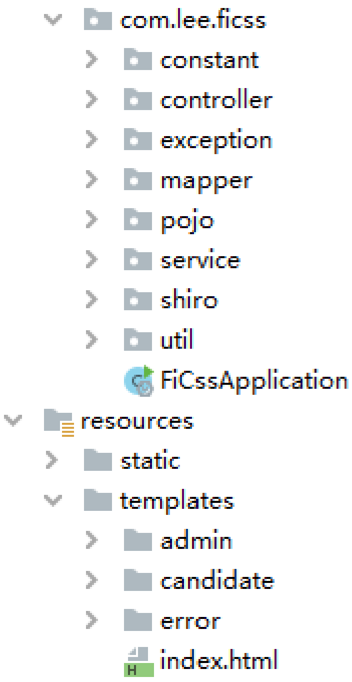
Before writing the code, some preliminary work needs to be done first. Select the appropriate programming language and the framework which bases on that is the top priority. In this case, divide into three parts, the back-end programming language, the database management system, including the database connector and the front-end template engine. After the language is selected, move on to the models, mapping models to the fields in database is the main job here. And the last one is the UI design, select an appropriate template engine and design a basic style of the front-end pages.

2.1.1 Language & Framework selection

For building a robust, extensible website, the most common choice of programming language is Java. So, this system is mostly based on Java and the appropriate frameworks fit with Java. It seems like using Spring Boot for the development is the best, this framework can get started with minimum configurations without the need for an entire Spring configuration setup. As for the database-related technologies, MySQL is used as the database management system, and MyBatis is for the mapping between the Java model classes and the fields in database table. Security is also a quite important part in this system because it needs to handle the registration and login process of user, and intercept unauthorized operations. Choose Shiro as the security framework instead of Spring Security is because, Shiro is a lightweight framework, it is enough for this system, no more redundant features. Thymeleaf is used as the HTML template engine, which can dynamically replace the static elements in HTML file with result returned from the SQL statements. And this system uses fastjson which is an open-source project owned by the Alibaba Group as the JSON object generator.

2.1.2 System structure tree

To make the structure succinct and clear, based on the model-view-controller (MVC) architecture), can easily cut the whole structure into several parts. As shown in Figure 2-1, the major packages are pojo(M), templates(V) and controller(C). In this tree structure, constant package use Java enum data type to describe the status and massage of AJAX operation, exception package contains the user-defined custom exception which extends from Java Exception class. The code in mapper package is used to mapping results from MySQL query statements to the Java model classes which are described in the pojo package. Normally, in the Java Web project, there will be a service package, which encapsulates the functions defined in the mapper package, and waited for called by the class in controller package. As for the shiro package, it includes several configuration classes of the Shiro framework, like the URL interceptor, password encryption algorithm settings and authorization detection. The last one is util package, which has some utility classes, like the random ID generator, date converter and JSON result converter.



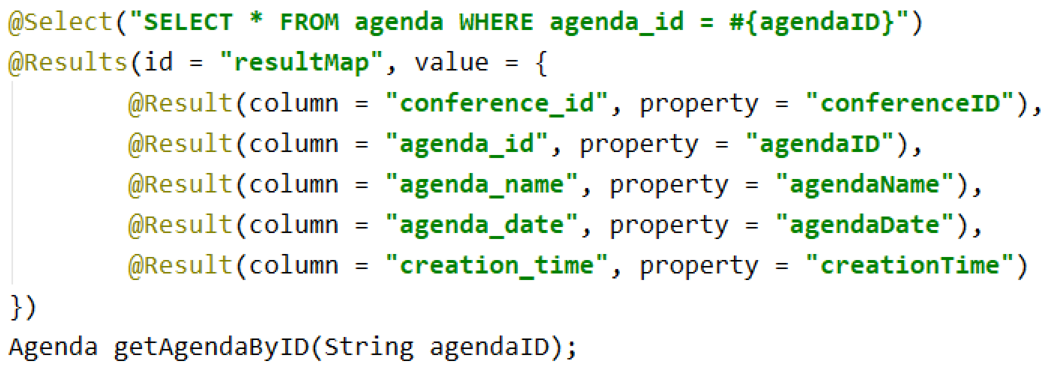
```
    com.lee.ficss
        constant
        controller
        exception
        mapper
        pojo
        service
        shiro
        util
        FiCssApplication
resources
    static
    templates
        admin
        candidate
        error
        index.html
```

Figure 2-1 System structure tree

2.2 Model and database table design

2.2.1 Data mapping rule

There is one rule for using MyBatis in Java program, the model built in Java class must have same data type with the field in database, otherwise it will throw TypeException in Java. Because of the code style, same field may be different in Java and MySQL. So, while mapping the fields in MySQL with those in Java, some mapping configuration must be written right after the query statements, as shown in Figure 2-2. Without the mapping configuration, program cannot map the result from database to the right field, so the result will be null when execute the method.

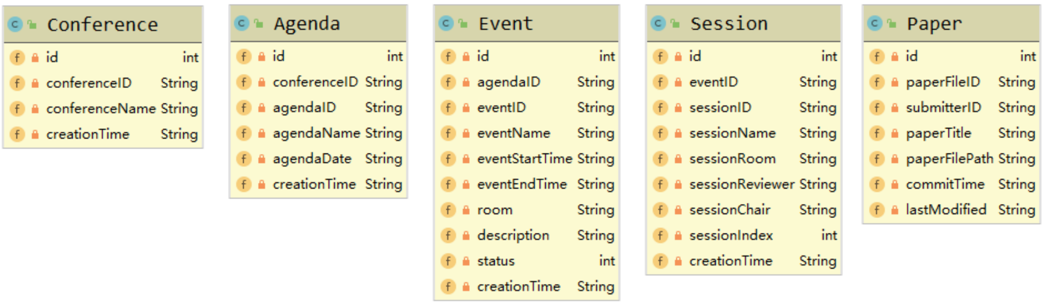


```
@Select("SELECT * FROM agenda WHERE agenda_id = #{agendaID}")
@Results(id = "resultMap", value = {
        @Result(column = "conference_id", property = "conferenceID"),
        @Result(column = "agenda_id", property = "agendaID"),
        @Result(column = "agenda_name", property = "agendaName"),
        @Result(column = "agenda_date", property = "agendaDate"),
        @Result(column = "creation_time", property = "creationTime")
})
Agenda getAgendaByID(String agendaID);
```

Figure 2-2 Data mapping

2.2.2 Principle of model design

The principle of designing this model is to reduce the complexity of creating a conference. In this case, the whole part of conference will be split into five parts, consist of conference class, agenda class, event class, session class and paper class. The only connection between these parts is the ID exception for paper class, another table in database called session-paper table is used to connect paper and session class. As for other class, like agenda class, one of its field will be the ID of conference. So, the relationship from conference class down to paper class is in the form of one-to-many principle, which shown in Figure 2-3



Conference	
id	int
conferenceID	String
conferenceName	String
creationTime	String

Agenda	
id	int
conferenceID	String
agendaID	String
agendaName	String
agendaDate	String
creationTime	String

Event	
id	int
agendaID	String
eventID	String
eventName	String
eventStartTime	String
eventEndTime	String
room	String
description	String
status	int
creationTime	String

Session	
id	int
eventID	String
sessionID	String
sessionName	String
sessionRoom	String
sessionReviewer	String
sessionChair	String
sessionIndex	int
creationTime	String

Paper	
id	int
paperFileID	String
submitterID	String
paperTitle	String
paperFilePath	String
commitTime	String
lastModified	String

Figure 2-3 Conference models

2.3 HCI and UI design

2.3.1 RESTful URL

Representational state transfer (REST) provides a more concise style of URL manifestation pattern. When HTTP/HTTPS is used, as is most common, the operations available are GET, HEAD, POST, PUT, PATCH, DELETE, CONNECT, OPTIONS and TRACE. In this case, GET and POST are used most frequently.

To demonstrate the approach to the RESTful URL, here is one URL defined in the program: http://localhost/admin/conference/create. In this link, “admin” means this is only authorized by administrator, “conference” means this is an operation related to conference, and “create” indicates this URL is used to create a new conference.

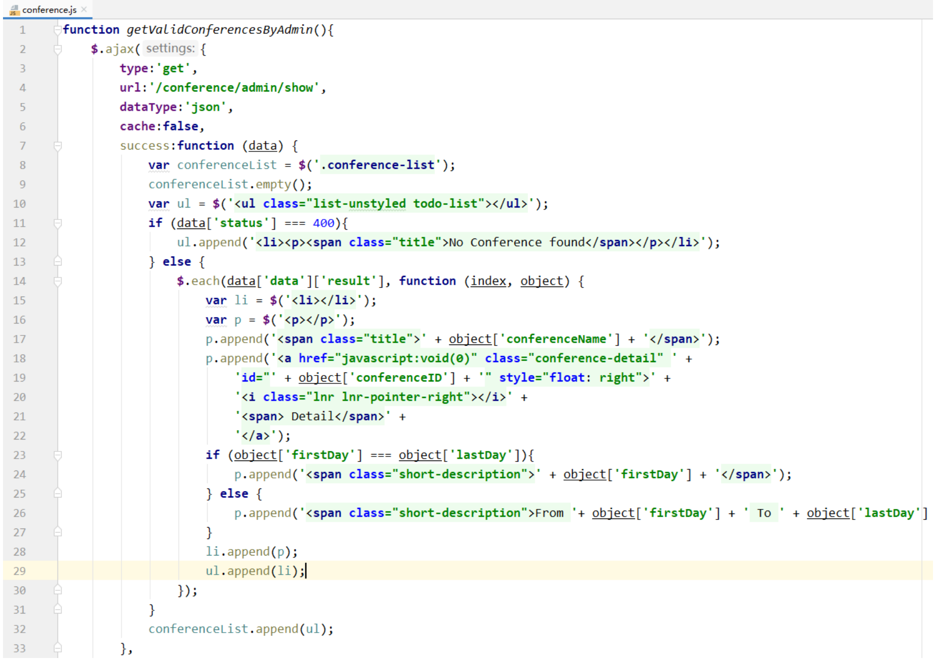
Suffix of URL is unnecessary and not recommended in RESTful design. Except for this, there are also some restrictions of RESTful URL which is sent from client-side or server-side. (1) From client-side, HTTP request needs to be structured as “verb + space + object”. So, the request of the URL above is in this format: “POST /admin/conference/create”.

2.3.2 *Ajax*

Asynchronous JavaScript and XML (Ajax) is a web development technique for client side to send and retrieve data from a server asynchronously, without interfering with the display and behavior of the existing page. This technique is normally implemented by JavaScript Object Notation (JSON). JSON is an open standard file format, and data interchange format, consists of attribute–value pairs and array data types or other serializable value.

Because of the asynchronous data transfer, user’s request will change the content dynamically without the need to reload the entire page. The speed of page response will greatly improve.

Figure 2-4 shows the basic usage of jQuery.ajax(). The Ajax technique in this system is all like this:



```
function getValidConferencesByAdmin(){
    $.ajax( {
        type:'get',
        url:'/conference/admin/show',
        dataType:'json',
        cache:false,
        success:function (data) {
            var conferenceList = $('.conference-list');
            conferenceList.empty();
            var ul = $('<ul class="list-unstyled todo-list"></ul>');
            if (data['status'] === 400){
                ul.append('<li><p><span class="title">No Conference found</span></p></li>');
            } else {
                $.each(data['data']['result'], function (index, object) {
                    var li = $('<li></li>');
                    var p = $('<p></p>');
                    p.append('<span class="title">' + object['conferenceName'] + '</span>');
                    p.append('<a href="javascript:void(0)" class="conference-detail" ' +
                        'id="' + object['conferenceID'] + '" style="float: right">' +
                        '<i class="lnr lnr-pointer-right"></i>' +
                        '<span> Detail</span>' +
                        '</a>');
                    if (object['firstDay'] === object['lastDay']){
                        p.append('<span class="short-description">' + object['firstDay'] + '</span>');
                    } else {
                        p.append('<span class="short-description">From '+ object['firstDay'] + ' To ' + object['lastDay']
                    }
                    li.append(p);
                    ul.append(li);
                });
            }
            conferenceList.append(ul);
        },
```

Figure 2-4 Ajax format

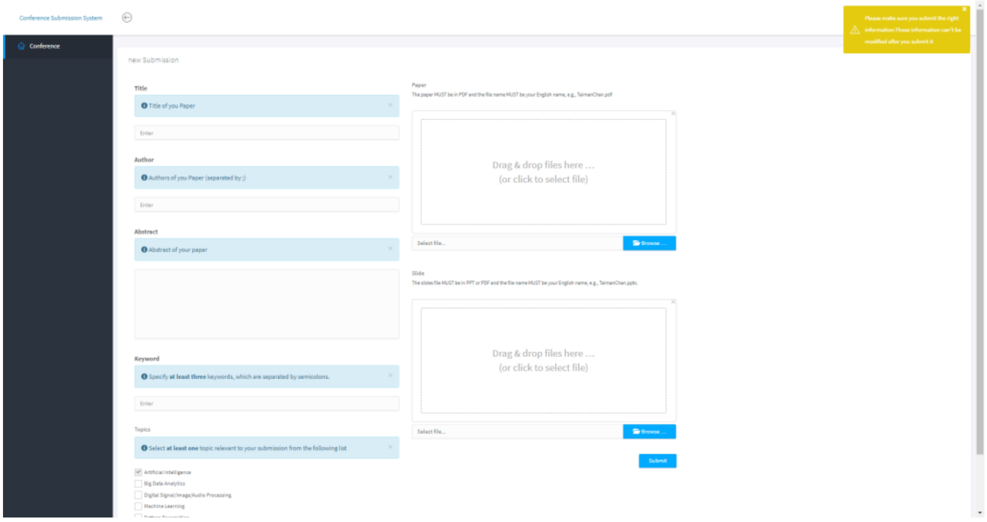
2.3.3 *Improve HCI experience*

Human–computer interaction (HCI), focus on the interfaces between users and computers. In this case, it stands for the interaction between users and the system. For better experience while using this system, the web page loading speed and the difficulty of using these pages will be the most significant part. Ajax already solve the dilemma of slow pages response. The rest will be solved by the better UI design.

2.3.4 *UI design for candidate*

The features of this system which will be opened to candidate are mainly focus on paper submission. Traditionally, the solution to submit a form to server is using HTML <form> element. But this element will cause the refresh on entire page, which is worthless for a better experience. So, the improved way is use ajax to submit each field in the form. As shown in Figure 2-5, it is empty submission form which has some restrictions. Once a candidate submits a form with at least one empty field, the data in this form will be cleared and the candidate need to fill out the form again.

Candidates must be careful when filling the form, once the form is submitted, the data cannot be modified. So, there will be a warning prompt message after the form is shown.



Please make sure you submit the right information.These information can't be modified after you submit it

Title: Title of you Paper
Enter

Author: Authors of you Paper (separated by ;)
Enter

Abstract: Abstract of your paper

Keyword: Specify **at least three** keywords, which are separated by semicolons.
Enter

Topics: Select **at least one** topic relevant to your submission from the following list

☑ Artificial Intelligence
□ Big Data Analytics
□ Digital Signal/Image/Audio Processing
□ Machine Learning

Paper: The paper MUST be in PDF and the file name MUST be your English name, e.g., TaimanChan.pdf
Select file...

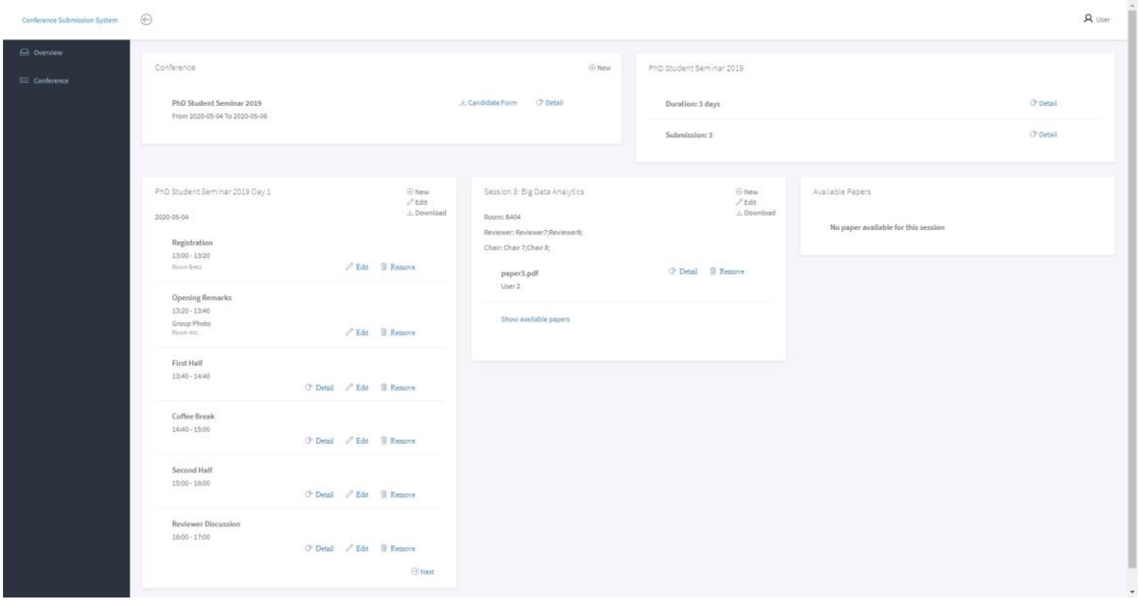
Slide: The slides file MUST be in PPT or PDF and the file name MUST be your English name, e.g., TaimanChan.pptx
Select file...

Figure 2-5 Submission form

2.3.5 *UI design for administrator*

Features for administrators are setting the conference schedule, selecting papers for each session and search for candidates by some limited conditions, like the name or email. The whole process of scheduling a conference is, (1) create a new conference, set up the name and date. (2) Add some events to the conference agenda, like the opening ceremony is 9:00 – 10:00 in the first day. (3) If an event includes some sessions, select some papers from the available papers list. (4) After these steps, administrator can export the agenda as a file in PDF or Excel format, and download it.

As Figure 2-6, schedule the conference by steps, at the last part, if all the papers are selected in this session, the “Available Papers” area will be empty, and read: No paper available for this session.



Conference

PhD Student Seminar 2019
From 2020-05-04 To 2020-05-06

PhD Student Seminar 2019

Duration: 3 days

Submission: 3

PhD Student Seminar 2019 Day 1

2020-05-04

Registration
13:00 - 13:20
Room B401

Opening Remarks
13:20 - 13:40
Group Photo
Room 401

First Half
13:40 - 14:40

Coffee Break
14:40 - 15:00

Second Half
15:00 - 16:00

Reviewer Discussion
16:00 - 17:00

Session 3: Big Data Analytics

Room: B404

Reviewer: Reviewer7;Reviewer8;

Chair: Chair 7;Chair 8;

paper3.pdf
User 2

Available Papers

No paper available for this session

Figure 2-6 Dashboard for administrator

Chapter 3 Top-down process

Once after going through the system from top to down, the general impression of this system will be improved. This chapter will illustrate the whole process begin from the front-end, through the security framework, back-end Java code and arrive at the database management system, retrieve the data, return to Java code and get to the front-end pages at last.

3.1 Flow chart overview

The process is shown in Figure 3-1. (1) Begin with the authentication, user first needs to input the valid email and password as the login token. (2) After the verification of Shiro, system will detect the role of this user, and user will get the corresponding dashboard page. (3) The operations will be shown in the dashboard. (4) Before executing the operations, there is an authorization step, it will identify user’s role to catch the unauthorized behaviors. Like a candidate input a URL which is only authorized by the administrator. (5) The controllers will receive requests sent from user by the URL mapping. And bring the parameters to the service layer. (6) Methods of service layer do the familiar jobs as the controllers, take the parameters to the mapper layer. (7) Mapper layer is the key to connect Java with MySQL. Each method in mapper layer classes is associate with a SQL statement. Once execute the method, it will return the result from its corresponding SQL statement. (8) From this step, the result from database will goes back to the user’s page the same way it came, layer by layer.

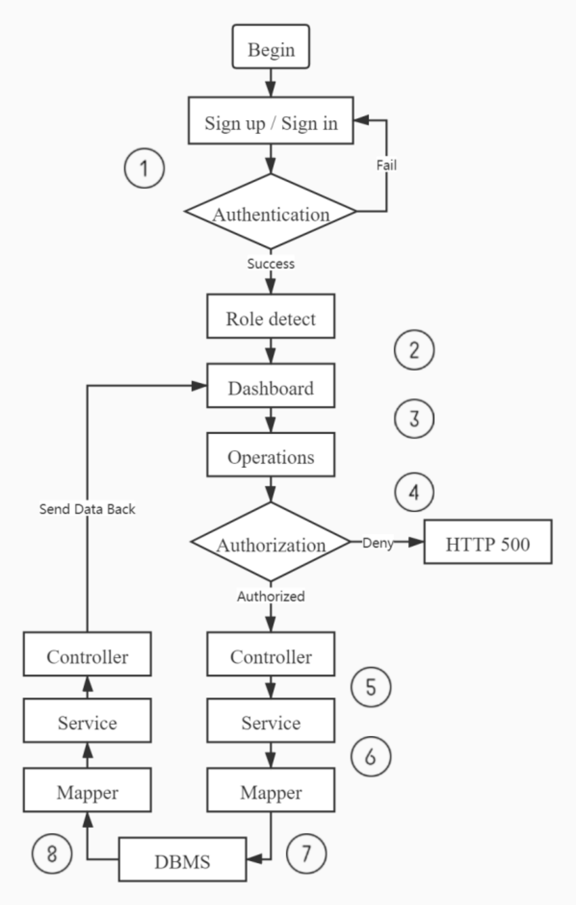


Figure 3-1 Flow chart

3.2 Implementation detail

3.2.1 Password encryption

When users sign up their account, password is a required information. Once they finish registration, their password will be first using MD5 algorithms to encrypt, and then store the password into database. In this way, on one will know the password except for the user.

Because of the irreversible properties in MD5, when user input the plain text password to login, system will use the same algorithm to encrypt the text. Then compare to the encrypted text in database, if they are matched, Shiro will consider the login process is successful. Steps are shown in Figure 3-2

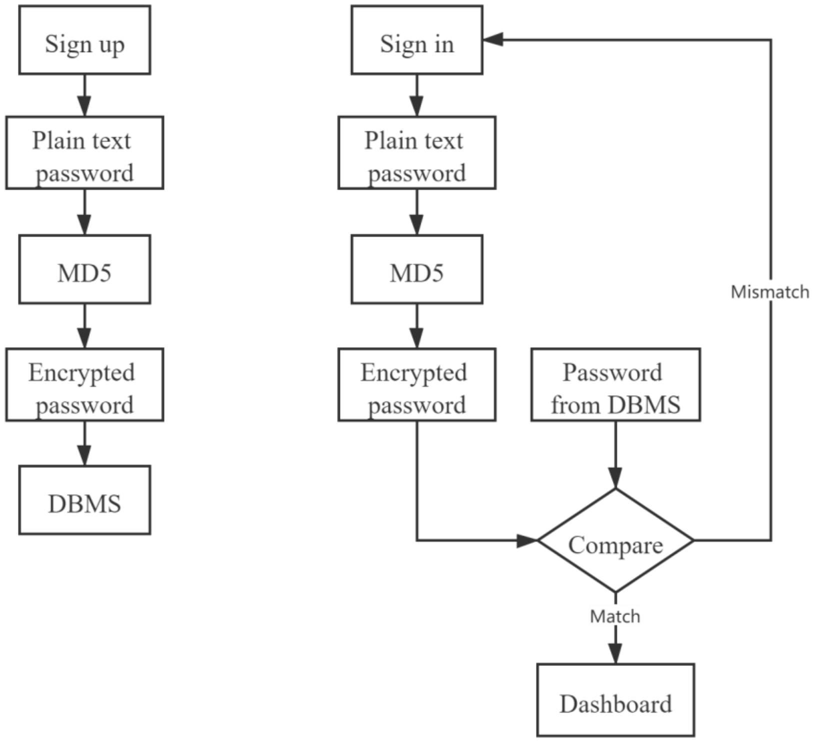
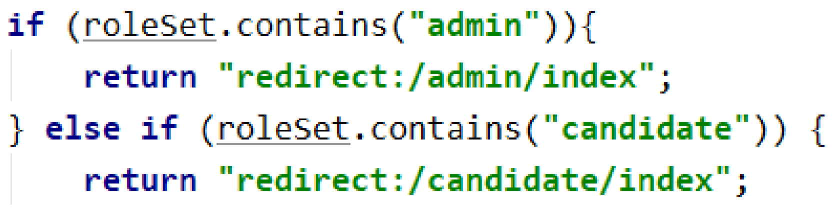


Figure 3-2 Encryption steps

3.2.2 *Role detection*

After user successfully login, there will be several lines of code which retrieve the roles of this user from database shown in Figure 3-3. Program will open the dashboard page according to role.

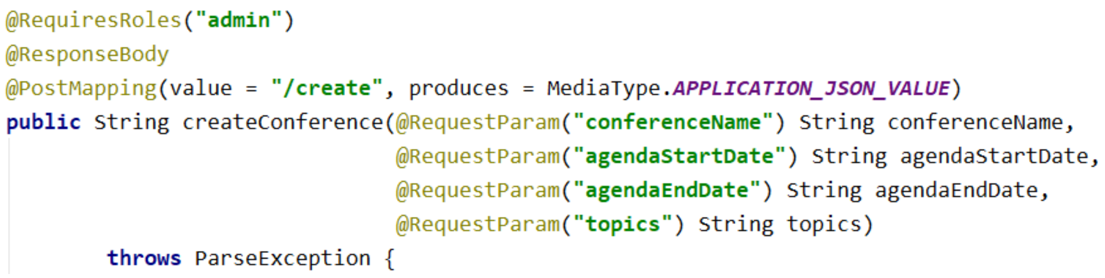


```
if (roleSet.contains("admin")){
    return "redirect:/admin/index";
} else if (roleSet.contains("candidate")) {
    return "redirect:/candidate/index";
```

Figure 3-3 Role detection

3.2.3 Authorization

Before any actions of user, Shiro will use an annotation to check if current user has the required role like Figure 3-4. The annotation “@RequiresRoles("admin")” means this method can only execute by administrator. If misused, it will cause HTTP 500.

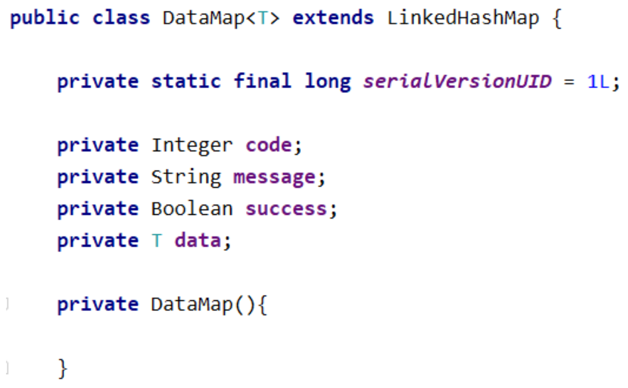


```
@RequiresRoles("admin")
@ResponseBody
@PostMapping(value = "/create", produces = MediaType.APPLICATION_JSON_VALUE)
public String createConference(@RequestParam("conferenceName") String conferenceName,
                               @RequestParam("agendaStartDate") String agendaStartDate,
                               @RequestParam("agendaEndDate") String agendaEndDate,
                               @RequestParam("topics") String topics)
        throws ParseException {
```

Figure 3-4 Authorization

3.2.4 Data transfer

After controllers retrieve data from database, data will be sent to web pages by ajax. In this case, a collection in Figure 3-5 is used to save data and serialized into json string. In service layer, data will be put into a json object, and user this object as the encapsulated data. In controller layer, the data map will be serialized into json string and sent to the JavaScript code, parsed by jQuery and finally append data the HTML pages. Figure 3-6 will elaborate the bottom-up procedure of data transfer.



```
public class DataMap<T> extends LinkedHashMap {

    private static final long serialVersionUID = 1L;

    private Integer code;
    private String message;
    private Boolean success;
    private T data;

    private DataMap(){

    }
```

Figure 3-5 DataMap

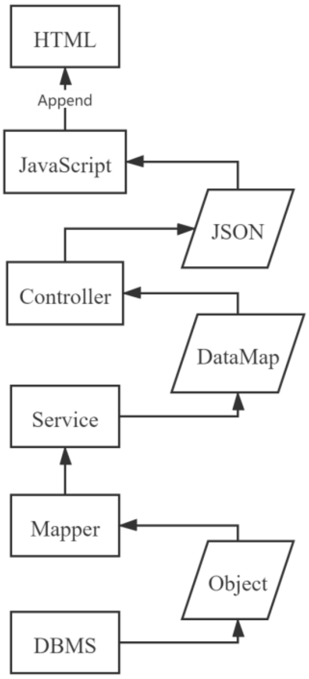


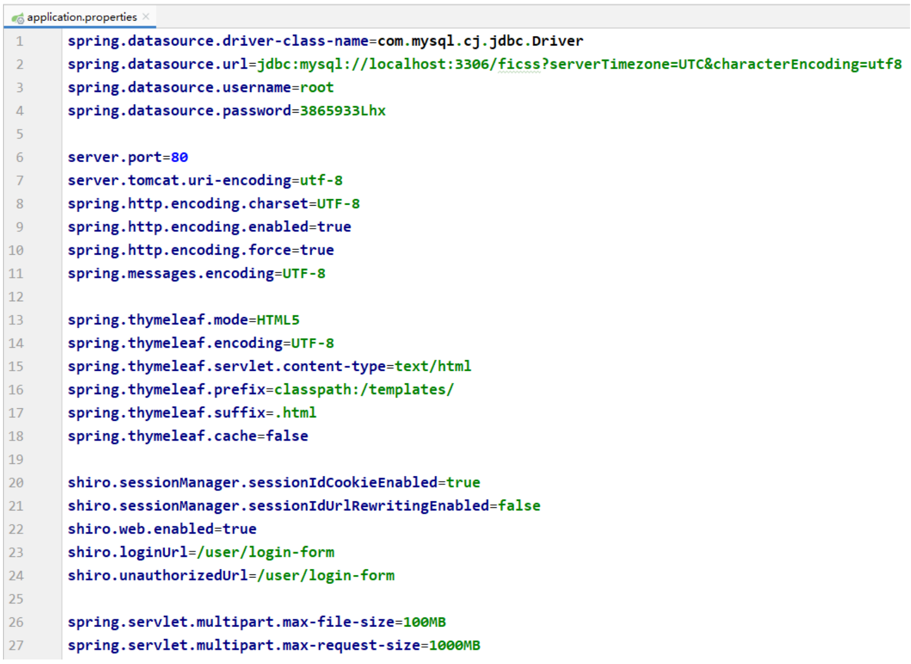
Figure 3-6 Bottom-up data transfer

Chapter 4 Configuration

Not like original Spring framework which has too much Spring configuration in XML files. Spring Boot has already cut down plenty of XML files, only need minimal Spring configuration.

4.1 Configuration information

In this project, the “application.properties” file shown in Figure 4-1 contains all the information which this system needs. The most common configurations are JDBC driver and tomcat server configuration. In this case, the rest are template engine, shiro and file upload configuration. This is also one of the reasons why choosing Spring Boot over other frameworks.



```
spring.datasource.driver-class-name=com.mysql.cj.jdbc.Driver
spring.datasource.url=jdbc:mysql://localhost:3306/ficss?serverTimezone=UTC&characterEncoding=utf8
spring.datasource.username=root
spring.datasource.password=3865933Lhx

server.port=80
server.tomcat.uri-encoding=utf-8
spring.http.encoding.charset=UTF-8
spring.http.encoding.enabled=true
spring.http.encoding.force=true
spring.messages.encoding=UTF-8

spring.thymeleaf.mode=HTML5
spring.thymeleaf.encoding=UTF-8
spring.thymeleaf.servlet.content-type=text/html
spring.thymeleaf.prefix=classpath:/templates/
spring.thymeleaf.suffix=.html
spring.thymeleaf.cache=false

shiro.sessionManager.sessionIdCookieEnabled=true
shiro.sessionManager.sessionIdUrlRewritingEnabled=false
shiro.web.enabled=true
shiro.loginUrl=/user/login-form
shiro.unauthorizedUrl=/user/login-form

spring.servlet.multipart.max-file-size=100MB
spring.servlet.multipart.max-request-size=1000MB
```

Figure 4-1 application.properties

Chapter 5 Utility classes

There are some homemade utility classes in this project which can provide a more concise implementation, without redundancy of the original ones.

5.1 Date format

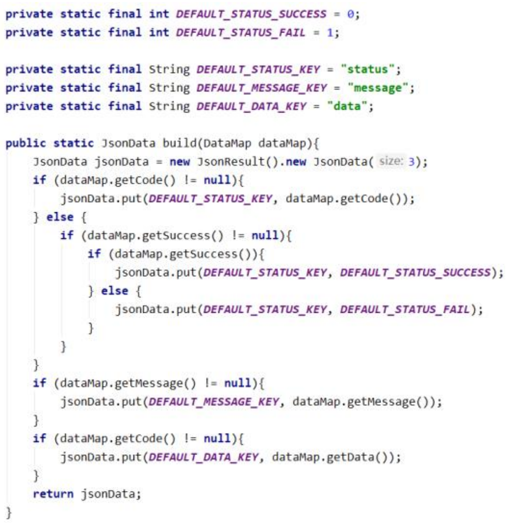
Although the date of each field is stored in database as string, we still need to format java.util.Date into java.lang.String in some places: (1) When create an object, the accurate date will be recorded, program will format the date into string as “yyyy-MM-dd HH:mm:ss” and save it in database. (2) While creating a conference, the date of start and end are required. After receiving data from user, java.util.Calendar is used for traverse from the beginning to the end and create an agenda for each day. In this case, the date format of agenda is “yyyy-MM-dd”.

5.2 JSON

Before sending data to the JavaScript code, the JSON object is just a data map which extends java.util.LinkedHashMap and it needs to be converted as JSON representation. That is why I use fastjson which is owned by the Alibaba Group to do this job, fastjson is a Java library that can be used to convert Java Objects into their JSON representation. It can also be used to convert a JSON string to an equivalent Java object.

Because this system only needs the first usage, so another utility class is created just for JSON conversion, no other additional features, which includes some methods implemented by com.alibaba.fastjson.JSON.

The object structure is shown in Figure 5-1, it contains three keys. In these keys, “status” key means the result of user’s operation is success or not. “message” key is used to inform the user about the result of operation. “data” key is the data retrieve from database and will be parsed by JavaScript.



```java
private static final int DEFAULT_STATUS_SUCCESS = 0;
private static final int DEFAULT_STATUS_FAIL = 1;

private static final String DEFAULT_STATUS_KEY = "status";
private static final String DEFAULT_MESSAGE_KEY = "message";
private static final String DEFAULT_DATA_KEY = "data";

public static JsonData build(DataMap dataMap){
    JsonData jsonData = new JsonResult().new JsonData( size: 3);
    if (dataMap.getCode() != null){
        jsonData.put(DEFAULT_STATUS_KEY, dataMap.getCode());
    } else {
        if (dataMap.getSuccess() != null){
            if (dataMap.getSuccess()){
                jsonData.put(DEFAULT_STATUS_KEY, DEFAULT_STATUS_SUCCESS);
            } else {
                jsonData.put(DEFAULT_STATUS_KEY, DEFAULT_STATUS_FAIL);
            }
        }
    }
    if (dataMap.getMessage() != null){
        jsonData.put(DEFAULT_MESSAGE_KEY, dataMap.getMessage());
    }
    if (dataMap.getCode() != null){
        jsonData.put(DEFAULT_DATA_KEY, dataMap.getData());
    }
    return jsonData;
}
```

Figure 5-1 JSON format

5.3 Random ID

In order to reduce the possibility of data collision, in this case, universally unique identifier (UUID) is used for generating the random ID. In this system, before inserting an object to database, a random ID will be generated and assigned to this object, for establishing relationship with other objects.

Chapter 6 Email service

When someone signs up an account or someone forgets the password, system will send an email has the relevant content to the user’s email address. This will help the user to solve the problem.

6.1 Email service provider

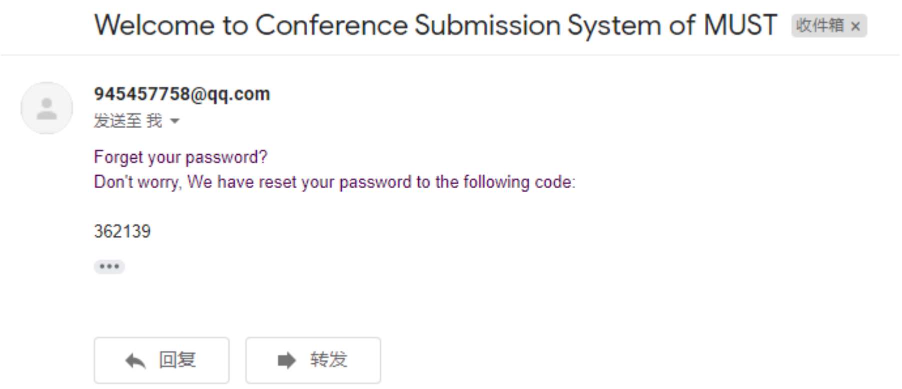
The most common email services are Gmail and QQMail. In this case, QQMail is used for its convenience. Only a few lines of configuration, it will be ready to use.

6.2 JavaMailSender

After deciding the email service provider, we also need to choose a mail sender technique which is suitable for Java. JavaMailSender class from Spring framework seems to be an excellent choice. It can send a simple email which only needs four parameters: the “From” address, the “To” address, the subject and the text. If with attachments, there will be just a few more lines of code. One thing to note is that the “From” address must be consistent with the address in the configurations, otherwise the email service will cause an exception.

6.3 When to send the email

There are two cases which needs to send an email. One is the welcome email after the registration of user. Another one is when the users forget their passwords, once click the “Forget password” button, they will be asked to input an email address which is used to receive the message. After the availability verification of the email address, their inbox will get an email with their new random 6-digit password which is generated by the system as Figure 6-1.



Welcome to Conference Submission System of MUST

945457758@qq.com

发送至 我

Forget your password?
Don't worry, We have reset your password to the following code:

362139

Figure 6-1 6-digit password

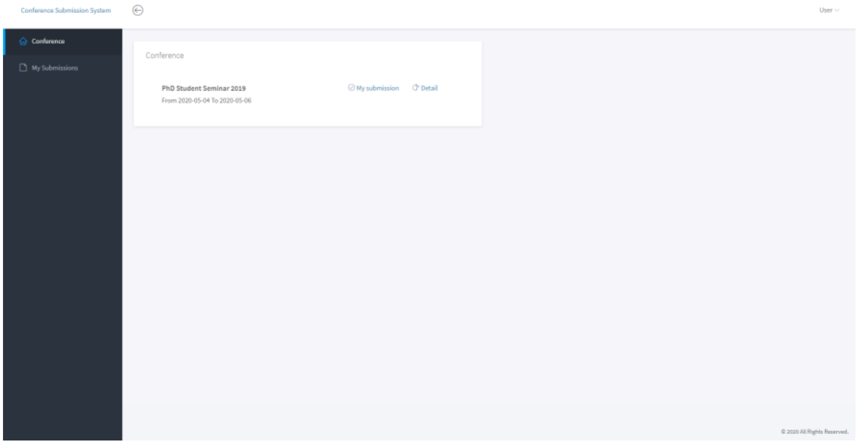
Chapter 7 User manual

This chapter will demonstrate the private features for candidates, administrator and the common features for all users.

7.1 For candidates

7.1.1 Submit a paper

After logging into the system, there will be two buttons for each conference as shown in Figure 7-1. The first one is for submitting a paper, as shown in Figure 2-5, fill in all the blanks following the instructions written above the fields. Please be noticed, submit any empty text will cause the entire page to refresh and you need to fill in again.

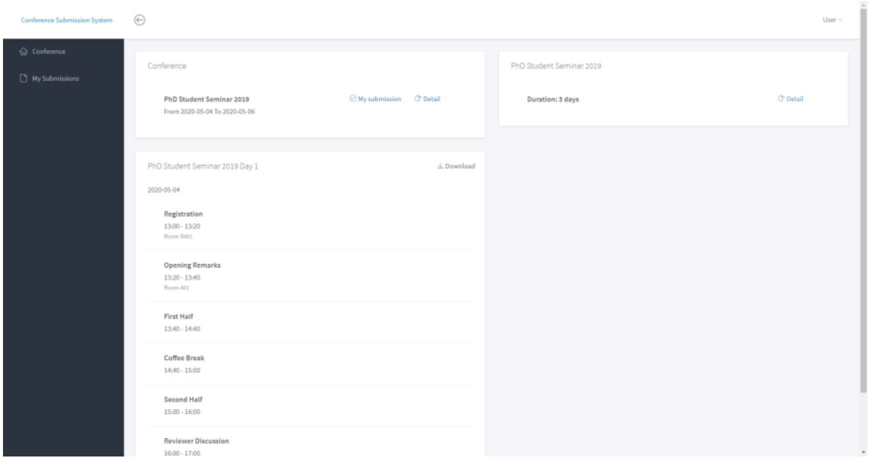


PhD Student Seminar 2019
From 2020-05-04 To 2020-05-06

Figure 7-1 Dashboard for candidates

7.1.2 Check conference agenda

The second button in the dashboard is to show the agenda and download it in Excel file format as shown in Figure 7-2. The Excel file content is constituted by the events and sessions in this conference like Figure 7-3.



Conference

PhD Student Seminar 2019
From 2020-05-04 To 2020-05-06

PhD Student Seminar 2019

Duration: 3 days

PhD Student Seminar 2019 Day 1

2020-05-04

Registration
13:00 - 13:20
Room B401

Opening Remarks
13:20 - 13:40
Room 401

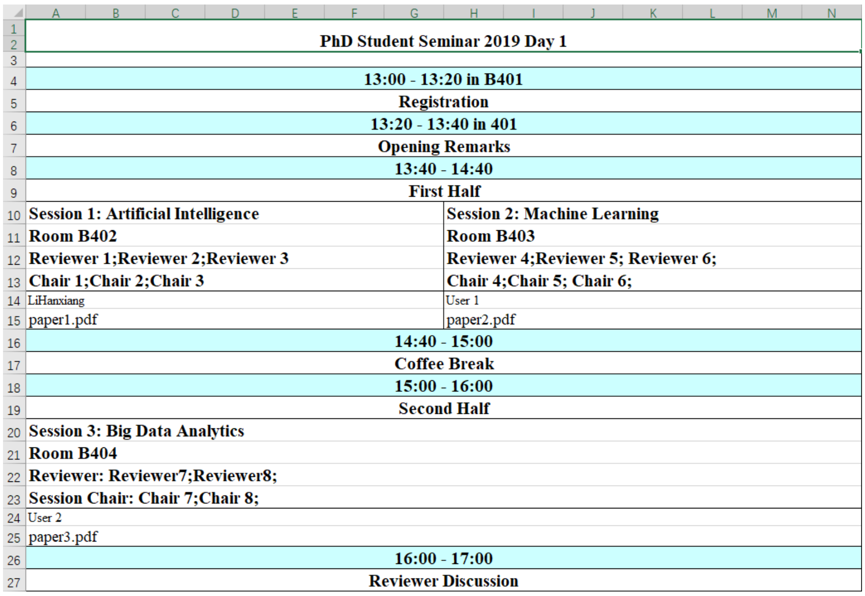
First Half
13:40 - 14:40

Coffee Break
14:40 - 15:00

Second Half
15:00 - 16:00

Reviewer Discussion
16:00 - 17:00

Figure 7-2 Agenda detail

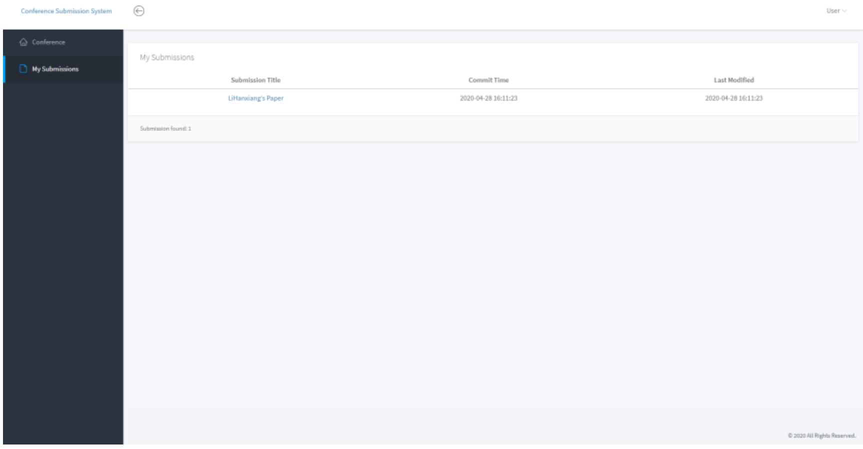


1	PhD Student Seminar 2019 Day 1	
2		
3		
4	13:00 - 13:20 in B401	
5	Registration	
6	13:20 - 13:40 in 401	
7	Opening Remarks	
8	13:40 - 14:40	
9	First Half	
10	Session 1: Artificial Intelligence	Session 2: Machine Learning
11	Room B402	Room B403
12	Reviewer 1;Reviewer 2;Reviewer 3	Reviewer 4;Reviewer 5; Reviewer 6;
13	Chair 1;Chair 2;Chair 3	Chair 4;Chair 5; Chair 6;
14	LiHanxiang	User 1
15	paper1.pdf	paper2.pdf
16	14:40 - 15:00	
17	Coffee Break	
18	15:00 - 16:00	
19	Second Half	
20	Session 3: Big Data Analytics	
21	Room B404	
22	Reviewer: Reviewer7;Reviewer8;	
23	Session Chair: Chair 7;Chair 8;	
24	User 2	
25	paper3.pdf	
26	16:00 - 17:00	
27	Reviewer Discussion	

Figure 7-3 Excel of agenda

7.1.3 My submissions

Candidates not only can check the submission of each conference, but all the submissions through the second button on left-side navigation bar as Figure 7-4. Click the title of a paper, you can also see the detail of this submission.



My Submissions

Submission Title	Commit Time	Last Modified
LiHanxiang's Paper	2020-04-28 16:11:23	2020-04-28 16:11:23

Submission found: 1

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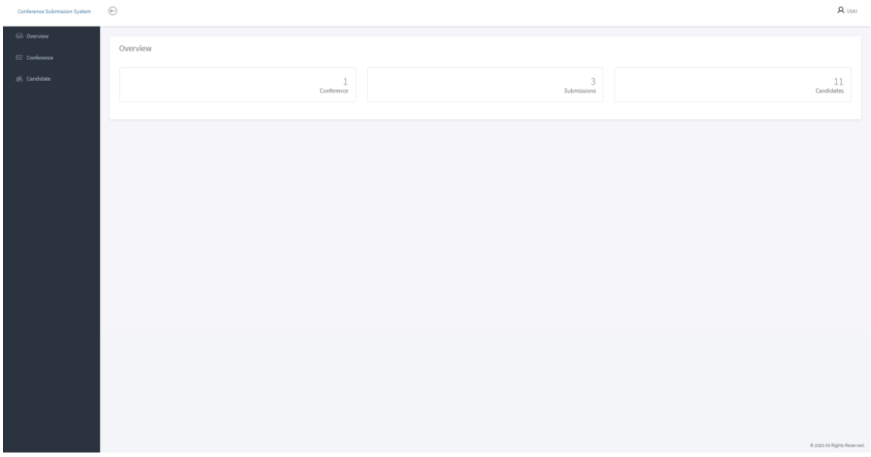
Figure 7-4 My submissions

7.2 For administrators

7.2.1 System overview

The default content of administrator’s dashboard is an overview of this system, contains the count of conferences, submissions and candidates as Figure 7-5



Overview

1 Conference

3 Submissions

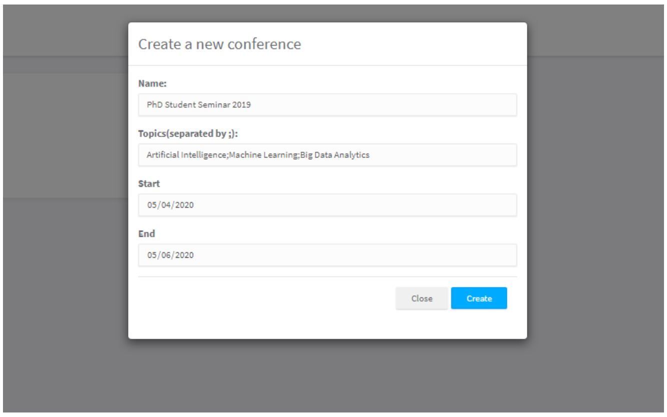
11 Candidates

© 2020 All Rights Reserved.

Figure 7-5 Overview

7.2.2 *Create a conference*

In the "Conference" field of the left-side navigation bar, click the "new" button, there will be a modal window for creating a conference, fill in the blanks like Figure 7-6 and click "Create", a new conference will be in the list.



Create a new conference

Name:

PhD Student Seminar 2019

Topics(separated by ;):

Artificial Intelligence;Machine Learning;Big Data Analytics

Start

05/04/2020

End

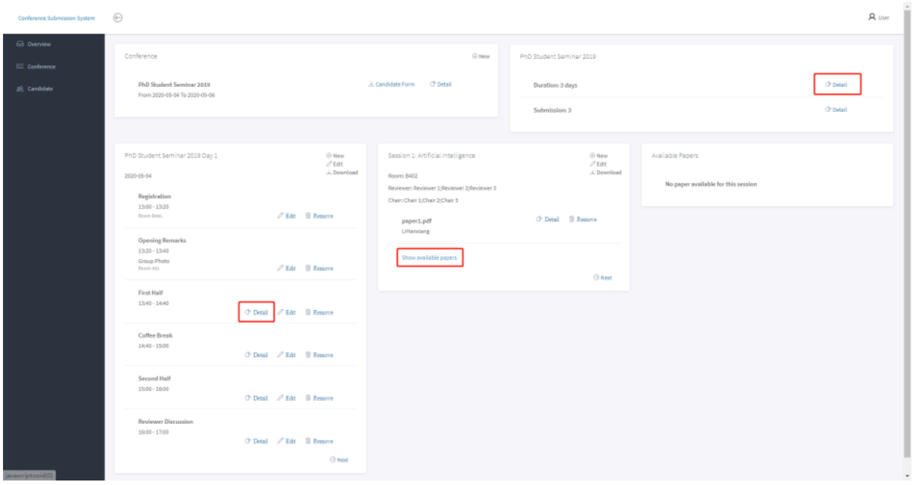
05/06/2020

Figure 7-6 Create a conference

7.2.3 *Details of agenda*

After creating a conference, system will automatically create an agenda for each day in this conference like Figure 7-7, and the name of agendas are based on the name of conference. In the top right corner of agenda field, there has three buttons. "New" is for creating a new event for this agenda, "Edit" is used to change the name of this agenda and you can download the agenda detail in Excel file through the "Download" button.

For each event in an agenda, "Edit" is for modifying the information of this event, and the "Remove" is to remove this event from the agenda. If this event has at least one session, there will an extra button call "Detail". In each session, you can select paper from papers by clicking the "Show available papers" button and also remove a paper from the selected papers list through "Remove" button. If you want to check out the submission detail of a paper, there are two ways: (1) Click the button "Detail" button of the paper in a session. (2) Click the paper name in the available papers list. You can see the full submission information and download the paper and slide.



Conference

PhD Student Seminar 2019
From 2020-05-04 To 2020-05-06

PhD Student Seminar 2019

Duration: 3 days

Submission: 3

PhD Student Seminar 2019 Day 1

2020-05-04

Registration
13:00 - 13:20
Room B401

Opening Remarks
13:20 - 13:40
Group Photo
Room 401

First Half
13:40 - 14:40

Coffee Break
14:40 - 15:00

Second Half
15:00 - 16:00

Reviewer Discussion
16:00 - 17:00

Session 1: Artificial Intelligence

Room: B402
Reviewer: Reviewer 1;Reviewer 2;Reviewer 3
Chair: Chair 1;Chair 2;Chair 3

paper1.pdf
LiHanxiang

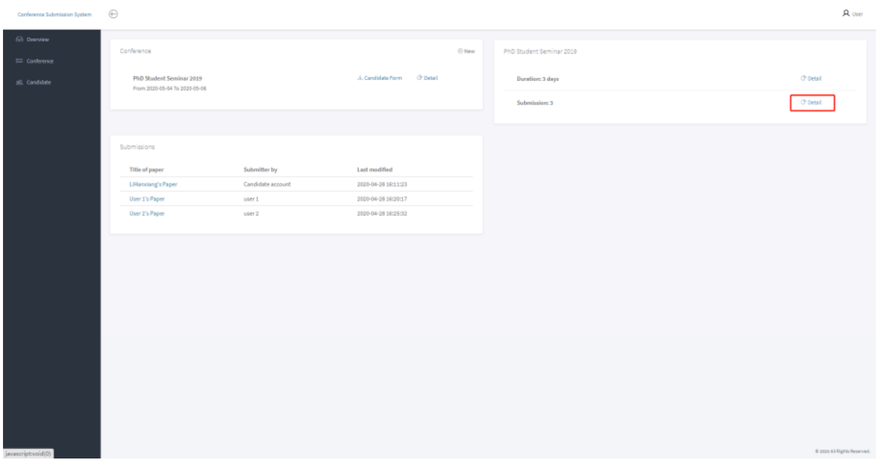
Available Papers

No paper available for this session

Figure 7-7 Agenda details

7.2.4 Submissions in a conference

In the conference detail field, you can also check out the submission detail of this conference. Click the "Detail" button in the submission row, it will show the submissions list as Figure 7-8. You can also get the submission detail by click the title of paper.



Conference

PhD Student Seminar 2019
From 2020-05-04 To 2020-05-06

PhD Student Seminar 2019

Duration: 3 days

Submission: 3

Submissions

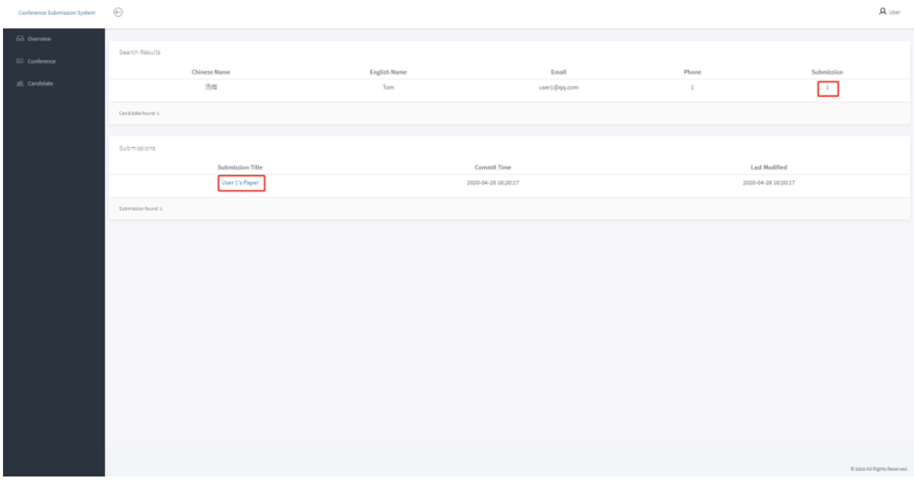
Title of paper	Submitter by	Last modified
LiHanxiang's Paper	Candidate account	2020-04-28 16:11:23
User 1's Paper	user 1	2020-04-28 16:20:17
User 2's Paper	user 2	2020-04-28 16:25:32

Figure 7-8 Submissions

7.2.5 Search for candidates

The last button of the navigation bar is to search for candidate, click it and you will see a modal window. If you do not fill in any blanks, just submit an empty form, you will get the information of all candidates as the result. Because this search method is fuzzy search, if you want to search a candidate named “Tom”, you can input “Tom” in the “English Name” field and get the result like Figure 7-9. Or you can just input a character “T”, the result will also include “Tom”, but it may also get other candidates.

In the result of your search, click the number in “submission” field, you will see all the submissions of this candidates, and the title of each submission will give you the detail of this submission.



Search Results

Chinese Name	English Name	Email	Phone	Submission
汤姆	Tom	user1@qq.com	1	1

Candidate found: 1

Submissions

Submission Title	Commit Time	Last Modified
User 1's Paper	2020-04-28 16:20:17	2020-04-28 16:20:17

Submission found: 1

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Figure 7-9 Search results

7.3 For all users

7.3.1 Sign up & Forget password

If you are new to this system, click the “Sign up an account” to open a modal window and create your own account as Figure 7-10. Once you become a member of this system, if someday you forget your password, it can be fixed by clicking the “Forgot password?” button like Figure 7-11. Input the email address, which is used for logging in, and check your email inbox. There will be a random code for you as your new password just like Figure 7-12.

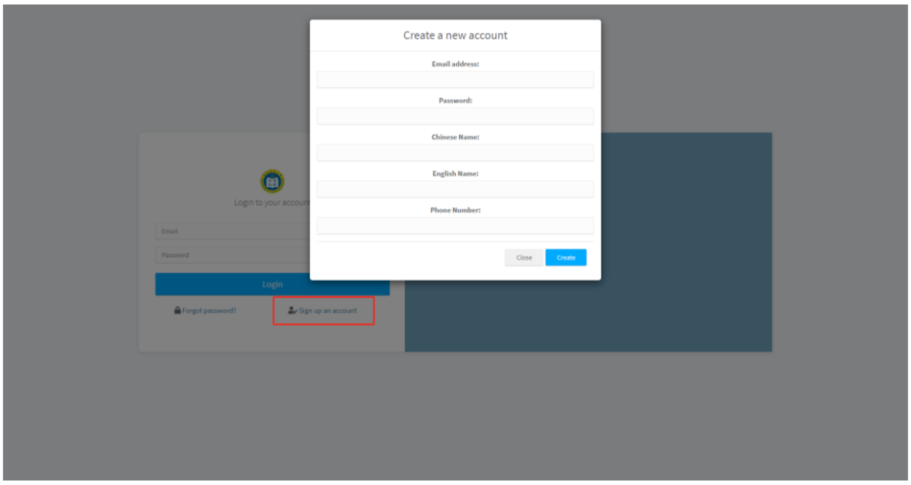


Figure 7-10 Sign up

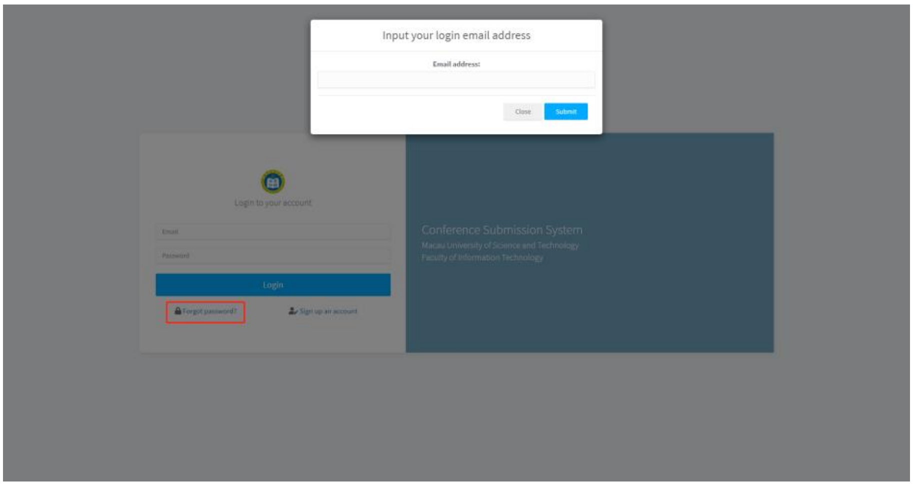
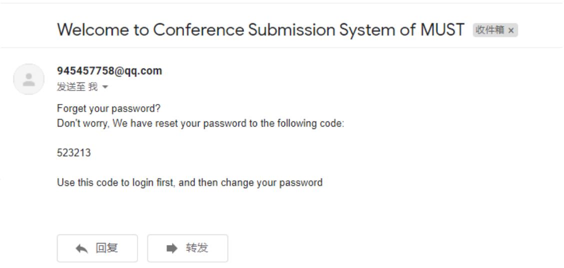

Input your login email address
Email address:
Close
Submit
Login to your account
Email
Password
Login
Forgot password?
Sign up an account
Conference Submission System
Macau University of Science and Technology
Faculty of Information Technology

Figure 7-11 Forget password


Welcome to Conference Submission System of MUST 收件箱 ×

945457758@qq.com
发送至 我

Forget your password?
Don't worry, We have reset your password to the following code:

523213

Use this code to login first, and then change your password

Figure 7-12 Random password

7.3.2 Edit profile & Change password

After you login your account, you can edit you profile or change your password by through the “User” button as Figure 7-10. These two features are all done by a modal window. Change your profile just like a usual edit work as Figure 7-11. When you change your password, you need to input current password and a new password as Figure 7-12, system will check the validity of current password. Only if it is correct, that you can finally change your password, otherwise you will get a warning.

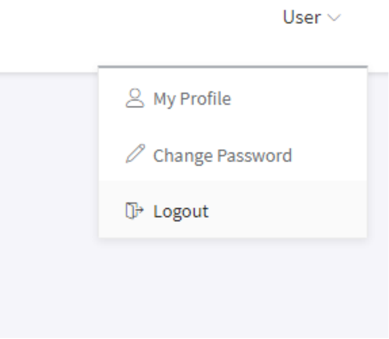
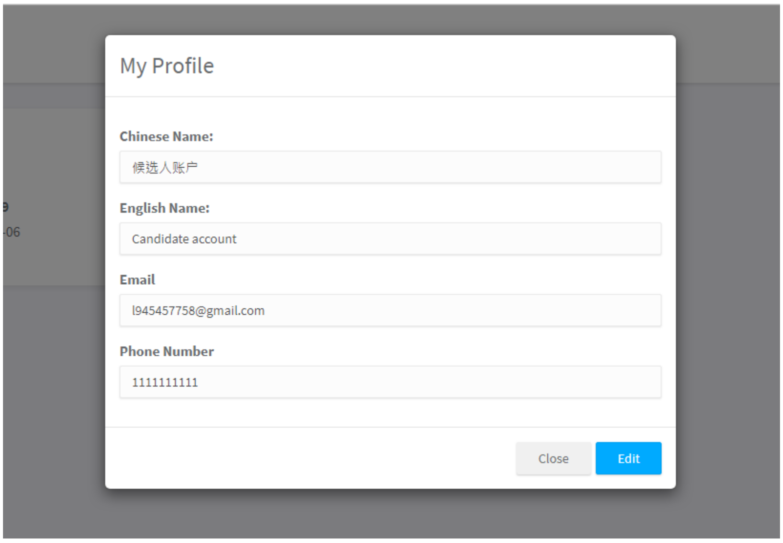


Figure 7-13 User operations



My Profile

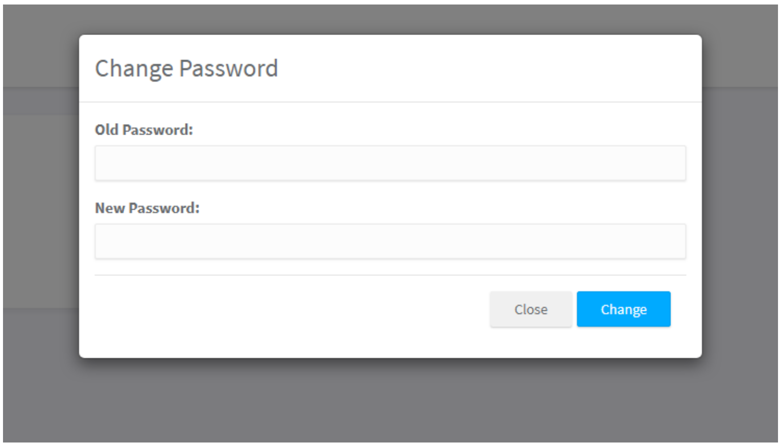
Chinese Name:
候选人账户

English Name:
Candidate account

Email
l945457758@gmail.com

Phone Number
1111111111

Figure 7-14 Edit profile



Change Password

Old Password:

New Password:

Figure 7-15 Change password

Chapter 8 Conclusion

About the conference submission system of Faculty of Information Technology, as the "conference" and “submission” in its name suggests, it should only focus on these two dimensions. Other irrelevant features will be considered as redundant. All we need to do is to keep the conciseness and usability of this system. Even if it needs to be improved, it should be in depth, not width, which means to it can only be modified for higher concurrency or faster data storage.

Reference & Bibliography

[1] Phillip Webb, Dave Syer, Josh Long, Stéphane Nicoll, Rob Winch, Andy Wilkinson, Marcel Overdijk, Christian Dupuis, Sébastien Deleuze, Michael Simons, Vedran Pavić, Jay Bryant. (2020, March 26). Spring Boot Reference Documentation. https://docs.spring.io/spring-boot/docs/current/reference/htmlsingle

[2] Apache Software Foundation. (n.d.). POI-HSSF and POI-XSSF/SXSSF - Java API. https://poi.apache.org/components/spreadsheet

Resume

1. Resume

Name: Li Han Xiang

Gender: Male

Email: l945457758@gmail.com

Education:

2013 ~ 2016, High School, First Middle School of Gutian County, Ningde City, Fujian Province.

2016 ~ 2020, Bachelor of Science, Macau University of Science and Technology.

Awards:

Work experience:

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I wish to express my sincere appreciation to my supervisor, Professor Zhao Qing Lin, for bringing me the details in designing this system. while I was working on this project, he keeps giving me support and encouragement, and he is also willing to have some discussions with me when I encounter difficulties.

I also want to show my gratitude to these two PhD seniors, Li Guangcheng and Liang Hong. They often spent some time with me, discuss the which programming language or framework is better to solve the difficulty I met. If without them, the system may not be so perfect as it is right now.