INFO 6250 Final Project Report Mingda Ju 001810212

Summary

It is a course registration website, which can help admin manage course database and students account, and help students create account, search courses, create register plan and register courses.

User Roles and performed tasks

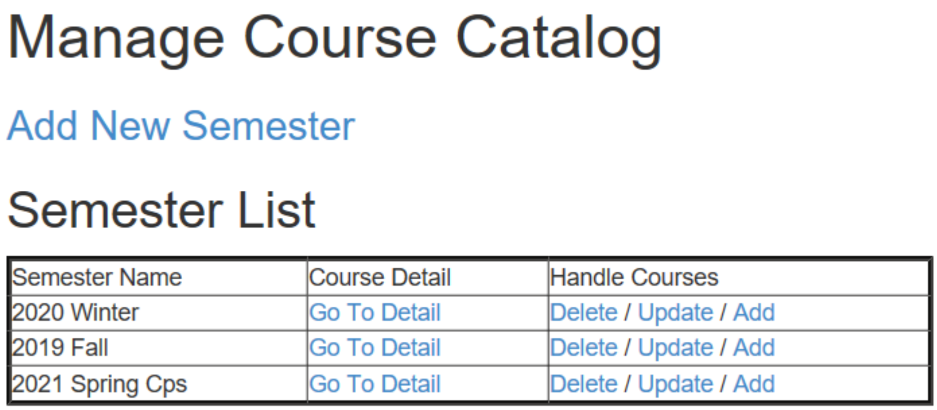
There are two roles in this system. One is admin. The Admin can manage course database, like add/delete/update new semester, add/delete/update new courses. (The relationship between semester sand courses is OneToMany, which means under one semester, there will be many courses.) Besides, admin can also mange student accounts.

The other one is students. Students can create their accounts and search courses under specific semester, and they can set many limitation keywords to improve their search efficiency. What's more, they can add courses which they want to take to the register plans they created. (The relationship between users and plans is OneToMany, which means one user can have many plans.) It can help them save time because they can register courses directly under their register plan page instead of searching it. When they successfully register the course, they will receive an email that contain their registration information.

Functionality

Admin:

In this page, admin can manage course database, they can add/delete/update semesters and add new semesters under each semester then go the course details.



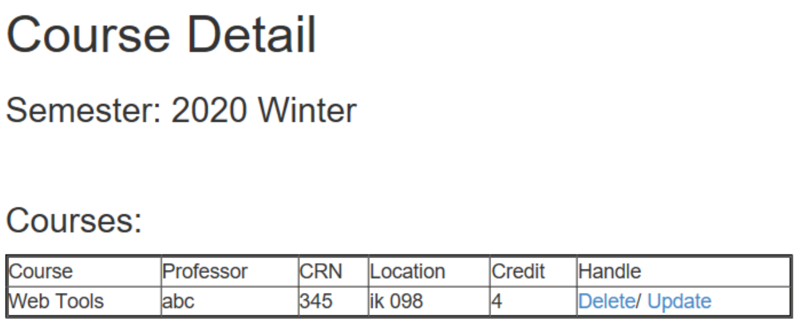
Manage Course Catalog

Add New Semester

Semester List

Semester Name	Course Detail	Handle Courses
2020 Winter	Go To Detail	Delete / Update / Add
2019 Fall	Go To Detail	Delete / Update / Add
2021 Spring Cps	Go To Detail	Delete / Update / Add

In this page, admin can view the course detail, including course name, professor, CRN, location, credit. And then admin can delete/update course.



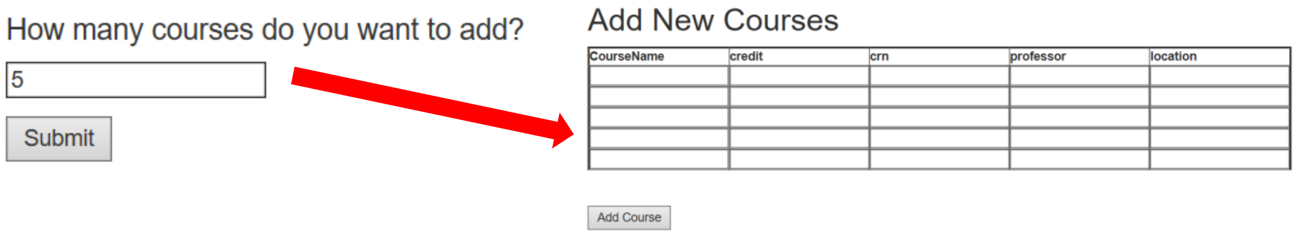
Course Detail

Semester: 2020 Winter

Courses:

Course	Professor	CRN	Location	Credit	Handle
Web Tools	abc	345	ik 098	4	Delete/ Update

In this page, admin can add courses depend on the number he inputs. It can improve the efficiency of adding work.



How many courses do you want to add?

5

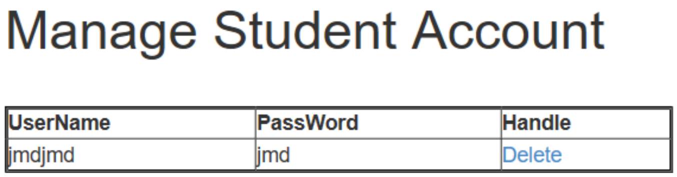
Submit

Add New Courses

CourseName	credit	crn	professor	location

Add Course

In this page, admin can manage the student account

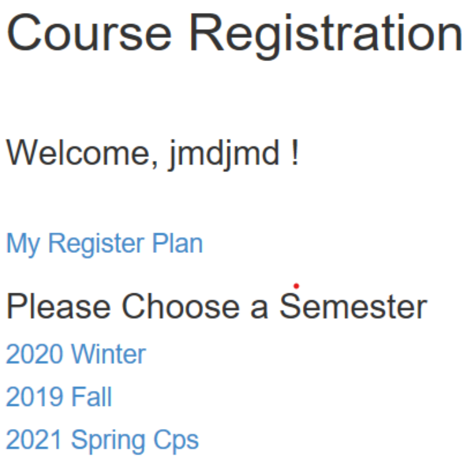


Manage Student Account

UserName	PassWord	Handle
jmdjmd	jmd	Delete

Students:

This is the Home Page of the student role. So, students can view their register plan and semester list that admin created.



Course Registration

Welcome, jmdjmd !

My Register Plan

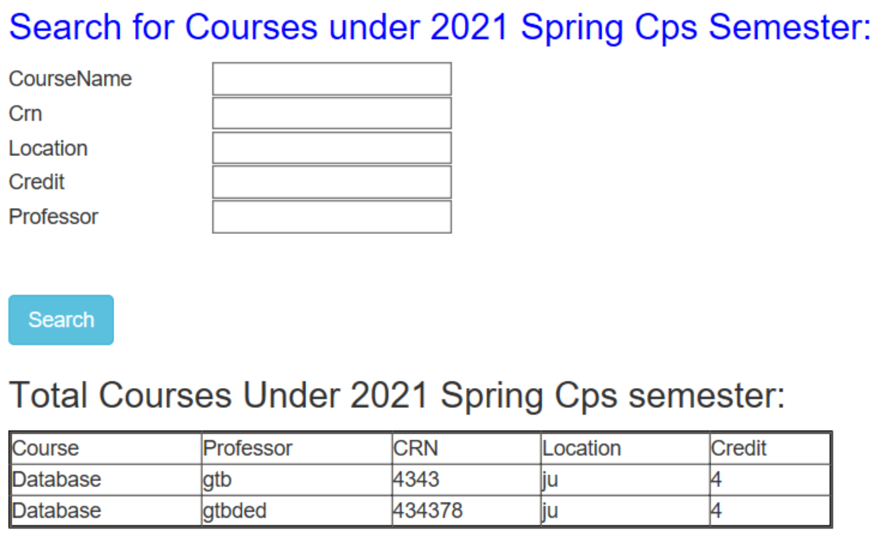
Please Choose a Semester

2020 Winter

2019 Fall

2021 Spring Cps

This page is the search course page for student. Students can search courses under many keyword restrictions. And there is also a table for them to see all the courses under this semester.



Search for Courses under 2021 Spring Cps Semester:

CourseName

Crn

Location

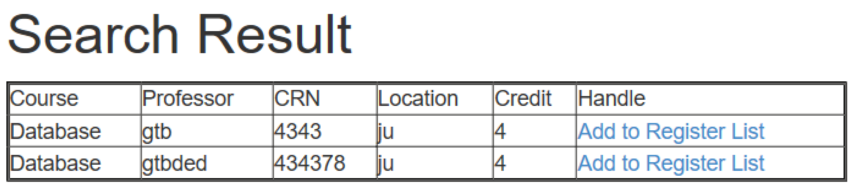
Credit

Professor

Total Courses Under 2021 Spring Cps semester:

Course	Professor	CRN	Location	Credit
Database	gtb	4343	ju	4
Database	gtbded	434378	ju	4

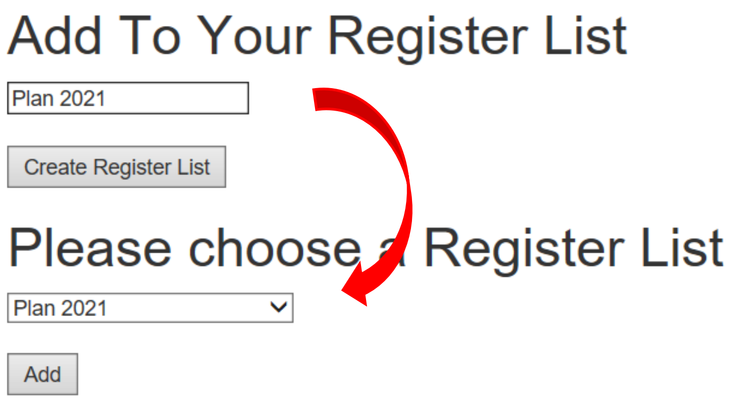
This is the search result page. It will show the courses result to students and they can add their courses to the plan they want to register.



Search Result

Course	Professor	CRN	Location	Credit	Handle
Database	gtb	4343	ju	4	Add to Register List
Database	gtbded	434378	ju	4	Add to Register List

This is the register list page. Student can create new register list. And then they can add courses to the list they select.



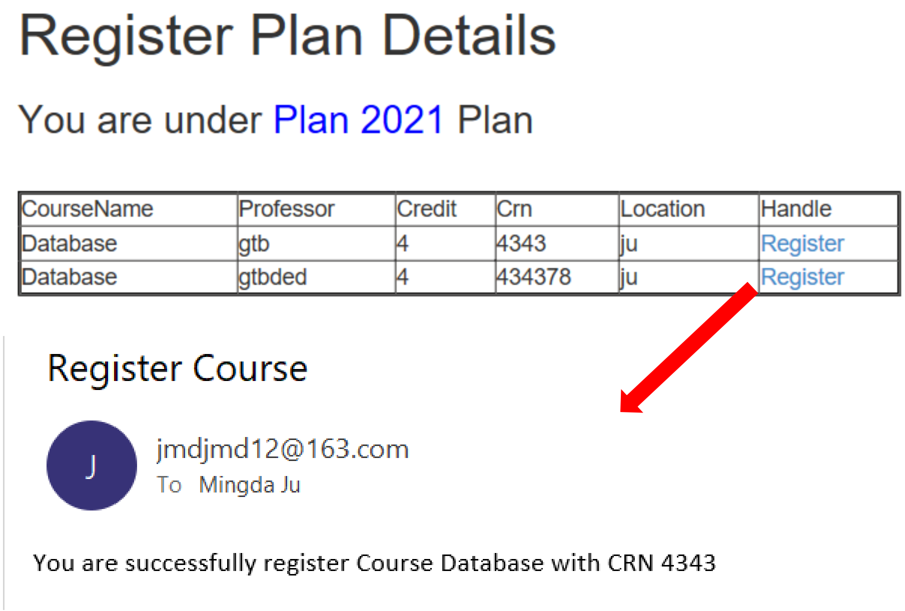
Add To Your Register List

Plan 2021

Please choose a Register List

Plan 2021

This is the plan details, which show you the courses you want to register under your plan. And click ‘register’ to register course, and then you will receive a confirmation email with the course detail.



Register Plan Details

You are under Plan 2021 Plan

CourseName	Professor	Credit	Crn	Location	Handle
Database	gtb	4	4343	ju	Register
Database	gtbded	4	434378	ju	Register

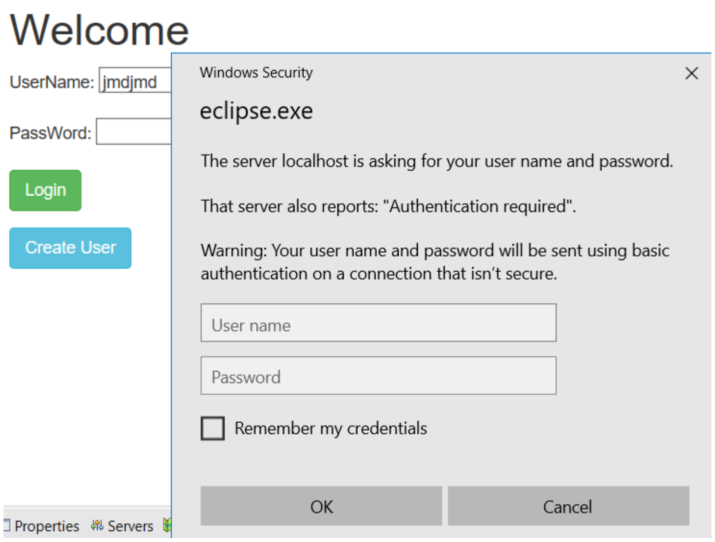
Register Course

jmdjmd12@163.com
To Mingda Ju

You are successfully register Course Database with CRN 4343

Technologies

Declarative Web Application Security -> For admin Login



Welcome

UserName: jmdjmd

PassWord:

Windows Security

eclipse.exe

The server localhost is asking for your user name and password.

That server also reports: "Authentication required".

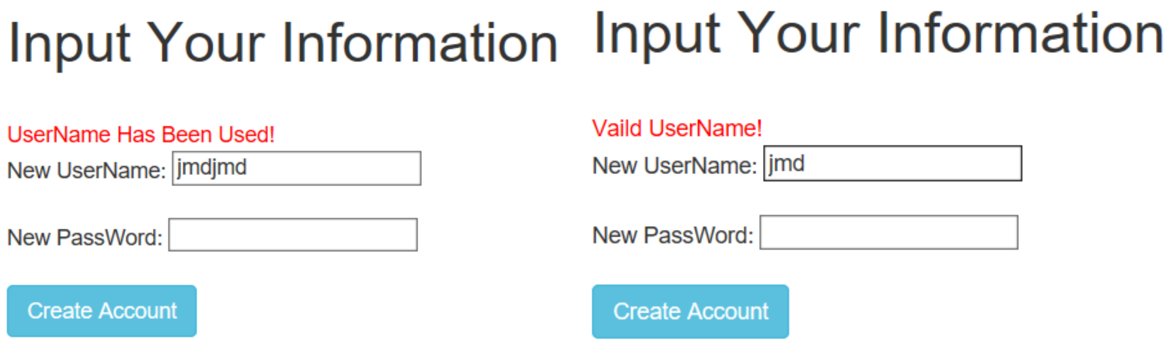
Warning: Your user name and password will be sent using basic authentication on a connection that isn’t secure.

User name

Password

□ Remember my credentials

AJAX -> For checking if the username has been used



Input Your Information

UserName Has Been Used!

New UserName: jmdjmd

New PassWord:

Input Your Information

Vaild UserName!

New UserName: jmd

New PassWord:

Controller code

```
@Controller
public class CourseController {


	//semester list
	@RequestMapping(value="/mingda.htm", method = RequestMethod.GET)
	public String showAllSemesters(HttpServletRequest request ,CourseDao dao){
		List<Semester> semlist = dao.showAllSemesters();
		HttpSession session = request.getSession();
		session.setAttribute("semli", semlist);
		return "SemesterList";
	}

	//view all semester
	@RequestMapping(value="/mingda/view.htm", method = RequestMethod.GET)
	public String viewSemest(HttpServletRequest request, CourseDao dao, ModelMap
map){

		int semesterid = Integer.parseInt(request.getParameter("semid"));
		Semester semester = dao.getSemesterId(semesterid);

		HttpSession session = request.getSession();
		session.setAttribute("semesterid", semesterid);
		session.setAttribute("semester", semester);
		if(semester!=null){
		return "CourseDetail";
		}
		else {
			map.addAttribute("errorMessage", "Sorry, Something Wrong!");
			return "ErroePage";
		}
	}

	//add semester success
	@RequestMapping(value="/mingda/addsuccess.htm", method = RequestMethod.GET)
```

```
    public String addsem(HttpServletRequest request){
        return "AddSemester";
    }

    //add semester
    @RequestMapping(value="/mingda/add.htm", method = RequestMethod.GET)
    public String addSemest(HttpServletRequest request){

        return "redirect:/mingda.htm?";
    }

    //add semester
    @RequestMapping(value="/mingda/add.htm", method = RequestMethod.POST)
    public String addSemesPOST(HttpServletRequest request, CourseDao dao, ModelMap
map){

        String semestertname = request.getParameter("semname");
        Semester semester = new Semester();
        semester.setSemestername(semestertname);
        semester.setCourseList(new ArrayList<Course>());
        dao.addSemest(semester);

        return "redirect:/mingda.htm?";

    }

    //jump to count page
    @RequestMapping(value="/mingda/jumpcount.htm", method = RequestMethod.GET)
    public String CourseCount(HttpServletRequest request, ModelMap map){
        int se = Integer.parseInt(request.getParameter("semid"));
        HttpSession session = request.getSession();
        session.setAttribute("semesterid", se);

        return "AddCourseCount";

    }

    //get add courses num
    @RequestMapping(value="/mingda/addnum.htm", method = RequestMethod.GET)
    public String handlenumberForm(HttpServletRequest request){
        int semmid = Integer.parseInt(request.getParameter("sseeid"));
        HttpSession session = request.getSession();
        session.setAttribute("semmid", semmid);
        String bookNumber = request.getParameter("count");
        int bn = Integer.valueOf(bookNumber);
        request.setAttribute("count", bn);

        return "AddCourses";
    }

    //get add courses num
    @RequestMapping(value="/mingda/addnum.htm", method = RequestMethod.POST)
    public String handlenumber(HttpServletRequest request){
        HttpSession session = request.getSession();
        session.getAttribute("semmid");
        request.getAttribute("count");

        return "AddCourses";
    }


    // add course success
    @RequestMapping(value="/mingda/couAdd.htm", method = RequestMethod.GET)
    public String addCouGET(HttpServletRequest request){
        int seemid = Integer.parseInt(request.getParameter("sseeid"));
        HttpSession session = request.getSession();
        session.setAttribute("sseeid", seemid);

        return "AddSuccess";

    }

    //add courses
    @RequestMapping(value="/mingda/couAdd.htm", method = RequestMethod.POST)
    public String addCouPOST(HttpServletRequest request, CourseDao dao){
        HttpSession session = request.getSession();
        int semesterid = (Integer)session.getAttribute("semesterid"); //get
primary key from semester

        String[] coursename = request.getParameterValues("coursename"); //get
array of courses added
        String[] credit = request.getParameterValues("credit");
        String[] professor = request.getParameterValues("professor");
        String[] location = request.getParameterValues("location");
        String[] crn = request.getParameterValues("crn");

        Semester semid = dao.getSemesterId(semesterid);

        for(int i=0;i<coursename.length;i++) {     //count how many courses
added
            Course course = new Course();
            course.setSemester(semid);              //set foreign key
            course.setCoursename(coursename[i]);
            course.setCredit(credit[i]);
            course.setProfessor(professor[i]);
            course.setLocation(location[i]);
            course.setCrn(crn[i]);
            dao.addCourse(course);

        }

        return "AddSuccess";

    }

    //delete semester
    @RequestMapping(value="/mingda/delete.htm", method = RequestMethod.GET)
    public String delSem(HttpServletRequest request, CourseDao dao){
        int seemm = Integer.parseInt(request.getParameter("semid"));
        dao.delSemes(seemm);
        return "redirect:/mingda.htm?";
    }

    //delete course
    @RequestMapping(value="/mingda/coursedel.htm", method = RequestMethod.GET)
    public String deleteCla(HttpServletRequest request, CourseDao dao){
        int couid = Integer.parseInt(request.getParameter("courseid"));
        int semid = Integer.parseInt(request.getParameter("semesdel"));
        HttpSession session = request.getSession();
        session.setAttribute("semesdel", semid);

        dao.delCourse(couid);
        return "DeleteClass";

    }


    //update course
    @RequestMapping(value="/mingda/couUpdate.htm", method = RequestMethod.GET)
    public String updateCourse(HttpServletRequest request, Model model, CourseDao
dao){

        HttpSession session = request.getSession();
        int semid = Integer.parseInt(request.getParameter("semesupd"));
        int courseidd = Integer.parseInt(request.getParameter("courseid"));
        session.setAttribute("semesupd", semid);
        Course thec = dao.getCourse(courseidd);
        model.addAttribute("updatecourse",thec);

        return "update-course";
    }

    //save update course
    @RequestMapping(value="/mingda/cousave.htm", method = RequestMethod.POST)
    public String saveCourse(HttpServletRequest request, Course thec, CourseDao
dao) {
        dao.update(thec);

        return "redirect:/mingda.htm?";
    }

    //update semester
    @RequestMapping(value="/mingda/update.htm", method = RequestMethod.GET)
    public String updateSemester(HttpServletRequest request, Model model,
CourseDao dao){
        int semesterid = Integer.parseInt(request.getParameter("semid"));
        Semester thesemester = dao.getSemesterId(semesterid);
        model.addAttribute("updatesemester",thesemester);

        return "update-semester";
    }


    //save semester
```

```
      @RequestMapping(value="/mingda/save.htm", method = RequestMethod.POST)
      public String saveSemester(HttpServletRequest request, Semester semester,
CourseDao dao) {
             dao.updateSemester(semester);
             return "redirect:/mingda.htm?";

      }
}

public class AjaxController {


      //Check whether username is vaild from database
      @RequestMapping(value = "/check.htm", method = RequestMethod.POST)
      @ResponseBody
      public String checkUserNameExisted(HttpServletRequest request, UserDAO
userdao) {
             String username = request.getParameter("username");

             User u = userdao.get(username);
             if (u == null) {
                    return "Vaild UserName!";
             } else {
                    return "UserName Has Been Used!";
             }
      }

}

public class EmailController {


       public EmailController(){

      }

    //Register course
    @RequestMapping(value = "/submitCourse.htm", method = RequestMethod.GET)
      public String submitForm(HttpServletRequest request, User user) {

         String cid = request.getParameter("cid");   //get current course info
         String crn = request.getParameter("ccrn");
         System.out.print(cid);
         System.out.print(crn);
                sendEmail("You are successfully register Course " +cid+" with CRN
"+crn);
                return "submitSuccess";

      }

    //Send Email to User
      public void sendEmail(String mess ) {
             try {
                    Email email = new SimpleEmail();
                    email.setDebug(true);
```

```
            email.setHostName("smtp.163.com");
            email.setSmtpPort(465);
            email.setAuthenticator(new
DefaultAuthenticator("jmdjmd12@163.com", "Jumd12345")); //get sender email account
            email.setSSLOnConnect(true);
            email.setFrom("jmdjmd12@163.com");    //Sender
            email.addTo("ju.m@northeastern.edu"); //Receiver
            email.setSubject("Register Course ");
            email.setMsg(mess);

            email.send();
        } catch (EmailException e) {
            System.out.println("Email cannot be sent");
        }
    }
}


public class AdminController {


    @RequestMapping(value="/admin/login.htm", method = RequestMethod.GET)
    public String adminLogin(HttpServletRequest request){
        return "AdminHome";
    }

    @RequestMapping(value="/admin/manageUser.htm", method = RequestMethod.GET)
    public String manageUserAccount(HttpServletRequest request ,UserDAO udao){
        List<User> userlist = udao.displayAll();
        HttpSession session = request.getSession();
        session.setAttribute("userlist", userlist);
        return "ManageUser";
    }

    @RequestMapping(value="/admin/registercourse.htm", method = RequestMethod.GET)
    public String receiveCourseInfoGET(HttpServletRequest request){
        HttpSession session = request.getSession();
        User user = (User) session.getAttribute("currentUser");
        List<RegisterPlan> plan = user.getNewPlan();
        session.setAttribute("userCourseInfo", plan);
        return "registerInfo";
    }


    @RequestMapping(value = "/admin/deleteUser.htm", method = RequestMethod.GET)
    public String deleteUser(HttpServletRequest request,UserDAO userdao) {

        int user = Integer.parseInt(request.getParameter("deleteUser"));

        userdao.delete(user);
        return "redirect:/admin/manageUser.htm";
    }
}
```

```
@Controller
public class UserController {

    //User Login
    @RequestMapping(value = "/user/login.htm", method = RequestMethod.GET)
    public String userLoginGet(HttpServletRequest request) {

        return "UserLogin";
    }

    //User Login and Show User all semesters
    @RequestMapping(value = "/user/login.htm", method = RequestMethod.POST)
    public String userLoginPost( HttpServletRequest request, UserDAO userdao,
ModelMap map, CourseDao dao) {
        List<Semester> semesterList = dao.showAllSemesters();
        HttpSession session = request.getSession();
        session.setAttribute("semesterList", semesterList);

        String username = request.getParameter("username");
        String password = request.getParameter("password");


        try {
            User user = userdao.get(username, password);

            if (user != null ) {
                session.setAttribute("currentUser", user);
                //session.setMaxInactiveInterval(120*60);
                return "userHome";
            } else {
                map.addAttribute("errorMessage", "UserName or PassWord is
Wrong");
                return "ErrorPage";
            }

        }
        catch (Exception e) {
            System.out.println(e.getMessage());
        }
        return "UserLogin";

    }

    //Create user
    @RequestMapping(value = "/user/create.htm", method = RequestMethod.GET)
    public String userCreateGet(HttpServletRequest request){
        return "user-create";
    }


    //Create user
    @RequestMapping(value = "/user/create.htm", method = RequestMethod.POST)
    public String userCreatePost(HttpServletRequest request,UserDAO userdao,
ModelMap map){
```

```
                String username = request.getParameter("username");
                String password = request.getParameter("password");

                User newuser = userdao.add(username, password);
                request.setAttribute("newuser", username);

                if(newuser!=null){
                        return "createUser";
                }
                else {
                        map.addAttribute("errorMessage", "UserName Already Exist");
                        return "ErroePage";
                }
        }


        //Go to Courses under which Semester
        @RequestMapping(value = "/user/semesterList", method = RequestMethod.GET)
        public String goToSearchGET(HttpServletRequest request, CourseDao dao,
ModelMap map ) {

                int semesterid = Integer.parseInt(request.getParameter("semesterid"));
                Semester semester = dao.getSemesterId(semesterid);

                HttpSession session = request.getSession();
                session.setAttribute("semesterid", semesterid);
                session.setAttribute("semester", semester);
                if(semester!=null){
                return "SearchCourse";
                }
                else {
                        map.addAttribute("errorMessage", "Sorry, Something Wrong!");
                        return "ErroePage";
                }
        }

}

public class RegisterController {

        public RegisterController(){

        }

        //Go to search page under specific semester
        @RequestMapping(value = "/user/search.htm", method = RequestMethod.GET)
        public String search(HttpServletRequest request, CourseDao dao, ModelMap map)
{

                int semesterid = Integer.parseInt(request.getParameter("semesterid"));
                Semester semester = dao.getSemesterId(semesterid);

                HttpSession session = request.getSession();
                session.setAttribute("semesterid", semesterid);
                session.setAttribute("semester", semester);
                if(semester!=null){
                return "CourseResult";
                }else {
                        map.addAttribute("errorMessage", "Sorry, Something Wrong!");
                        return "ErroePage";
                }
        }

        //Get Search Information
        @RequestMapping(value = "/user/search.htm", method = RequestMethod.POST)
        public String searchCourse(HttpServletRequest request, RegisterDao dao) {
                HttpSession session = request.getSession();
                String searchText = request.getParameter("pro");
                String searchTextt = request.getParameter("rcn");
                String searchTexttt = request.getParameter("course");
                String searchTextttt = request.getParameter("location");
                String searchTexttttt = request.getParameter("credit");
                List<Course> searchResult = 
dao.mutiSearchCourse(searchText,searchTextt,searchTexttt, searchTextttt, 
searchTexttttt);
                session.setAttribute("result",searchResult);

                return "CourseResult";
        }

        //View Plan List You have
        @RequestMapping(value = "/user/jumpToPlanList.htm", method = 
RequestMethod.GET)
        public String jumpToPlanListGet(HttpServletRequest request) {
                HttpSession session = request.getSession();
                User user = (User) session.getAttribute("currentUser");
                List<RegisterPlan> plan = user.getNewPlan();
                session.setAttribute("userPlan", plan);
                int cuis = Integer.parseInt(request.getParameter("courseid"));
                session.setAttribute("newcou", cuis);


                return "coursePlanHome";
        }

        //add Plan
        @RequestMapping(value = "/user/addPlan.htm", method = RequestMethod.GET)
        public String createPlanList(HttpServletRequest request) {

                return "coursePlanHome";
        }

        //add plan under current User
        @RequestMapping(value = "/user/addPlan.htm", method = RequestMethod.POST)
        public String handlePlaylistForm(HttpServletRequest request, RegisterDao dao ) 
{
                HttpSession session = request.getSession();


                String plan = request.getParameter("regname");
```

```java
              User u = (User)session.getAttribute("currentUser");
              RegisterPlan reg = new RegisterPlan();
              reg.setPlanname(plan);
              reg.setRegcourse(new ArrayList<Course>());
              reg.setUser(u);
       //add currentUser

              dao.addPlaylist(reg);
              u.getNewPlan().add(reg);

              return "coursePlanHome";
       }

       //add course to plan
       @RequestMapping(value = "/user/addCoursePlan.htm", method = RequestMethod.GET)
       public String courseToPlanGET(HttpServletRequest request, RegisterDao dao) {
              HttpSession session = request.getSession();


              int cid = Integer.parseInt(request.getParameter("courseid"));
              session.setAttribute("newcou", cid);
              return "courseToPlan";

       }

       //add course to plan
       @RequestMapping(value = "/user/addCoursePlan.htm", method =
RequestMethod.POST)
       public String courseToPlanPOST(HttpServletRequest request, RegisterDao dao,
CourseDao cdao) {

              HttpSession session = request.getSession();
              int pid = Integer.parseInt(request.getParameter("selectplanlist"));
              int cid = (Integer)session.getAttribute("newcou");
              Course cur = cdao.getCourse(cid);
              RegisterPlan reli = dao.findPlan(pid);
              dao.setPlan(reli);
              return "courseToPlan";

       }

       //view plan detail
       @RequestMapping(value = "/user/viewPlan.htm", method = RequestMethod.GET)
       public String viewPlaylist(HttpServletRequest request, RegisterDao dao) {


              int reliid = Integer.parseInt(request.getParameter("planid"));
              RegisterPlan reg = dao.findPlan(reliid);
              List<Course> courseList = reg.getRegcourse();

              HttpSession session = request.getSession(false);
              session.setAttribute("playlist", reg);
              session.setAttribute("courseList",courseList);

              return "finalPage";
```

```
	}

	//show all the Plan
	@RequestMapping(value = "/viewPlan.htm", method = RequestMethod.GET)
	public String planList(HttpServletRequest request, ModelMap map) {
		HttpSession session = request.getSession();
		User user = (User) session.getAttribute("currentUser");
		List<RegisterPlan> plan = user.getNewPlan();
		session.setAttribute("userPlan", plan);
		if(user!=null){
		return "RegisterPlan";
		}else {
			map.addAttribute("errorMessage", "Sorry, Something Wrong!");
			return "ErroePage";
		}
	}

}
```