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FACULTY OF ENGINEERING

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CEN 401-402 GRADUATION PROJECT I-II

“CLASSROOM ORGANIZATION SYSTEM”

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1 INTRODUCTION

What is our project?

Our project name is '**Classroom Organization System**'. Basically this program provide organize the classrooms.

With this program user can perform some operations according to his/her authority. In this program we have 3 type user. These are admin, faculty and rectorate. In rectorate panel user can create classrooms and facultys and assign to this classrooms to faculty and admin assign to responsible staff to this facultys. In admin module, admin can create, delete, update users and admin can print to any time table of classroms by PDF or Excel. Admin can see all mails of this system. In faculty panel the responsible staff of faculty can add the course to classroms and also can transfer specific hours to another faculty. With E-mail module our system send automatic e-mails about classrom changes and transfers. Anroid module is for the following the time tables and searches in androis devices.

Our website address: **n00ne.xyz**

2 METHODS

We have three type user and e-mail, android module in our project. User types are;

- Admin
- Rectorate
- Faculty

2.1 Admin Module

In login page, there are entering e-mail address part and password part for users entering own page of user type and Forgot Password part.

When users enter login button, first of all system checking, is e-mail input part empty or not and is password input part empty or not, if there is any empty input part, system will write “Wrong e-mail or password” message to the screen. If there is no any empty input part, values of password input part will converting to Hash format and system will select to user with matching to entering values and database values. Result of selecting to user, system will determine the user type and show the page of selection user.

In Forgot password part, there is a link for going to other page, in this page user must enter user e-mail address and when click to send mail button, system will create a size 15 digit random password and changed to user's password with this random password and sending a link to recovery mail after controlling user's recovery mail from the database. When user click this link from own e-mail account, link going to a page for creating a new password. In this page when user enter own password and click to save password button, in database this user's password will changing Hash format.

In admin panel page, there are Add User part, Edit/Delete User part, Export Classroom as PDF/CSV part, Mailbox and Logout button.

In Add User part, there are a table for showing informations to all created users and there are textboxes for entering informations of users and adding users.

In Edit/Delete User part, there are a table for showing informations to all created users and there is a combobox, when admin select any user from this combobox, selected user's

informations will showing by the way admin can update informations of users or admin can delete any user.

In Export Classroom as PDF/CSV part, there are timetable and 2 button for downloading this timetable with PDF file or CSV(Excel) file. In Mailbox part, admin can see all mails of this system. When user click to Logout button, user going to login page.

2.2 Rectorate Module

In rectorate part, there are some functions. These functions are;

- ❖ Add Classroom
- ❖ Show&Add Faculty
- ❖ Update&Delete Classroom
- ❖ Search Classroom
- ❖ Show Classrooms
- ❖ Transfer Classroom
- ❖ Mailbox

When we want to add a new classroom, we need to enter some information. These informations are; classroom no, classroom name, building, classroom type, capacity and faculty. Building, classroom type and faculty is selected as a combobox. This combobox informations comes from database (from relevant tables). When we click 'save classroom' button, this classroom saved on the database.

In show&add faculty part, we can see the list of faculties. If necessary rectorate can add new faculty. When add a new faculty, user should enter only faculty name. Here is faculty id is not auto increment. The system automatically assigns the faculty id. When the faculty name is entered, it takes the first three letters. If there is an id with the same characters, system adds integers to the end.

In update&delete part firstly we can see classrooms list with all the information. We can choose the class we want from combobox. When we select the classroom, the informations we can change is in the textboxes and comboboxes. After that we can make and save the changes we want. Here we can not just change the classroom no. If we click the delete button after selecting a classroom, all the information of that classroom is deleted.

There is a classroom search feature in the rectorate panel. There are basically four kinds of class search feature. These are class based search-course based search-time based search-search empty places. For class based search, user can select any classroom and system displays the table of this classroom. For course based search, user can select any course and system shows when and where the course is. In addition to these, we can see the course's faculty and duration. For time based search, user should select day and time scale. After this, system display at the time of selection, which course in which classroom. For search empty places, indicates the classes that are empty at the selected day, time and duration.

In classroom transfer part, rectorate user can transfer a classroom in one faculty to another faculty. User can do this for a certain day, time and duration.

In mailbox part user can see incoming and outgoing mails relevant the rectorate.

2.3 Faculty Module

This panel is used for the faculties responsible staff. Rectorate can create the faculty but the faculty can't be a responsible staff before useage. When someone login from admin type user and create the responsible staff for the faculty its open to useage.

When the login to faculty panel the responsible staff has this options :

Add Course to Faculty Classroom

Use Other Faculty Classroom

Search Classroom

Transfer Classroom

Show/Add/Delete Lecture

Mailbox

In the first option which is 'Add Course to Faculty Classroom' its possible to add courses (which is created in Show Lecture) to Classrooms (which is created and assigned from the rectorate to our faculty) Its possible to see timetable in on this section also for the seeing clashes.

In the second option which is 'Use Other Faculty Classroom' its for the adding course the classroom but in to other faculty classrooms which hour assigned to our faculty. In that section its possible to see all timetable of selected class but the other faculty courses shows just as faculty name.

In the 'Search Classroom' section we have 4 option to search. These are Class Based ,Course based ,Day & Time Based , and Empty Places search.

In class based search it shows the all classroom timetables of the faculty and which classroom has transfer hours to our faculty.

In course based search its possible to see where we have to our selected course in which hour which classroom with which duration. On that place its possible to delete courses on timetable in specific hours.

In empty place search it lists the empty places which hour and duration is selected from user on our faculty classrooms. It should also show empty transfered places to our faculties but we could not finished it.

In Show/Add/ Delete Course for the adding ,deleting and showing the faculty courses. This section is not has so much detail.

Mailbox is for the showing mails sended from our faculty and comes to our faculty when the transfers made or classroom assigned to our faculty.

2.4 E-mail Module

This module track any kind of classroom allocations or transfers carried out by the rectorate module and faculty module and send automated e-mails to related faculty staffs and rectorate staffs. This module cannot allow us to send personal e-mails.

With this module:

- Admins can see all received and sent e-mails,
- Rectorate and faculty staffs can see their received and sent e-mails,

In the system easily.

We use SMTP (Simple Mail Transfer Protocol) and MIME (Multipurpose Internet Mail Extensions) to send e-mails and IMAP (Internet Message Access Protocol) to read e-mails.

Simple Mail Transfer Protocol (SMTP) is an internet standard for e-mail transmission. Although electronic mail servers and other mail transfer agents use SMTP to send and receive mail messages, user-level client mail applications typically use SMTP only for sending messages to a mail server for relaying. Virtually all human-written Internet email and a fairly large proportion of automated email is transmitted via SMTP in MIME format.

Multipurpose Internet Mail Extensions (MIME) Multipurpose Internet Mail Extensions (MIME) is an Internet standard that extends the format of email to support:

- Text in character sets other than ASCII
- Non-text attachments: audio, video, images, application programs etc.
- Message bodies with multiple parts
- Header information in non-ASCII character sets

Internet Message Access Protocol (IMAP) is an Internet standard protocol used by e-mail clients to retrieve e-mail messages from a mail server. Virtually all modern e-mail clients and servers support IMAP.

In backend of this module we use just one real initial e-mail address to see, read and list the e-mails and we did not use any real e-mail address to send e-mails. When we send e-mails from visual e-mail address all e-mails go to our initial e-mail address. Then in the system we separate e-mails by user e-mail address and users can see only their e-mails.

2.5 Android Module

- Login Form
- Admin Form
- Rectorate Form
- Faculty Form
- Recovery Form

Login Form, user can login with user's e-mail address and user's password for access main form. Three type of main form (Admin Form, Rectorate Form, Faculty Form) user's entering these forms by user's type.

Admin Form have two sub form, these are Add User and Show Users. In Add User Form admin can add user (User ID, User Name, User Surname, User Password, User E-Mail Address, User Recovery Address, User Type and User Faculty) by these values. In Show Users Form shows users details on grid view (User ID, User Name, User Surname, User Password, User E-Mail Address, User Recovery Address, User Type and User Faculty) and searchable by User Name or User ID.

Rectorate form have four sub form, these are Search Based Class, Search Based Course, Search Based Day & Time and Search Based Empty Class. In Search Based Class form shows all class names in combo box and grid view shows which course which time and day as like time table by selected class name. In Search Based Course shows all courses in combo box and grid view shows (Class No, Day, Start Time and Duration) which class no, which day, what is the start time and what is the duration of course by selected course

name. In Search Based Day & Time shows days and times in different combo box and grid view shows (Class No,Start Time,Duration,Course,Faculty) which class, when course starts, what is the course duration, what is the course name and which faculty use that time by selected day and time. In Search Based Empty Places shows days,times and duration(Max 6) in combo box and grid view shows(Class No,Class Name,Capacity,Location,Faculty) which class number, which class name, what is the capacity of class, where is the location and faculty name.

Faculty form have four sub form as like Rectorate Form but Faculty Form search by Faculty ID these are Search Based Class, Search Based Course, Search Based Day & Time and Search Based Empty Class. In Search Based Class form shows class names by faculty id in combo box and grid view shows which course which time and day as like time table by selected class name. In Search Based Course shows courses by faculty id in combo box and grid view shows (Class No,Day,Start Time and Duration) which class no, which day, what is the start time and what is the duration of course by selected course name. In Search Based Day & Time shows days and times in different combo box and grid view shows (Class No,Start Time,Duration,Course,Faculty) which class, when course starts, what is the course duration, what is the course name and which faculty use that time by selected day and time. In Search Based Empty Places shows days,times and duration(Max 6) in combo box and grid view shows(Class No,Class Name,Capacity,Location,Faculty) which class number, which class name, what is the capacity of class, where is the location and faculty name.

In Recovery Form, user enter user's e-mail adress and password reset link will send user's recovery e-mail. User's can reset own password by sended link.

3 TECHNICAL DETAILS

3.1 Which languages we used ?

We used PHP language, Javascript(jQuery,json,ajax), HTML, CSS, C#(Xamarin)

3.2 Which IDE's we used?

We used PhpStorm because it is good IDE for PHP language. It shows the errors and it has a FTP client. We can easily upload the files and synchronize the web site easily. For android module we used Visual Stdudio with xamarin extension.

3.3 Design

In our project we used semantic-ui library for the designing forms and all objects.

With semantic-ui it gives you good chooses for design with prepared css and jsfiles.

3.4 Data Flow Diagram

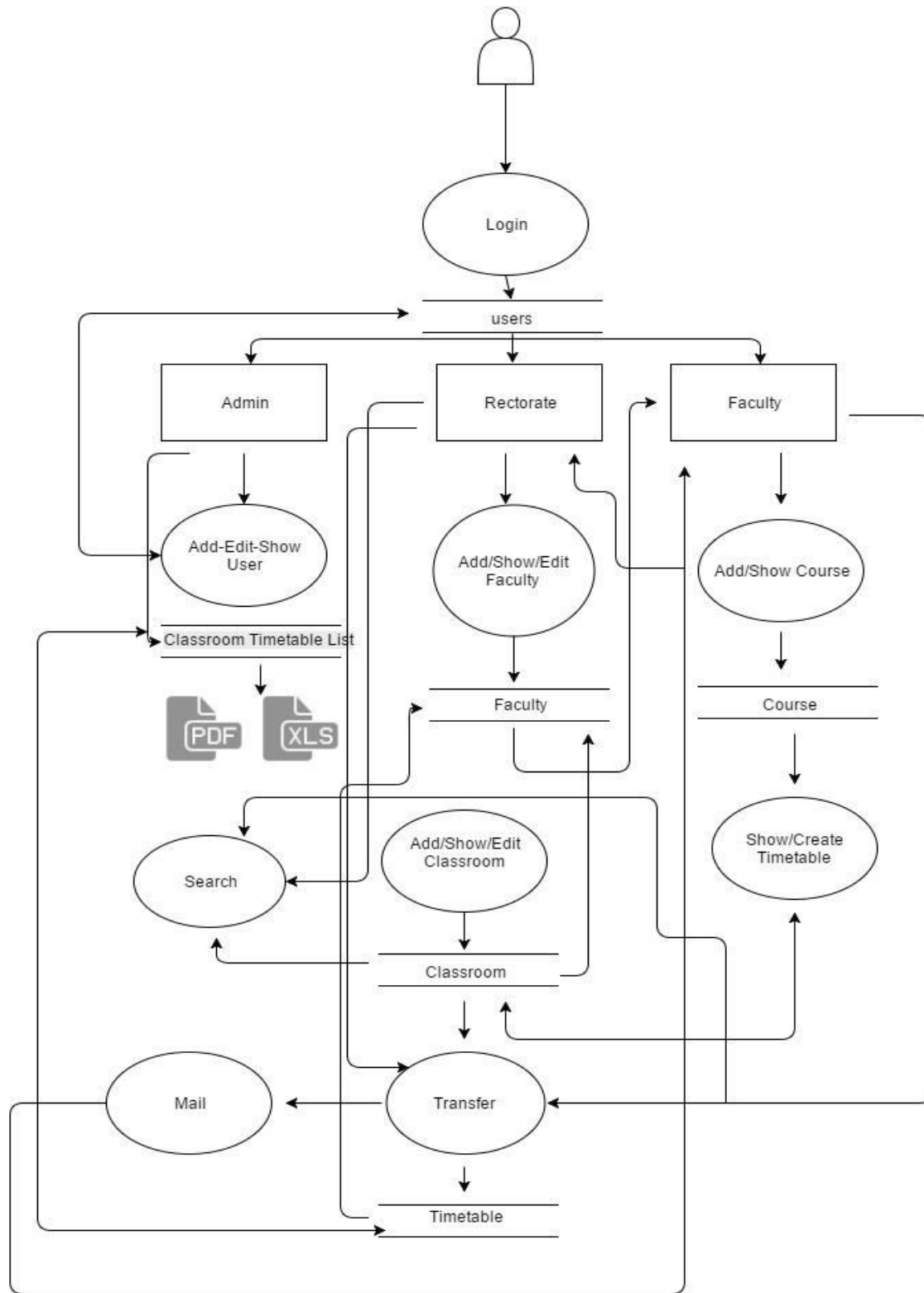


Figure 3.1 Data Flow Diagram

4 INFORMATION ABOUT DATABASE

4.1 Tecnical Details Of Database

What we have used?

We used MySQL Database System. We managed our database with phpMyAdmin.

We used MySQLi (MySQL Improved) class connection strings in our project for database connection. In old style connection it was not secure for the SQL injection but in MySQLi connection its not possible to do SQL injection.

4.1.1 ER Diagram

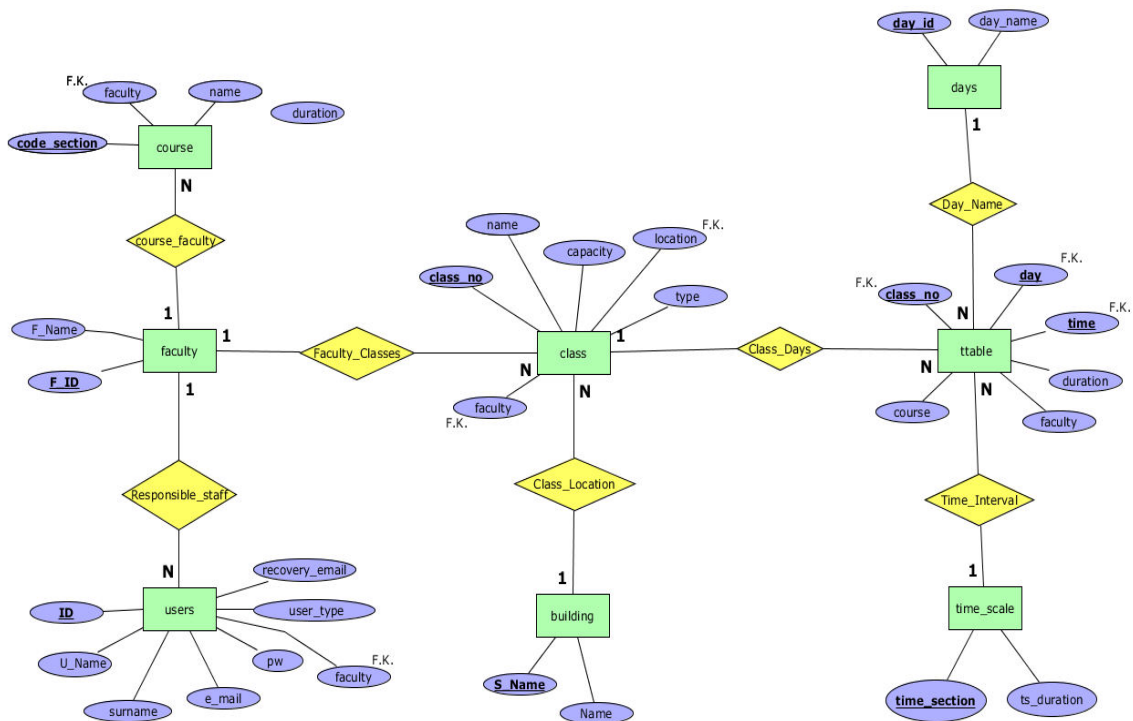


Figure 4.1 ER diagram of our database

5 RESULT AND DISCUSSIONS

Almost all modules are mostly completed. There are a few minor shortcomings in our project. For example dropdowns are not renewed instantly. Another missing is an empty search part in faculty panel, transfer courses aren't included. We did many tests before presentation. We tried to fix the mistakes we found. The rest of the parts usually work correctly.

In presentation jury found some mistakes. Its fixable mistakes. In edit parts its possible to use a js table for the easily editing and inserting and deleting. And in course transfer part we see the we should re-check if we have transferred non-used hours to a faculty and if we want to send all classroom to this faculty.

6 CONCLUSION

Our goal was to make a classroom organization system. We have a system that can fulfill basic needs. Ofcourse it can be upgradable and can add a lot of functions in a long time. This was an important project for us. Our teamwork was very good.

Our professional lives will be intense and this was great practice for us. This was an important starting point for us. This project gives us a experience also work with a crowded team. This is also good experience for bussiness life.

In that project the e-mail and android parts a little bit different than the last years projects and taken courses in university. But we applied without problem to our project.

Thank you.

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