

CS102

Project Report

“Yusr” Course Registration System



2024-03-14 to 2024-05-09

Please read the README file to get started with the project.

Github Repository Link: <https://github.com/ahmadammarrjr/Yusr>

Introduction

Yusr is a Java-based registration system developed to streamline course registration processes within a university setting. This report provides an overview of Yusr's development, design, features, and implementation details.

Solution Overview

Yusr was built using Java and JavaFX for the graphical user interface. The **MainApp** class serves as the backbone of the system, it handles data loading/saving, redirecting to different interfaces based on the user type, and interaction between users.

Features

1- Role-Based Access: Users authenticate based on their role (Admin, Advisor, or Student) to access specific functionalities designed for their responsibilities.

2- Admin Interface: Enables administrators to manage student, advisor, and course records efficiently, including adding, removing, and updating information.

3- Advisor Interface: Allows advisors to handle special registration requests from students, approve/deny them, and view students schedules.

4- Student Interface: Provides students with features to register for courses, view course details, and submit special registration requests to advisors.

5- Data Management: Utilizes persistent storage using text files to maintain student, advisor, and course information across sessions.

Implementation Details

YUSR follows an object-oriented design:

- ❖ User data (Admin, Advisor, Student) and course data (Course) are stored in text files under specific directories (Data/Admin, Data/Advisor, Data/Student, and Data/Course).
- ❖ Data is loaded into hash maps in **MainApp** class upon application startup using file I/O operations.
- ❖ JavaFX controller classes (such as **AdminInterfaceController**) are responsible for user interactions and input. These controllers validate user input locally before communicating with MainApp to execute data modification operations.

Development Tools Used

Programming Languages: Java (8u111)

IDE: NetBeans 8.2

GUI Design: SceneBuilder 8.2 with JavaFX

Version Control: Initially manual until V23, then GitHub

Styling: JavaFX CSS

Team

Ahmad Ammar

Role: Project Lead

Responsibilities:

- Implemented core features and functionalities.
- Developed the graphical user interface (GUI).

Mohamad Yahya

Role: Developer

Responsibilities:

- Implemented core features and functionalities.
- Contributed to software implementation and testing.

Nasser Alkahtani

Role: Developer

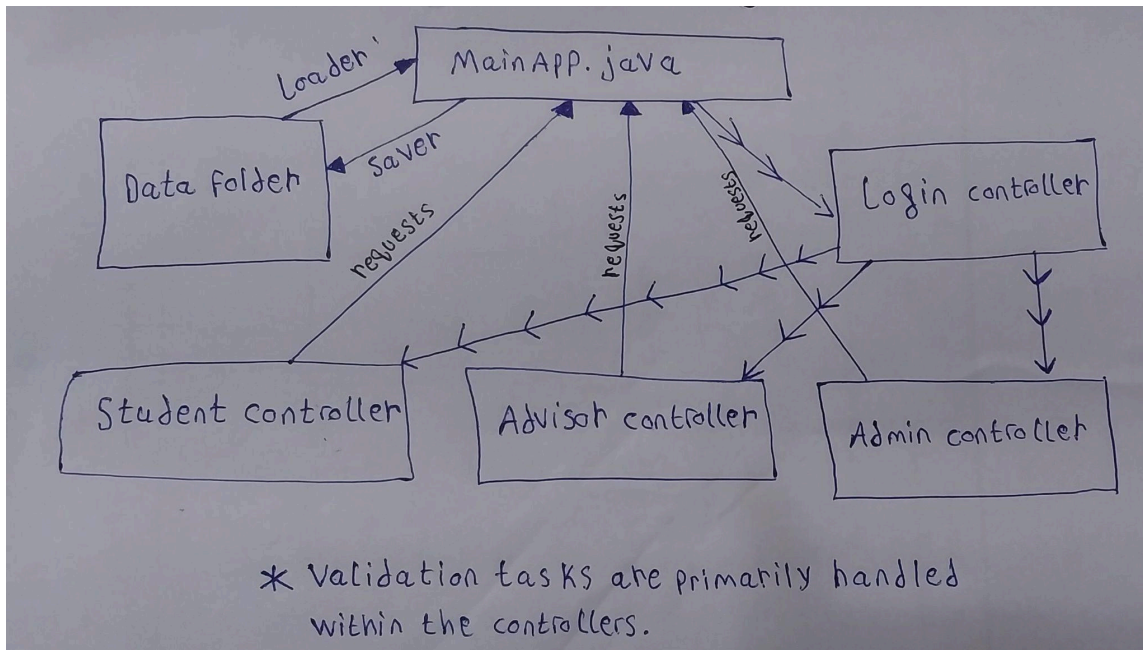
Responsibilities:

- Implemented core features and functionalities.
- Optimized code performance and efficiency.

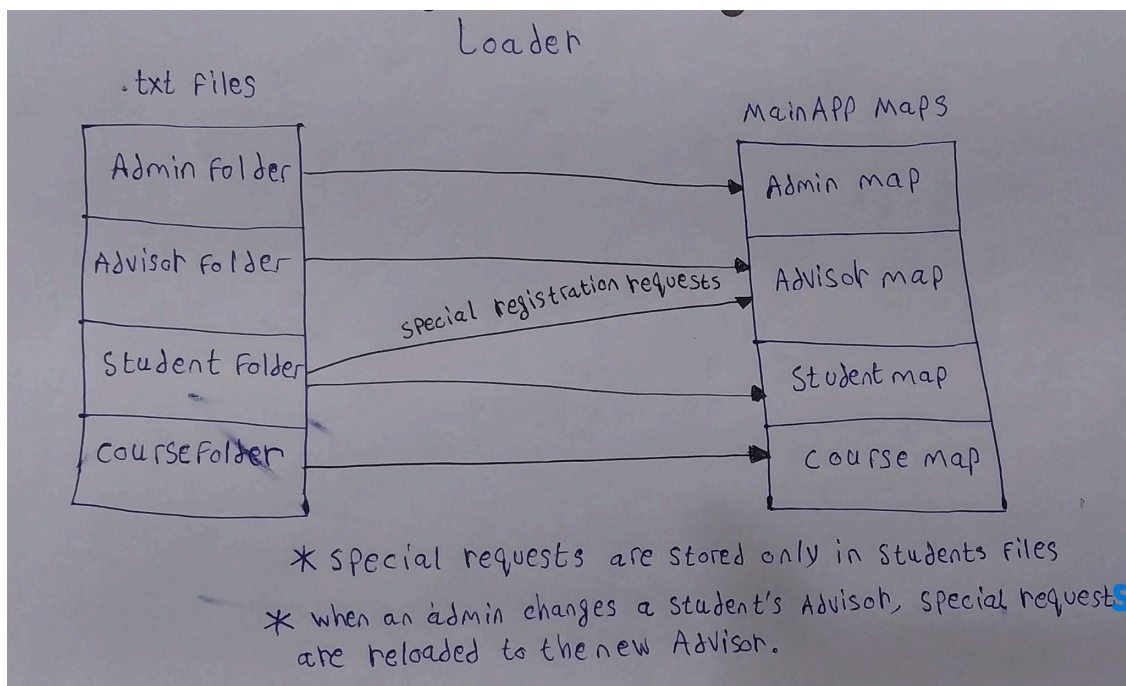
Notes

- ❖ The use of ***hashCode()*** to hash passwords is not secure by any means and should be avoided. We wanted to communicate the general idea without shifting the focus of the project.
- ❖ Adding new admins can only be done manually, by creating a .txt file in ***Data/Admin*** following the format in ***Documentation/Data_Folder_Files_Format/Admin_File_Format***

Diagrams



System Outline



The Loader

Screenshots

The image shows two screenshots of a web application titled "Yusr Course Registration System".

The top screenshot is the login page. It features a blue sidebar on the left with a graduation cap icon on a computer monitor and the text "Yusr Course Registration System". The main area is light gray and says "Welcome Back!". It contains a dropdown menu, a "Username" input field, a "Password" input field, and a green "Log in" button.

The bottom screenshot is the user profile page. It has a navigation bar with links: "Home Page", "Registration", "Schedule", "Special Registration", and "Update Info". The main content area is light gray and displays the following information:

- Welcome back!**
- Name: Ahmad Ammar
- eMail: 222110915@mio.com
- GPA: 2.0
- Phone Number:
- Advisor ID: asaad
- Advisor eMail: asaad@mio.com

Below this information is a section titled "Passed Courses" in green. It contains a row of ten boxes. The first five boxes are labeled "MATH111", "CS175", "CS101", "ENG103", and "ENG101". The remaining five boxes are empty.

Home Page	Registration	Schedule	Special Registration	Update Info
Course Name	Course Code	Course Instructor	Lecture Time	Status
CALCULUS I	MATH111	Dr. Kamal	S M T W 10am	Passed
CALCULUS II	MATH113	Dr. Aiman	S M T W 11am	Registered
COMP. ORG. & DIGITAL LOGIC	CS175	Dr. Yasser	S M T W 9am	Passed
DISCRETE MATHEMATICS	CS285	Dr. Ammar	S M T W 1pm	Registered
EMBEDDED SE	SE381	Dr. Yasser	S M T W 2pm	Not registered
INTRODUCTION TO SE	SE201	Dr. Ali	S M T W 11am	Not registered
SE REQUIREMENTS ENG.	SE311	Dr. Ammar	S M T W 10am	Not registered
SE DESIGN & ARCHITECTURE	SE322	Dr. Ali	S M T W 11am	Not registered
COMPUTER PROGRAMMING I	CS101	Dr. Murad	S M T W 8am	Passed

Register
Drop
Show Details

Home Page	Registration	Schedule	Special Registration	Update Info
Course Name	Course Code	Course Instructor	Lecture Time	Status
CALCULUS II	MATH113	Dr. Aiman	S M T W 11am	Registered
COMP. ORG. & DIGITAL LOGIC	CS175	Dr. Yasser	S M T W 9am	Passed
DISCRETE MATHEMATICS	CS285	Dr. Ammar	S M T W 1pm	Registered
EMBEDDED SE	SE381	Dr. Yasser	S M T W 2pm	Not registered
INTRODUCTION TO SE	SE201	Dr. Ali	S M T W 11am	Not registered
SE REQUIREMENTS ENG.	SE311	Dr. Ammar	S M T W 10am	Not registered
SE DESIGN & ARCHITECTURE	SE322	Dr. Ali	S M T W 11am	Not registered
COMPUTER PROGRAMMING I	CS101	Dr. Murad	S M T W 8am	Passed
COMPUTER PROGRAMMING II	CS102	Dr. Adel	S M T W 8am	Registered

Credits: 3 Hours

Course Description:
This course discusses software engineering practice and methods for embedded systems, focused around state machines as a unifying formalism for understanding software, hardware, and systems. It also discusses embedded software requirements, specification, analysis, principles of embedded software architecture and design, design of concurrent systems, and testing and analysis techniques for embedded systems.

Prerequisites:
SE322
SE311
SE201
CS102
CS101
ENG103
ENG101
CS355
CS175

Hide Details

	Sunday	Monday	Tuesday	Wednesday	Thursday
8am	CS102	CS102	CS102	CS102	
9am					
10am					
11am	MATH113	MATH113	MATH113	MATH113	
1pm	CS285	CS285	CS285	CS285	
2pm					

Special Requests History

[Send New Special Request](#)

Yusr Course Registration System

Home PageRegistrationScheduleSpecial RegistrationUpdate Info

Name:

Ahmad Ammar

Phone Number:

-

ID:

222110915

GPA:

2.0

eMail:

222110915@mio.com

Advisor eMail:

asaad@mio.com

Save

Old Password*

New Password*

Reset Password

Yusr Course Registration System

Home PageManage StudentsManage AdvisorsManage CoursesSystem Statistics

ID	Name	GPA	Advisor ID
333220222	Abdelrahman Ammar	4.0	rramy
333220908	Amr Sami	3.12	mhamed
333220543	Ali Omar	2.5	asaad
222110915	Ahmad Ammar	2.0	asaad
333220768	Nasser Alkahtani	3.5	rramy
333220567	Ali Muteb	3.56	jahmad
333220798	Murshed Alsaleh	3.92	jahmad
333220657	Mohamad Yahya	3.5	mhamed
333220932	Nasser Alsaud	3.92	snasser
333220965	Samer Saad	3.87	rramy

ADD

Manage

9

Yusr Course Registration System

Home Page
Manage Students
Manage Advisors
Manage Courses
System Statistics

ID	Name	GPA	Advisor ID
333220222	Abdelrahman Ammar	4.0	rramy
333220908	Amr Sami	3.12	mhamed
333220543	Ali Omar	2.5	asaad
222110915	Ahmad Ammar	2.0	asaad
333220768	Nasser Alkahtani	3.5	rramy
333220567	Ali Muteb	3.56	jahmad
333220798	Murshed Alsaleh	3.92	jahmad
333220657	Mohamad Yahya	3.5	mhamed
333220932	Nasser Alsaud	3.92	snasser
333220965	Samer Saad	3.87	rramy

Name*
GPA (Default is 0)

ID*
Password*

Advisor*

Save

Passed Courses

MATH111
MATH113
CS175
CS285
SE381

Manage

Yusr Course Registration System

Home Page
Manage Students
Manage Advisors
Manage Courses
System Statistics

Name*
ID*
Password*

Save

Name	ID
Dr. Muteb Hamed	mhamed
Dr. Jamal Ahamd	jahmad
Dr. Ramy Khaled	rramy
Mr. Sultan Nasser	snasser
Mr. Ali Saad	asaad

Manage

Yusr Course Registration System

Home Page
Manage Students
Manage Advisors
Manage Courses
System Statistics

Course Code	Course Name	Course Instructor	Lecture time	Enrolled	Max	Credits
MATH113	CALCULUS II	Dr. Alman	S M T W 11am	1	8	3
CS175	COMP. ORG. & DIGITAL LOGIC	Dr. Yasser	S M T W 9am	2	8	3
CS285	DISCRETE MATHEMATICS	Dr. Ammar	S M T W 1pm	1	8	3
SE381	EMBEDDED SE	Dr. Yasser	S M T W 2pm	0	5	3
SE201	INTRODUCTION TO SE	Dr. Ali	S M T W 11am	0	5	3
SE311	SE REQUIREMENTS ENG.	Dr. Ammar	S M T W 10am	0	8	3
SE322	SE DESIGN & ARCHITECTURE	Dr. Ali	S M T W 11am	0	5	3
CS101	COMPUTER PROGRAMMING I	Dr. Murad	S M T W 8am	1	8	4
CS102	COMPUTER PROGRAMMING II	Dr. Adel	S M T W 8am	1	5	3
CS223	LINEAR ALGEBRA	Dr. Hamad	S M T W 10am	0	8	3

Course Code*

Course Days*

Course Description

Remove Course

Save

Course Name*

Course Hours*

Course Instructor*

Max Enrollment (5-10)

MATH113

CS175

Credits*

Yusr Course Registration System

Home Page
Manage Students
Manage Advisors
Manage Courses
System Statistics

Number of Users

19

Number of Courses

16

Number of Students

12

Number of Advisors

5

Number of Admins

2

Average class Size

Refresh

[Home Page](#)[Students](#)[Students Schedules](#)[Special Registration Requests](#)

Student Name	Student ID	Course
222110915	222110915	SE205

[Deny Request](#)[Approve Request](#)