
SOFTWARE DESIGN DOCUMENT

for

Online Examination System

Version 1.0

GroupId : 6 ProjectId : 16

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Lecturer**

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1 Introduction

1.1 Purpose

As due to ongoing pandemic, all physical classes and exams are not possible, so due that new ways of assessment is required. Now, for teachers it is very difficult to take exams online and track records of students. So, "Online Examination System" is the solution. It is the website for taking online exams. It has various unique features like auto evaluation, speed and accuracy. Also it helps environments by reducing the use of paper. The purpose of this Software Design Document is to provide a description of the design of our Online Examination System. So that it gives an understanding of what is to be built and how it is expected to built with requirements in correspondence to the SRS document.

1.2 Project Scope

"Online Examination System" creates a space for Admin, Instructors and Students for taking online exams.

Admin's main work is to assign students and teachers to a course. Also, admin can add/delete students and teacher from any course.

After the assigning the Instructors for a particular course, Instructors can login to their account and can edit their profile. They can see participants for their course. They make announcements regarding assignments and exams. They can prepare assignments and exams for the students. The exams can be of both type, subjective or objective. The objective paper can be auto evaluated also. After assigning marks for a particular exam, the Instructor can assign weightage to different exams and based on that final score for each is calculated by this system. Also Instructors can set cutoff marks for particular grade and then grades will be calculated automatically.

Students also can edit their profile. They can see other participants for a particular course. They can see announcements and upcoming exams and assignments schedule. They can give exams, for subjective type, they can add attachments or type the answers and for objective type, they can choose the options. They can also view their grade sheets of past courses.

2 System Overview

Give a general description of the functionality, context and design of your project. Provide any background information if necessary

2.1 Description of Problem

As due to ongoing pandemic, all physical classes and exams are not possible, so due that new ways of assessment is required. Now, for teachers it is very difficult to take exams online and track records of students. So, "Online Examination System" is the solution. It is the website for taking online exams. It has various unique features like auto evaluation, speed and accuracy. Also it helps environments by reducing the use of paper.

2.2 Technologies Used

Online Examination System is built on

- Backend - node js, express js
- Frontend- react js
- Database- mongo db

3 Design Overview

3.1 Usecase Diagram

"Online Examination System" has basically three types of users:-

- Admin
- Instructor
- Student

Below figure shows interaction of stakeholders with the system and its functionalities.

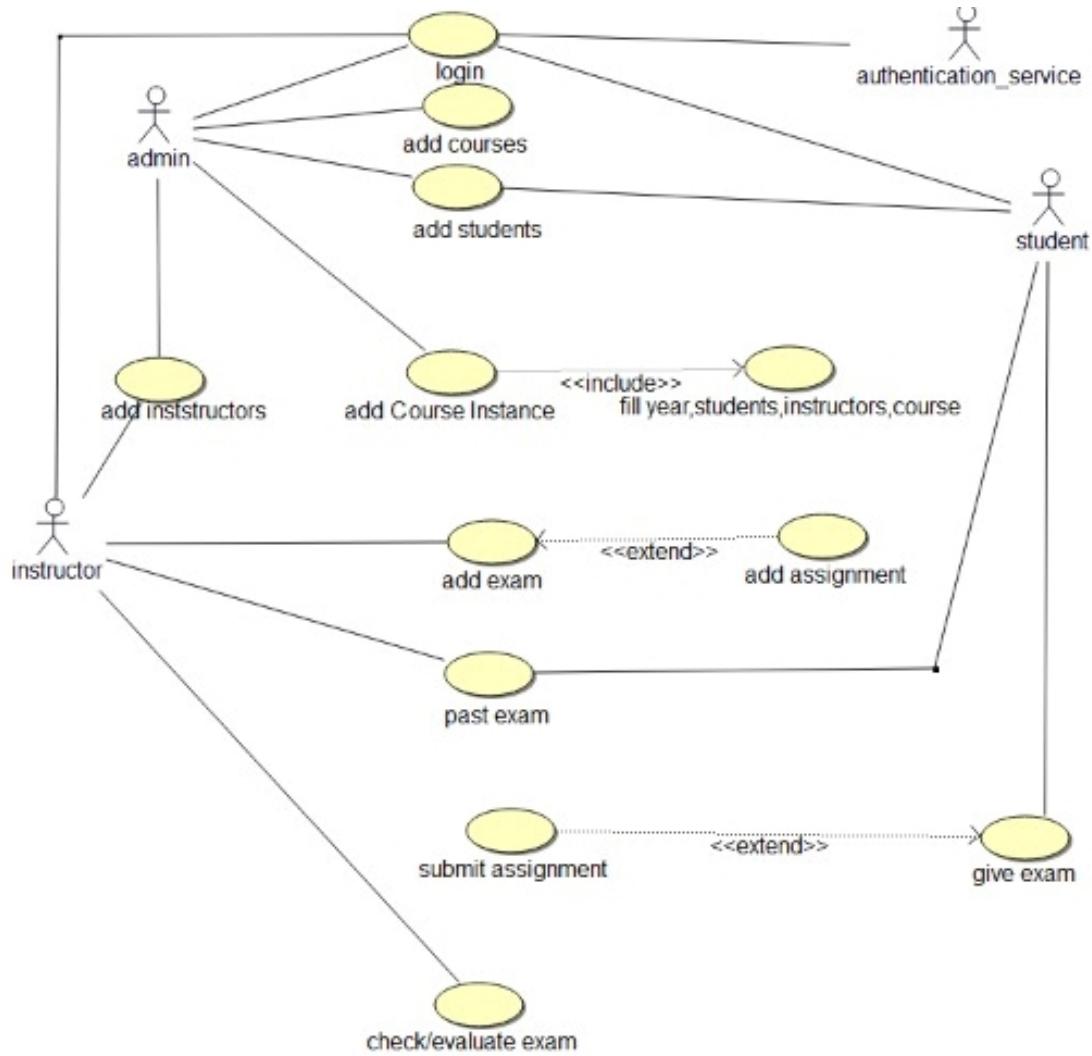


Fig: Usecase Diagram

3.2 Activity Diagram

Below three figures shows the activities involving the admin, instructor and student with the system.

3.2.1 Admin

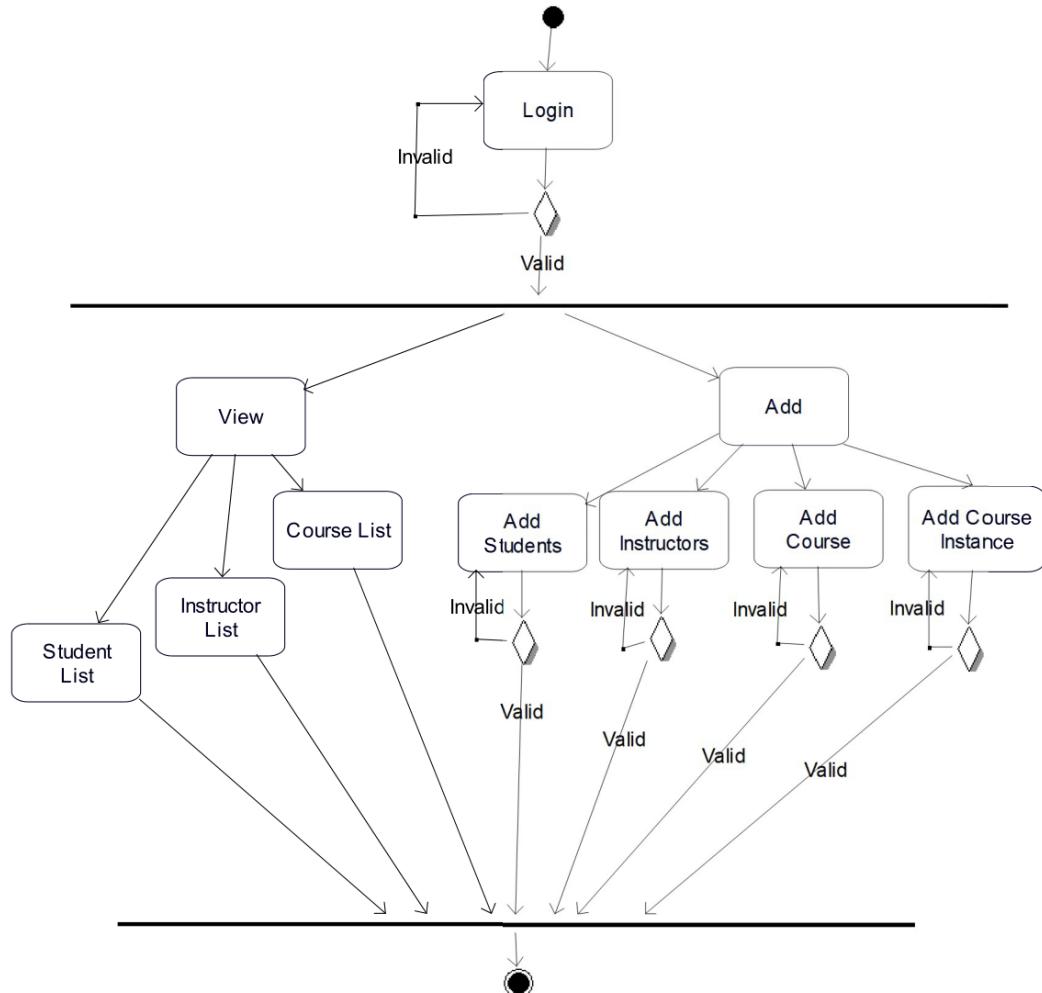


Fig: Admin Activities

3.2.2 Instructor

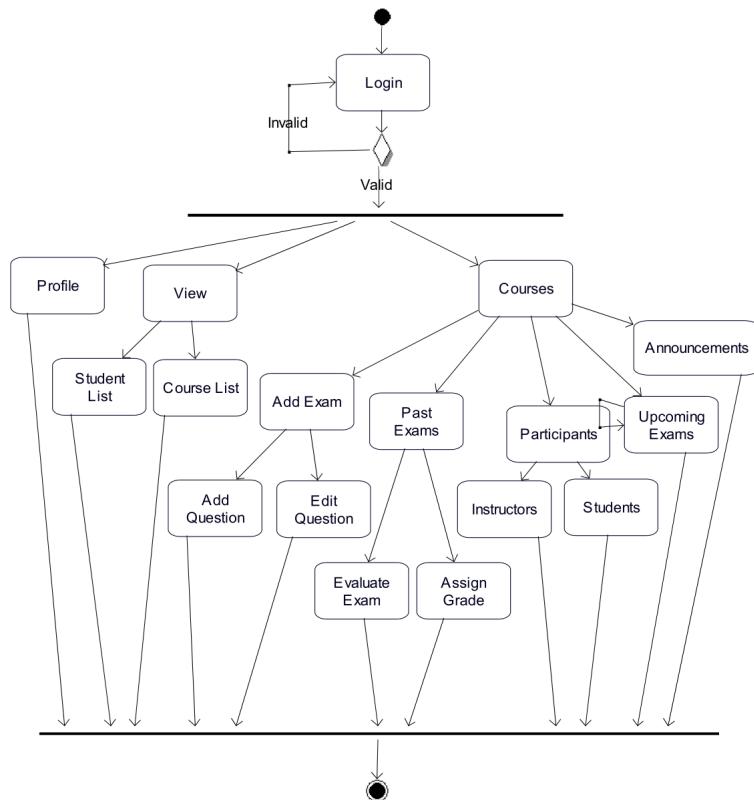


Fig: Instructor Activities

3.2.3 Student

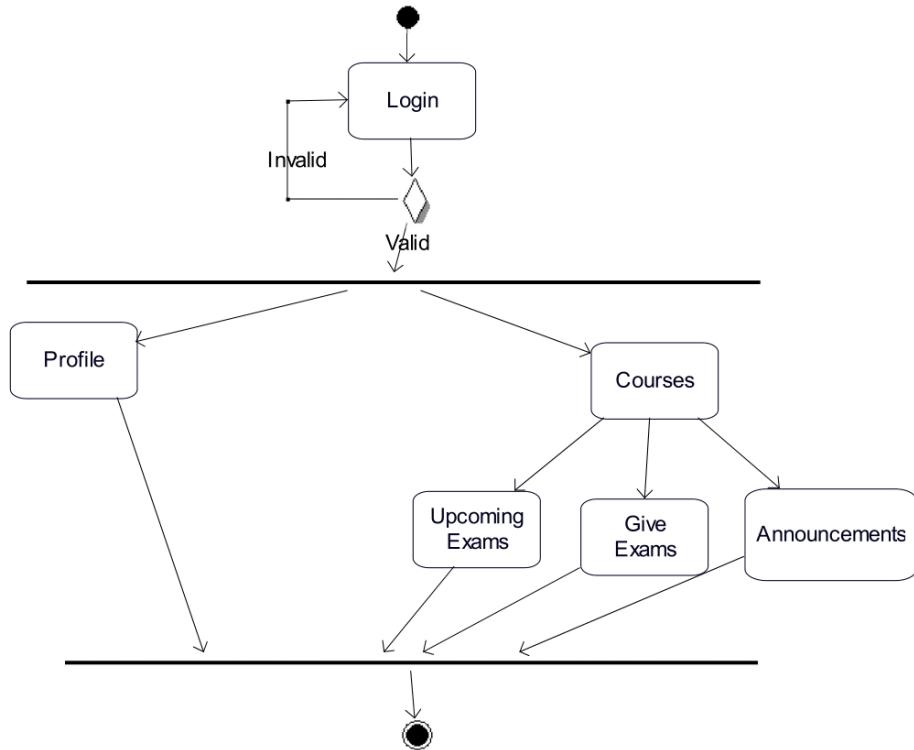


Fig: Student Activities

3.3 Sequence Diagram

3.3.1 Admin

Figure shows the typical sequence of events takes in Online Examination System when admin logs in.

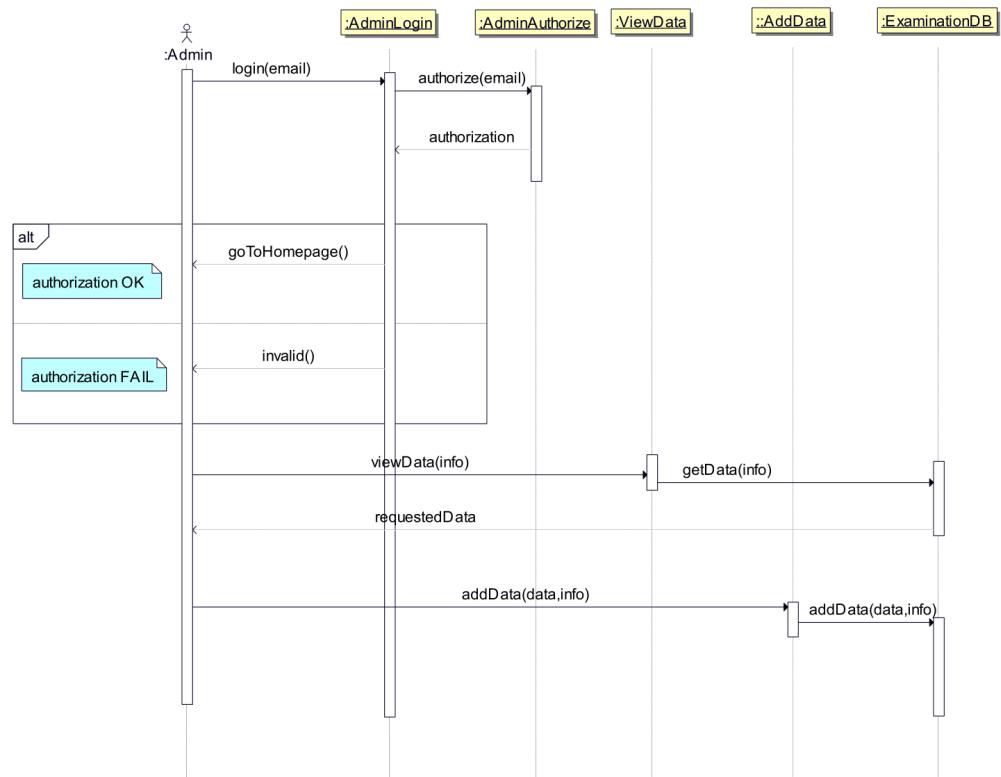


Fig: Admin Activities

3.3.2 Instructor

Figure shows the typical sequence of events takes in Online Examination System when Instructor logs in.

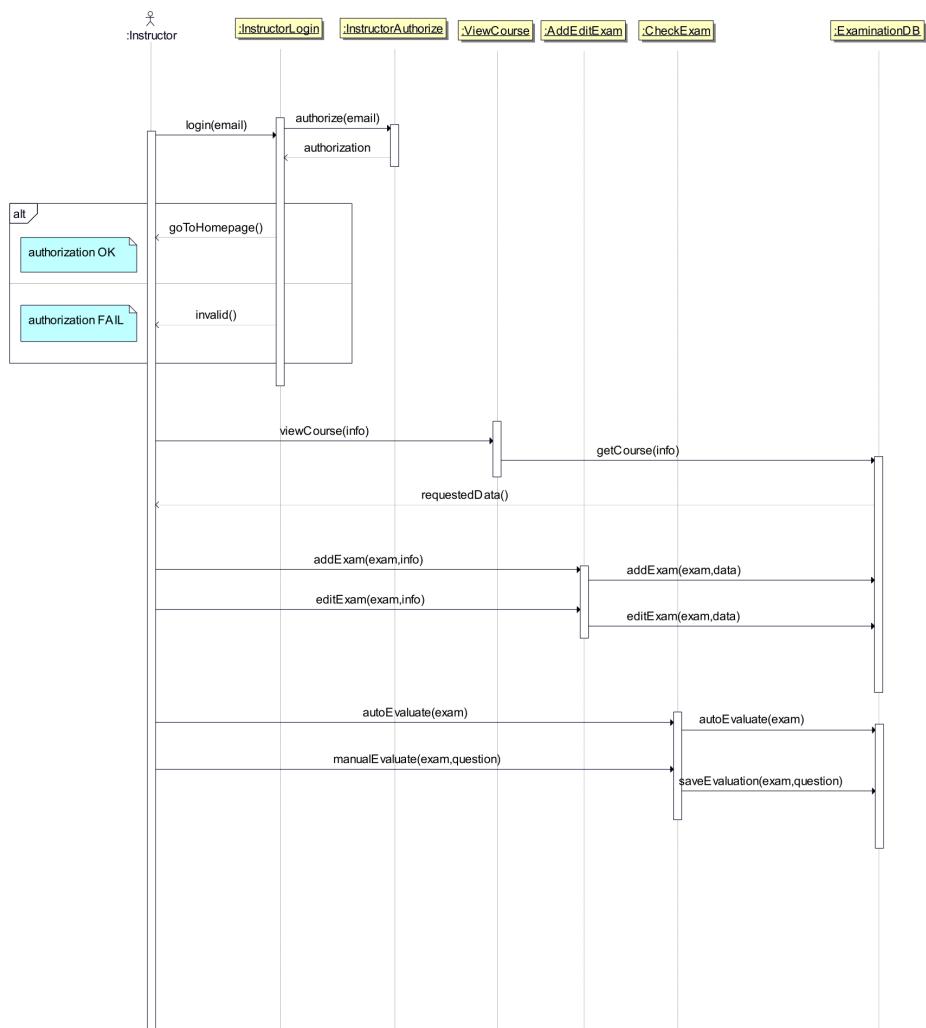


Fig: Instructor Activities

3.3.3 Student

Figure shows
the typical sequence of events takes in Online Examination System when Student logs in.

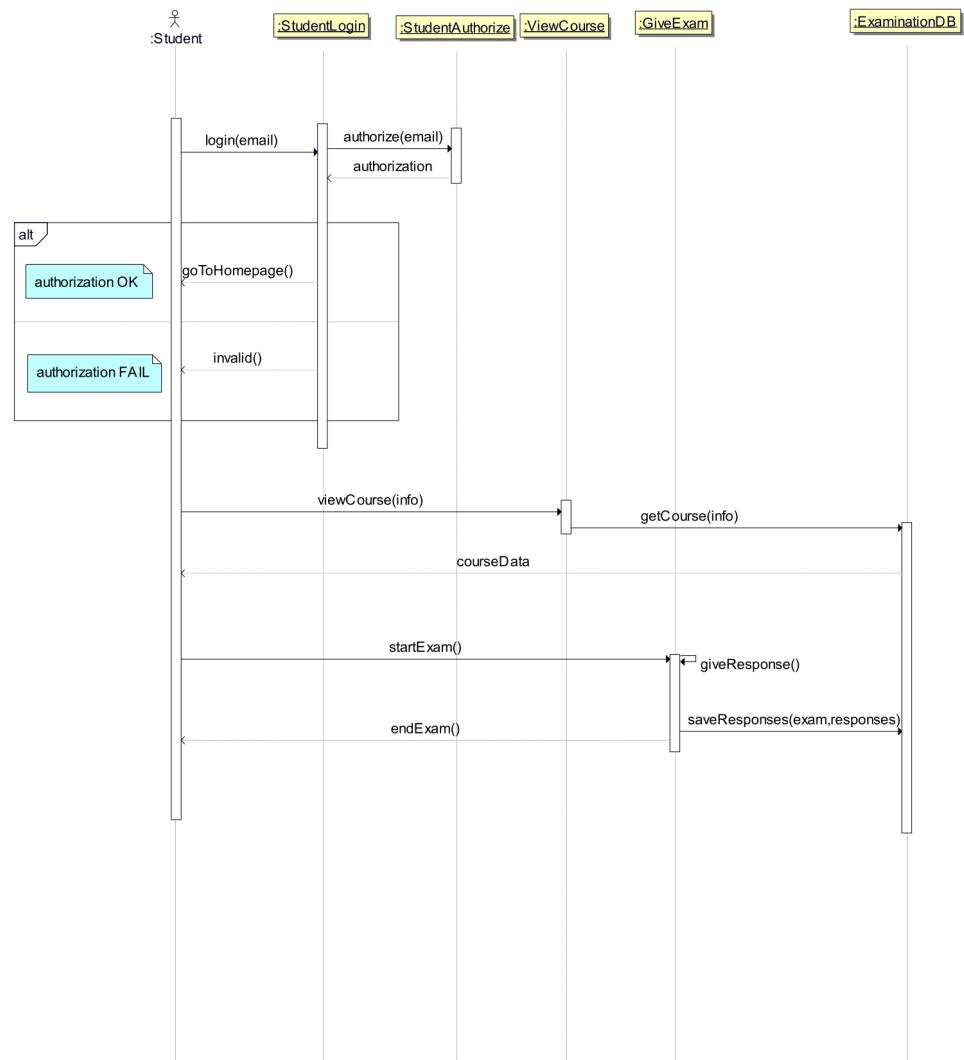


Fig: Student Activities

3.4 Class Diagram

Following figure is the class diagram showing the interface details and the subsystems of website.

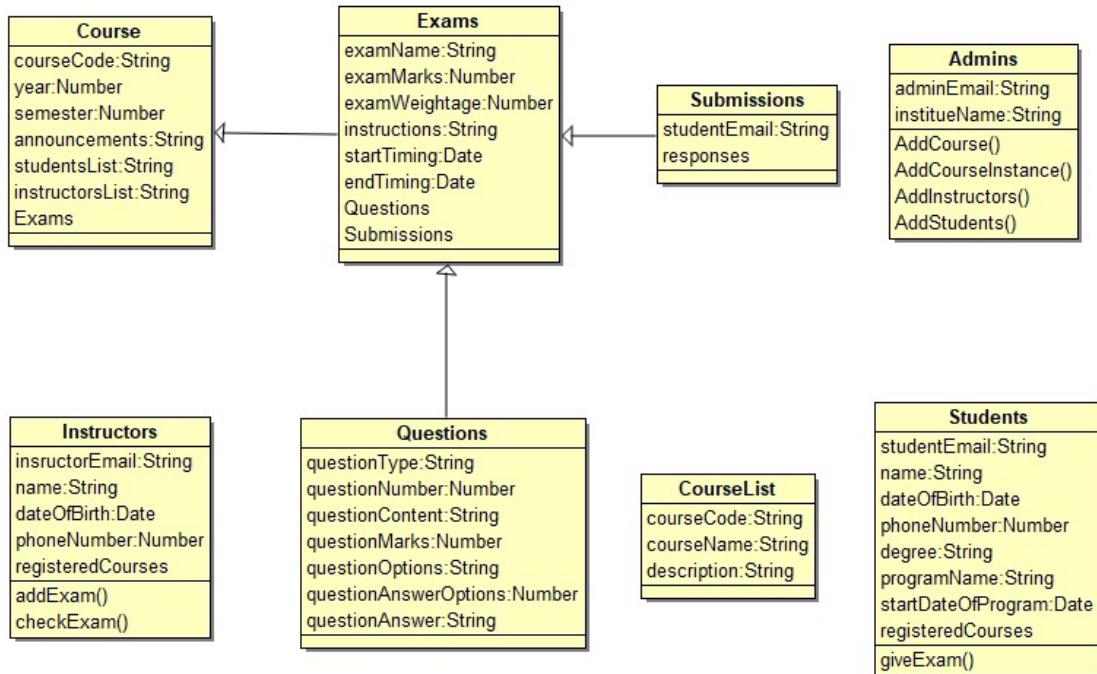


Fig: Class Diagram

3.5 E-R Diagram

Following figure shows the ER diagram for the website. The ER diagram shows the entities like Admin, student, instructor, courses, exams, etc and relationship among them.

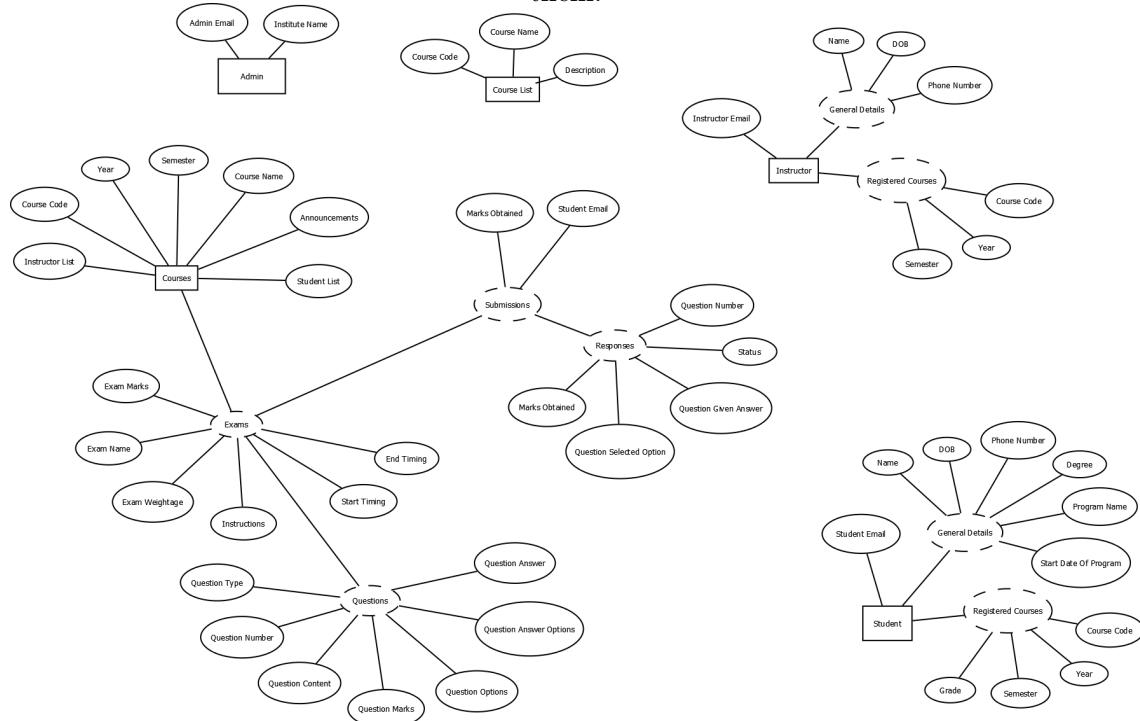


Fig: E-R Diagram

4 Screen Images/Mock ups

4.1 Homepage

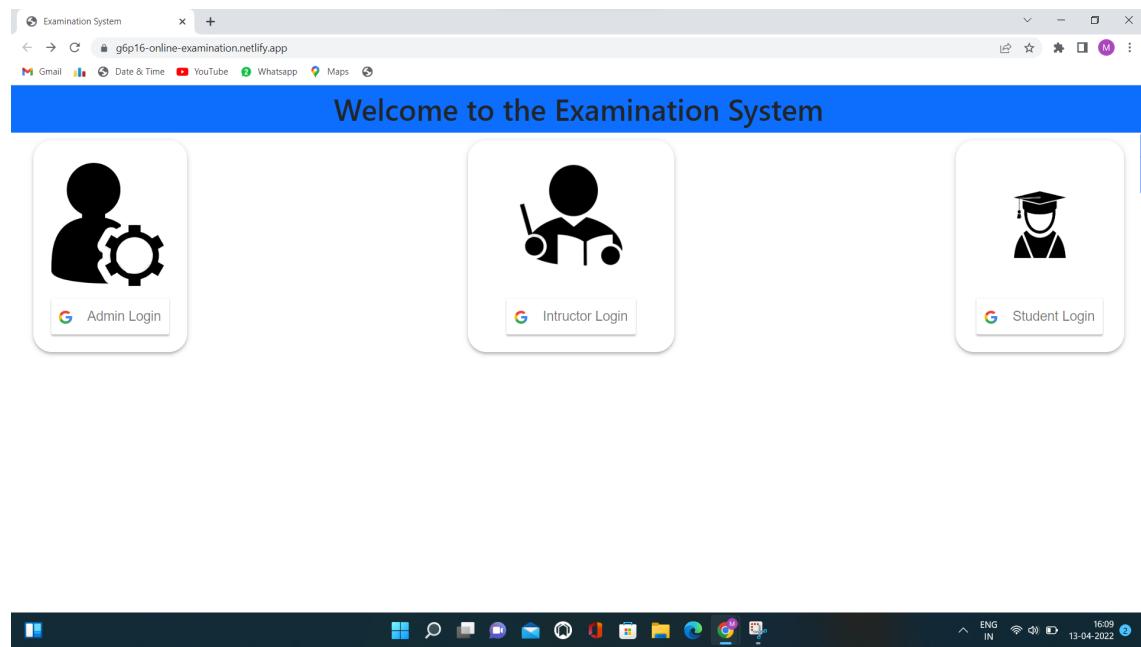


Fig: Homepage Design

4.2 Admin

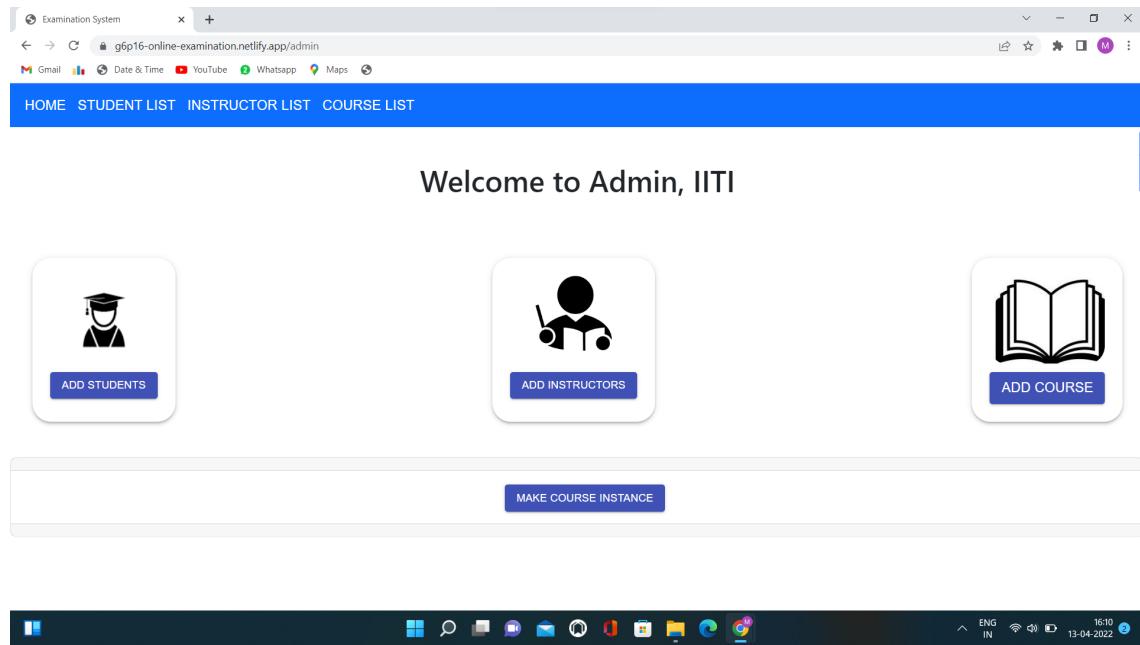


Fig: Admin Homepage Design

NAME	EMAIL	DATE OF BIRTH	DEGREE	PROGRAM	PHONE NUMBER
Amit Makkad	amitmakkad18@gmail.com	2019-07-13	MS	CSE	23434535
Mihir Karandikar	mihirkarandikar@gmail.com	2020-03-10	BTECH	CSE	2344243
Priyansh Jaseja	pjaseja11@gmail.com	2021-05-22	BTECH	EE	2342424
Mayank Tayal	tayalmayank2000@gmail.com	2019-06-16	PHD	ME	46465
Bhavya Contractor	bhavyacontractor02@gmail.com	2019-06-16	PHD	ME	46465

Fig: View Design

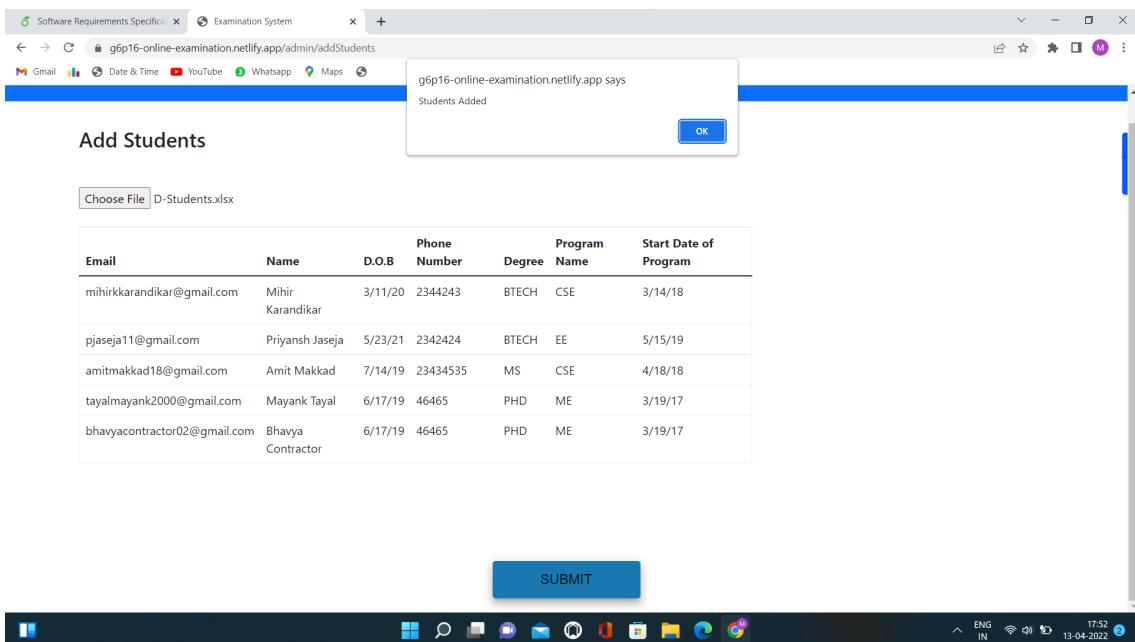


Fig: Add Student Design

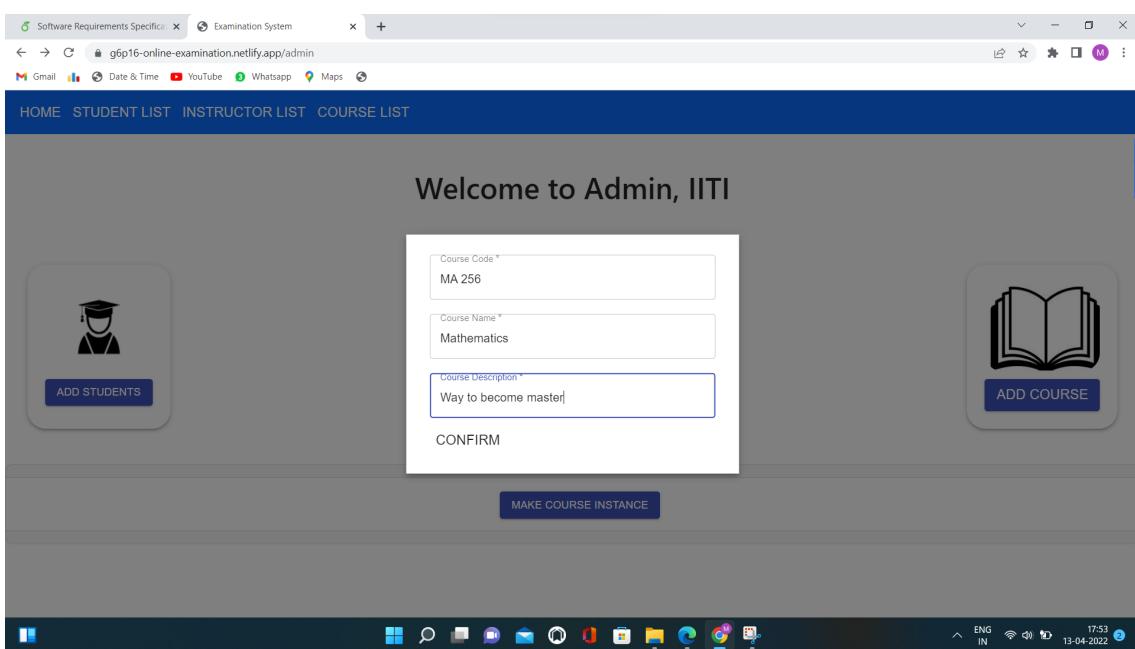


Fig: Add Course Design

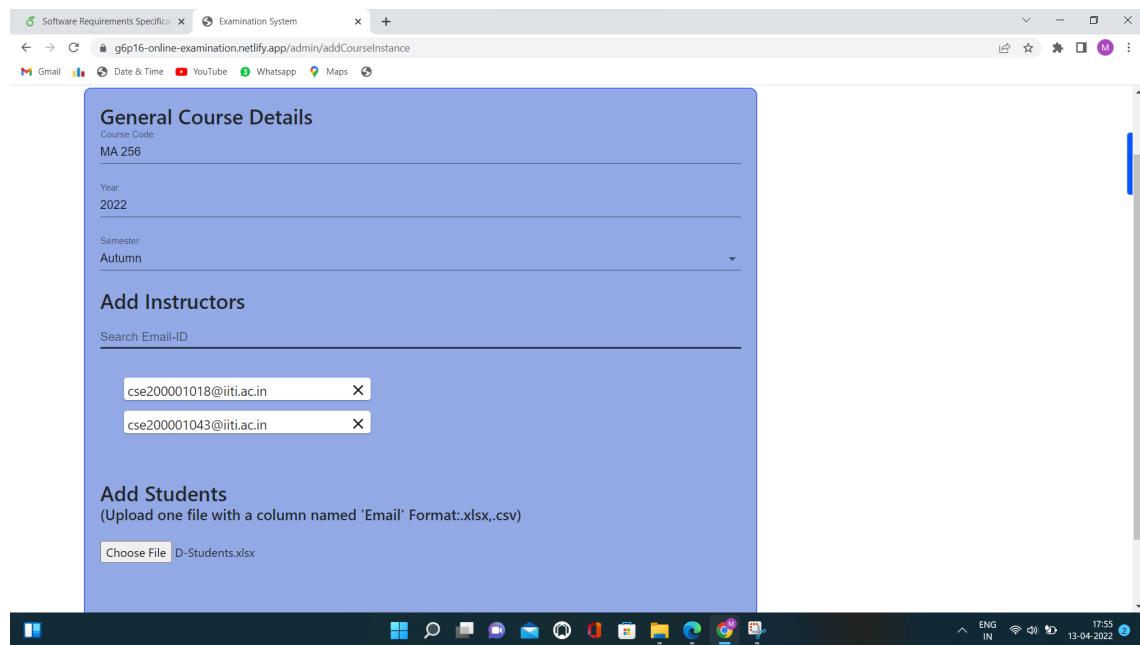


Fig: Add CourseInstance Design

4.3 Instructor

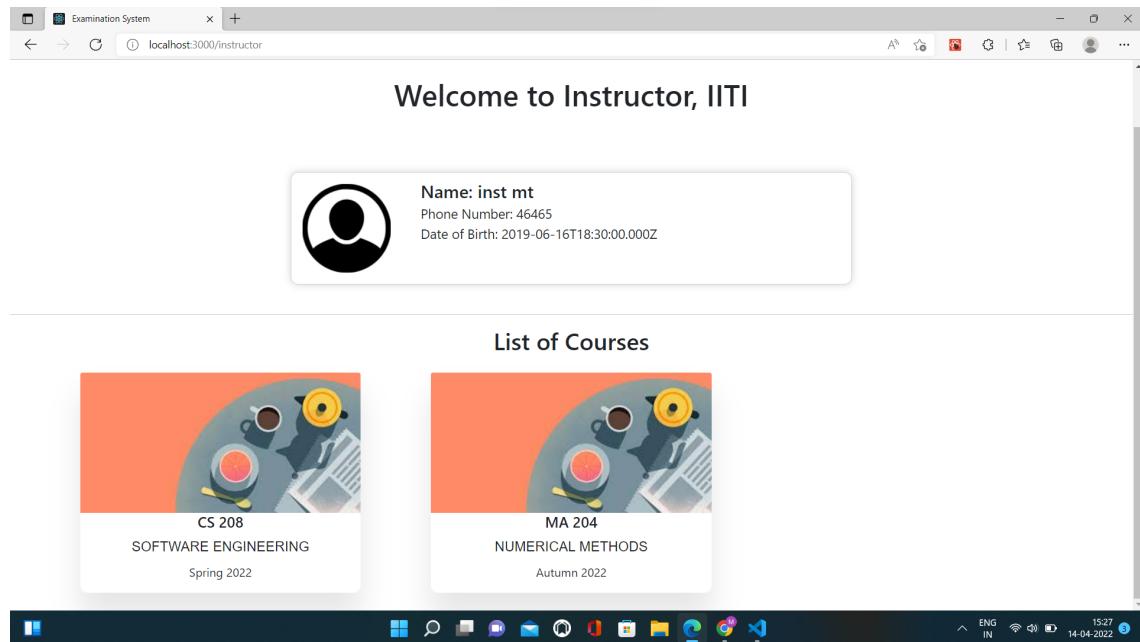


Fig: Instructor Profile Design

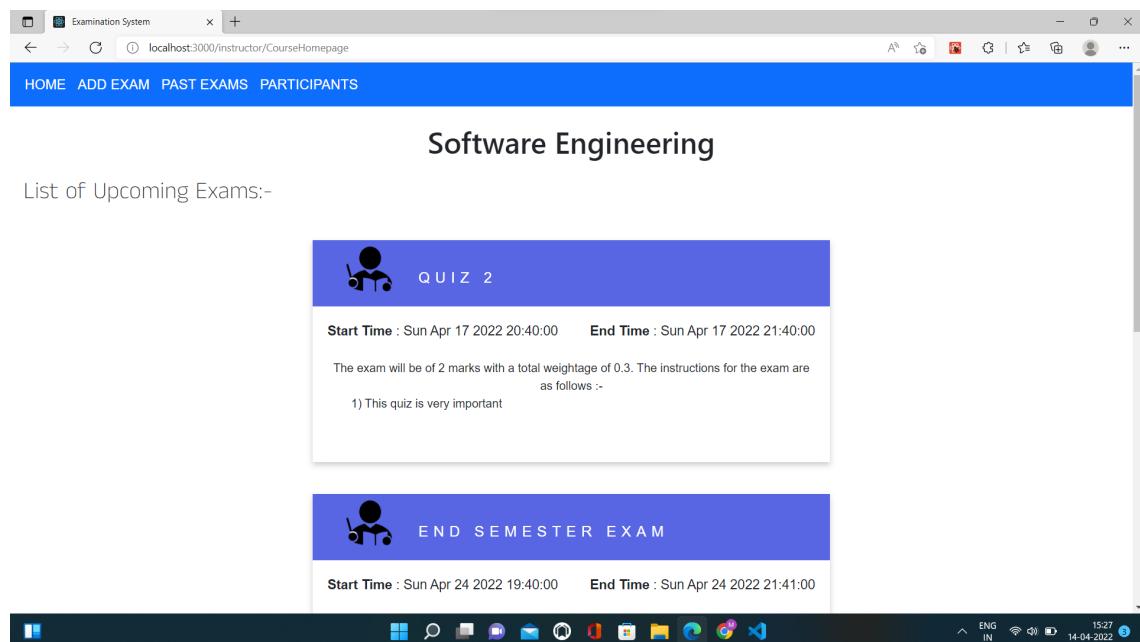


Fig: Homepage Design

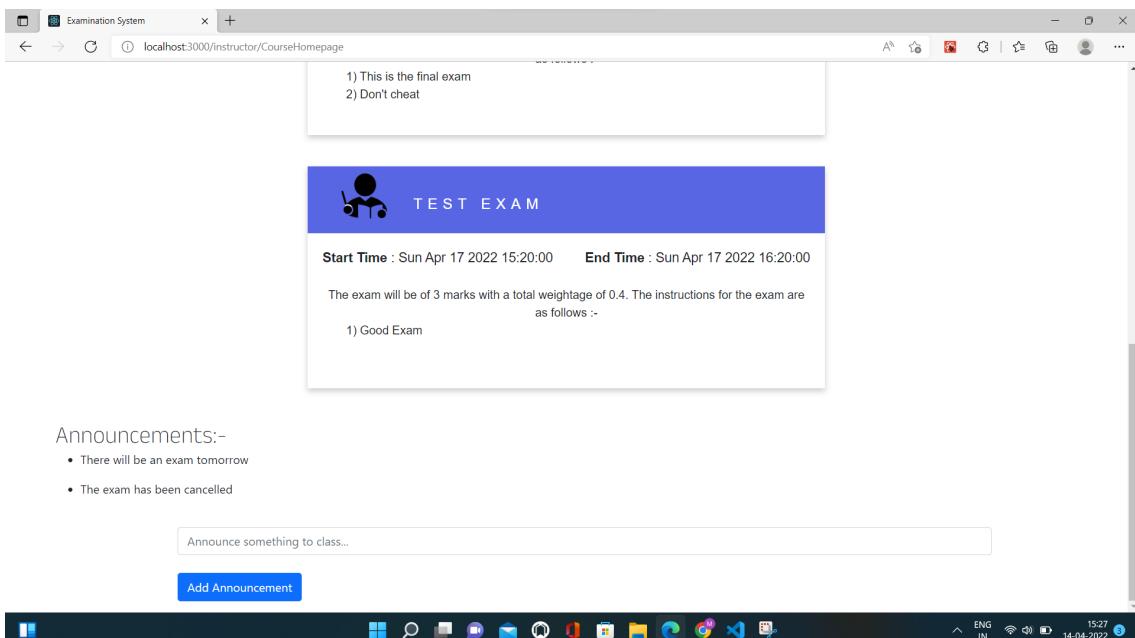


Fig: Announcements Design

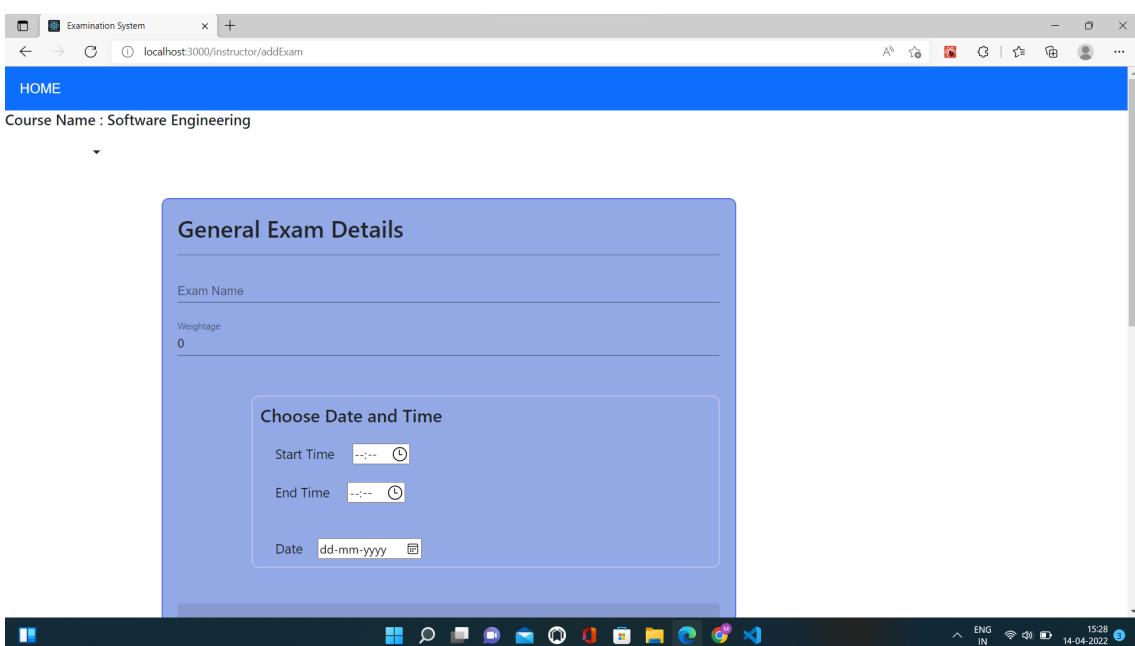


Fig: Add Exam Design

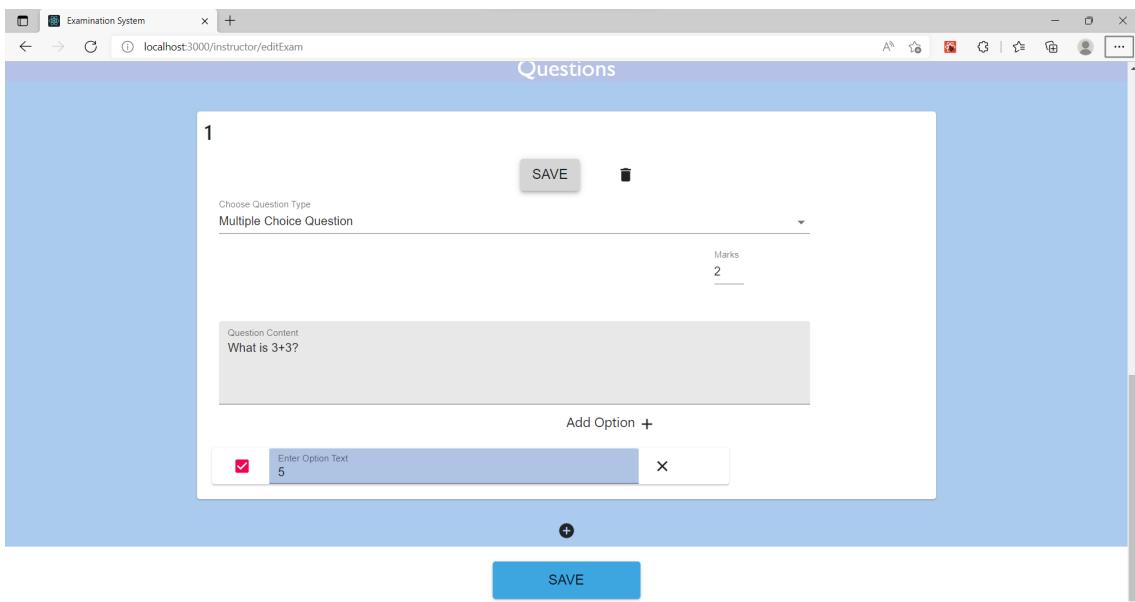


Fig: Edit Exam Design

The screenshot shows a past exam design page. The top header includes a back arrow, forward arrow, refresh button, and a search bar with the URL 'localhost:3000/instructor/pastExam'. The main content area displays exam instructions: 'The exam will be of 9 marks with a total weightage of 0.3. The instructions for the exam are as follows :-' followed by two points: '1) Dont Cheat' and '2) This is an important exam'. Below this, there's a blue header bar with a student icon and the text 'M I D T E R M E X A M'. To the right of the bar is a 'View Students' button. Further down, it shows 'Start Time : Wed Apr 13 2022 17:20:00' and 'End Time : Wed Apr 13 2022 17:24:00'. Another set of instructions follows: 'The exam will be of 9 marks with a total weightage of 0.4. The instructions for the exam are as follows :-' followed by the same two points. At the bottom, there's a section titled 'Student Submissions' with two entries: 'mihirkkarandikar@gmail.com Marks Obtained: 6 VIEW SUBMISSION' and 'tayalmayank2000@gmail.com Marks Obtained: 5 VIEW SUBMISSION'. The bottom of the screen shows a Windows taskbar with various icons and a system tray indicating the date and time as '14-04-2022 15:36'.

Fig: Past Exam Design

The screenshot shows a web-based examination system interface. At the top, a navigation bar includes a calendar icon, the title 'Examination System', and a search bar. Below the bar, the URL 'localhost:3000/instructor/participants' is visible. A blue header bar says 'HOME'. The main content area is divided into two sections: 'Instructors' and 'Students'.
Instructors:
Three entries are listed:

- inst mk
cse200001044@iiti.ac.in
- inst mt
cse200001043@iiti.ac.in
- inst bh
cse200001018@iiti.ac.in

Students:
Two entries are listed:

- Mihir Karandikar
mihirkarandikar@gmail.com
- Priyansh Jaseja

The bottom of the screen shows a Windows taskbar with various icons and a system tray indicating the date as 14-04-2022 and time as 15:36.

Fig: Participants Design

4.4 Student

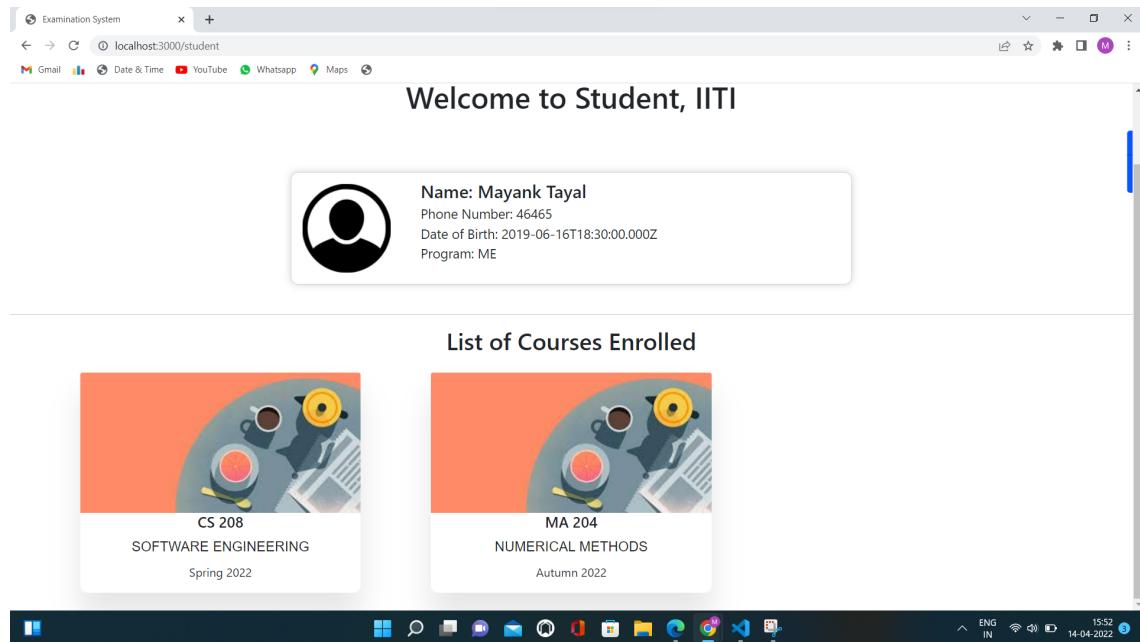


Fig: Student Profile Design

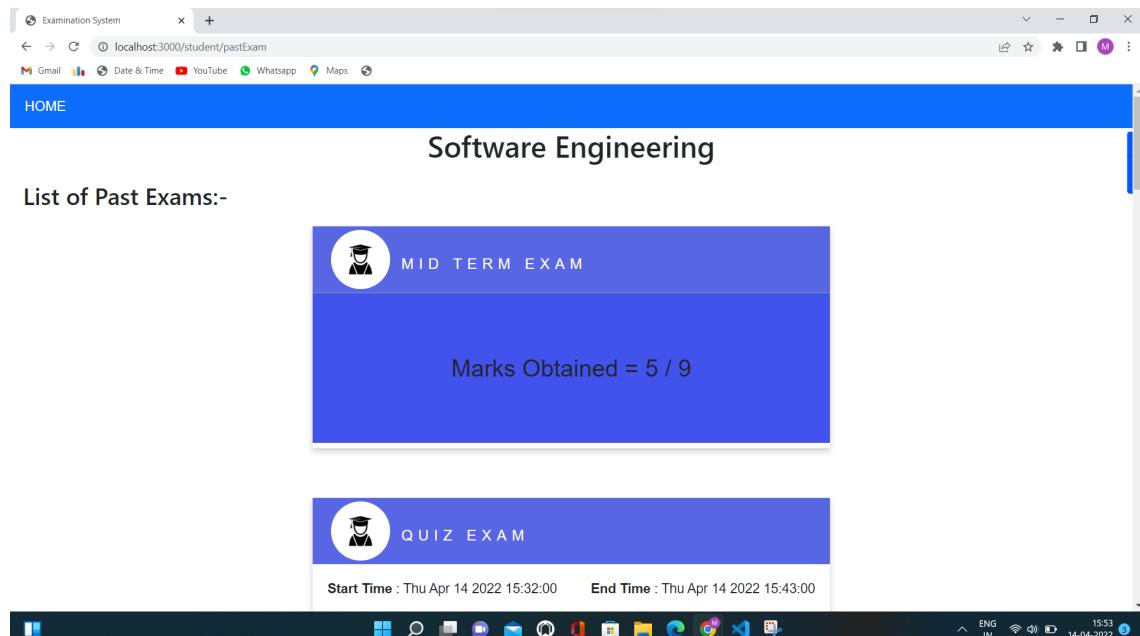


Fig: View Marks Design

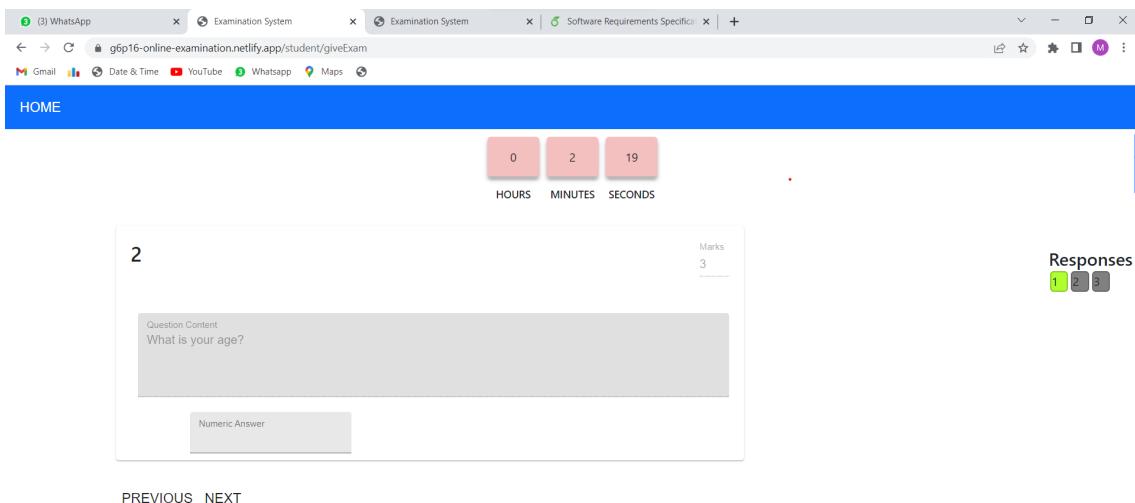


Fig: Give Exam Design

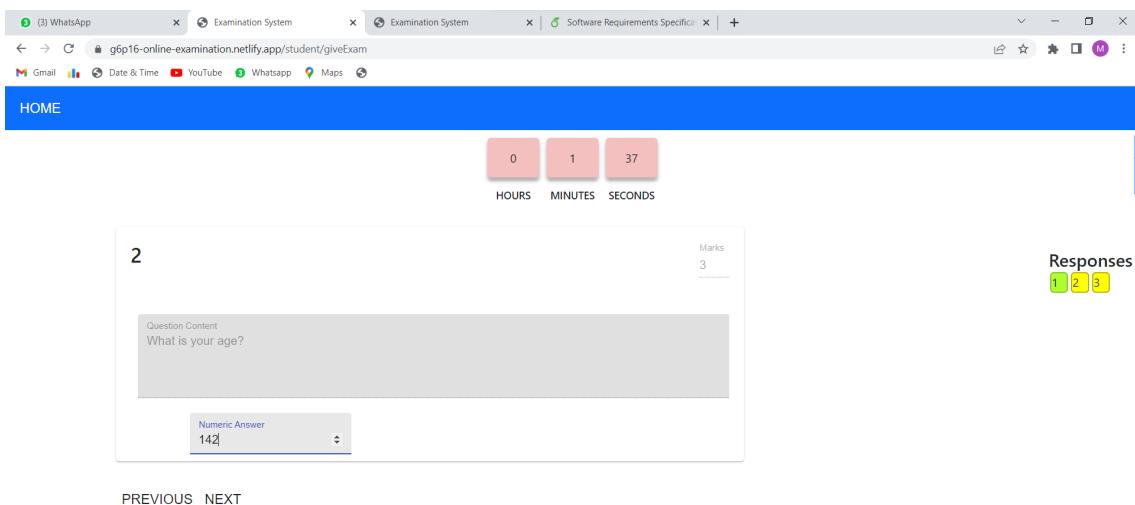


Fig: Give Exam Design

5 Contributions

5.1 Amit Kumar Makkad

- Handled the frontend of the website and made the templates
- Wrote some functions and managed the workflow of the website
- Role in debugging of the frequent errors and in preparing the documentation

5.2 Bhavya Contractor

- Made the view page and its connections with the backend
- Part in making the frontend of the website
- Role in debugging of the frequent errors and in preparing the documentation

5.3 Mayank Tayal

- Handled the backend of the website and wrote the functions
- Did CSS of the website and added some new pages and many frontend templates
- Role in debugging of the frequent errors and in preparing the documentation

5.4 Mihir Karandikar

- Main work in handling database and connecting to the website
- Applied google login and many frontend functionalities on the website
- Role in debugging of the frequent errors and in preparing the documentation

5.5 Priyansh Jaseja

- Handled frontend of the student part and its designs
- Made the profile and view page and its connections with the backend
- Role in debugging of the frequent errors and in preparing the documentation