

# **NORTH SOUTH UNIVERSITY**

Department of Electrical & Computer Engineering

## **GROUP - 02**

Final Project Report of-

**Virtual Exam**

Course : CSE299

Section : 05

Submitted to : Sayeda Sarita Hassan (Lecturer)

Submission Date : 20 May 2024

NAME	ID
TAHSINUL REFAT	2122194642
RAFID ASEK	2111419642
EMTIAZ MAHAMUD EMON	2121595642

# Table of Contents

<b>Abstract.....</b>	<b>4</b>
<b>Chapter 1.....</b>	<b>5</b>
<b>Introduction.....</b>	<b>5</b>
1.1 Objective:.....	5
1.2 Motivation:.....	6
1.3 Project Goal:.....	7
1.4 Scope:.....	7
<b>Chapter 2.....</b>	<b>8</b>
<b>Literature Review.....</b>	<b>8</b>
2.1 Evaluating Progress:.....	8
2.2 Past Hurdles:.....	8
2.3 Overcoming Knowledge Gaps:.....	8
2.4 The Ongoing Journey:.....	9
<b>Chapter 3.....</b>	<b>10</b>
<b>Design And Implementation.....</b>	<b>10</b>
3.1 Design.....	10
3.1.1 Flow Diagram.....	10
3.1.2 Use Case Diagram.....	11
3.1.3 Entity Relation Diagram.....	11
3.2 Features:.....	12
3.2.1 Home page:.....	12
3.2.3 New student request to join:.....	13
3.2.4 Admin Dashboard:.....	13
3.2.5 Admin page- Add Course:.....	14
3.2.6 Admin page- View Courses:.....	14
3.2.7 Admin page- Add Student.....	15
3.2.8 Admin page- View Students.....	15
3.2.9 Admin page- Add Exam:.....	16
3.2.10 Admin page- View Exams:.....	16
3.2.11 Admin page- View Results by Course:.....	17
3.2.12 Admin page- View Feedback:.....	17

3.2.13 Admin page- Post Announcement:.....	18
3.2.14 Admin page- Student Requests:.....	18
3.2.15 Student Login:.....	19
3.2.16 Student Password Reset:.....	19
3.2.17 Student Page-Enrolled courses:.....	20
3.2.18 Student Page-View Exam:.....	20
3.2.19 Student Page-View Result:.....	21
3.2.20 Student Page-Write Feedback:.....	21
<b>Chapter 4.....</b>	<b>22</b>
<b>List of Software Used.....</b>	<b>22</b>
<b>Chapter 5.....</b>	<b>23</b>
<b>Conclusion and Future Work.....</b>	<b>23</b>
5.1 Conclusion.....	23
5.2 Limitations of the work.....	23
5.3 Future Work:.....	24

# Abstract

VirtualExam is a comprehensive platform designed to facilitate multiple-choice question exams across different courses. It serves both students and administrators, providing a seamless experience for all users.

For students, VirtualExam offers a user-friendly interface that simplifies the exam-taking process. They can easily navigate through the system, select their desired course, and take exams without encountering any complexities. This simplicity ensures that even beginners can utilize the website with ease.

On the administrative side, VirtualExam empowers administrators with full control over every aspect of the platform. Admins have the authority to manage student access to specific courses, ensuring that only authorized individuals can participate in exams. Additionally, administrators can modify, update, or delete exam questions as needed. This level of control ensures that the exam content remains current and relevant to the course material.

# Chapter 1

## Introduction

In this chapter, we are going to explain in depth about the website VirtualExam and its objectives, motivations, scope and so on.

### **1.1 Objective:**

The primary objectives of developing VirtualExam are as follows:

**1. Streamline Examination Processes:** One of the main objectives of VirtualExam is to streamline the entire examination process within educational institutions. By digitizing exam creation, administration, and result publication, the platform aims to reduce manual efforts and improve efficiency.

**2. Enhance Accessibility:** VirtualExam aims to make examinations more accessible to students by providing a convenient online platform. Students can access exam schedules, study materials, and take exams from anywhere with an internet connection, eliminating the need for physical presence.

**3. Improve Security:** Security is a paramount concern in online examinations. VirtualExam implements robust security measures to prevent cheating and ensure the integrity of the examination process. Features such as single question view, time limits, and anti-cheating measures help maintain a secure testing environment.

**4. Provide Immediate Feedback:** VirtualExam enables immediate feedback for students upon completing exams. This feature allows students to assess their performance, identify areas for improvement, and track their progress over time. Instant feedback also enhances the learning experience and promotes self-assessment.

**5. Facilitate Course Management:** In addition to exam management, VirtualExam provides tools for course management. Administrators can create and manage courses, enroll students, and assign instructors. This comprehensive approach streamlines overall educational management within institutions.

## **1.2 Motivation:**

Traditional exam methods are becoming less suitable in today's education scene, where online learning and flexible education are gaining popularity. This shift highlights the necessity for a streamlined solution that maintains exam integrity while accommodating modern learning needs.

**1. Shift Towards Online Education:** With the increasing popularity of online education, there is a growing demand for online examination systems. VirtualExam caters to this demand by providing a reliable platform for conducting exams remotely.

**2. Efficiency and Convenience:** Traditional examination processes often involve manual tasks, paperwork, and logistical challenges. VirtualExam aims to automate these processes and provide a more efficient and convenient solution for administrators, faculty members, and students.

**3. Security Concerns:** Online examinations present unique security challenges, including cheating and fraud. VirtualExam addresses these concerns by implementing advanced security features to maintain the integrity of the examination process.

**4. Enhanced Learning Experience:** Immediate feedback and self-assessment are essential components of the learning process. VirtualExam enhances the learning experience by providing instant feedback to students, allowing them to gauge their performance and progress effectively.

**5. Technological Advancements:** Advances in technology, including web development frameworks, database management systems, and security protocols, make it feasible to develop sophisticated online examination systems like VirtualExam. Leveraging these technologies enables the creation of a robust and scalable platform.

### **1.3 Project Goal:**

The goal of the Virtual Exam project is to create a user-friendly online platform for taking quizzes and exams. It will offer customizable features for educators, advanced security measures to prevent cheating, and detailed analytics to track student performance. The platform aims to enhance the online assessment experience by providing an accessible, reliable, and engaging tool for both administrators and students.

### **1.4 Scope:**

The key scope of using this website includes:

1. **Conducting Exams:** Facilitating the administration of multiple-choice question exams for various courses.
2. **Access Control:** Allowing administrators to manage student access to specific courses, ensuring only authorized individuals can participate in exams.
3. **Content Management:** Providing administrators with the ability to modify, update, and delete exam questions to maintain the relevance and accuracy of course material.
4. **Result Publication:** Upon completing exams, students receive immediate feedback and can view their results through VirtualExam. Instructors can also access exam results and performance metrics for analysis and grading.
5. **Efficiency:** Streamlining administrative tasks associated with exam management, allowing educators to focus more on teaching and providing valuable feedback to students.

# Chapter 2

## Literature Review

### **2.1 Evaluating Progress:**

In education, moving from traditional to digital exams has brought many benefits. Digital exams simplify administration and can be scaled up easily. They make exams more accessible, allowing flexible scheduling and locations, which is great for students in remote areas. Using HTML, CSS, JavaScript, PHP, and Bootstrap helps create user-friendly and dynamic exam platforms, making it simple for educators to update and manage exam content.

### **2.2 Past Hurdles:**

Despite these advancements, the journey toward fully digital exams has encountered several obstacles. Early implementations of online exams faced significant technical challenges, including server overloads, software bugs, and compatibility issues across different devices and browsers. Security concerns have also been paramount, with risks of cheating and unauthorized access posing threats to the integrity of online assessments. Additionally, the digital divide has highlighted disparities in access to reliable internet and necessary technological devices, disproportionately affecting students from low-income backgrounds.

### **2.3 Overcoming Knowledge Gaps:**

Addressing these challenges has required a multifaceted approach. Technological advancements have improved the reliability and security of online exam platforms. For instance, the development of proctoring software and advanced encryption methods has mitigated some of the risks associated with online cheating. Efforts to bridge the digital

divide include initiatives to provide students with necessary devices and enhance internet infrastructure in underserved areas. Moreover, continuous research into user experience design has led to the creation of more intuitive and accessible interfaces, reducing the learning curve for both students and educators when adopting new technologies.

## **2.4 The Ongoing Journey:**

The ongoing journey of integrating online exams into the educational system is marked by continuous innovation and adaptation. Current trends focus on enhancing the interactivity and engagement of online assessments through multimedia elements and adaptive learning technologies that tailor the difficulty of questions based on student performance. There is also a growing emphasis on leveraging data analytics to provide educators with insights into student performance and learning patterns, enabling more personalized and effective teaching strategies. The commitment to inclusivity and accessibility remains strong, with ongoing efforts to ensure that all students, regardless of their background, have equal opportunities to benefit from online exams.

# Chapter 3

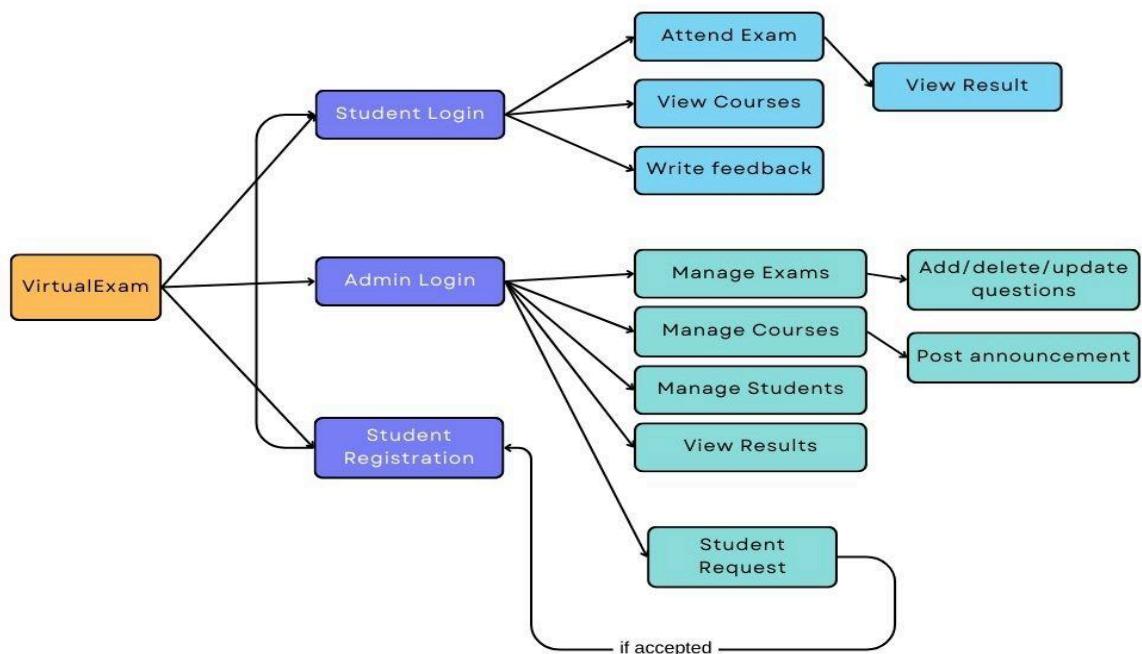
## Design And Implementation

This Chapter explains the design aspect of the VirtualExam Online portal with a UML diagram also DFD for the implementation of the project along with the complex architecture of the system.

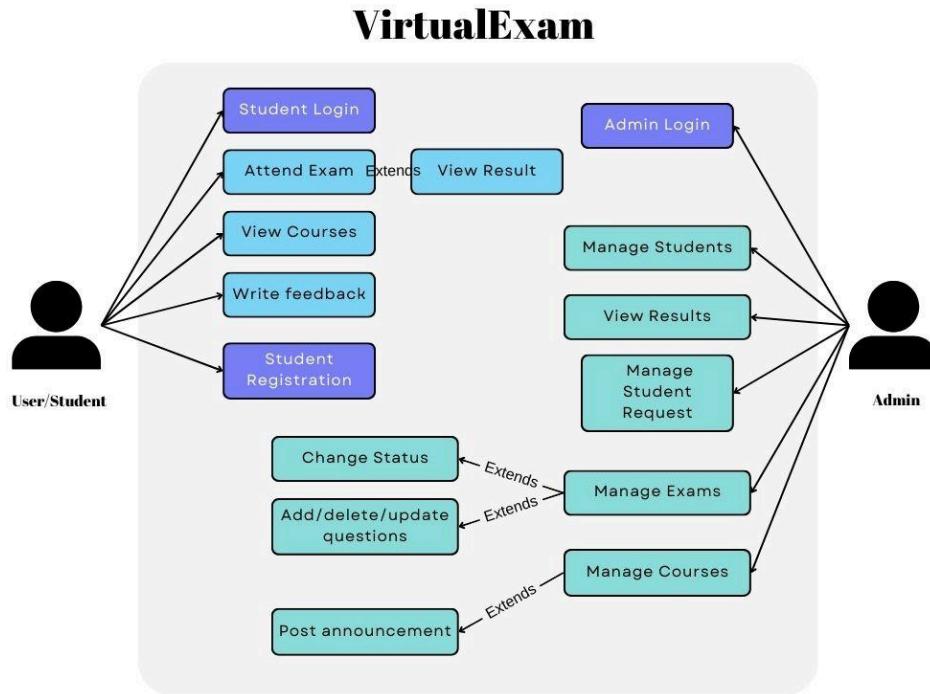
### 3.1 Design

Here it deals with the designing phase of the Software development life cycle (SDLC) under which we will discuss the different diagrams like DFD, Use Case diagram, Entity Relationship Diagram, and architecture of the system.

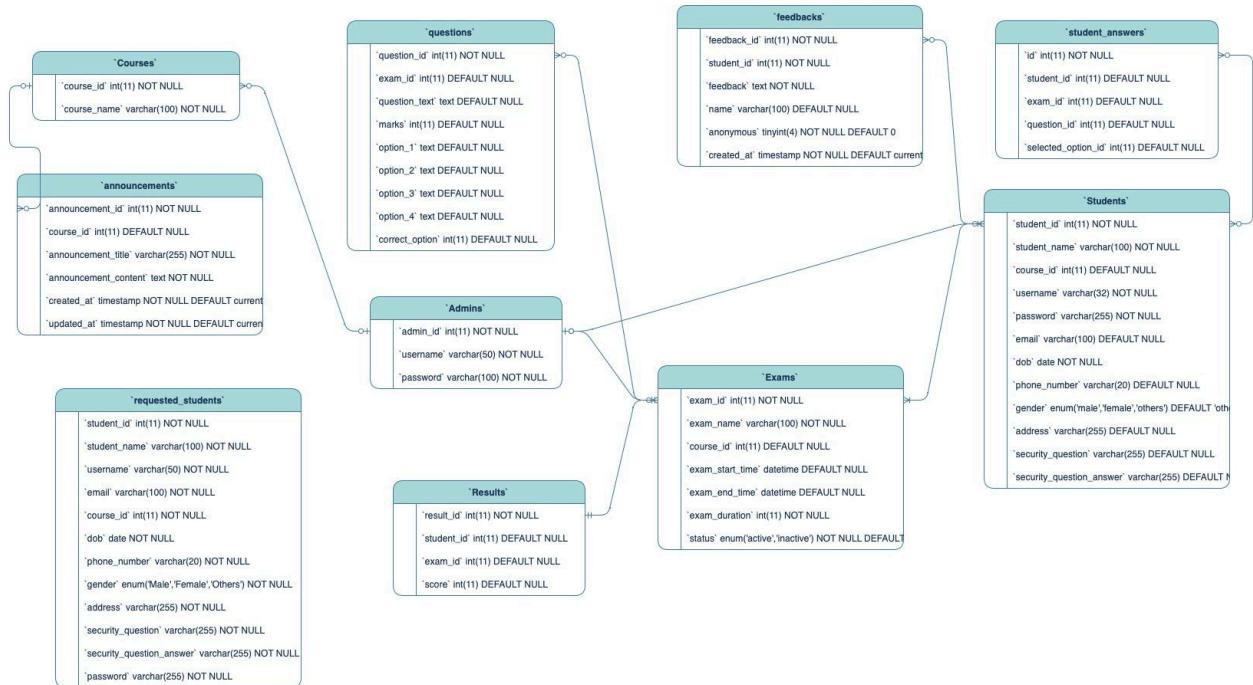
#### 3.1.1 Flow Diagram



### 3.1.2 Use Case Diagram



### 3.1.3 Entity Relation Diagram

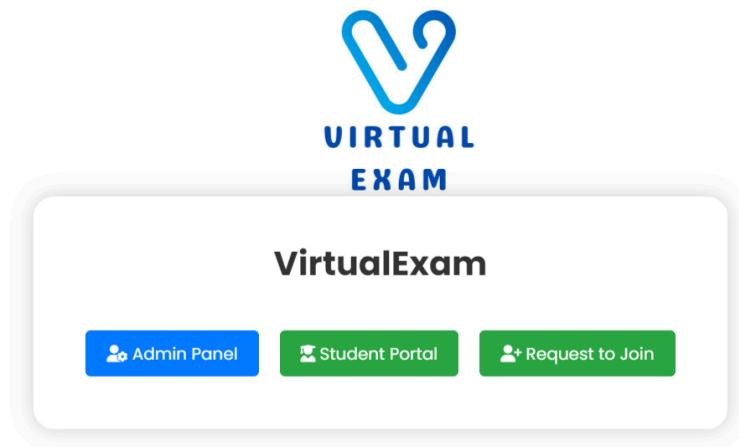


### **3.2 Features:**

In this section, some features of the application are shown below:

#### **3.2.1 Home page:**

This is the first page of the website which represents the home page.



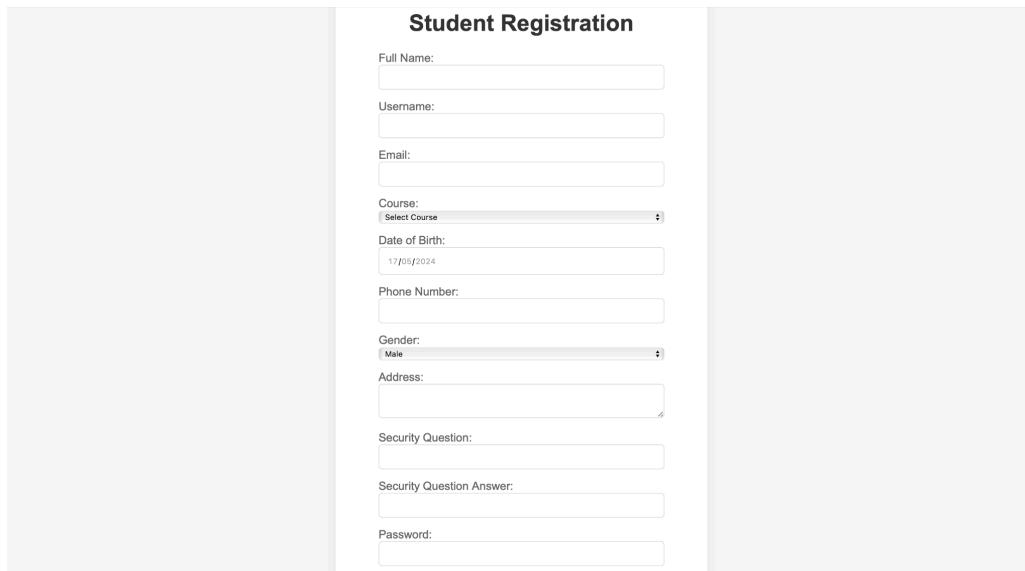
#### **3.2.2 Admin login:**

The login system will ask the user for a username and password and will be able to get access to the next page as an admin.

A screenshot of the Admin Login page. The title "Admin Login" is at the top in bold black font. Below it is a sub-instruction "Please fill in your credentials to login.". There are two input fields: "Username" with a placeholder text area and "Password" with a placeholder text area. At the bottom is a large green button with the word "Login" in white.

### 3.2.3 New student request to join:

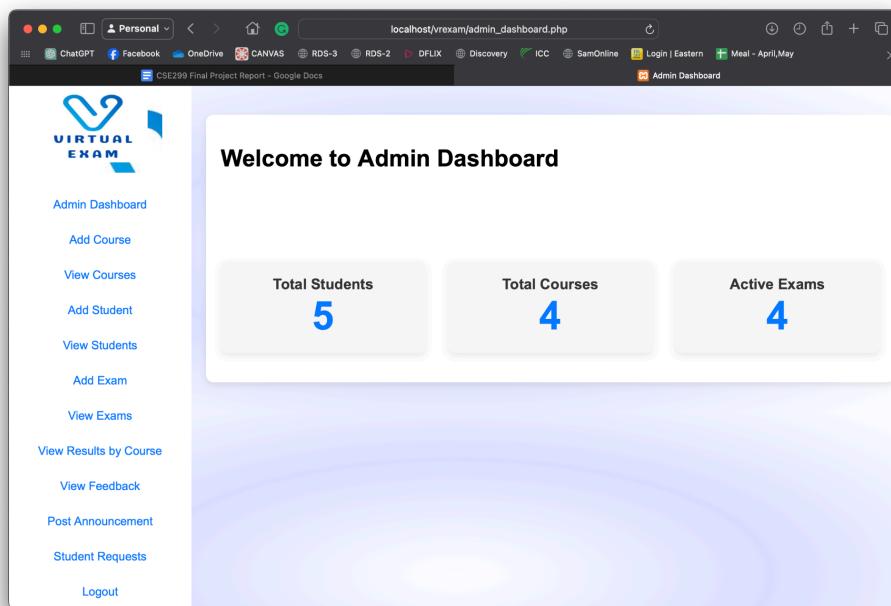
If the user is not registered, he/she can register and need to wait to get access from the admin.



The image shows a 'Student Registration' form. It consists of several input fields: 'Full Name' (text), 'Username' (text), 'Email' (text), 'Course' (dropdown menu with placeholder 'Select Course'), 'Date of Birth' (text with value '17/05/2024'), 'Phone Number' (text), 'Gender' (dropdown menu with placeholder 'Male'), 'Address' (text), 'Security Question' (text), 'Security Question Answer' (text), and 'Password' (text).

### 3.2.4 Admin Dashboard:

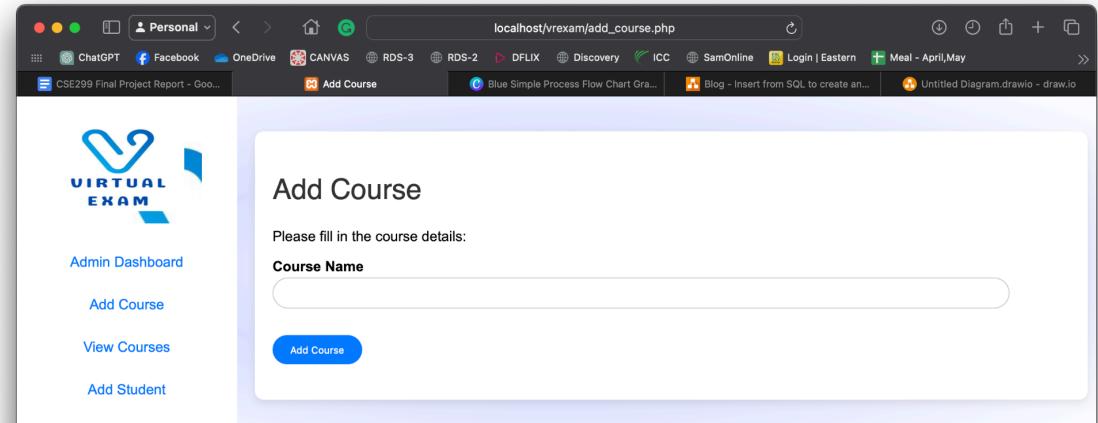
Now, the functions that an admin can do are portrayed below:



The image shows the 'Welcome to Admin Dashboard' page. On the left is a sidebar with a 'VIRTUAL EXAM' logo and a list of administrative functions: Admin Dashboard, Add Course, View Courses, Add Student, View Students, Add Exam, View Exams, View Results by Course, View Feedback, Post Announcement, Student Requests, and Logout. The main area displays three summary statistics: 'Total Students' (5), 'Total Courses' (4), and 'Active Exams' (4).

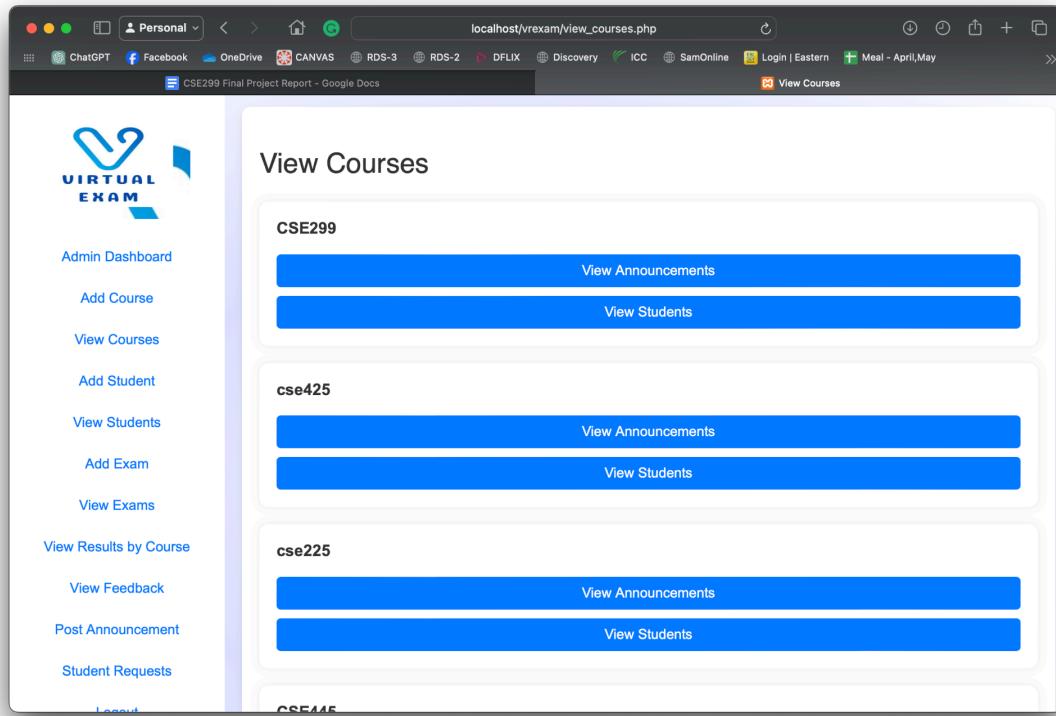
### 3.2.5 Admin page- Add Course:

An admin can add courses according to the requirements.



### 3.2.6 Admin page- View Courses:

Admin can view courses that have been created previously and can view the students and announcements.



### 3.2.7 Admin page- Add Student

Admin can add a student manually in a specific course by filling up the necessary information.

The screenshot shows a web browser window with the URL `localhost/vrexam/add_student.php`. The page title is "Add Student". On the left, there is a sidebar with a logo and a navigation menu containing links like "Admin Dashboard", "Add Course", "View Courses", "Add Student" (which is highlighted in blue), "View Students", "Add Exam", "View Exams", "View Results by Course", "View Feedback", "Post Announcement", "Student Requests", and "Logout". The main content area has a heading "Add Student" and a sub-instruction "Please fill in the student details:". It contains several input fields: "Student Name" (empty), "Username" (empty), "Password" (empty), "Email" (empty), "Phone Number" (empty), "Gender" (a dropdown menu showing "Select gender"), "Date of Birth" (a date picker showing "17/08/2024"), and "Address" (empty). There is also a "Submit" button at the bottom right.

### 3.2.8 Admin page- View Students

An admin can view the number of students in a specific course and can take action to remove the student from the course as well as see the details of that specific student.

The screenshot shows a web browser window with the URL `localhost/vrexam/view_students.php`. The page title is "View Students". The left sidebar is identical to the one in the previous screenshot. The main content area has a heading "View Students" and a table titled "View Students". The table has columns: "Student Name", "Username", "Course Name", and "Action". It lists five entries:

Student Name	Username	Course Name	Action
Ahsinul Sefat	sefat	CSE299	(Remove) (View Details)
murad ali	murad	CSE299	(Remove) (View Details)
robiul ahsan	robiul	CSE299	(Remove) (View Details)
sakib hasan	sakib	CSE299	(Remove) (View Details)
Tahsinul Refat	tahsinrefat	CSE299	(Remove) (View Details)

Below the table, it says "Showing 1 to 5 of 5 entries" and has "Previous" and "Next" buttons. The page also includes a "Search:" input field and a "Show 10 entries" dropdown.

### 3.2.9 Admin page- Add Exam:

An admin can add an exam in a specific course and can set the duration of the exam.

The screenshot shows a web browser window with the URL `localhost/vrexam/add_exam.php`. The page has a header with the 'Virtual Exam' logo and navigation links for 'Admin Dashboard', 'Add Course', 'View Courses', 'Add Student', 'View Students', and 'Add Exam'. The main content area is titled 'Add Exam' and contains three input fields: 'Exam Name' (with placeholder 'Exam Name'), 'Select Course' (with placeholder 'Select a course'), and 'Exam Duration (in minutes)' (with placeholder '0'). A blue 'Add Exam' button is at the bottom.

### 3.2.10 Admin page- View Exams:

Admin can view all the added exams and can take actions such as keeping the exam status active/inactive which is a very useful feature as the admin can create the question beforehand and can make the question active before the exam which will benefit the admin a lot.

The screenshot shows a web browser window with the URL `localhost/vrexam/view_exams.php`. The page has a header with the 'Virtual Exam' logo and navigation links for 'Admin Dashboard', 'Add Course', 'View Courses', 'Add Student', 'View Students', 'Add Exam', 'View Exams', 'View Results by Course', 'View Feedback', 'Post Announcement', 'Student Requests', and 'Logout'. The main content area is titled 'View Exams' and displays a table of exams. The table has columns: 'Exam Name', 'Course Name', 'Status', and 'Action'. The 'Status' column uses green circles for 'Active' and red circles for 'Inactive'. The 'Action' column contains buttons for 'View Questions', 'Add Question', 'View Result', and 'Delete Exam'. The table shows six entries: 'Final' (CSE299, Active), 'mid' (CSE299, Active), 'new exam' (CSE299, Active), 'quiz 1' (CSE299, Inactive), 'Quiz 1' (cse425, Inactive), and 'Quiz 1' (CSE445, Active). Below the table, it says 'Showing 1 to 6 of 6 entries' and has 'Previous' and 'Next' buttons. There is also a search bar at the top right of the table.

Exam Name	Course Name	Status	Action
Final	CSE299	Active	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>
mid	CSE299	Active	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>
new exam	CSE299	Active	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>
quiz 1	CSE299	Inactive	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>
Quiz 1	cse425	Inactive	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>
Quiz 1	CSE445	Active	<a href="#">View Questions</a> <a href="#">Add Question</a> <a href="#">View Result</a> <a href="#">Delete Exam</a>

### 3.2.11 Admin page- View Results by Course:

Results can be viewed individually in this section of different exams.

localhost/vrexam/view\_results\_by\_course.php

VIRTUAL EXAM

Admin Dashboard

Add Course

View Courses

Add Student

View Students

Add Exam

View Exams

View Results by Course

Select Course:

Exams

quiz 1 [View Results](#)

mid [View Results](#)

Final [View Results](#)

new exam [View Results](#)

### 3.2.12 Admin page- View Feedback:

Feedbacks given by the students can be seen on this page.

localhost/vrexam/view\_feedbacks.php

VIRTUAL EXAM

Admin Dashboard

Add Course

View Courses

Add Student

View Students

Add Exam

View Exams

View Results by Course

View Feedback

Post Announcement

Student Requests

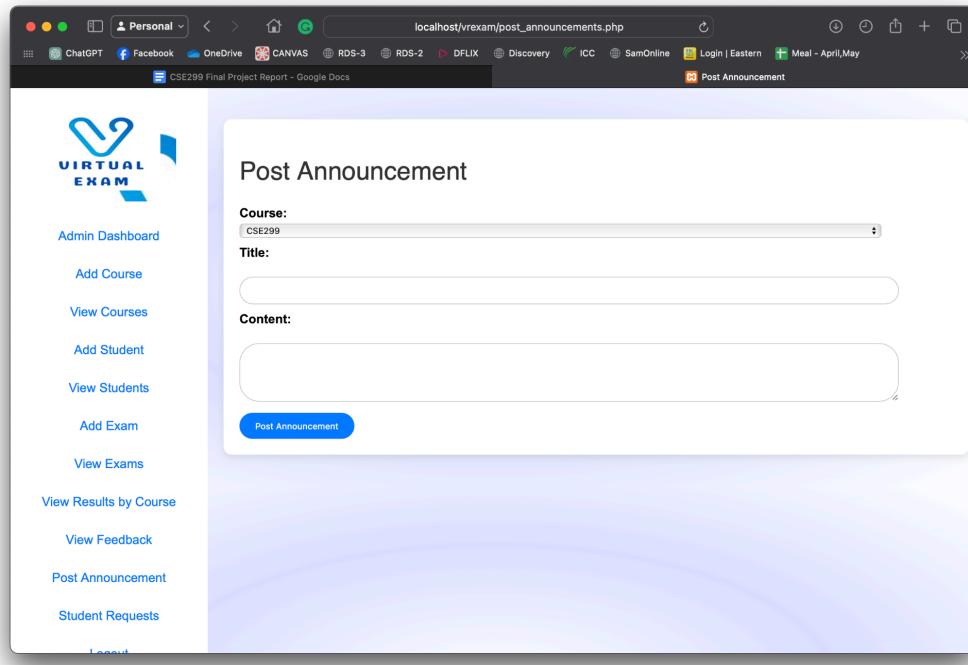
Feedback: This is the best course I've ever done. Thank you, sir!  
Name: Anonymous  
Posted At: 2024-05-17 23:34:59

Feedback: It would be really helpful for me if you could upload the class recordings in the announcements section. Thanks in advance.  
Name: Ahsinul Sefat  
Posted At: 2024-05-17 23:36:13

Feedback: I don't understand your classes. Please go slow sir!  
Name: Anonymous  
Posted At: 2024-05-17 23:36:48

### 3.2.13 Admin page- Post Announcement:

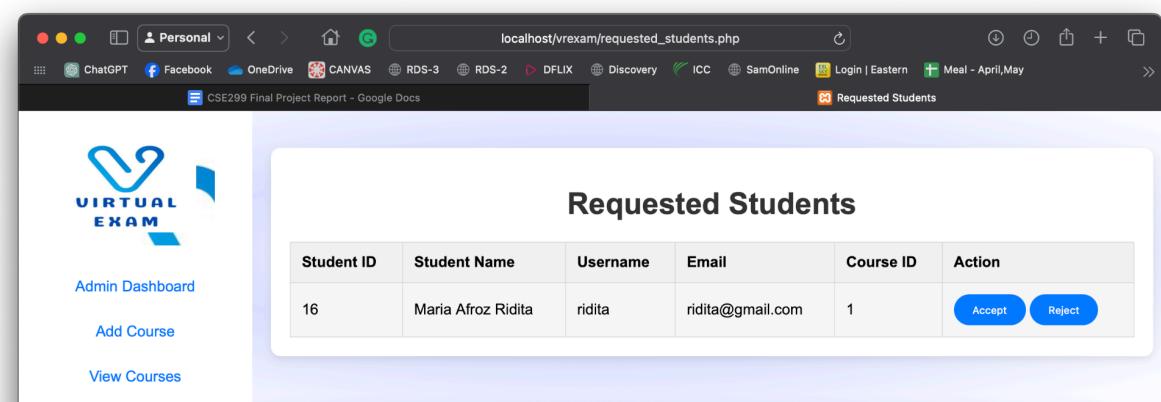
Admin can post an announcement in the specific course which can be seen by the students in the view announcement section on the front page of the student.



A screenshot of a web browser showing the 'Post Announcement' form. The URL is 'localhost/vrexam/post\_announcements.php'. The page has a sidebar on the left with a 'VIRTUAL EXAM' logo and links for Admin Dashboard, Add Course, View Courses, Add Student, View Students, Add Exam, View Exams, View Results by Course, View Feedback, Post Announcement (which is the current active link), Student Requests, and Logout. The main content area has a title 'Post Announcement'. It includes fields for 'Course:' (set to 'CSE299'), 'Title:' (an empty input field), 'Content:' (an empty text area), and a blue 'Post Announcement' button at the bottom.

### 3.2.14 Admin page- Student Requests:

Requested students will be shown on this page and the admin has the power to accept and reject the request.

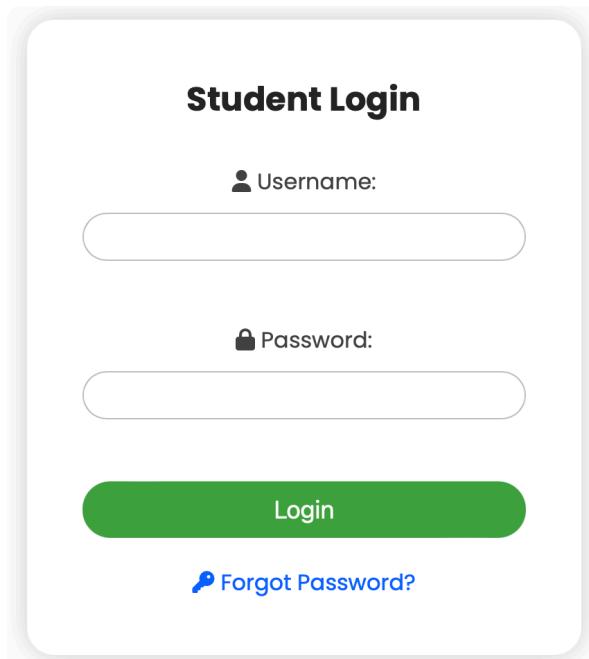


A screenshot of a web browser showing the 'Requested Students' list. The URL is 'localhost/vrexam/requested\_students.php'. The page has a sidebar on the left with a 'VIRTUAL EXAM' logo and links for Admin Dashboard, Add Course, View Courses, and a 'Requested Students' link (which is the current active link). The main content area has a title 'Requested Students' and a table with the following data:

Student ID	Student Name	Username	Email	Course ID	Action
16	Maria Afroz Ridita	ridita	ridita@gmail.com	1	<a href="#">Accept</a> <a href="#">Reject</a>

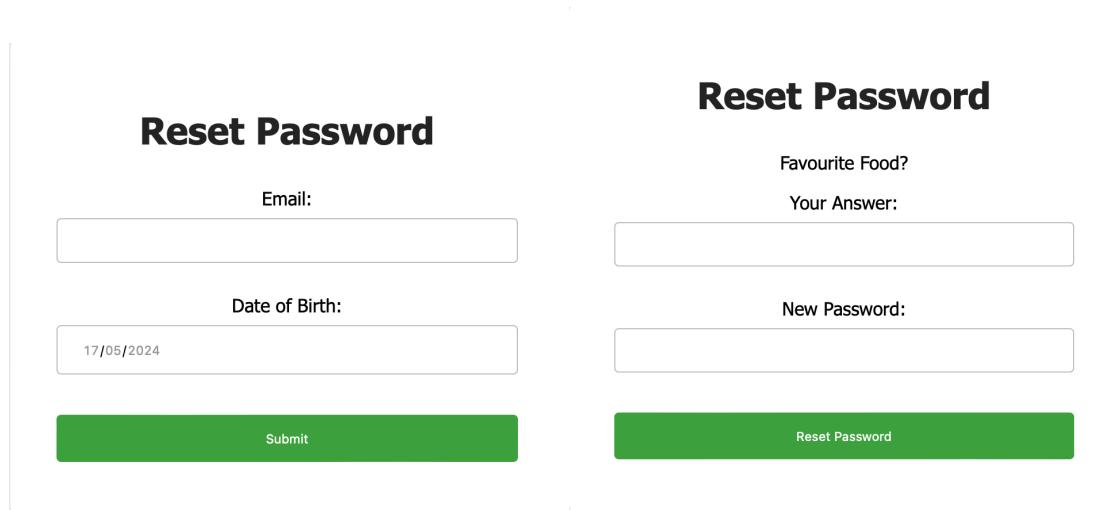
### **3.2.15 Student Login:**

The login system will ask the user for username and password and will be able to get access to the next page as a student.



A screenshot of a 'Student Login' form. At the top center is the title 'Student Login'. Below it is a label 'Username:' with a small user icon to its left, followed by a long, thin, light-blue rectangular input field. Below that is a label 'Password:' with a small lock icon to its left, followed by another long, thin, light-blue rectangular input field. In the center between the two fields is a green rounded rectangular button labeled 'Login'. At the bottom left of the form is a blue link labeled 'Forgot Password?' with a small key icon to its left.

### **3.2.16 Student Password Reset:**



A screenshot of a 'Reset Password' form. At the top center is the title 'Reset Password'. The form is divided into two columns. The left column contains a label 'Email:' above a light-blue rectangular input field, and a label 'Date of Birth:' above another light-blue rectangular input field containing the text '17/05/2024'. Below these is a green rounded rectangular button labeled 'Submit'. The right column contains a label 'Favourite Food?' above a light-blue rectangular input field, and a label 'Your Answer:' above another light-blue rectangular input field. Below these is a green rounded rectangular button labeled 'Reset Password'.

### 3.2.17 Student Page-Enrolled courses:

After logging in, this is the landing page for the student where all the course details will be shown.

The screenshot shows a web browser window titled "localhost/vrexam/student\_enrolled\_courses.php". The main content area is titled "Enrolled Courses" and features a large "CSE299" heading. Below the heading are two blue buttons: "View Coursemates" and "View Announcements". On the left side, there is a sidebar with the "VIRTUAL EXAM" logo and links for "Enrolled Courses", "View Exams", "View Results", "Write Feedback", and "Logout". A green circular profile picture is visible in the top right corner, and the time "23:27:46" is displayed above it.

### 3.2.18 Student Page-View Exam:

Students can see the upcoming exams and can attend the exam accordingly. He/she can see the result after attending the exam.

The screenshot shows a web browser window titled "localhost/vrexam/student\_exams.php". The main content area is titled "Exams" and lists three upcoming exams: "mid", "Final", and "new exam". Each exam entry includes the course name (CSE299), time limit, and two blue buttons: "Attend Exam" and "View Result". On the left side, there is a sidebar with the "VIRTUAL EXAM" logo and links for "Enrolled Courses", "View Exams", "View Results", "Write Feedback", and "Logout". A green circular profile picture is visible in the top right corner, and the time "23:27:58" is displayed above it.

### 3.2.19 Student Page-View Result:

Results can be seen in this section with the course details and the achieved marks.

The screenshot shows a web browser window titled "localhost/vexam/student\_view\_result.php?exam\_id=2". The page displays exam details: Exam Name: mid, Course: CSE299, Score: 7. Below this, there is a section for "Questions" with two examples. The first question is "Question: Software is defined as \_\_\_\_\_" with four options: "set of programs, documentation & configuration of data" (selected), "set of programs", "documentation and configuration of data", and "None of the mentioned". The second question is "Question: What is Software Engineering?" with four options: "Designing a software", "Testing a software", "Application of engineering principles to the design a software" (selected), and "None of the above". On the left sidebar, there is a "VIRTUAL EXAM" logo and links for "Enrolled Courses", "View Exams", "View Results", "Write Feedback", and "Logout". The time in the top right corner is 23:29:52.

### 3.2.20 Student Page-Write Feedback:

A student can post feedback to the designated teacher of the course through this page.

The screenshot shows a web browser window titled "localhost/vexam/student\_feedback.php". The page has a "Post Feedback" header. It includes a "Feedback:" text area, a "Name (optional):" input field containing "Ahsinul Sefat", and a checkbox for "Submit anonymously". A "Submit" button is at the bottom. On the left sidebar, there is a "VIRTUAL EXAM" logo and links for "Enrolled Courses", "View Exams", "View Results", "Write Feedback", and "Logout". A circular profile picture of a student is visible in the top right. The time in the top right corner is 23:30:10.

# Chapter 4

## List of Software Used

1. HTML (Hypertext Markup Language)
2. CSS (Cascading Style Sheets)
3. JavaScript
4. PHP (Hypertext Preprocessor)
5. Bootstrap
6. Database Management System: MySQL
7. Version Control: Git
8. Integrated Development Environment(IDE): Visual Studio Code
9. Web Server: Apache

# Chapter 5

## Conclusion and Future Work

### 5.1 Conclusion

In conclusion, the development of the VirtualExam website has been guided by a comprehensive understanding of the requirements outlined in this document. By leveraging HTML, CSS, JavaScript, PHP, and Bootstrap, we have successfully created a user-friendly platform that addresses the diverse needs of both students and administrators in the realm of online exam administration.

Throughout the development process, a strong emphasis has been placed on accessibility, efficiency, adaptability, and user-centric design principles. The implementation of these key features ensures that students from various backgrounds can access exams with ease, educators can manage exams efficiently, course materials can be updated dynamically, and the overall user experience remains intuitive and seamless.

With the completion of this project, we have achieved our goal of providing a comprehensive solution for simplifying the exam process while ensuring its integrity and effectiveness in the modern educational landscape. Moving forward, we remain committed to continuously refining and improving the VirtualExam platform to meet the evolving needs of our users and further enhance the learning and assessment experience.

### 5.2 Limitations of the work

Let us look at the disadvantages of an online examination system:

- Potential for technical glitches leading to interruptions in the exam-taking process.
- Risk of cheating through unauthorized access to exam materials or use of external resources

- Limited ability to assess certain types of knowledge or skills that may require non-digital assessment methods.
- Dependence on internet connectivity, posing challenges for students in areas with poor or unreliable internet access.
- Lack of personal interaction and feedback between students and educators during the exam process.

### **5.3 Future Work:**

The project has all the features that an online examination system should have but some more features can be added. So the next component we are going to work on is the home page, and add more security features like live camera and ID Access. Also, the domain for the VirtualExam website will also be included.

**Home Page:** In future, we are going to build a home page in such a way that when anyone comes to the application, he first is going to see a homepage with multiple category quizzes if the user wants to take a quiz that is going to authenticate.

Some other future works -

1. In future, we want to add some coding exams like the HackerRank coding Platform.
2. Facilitating communication between users, by allowing users to launch mobile apps to communicate with customer care, or send messages to service centers and avail free information related to quizzes and its related technologies and issues as well.
3. Providing multiple categories of quizzes to relate to every student as user experience.
4. Admin also can make some quizzes as paid so we are going to add a payment gateway also in the existing system.