# CSE3001 – Software Engineering

# Slot: F2

# E-Learning System for Disabled Students

## Under the Guidance of
## Prof Shashank Mouli Satapathy

**Team Members:**

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# 1 Introduction

## 1.1 Document Purpose

This document contains software requirements specification for E-Learning System for Disabled Students and the functionalities. It also contains Hardware requirements and software requirements. It also contains User Interface systems, Communication interface, Functional requirements , Product scope ,User interface etc..

## 1.2 Product Scope

E- Learning system for the disabled students is a learning website portal, which is designed to help and fulfil the needs of the students with visual, hearing, learning, speaking and physical disabilities. E-learning system is the future of education as it provides the flexibility for students to access materials and learn on their own pace. It is cost effective as it reduces the travelling time and money, thereby making it convenient for the disabled students to learn from their home. The system uses various methods and techniques in order to provide an effective and efficient learning experience to students.

## 1.3 Intended Audience and Document Overview

This document is intended for Developers and who are willing to finish the unfinish the project. Those who are researching on signal conversion and text to speech and speech to text conversion would feel this document helpful. It is also useful for project managers, marketing staff, users, testers, and documentation writers.

# 2 Overall Description

## 2.1 Product Perspective

Even a slight difficulty in our day makes we feel it as a bad day even if we are physically fit in all ways. Now Consider the same scenario for a person facing the Same hardships with Disabilities and with strong will which we find very rare these days, to live and to prepare himself to face the world.

Our Project is just a small step towards humanity by helping people who suffer from their disability on daily basis. We focus on building an educational website exclusively for these people. Even if it suffices the need of at least one student, we would feel worthy about ourselves.

## 2.2 Product Functionalities

- Text to Speech recognition.
- Attempting and Preparing Quizzes.
- Assignments.
- Uploading and Viewing Study Materials.
- Uploading Video Lectures with subtitles.

## 2.3 Users and Characteristics

This Project is mainly designed for Disabled people specially Blind People ,Dumb People, Deaf People using languages like HTML CSS JavaScript PHP and MySQL for database connectivity. We have went through several research papers for implementing websites for these kind of physically disabled people and some set of rules have been followed for creating some interactive websites for these people. All the teachers will be having user accounts and students will be having user accounts, multiple user account should be handled by using language PHP and SQL for database connectivity.

## 2.4 Design and Implementation

As you enter the software you will get the web page i.e. html page which is divided into three sub divisions for blind ,deaf and dumb.

Our main motto in this project is to work out with disable and if strictly speaking it is more helpful to disable so we thought of going with signal processing through microphone. So when the user enters the software he will choose the disability and according to the choice it takes to the next step.

If he clicks blind (through the voice came from microphone) there he will get two options i.e. sign up and register. If he is already registered he can give his login details through speech with this he is taken to his required page. Similarly when he go for sign up or newly register he will be asking few question about himself for registration . there he can learn about the courses uploaded by the teachers and even he can attempt the quizzes . he will also get the grades regarding his performance.

## 2.5 User Documentation

Software includes Help section . As disabled people cannot use the interface properly, they get many doubts and question while using the software. To avoid this, we provide Help section through which all the disabled people gets all their doubts solved. Help section is different for

# 3 Specific Requirements

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

Out system adopts technologies like text-to-speech, etc. for helping the students to communicate with the learning system. This allows students to learn and understand concepts better and they can effectively communicate with E – learning system in cases like answering questionnaires, MCQ has essays etc. This provides a safe environment for the disabled students to concentrate on their education and an effective way to learn.

### 3.1.2 Hardware Interfaces

Our main motto of the project is for blind and here for blind as they are not able to see they must go through the specific options i.e. only through the speech he listens. The way that we are dealing here is with microphone. So it converts the speech to text and text to speech and maintains the good interface between user and the system. So it is one of the hardware component . and there are few other components like mouse and motherboard and simple infrastructure related to computer.

### 3.1.3 Software Interfaces

The previous systems were developed based on Java programming language. In terms of performance, the systems were much slower due to compile time overhead and high memory consumption when compared to the other languages like C or C++.The UI design for the web applications written in Java is different from applications developed using native languages.

- Our project aims for building a website for physically disabled people by using languages like HTML, CSS, JavaScript, PHP for designing the website and MySQL for database connectivity.

- All the teachers will be having user accounts and students will be having user accounts.

- Multiple user account should be handled by using language PHP and SQL for database connectivity.

- Each and every new user will be given a sign up from where has to fill all is details and it will be checked.

### 3.1.4 Communications Interfaces

Here are few ways to communicate between the user and system. For blind they communicate through microphone. So we all know what it does is it converts the speech to text and text to speech and maintains the good interface between user and the system. And for the rest i.e. for deaf and dumb they go through the simple mouse and keyboard . this is how user communicates.

## 3.2 Functional Requirements

R1: Text to Speech recognition.

Description: In blind login, Whenever the cursor moves to the instruction, System speaks about it so that blind person understands about it

R2: Preparing Quizzes.

Description: Teacher prepares quizzes.

R3: Enrol Courses.

Description: Student can enrol the courses.

R4: Uploading and Viewing Study Materials.

Description: Teacher uploads materials from his/her computer and student views materials.

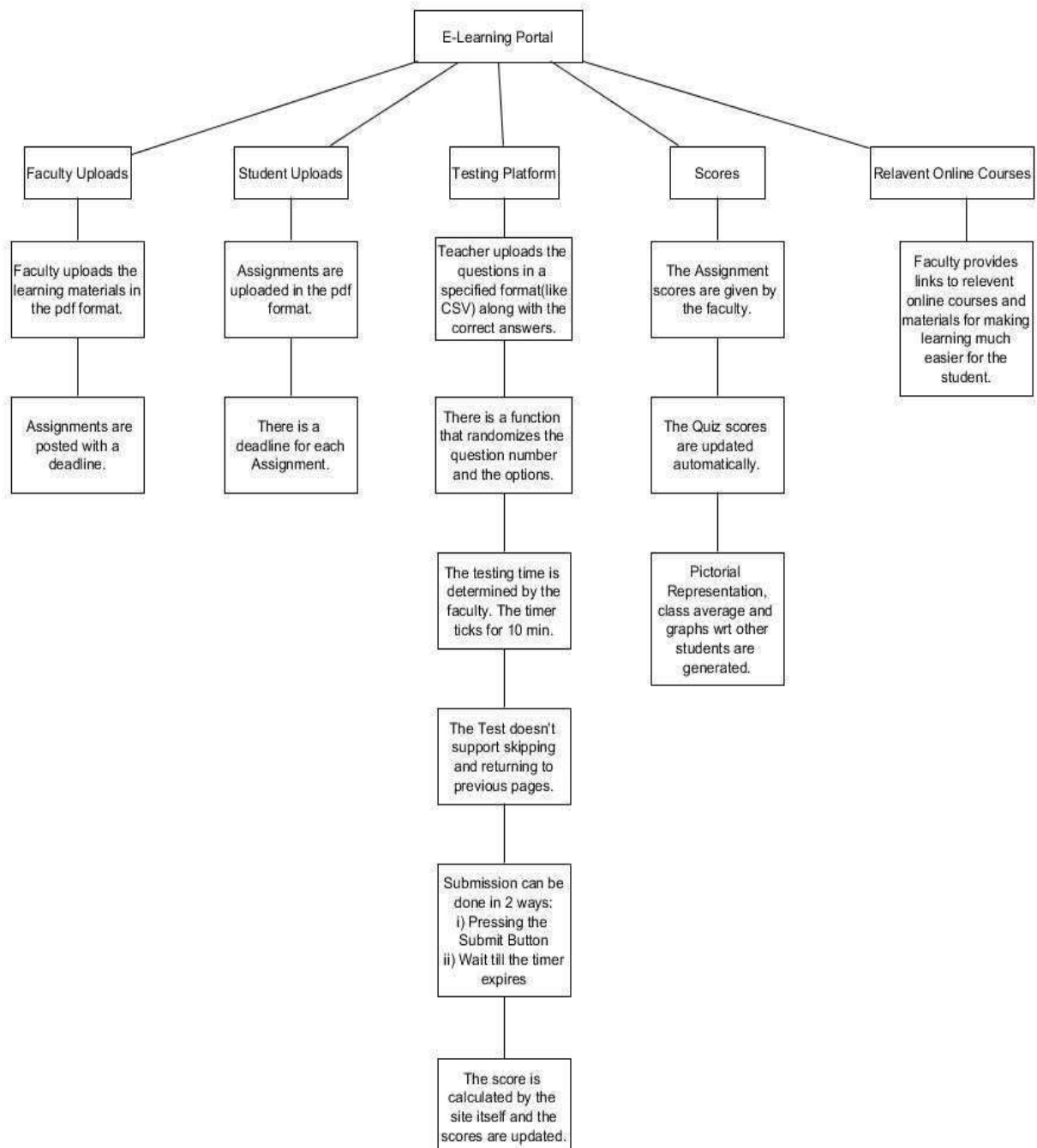R5: Uploading Video Lectures with subtitles.
Description: Teacher uploads the videos and student can view all videos.
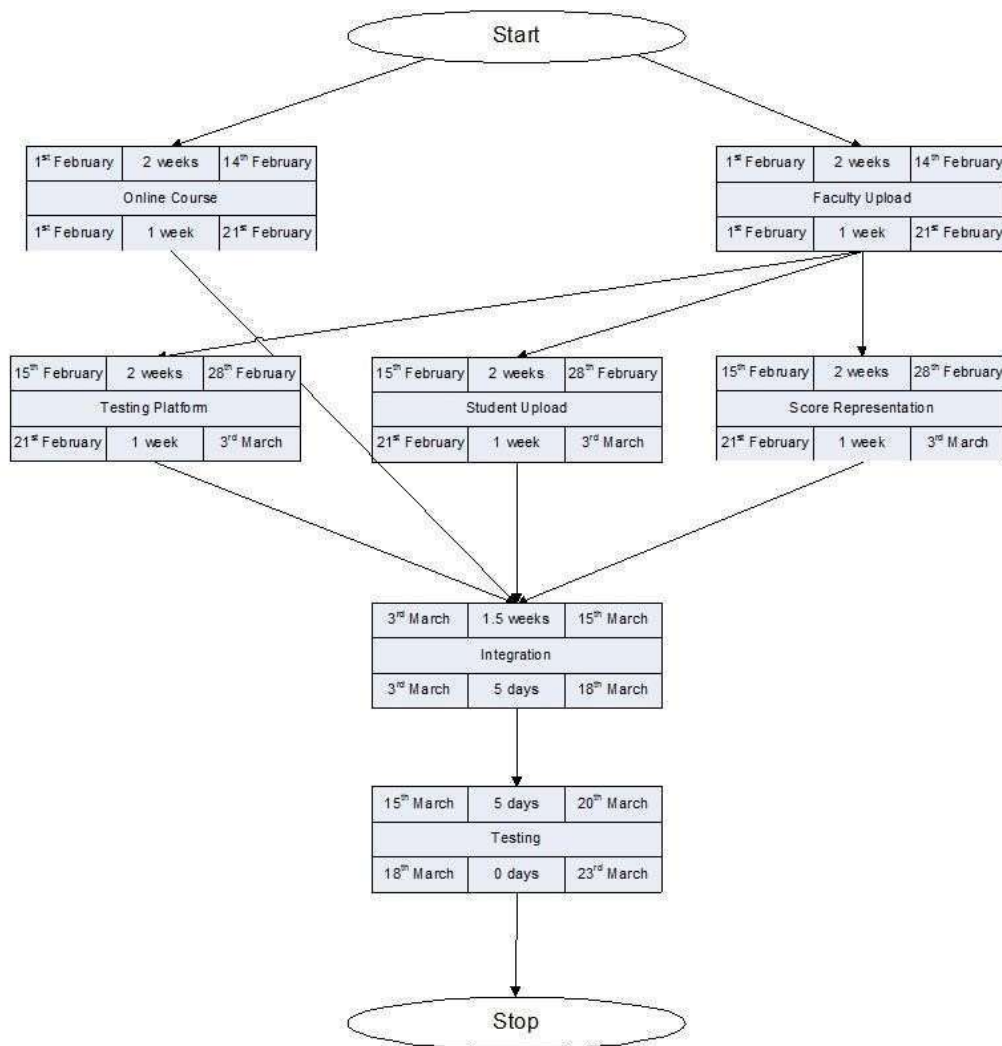
## 3.3 Non Functional Requirements

- When the user enters the homepage, he/she should not move the cursor until speech ends.
- User should speak properly through microphone so that it converts it into text.
- User should not perform the tasks very fast.
- User should not perform any task while text to speech conversion is running.

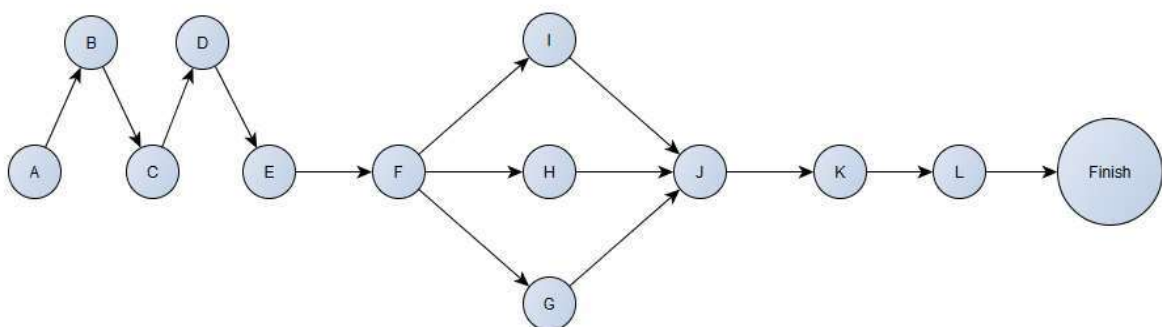Software is very sensitive as signal conversion takes place at background. So User should handle it properly.

## 1. Work Breakdown Structure:

```
                              ┌──────────────────┐
                              │ E-Learning Portal│
                              └──────────────────┘
```

| Faculty Uploads | Student Uploads | Testing Platform | Scores | Relavent Online Courses |
|---|---|---|---|---|
| Faculty uploads the learning materials in the pdf format. | Assignments are uploaded in the pdf format. | Teacher uploads the questions in a specified format(like CSV) along with the correct answers. | The Assignment scores are given by the faculty. | Faculty provides links to relevent online courses and materials for making learning much easier for the student. |
| Assignments are posted with a deadline. | There is a deadline for each Assignment. | There is a function that randomizes the question number and the options. | The Quiz scores are updated automatically. | |
| | | The testing time is determined by the faculty. The timer ticks for 10 min. | Pictorial Representation, class average and graphs wrt other students are generated. | |
| | | The Test doesn't support skipping and returning to previous pages. | | |
| | | Submission can be done in 2 ways: i) Pressing the Submit Button ii) Wait till the timer expires | | |
| | | The score is calculated by the site itself and the scores are updated. | | |

## 2. Pert Chart:



## 3. Activity Network Diagram:

| Activity | Description | Immediate Predecessors | Estimated Time (Days) |
|---|---|---|---|
| A | Requirement Elicitation | - | 5 |
| B | Analysis and Planning | A | 23 |
| C | Architectural and Design | B | 16 |
| D | Text to Speech Conversion | C | 5 |
| E | Faculty Materials | D | 5 |
| F | Faculty Assignment | E | 5 |
| G | Student Assignment | F | 5 |
| H | Testing Portal | F | 10 |
| I | Basic Software | F | 10 |
| J | Integration | I,H,G | 5 |
| K | System Testing | J | 4 |
| L | Project Delivery | K | 4 |

**Deliverables:**

| Activity | Description | Estimated Time (Days) |
|----------|-------------|-----------------------|
| A | Requirement Elicitation | 5 |
| B | Analysis and Planning | 23 |
| C | Architectural and Design | 16 |
| D | Text to Speech Conversion | 5 |
| E | Faculty Materials | 5 |
| F | Faculty Assignment | 5 |
| G | Student Assignment | 5 |
| H | Testing Portal | 10 |
| I | Basic Software | 10 |
| J | Integration | 5 |
| K | System Testing | 4 |
| L | Project Delivery | 4 |

## LSLF Time:

| Activity | Duration(Days) | ES | EF | LF | LS |
|---|---|---|---|---|---|
| A | 5 | 0 | 5 | 5 | 0 |
| B | 23 | 5 | 28 | 28 | 5 |
| C | 16 | 28 | 44 | 44 | 28 |
| D | 5 | 44 | 49 | 49 | 44 |
| E | 5 | 49 | 54 | 54 | 49 |
| F | 5 | 54 | 59 | 59 | 54 |
| G | 5 | 59 | 64 | 64 | 59 |
| H | 10 | 59 | 69 | 69 | 59 |
| I | 10 | 59 | 69 | 69 | 59 |
| J | 5 | 69 | 74 | 69 | 64 |
| K | 4 | 74 | 78 | 75 | 71 |
| L | 4 | 78 | 82 | 80 | 76 |
| Finish | 0 | 82 | 82 | 82 | 82 |

## Ghantt Chart:



| ID | Task Name | Start | Finish | Duration |
|---|---|---|---|---|
| 1 | Requirement Elicitation | 12/1/2018 | 12/7/2018 | 5d |
| 2 | Analysis and Planning | 12/8/2018 | 1/9/2019 | 23d |
| 3 | Architectural Design | 1/10/2019 | 1/31/2019 | 16d |
| 4 | Faculty Materials Upload | 2/1/2019 | 2/7/2019 | 5d |
| 5 | Faculty Assignment Upload | 2/8/2019 | 2/14/2019 | 5d |
| 6 | Student Course Page | 2/15/2019 | 2/21/2019 | 5d |
| 7 | Student Assignment Upload | 2/22/2019 | 2/28/2019 | 5d |
| 8 | Testing Portal | 2/15/2019 | 2/28/2019 | 10d |
| 9 | Score Representation | 2/15/2019 | 2/28/2019 | 10d |
| 10 | Unit Testing | 3/5/2019 | 3/9/2019 | 5d |
| 11 | Integration | 3/12/2019 | 3/15/2019 | 4d |
| 12 | System Testing | 3/15/2019 | 3/20/2019 | 4d |

# 7. Risk Assessment:

| # | Risk Category | Score | Comments |
|---|---|---|---|
| | **BUSINESS RISK** | **40** | **N/A** |
| **1** | **Implementation complexity and impact to processes and business areas:** | **20** | |
| | - Implementation is complex, though team has prior experience | 20 | |
| **2** | **Business Dependencies that might impact implementation:** | **10** | |
| | - No impact, No business dependencies exist | 10 | |
| **3** | **Outages required during the implementation:** | **10** | |
| | - None required | 10 | |
| | **TECHNOLOGY RISK** | **200** | **N/A** |
| **4** | **Type of Project:** | **120** | |
| | - Maintenance (e.g., correct problems) | 5 | |
| | - Enhancement (e.g., add new features) | 10 | |
| | - Product introduction | 15 | |
| | - Process improvement/re-engineering | 20 | |
| | - New development – replace existing system | 30 | |
| | - Implementation of software package in-house | 40 | |
| **5** | **External Vendor Involvement:** | **10** | |
| | - No, an internal partner will be used for some project activites | 10 | |

| | | | | |
|---|---|---|---|---|
| 6 | **Level of vendor support necessary for the technology after implementation:** | **30** | | |
| | - Minor support necessary (e.g., maintenance only) | 30 | | |
| 7 | **Newness of Technology (hardware, systems, databases, communication, etc.) used in the project:** | **10** | | |
| | - Technology is not new and has been proven or tested | 10 | | |
| 8 | **Availability of Project Team Resources** | **30** | | |
| | - We have the resources with the appropriate skill sets | 10 | | |
| | - We have resources but they will need to be trained | 20 | | |
| | **IMPLEMENTATION RISK** | **10** | **N/A** | |
| 9 | **Will the Office for General Counsel or Purchasing be used during the negotiation, creation, or modification of the contract?** | **0** | | |
| | - No contract is required for project. | 0 | | |
| 10 | **Has the Business Case been developed, reviewed and approved:** | **10** | | |
| | - Yes, the Business Case/justification is documented and fully approved | 10 | | |
| 11 | **Additional project risks not previously addressed [1]:** | **0** | | |
| | - | | | |
| | - | | | |
| | - | | | |
| | **TOTAL PROJECT RISK SCORE** | **250** | **FINAL PROJECT RISK RATING:** **[RATING]** | |

| # | Risk statement | | (Scale 1-100%) Probability | (Scale 1-10) Impact | Exposure | Mitigation |
|---|---|---|---|---|---|---|
| | **Condition** | **Consequence** | | | | |
| 1 | The CTO might not be available 50 percent of the time, as required. | The project could be delayed. Incorrect decisions could be made. | 80% | 9 | 7.2 | Gain commitment to 50 percent of available CTO time. |

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | Possible denial of service attack. | Non-availability of the system to the customers and end users. | 70% | 10 | 7 | Use of firewall technology, and procedures for keeping such technology updated. |
| 3 | Catalog data might require conversion. None is currently planned for. | Reduced ability of the system to access and manipulate the data as required. | 80% | 8 | 6.4 | Determine extent of problem. If necessary, develop scripts to standardize the format of data. |
| 4 | Customer data might require conversion. None is currently planned for. | Reduced ability of the system to access and manipulate the data as required. | 80% | 8 | 6.4 | Determine extent of problem. If necessary, develop scripts to standardize the format of data. |
| 5 | If sales drop, the $750,000 project budget might be reduced or cancelled. | Project cancellation, delay, or scope reduction. | 50% | 10 | 5 | No action possible within the scope of the project. |
| 6 | Customer data might be incomplete, making analysis difficult. | Reduced ability to analyze customer information to identify best customers. | 80% | 6 | 4.8 | Determine extent of problem and how significant the data is to analysis. If necessary, consider population of missing data. |
| 7 | New data might not be available for searching on a timely basis. | Decisions could be made on the basis of incomplete information. | 90% | 4 | 3.6 | Schedule incremental updates to the search index as frequently as the technology will allow. |

## 1. ER Diagram:
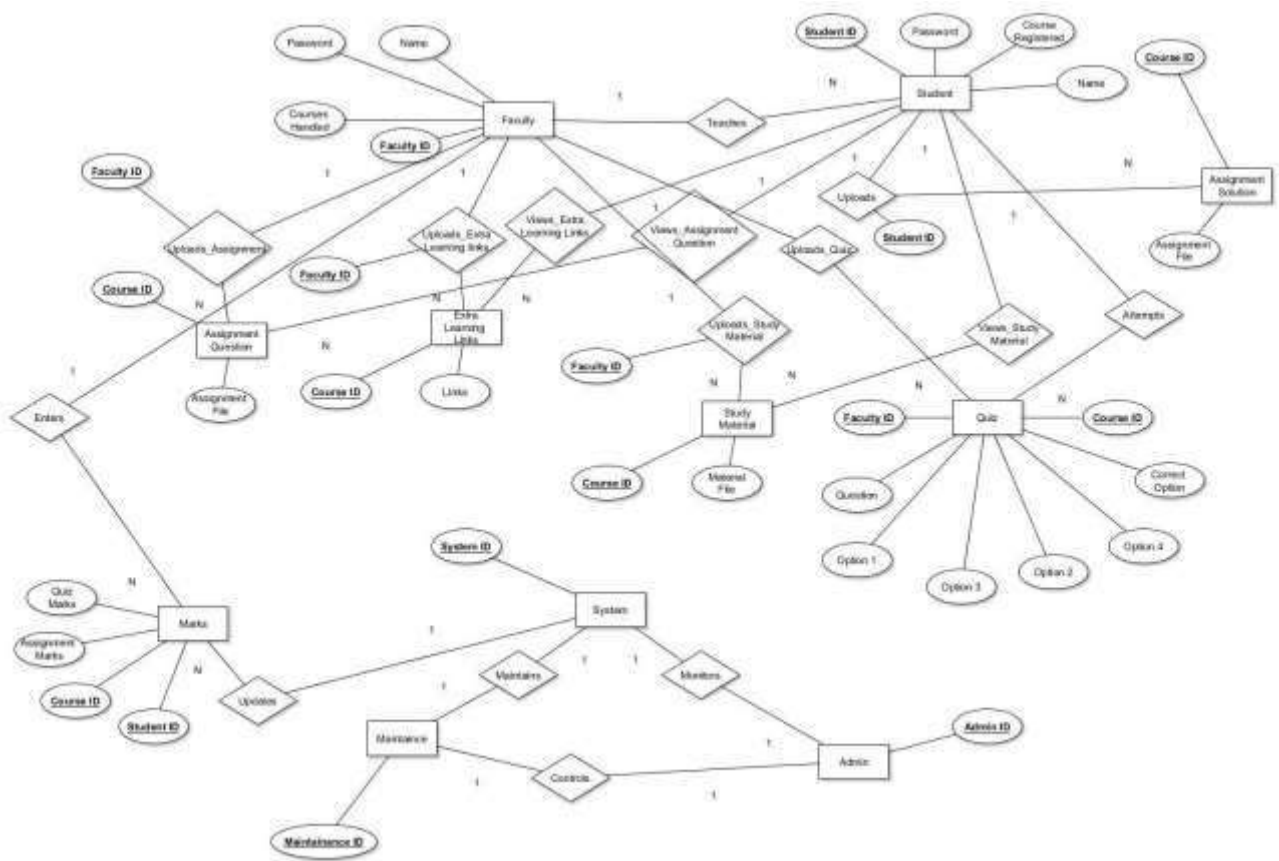


## Level 0 DFD
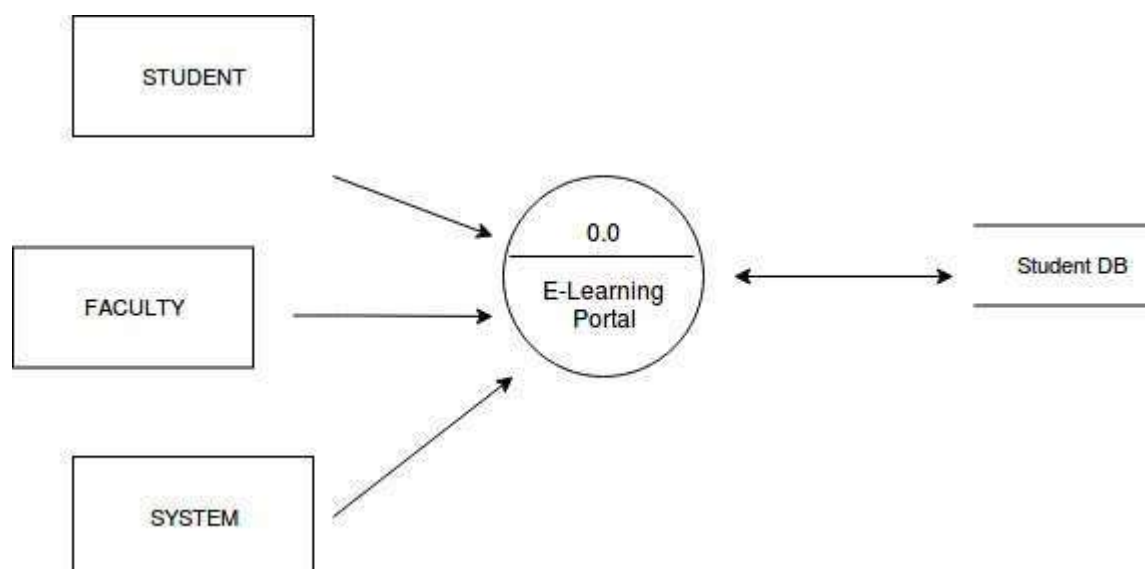
# Level 1 DFD
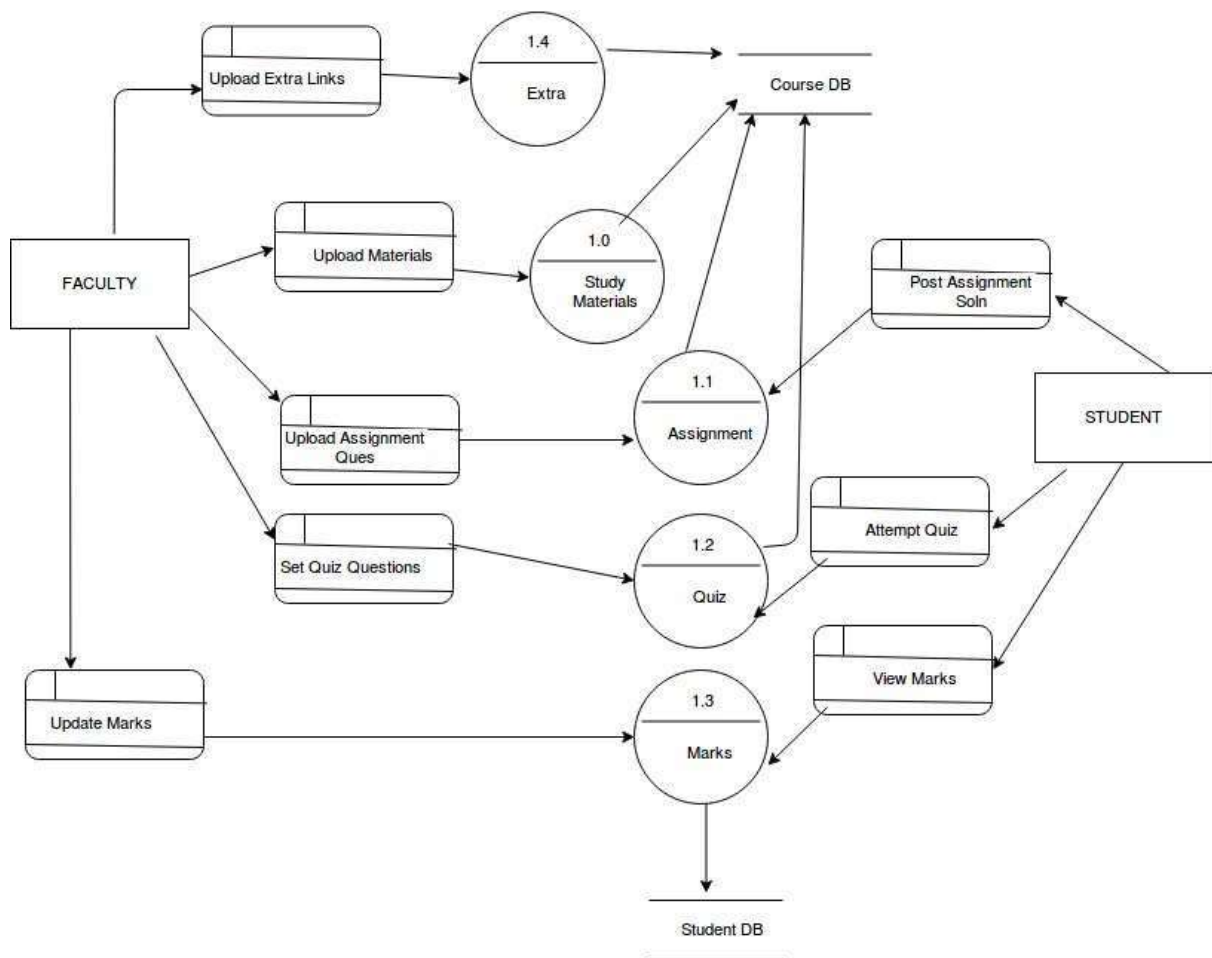


# Faculty

| Attribute | Type |
|-----------|------|
| Faculty Id | Number ,Primary key |
| Faculty Name | Varchar |
| Faculty Password | Varchar |
| Courses Handled | Varchar |

## Student

| Attribute | Type |
|---|---|
| Student ID | Char, Primary Key |
| Password | varchar |
| Course Registered | Varchar |
| Name | Varchar |

## Marks

| Attribute | Type |
|---|---|
| Student ID | Char, Primary Key |
| Course ID | Char, Primary Key |
| Assignment Marks | Number |
| Quiz Marks | Number |

**Structural Chart**
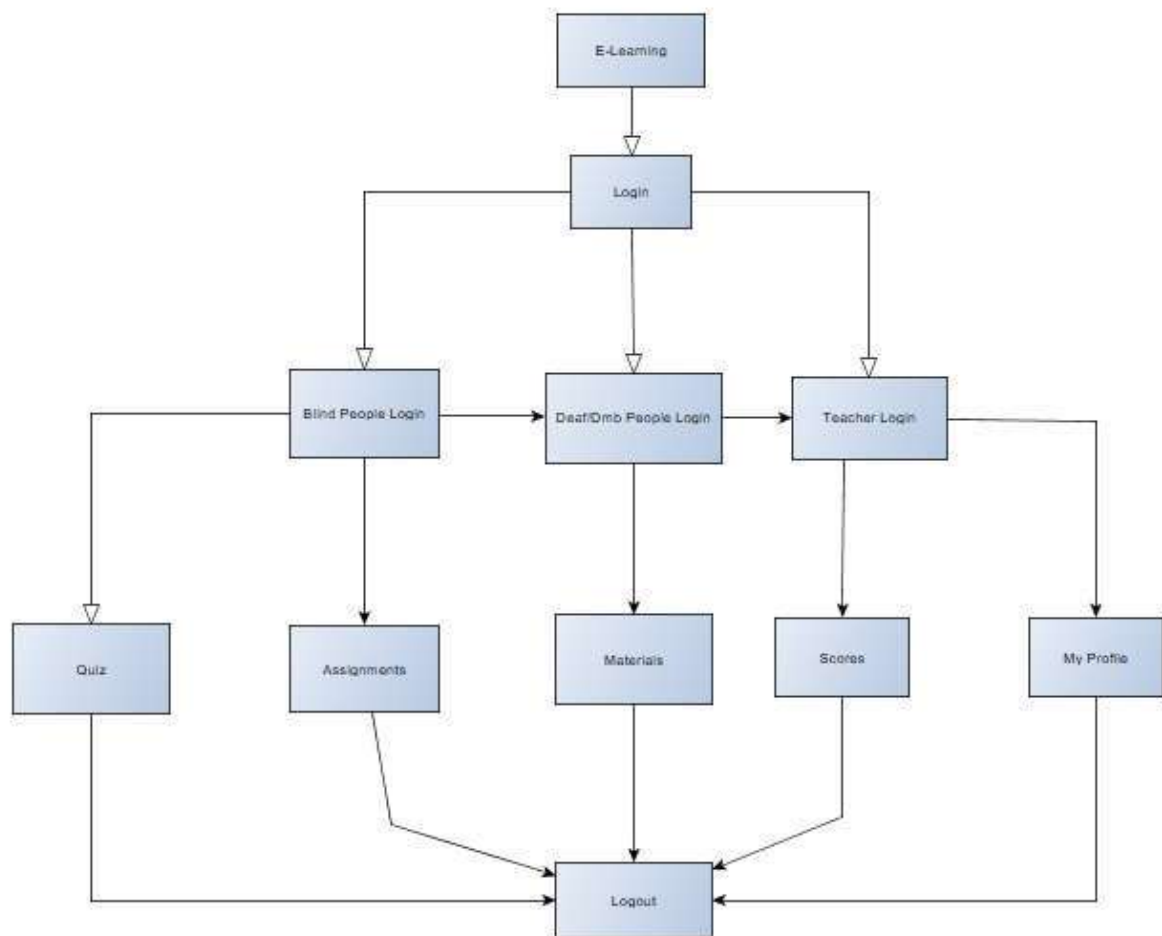
**Quiz Portal**
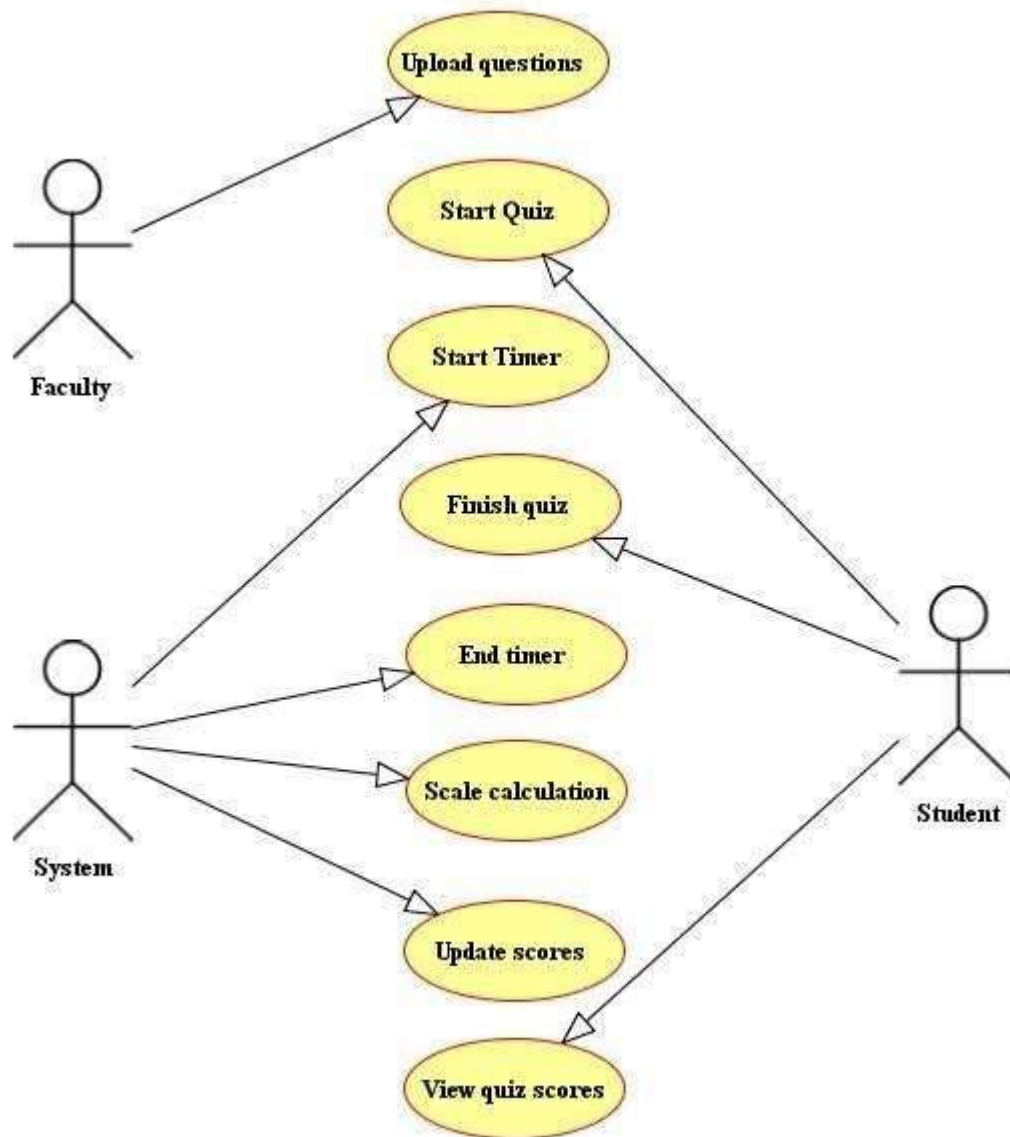
**Overall System**
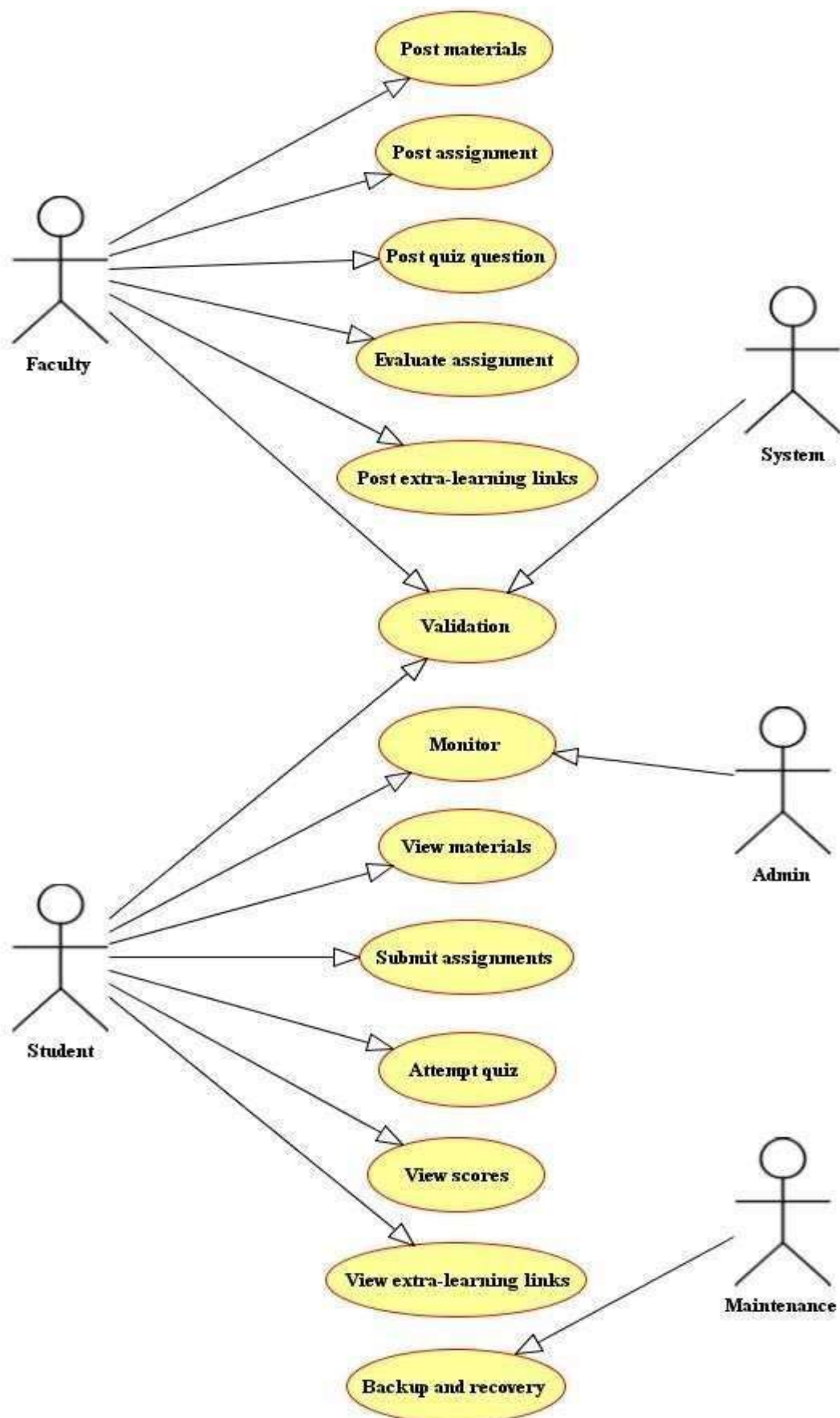
## For Quiz Portal

| Use Case ID: | 1 | | |
|---|---|---|---|
| Use Case Name: | Quiz portal | | |
| Created By: | Team Members | Last Updated By: | Team Members |
| Date Created: | 20/02/2019 | Date Last Updated: | 23/02/2019 |

| | |
|---|---|
| Actor: | Student, Faculty, Administrator |
| Description: | The student can access the portal to attempt quizzes conducted in the enrolled courses. <br><br> The student has to choose <br><br> ● Subject <br> ● Faculty |
| Preconditions: | The student must be enrolled in the course in order to attempt the quiz. |
| Postconditions: | The student is able to attempt the quiz with the timer running properly. |
| Alternative Courses: | Scores are calculated by the system and updated in the database |
| Exceptions: | This use case is initiated based on the request from the faculty to start the quiz otherwise it won't be initiated. |
| Includes: | The student would be prompted a message: <br><br> ● Only one attempt <br> ● Server Error |
| Special Requirements: | This use case is initiated based on the request from the faculty to start the quiz. The student has to open the quiz portal to view the quiz. |
| Assumptions: | The student has to open the quiz portal to view the quiz. |
| Notes and Issues: | The student would be prompted a message: <br><br> ● Only one attempt <br> ● Server Error |

| Use Case ID: | 2 | | |
|---|---|---|---|
| Use Case Name: | Post Materials | | |
| Created By: | Team Members | Last Updated By: | Team Members |
| Date Created: | 20/02/2019 | Date Last Updated: | 22/02/2019 |

| | |
|---|---|
| Actor: | Administrator and the Faculty member |
| Description: | The System will update the database to hold the following details<br><br>● The name of the subject<br>● The faculty who uploaded the material<br>● The format in which it has been updated |
| Preconditions: | The Faculty who is uploading the materials should be registered with the system |
| Postconditions: | Successful Confirmation Message is displayed to the Faculty |
| Alternative Courses: | The system updates the data into the database.<br>The file is stored in the database in the specified format. |
| Exceptions: | Please upload the correct file in the specified format (Word/PDF).<br><br>The maximum limit is 5 Mb. |
| Includes: | The system updates the data into the database.<br>The file is stored in the database in the specified format. |
| Special Requirements: | This use case is initiated based on the request from the Faculty Member who wants to upload the material. |
| Assumptions: | This use case is initiated based on the request from the Faculty Member who wants to upload the material. |
| Notes and Issues: | Please upload the correct file in the specified format (Word/PDF).<br><br>The maximum limit is 5 Mb. |

## Activity Diagram
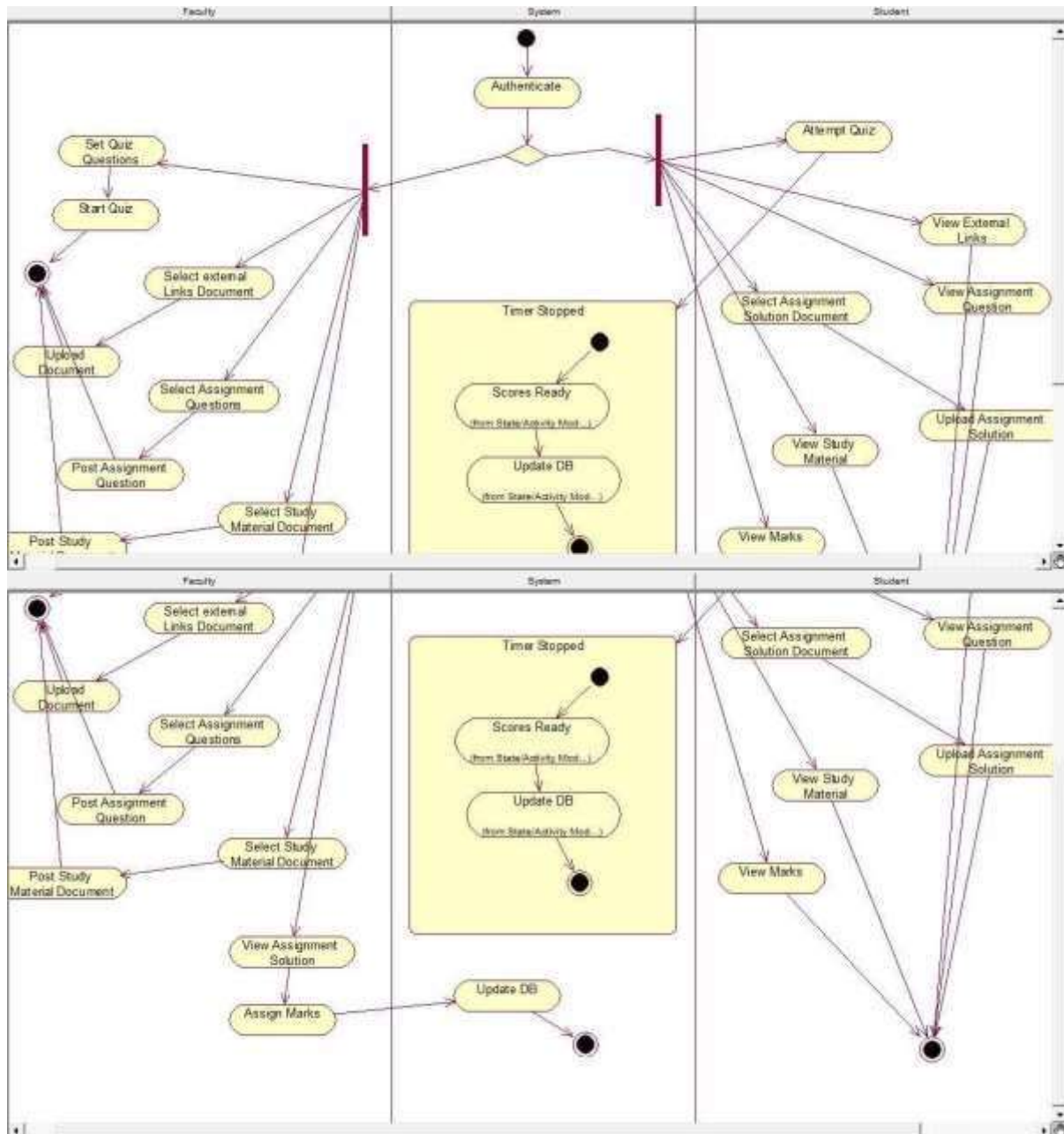
## Class Diagram:
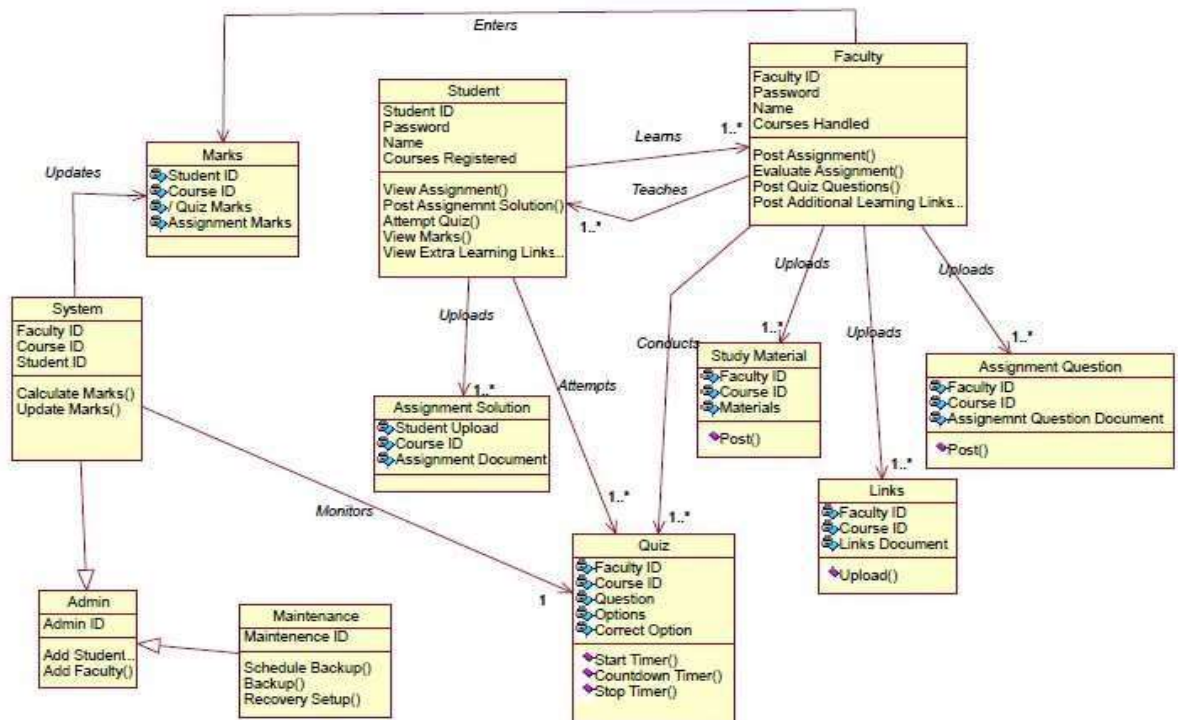


## Faculty

| Faculty | |
|---|---|
| Id | |
| Name | **Students, Marks** |
| Password | |
| Courses Handled | |

### 9.2. Student

| Student | Marks, Faculty |
|---|---|
| ID | |
| Password | |
| Course Registered | |
| Name | |

### 9.3. Marks

| Marks | Faculty, Students |
|---|---|
| Student ID | |
| Course ID | |
| Assignment Marks | |
| Quiz Marks | |

**State Chart Diagram**
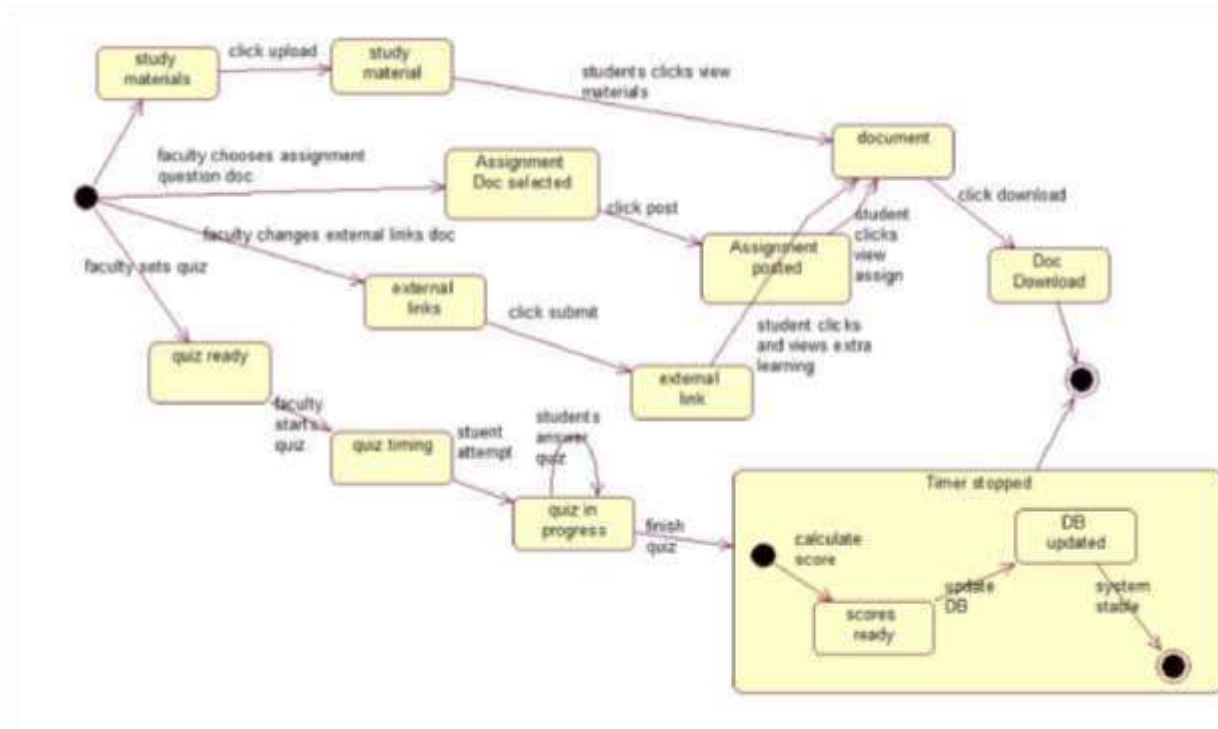


# Sequence Diagram for Study Material Upload Use Case
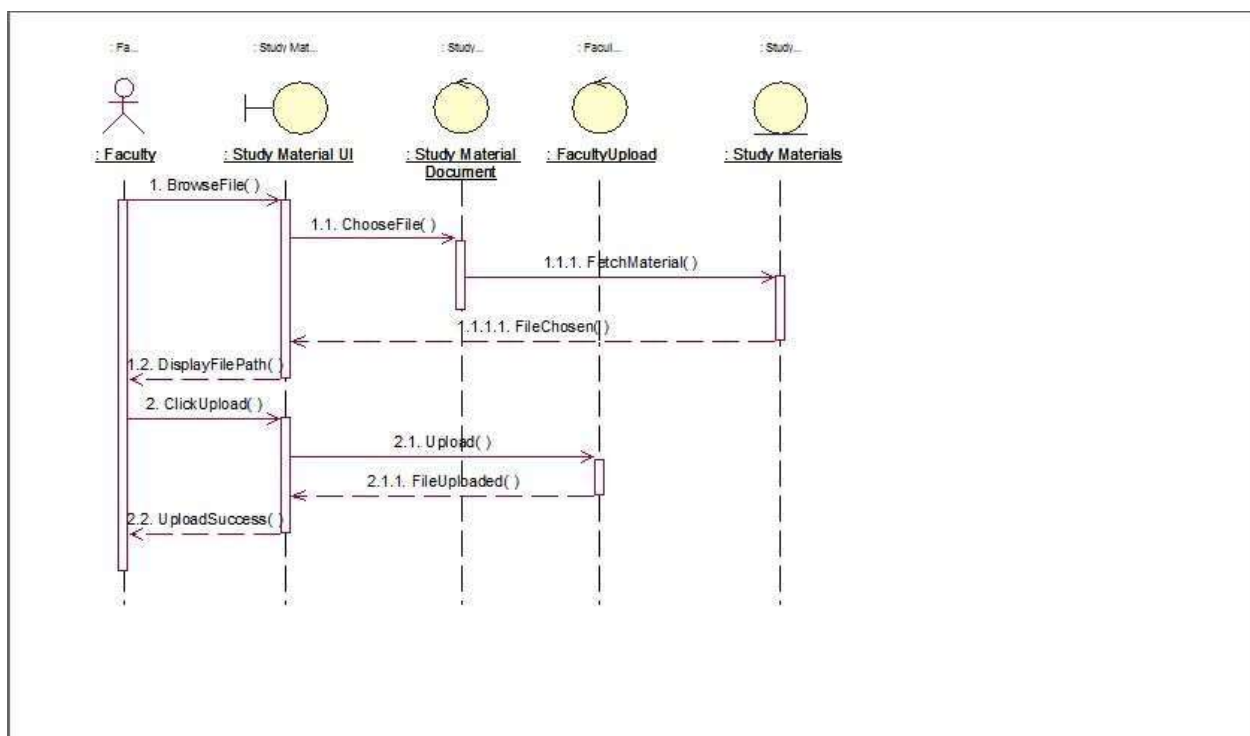
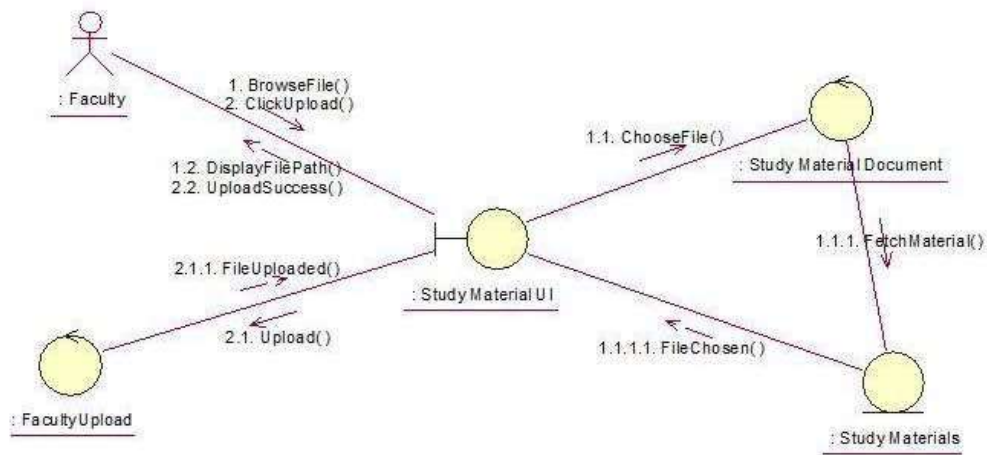# Sequence Diagram for Faculty Assignment Uploads Use Case
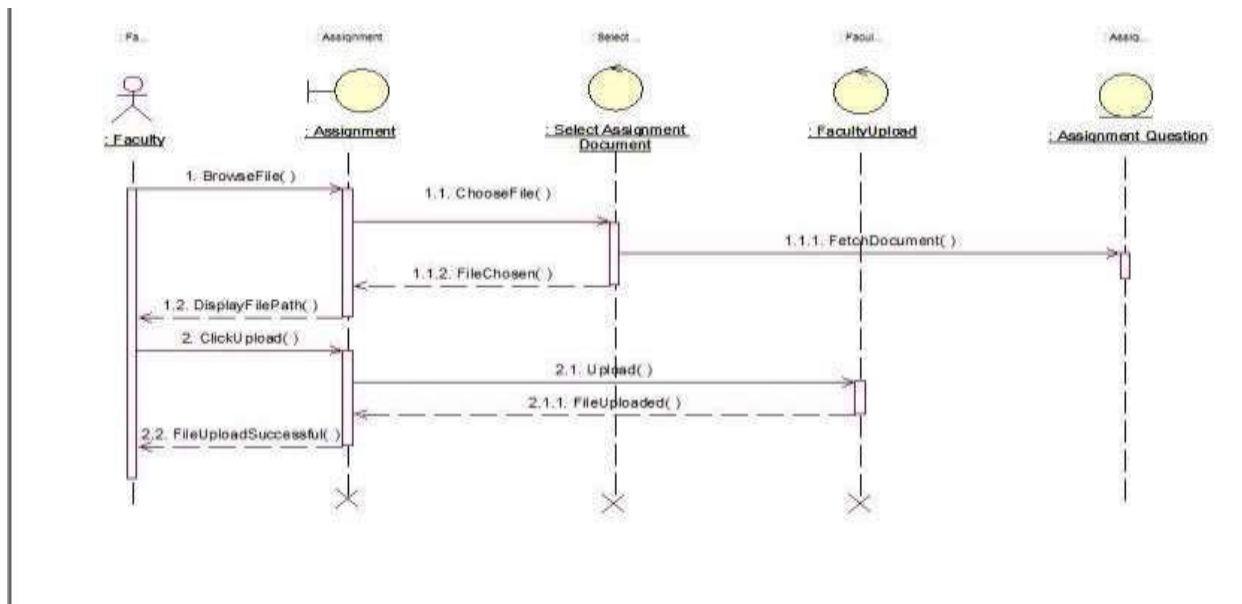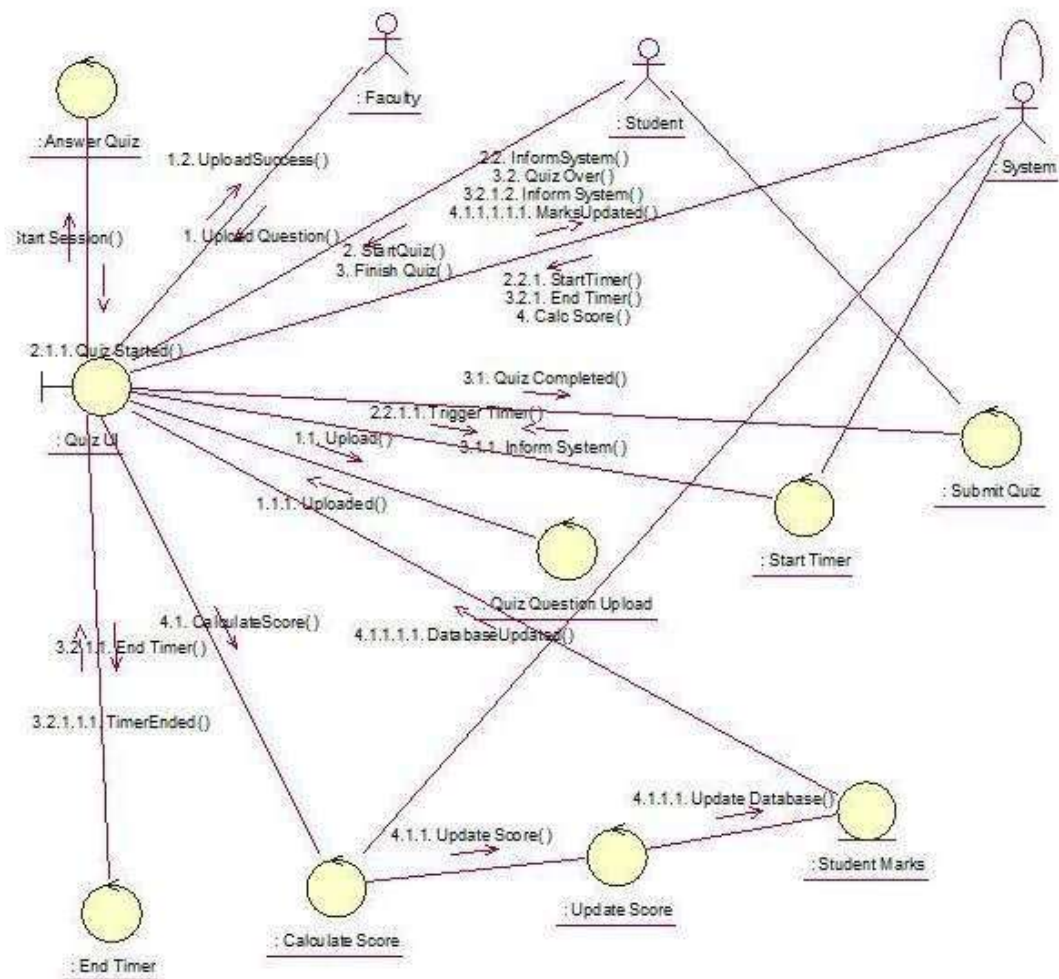


# Sequence Diagram for Quiz Use Case
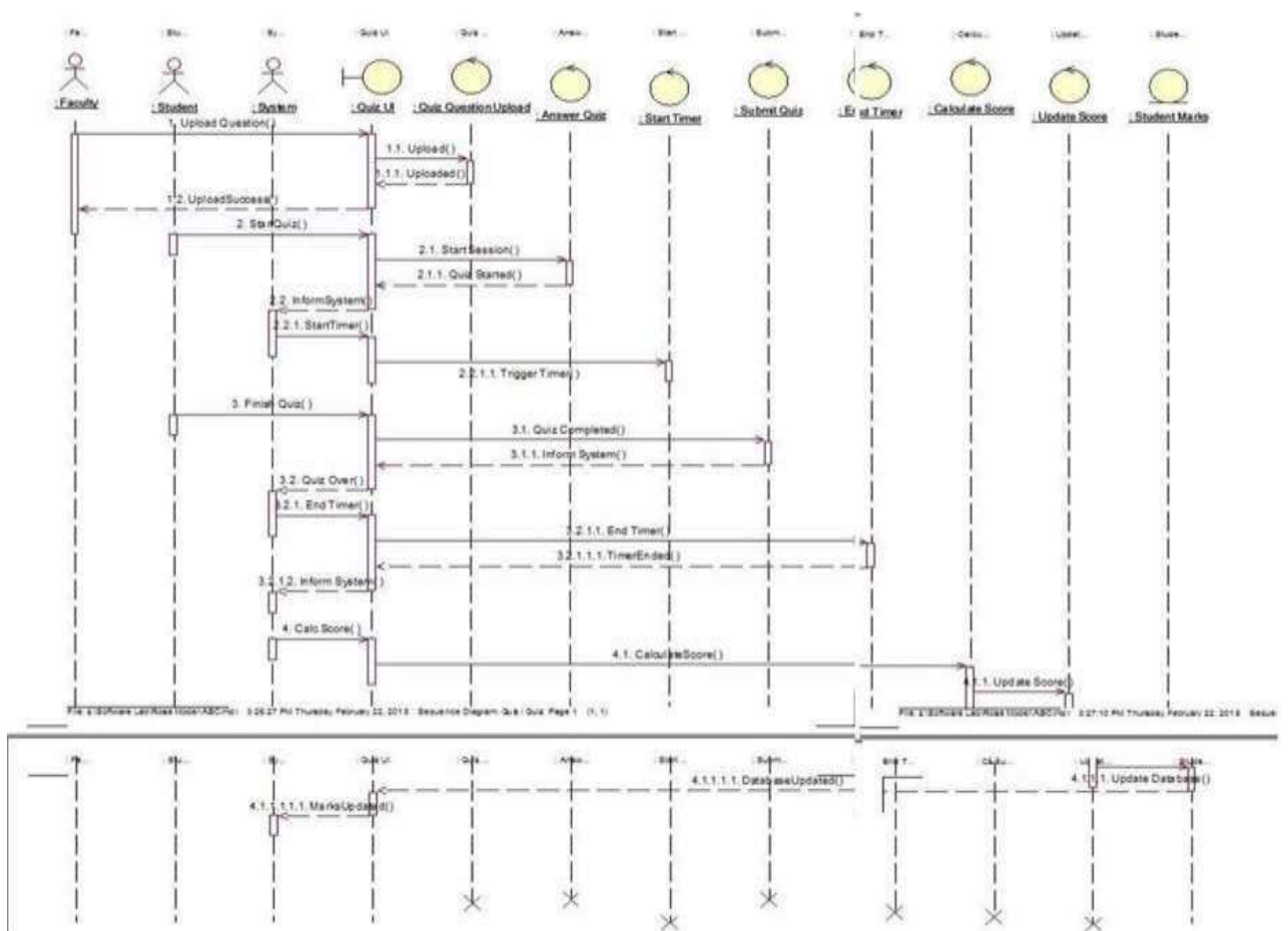
## Collaboration Diagram for Assignment
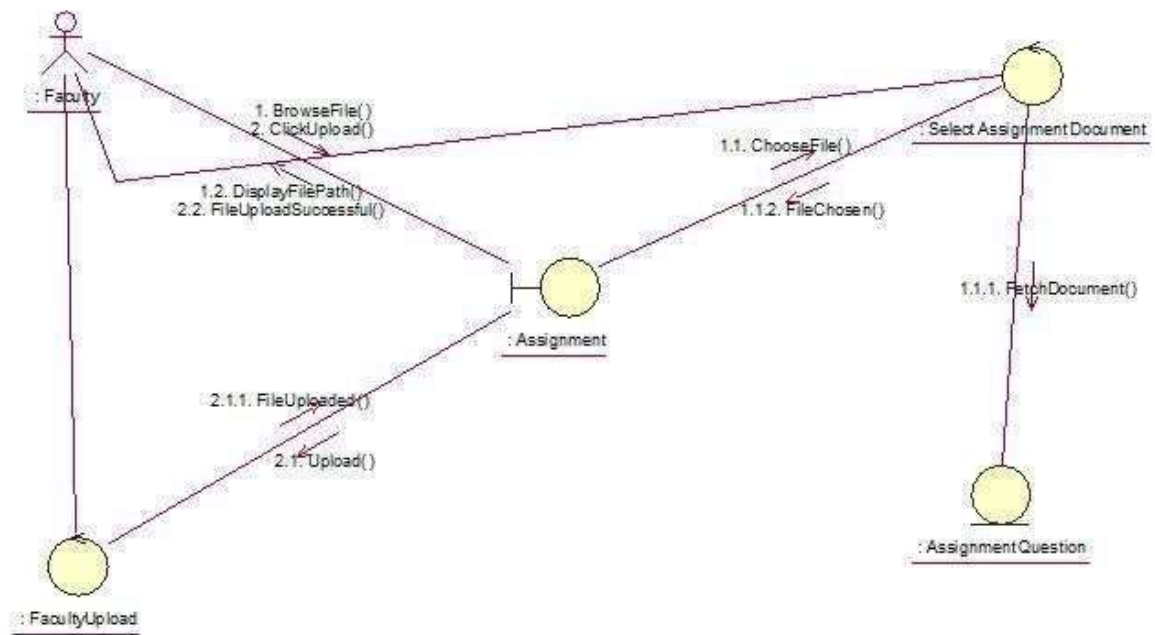


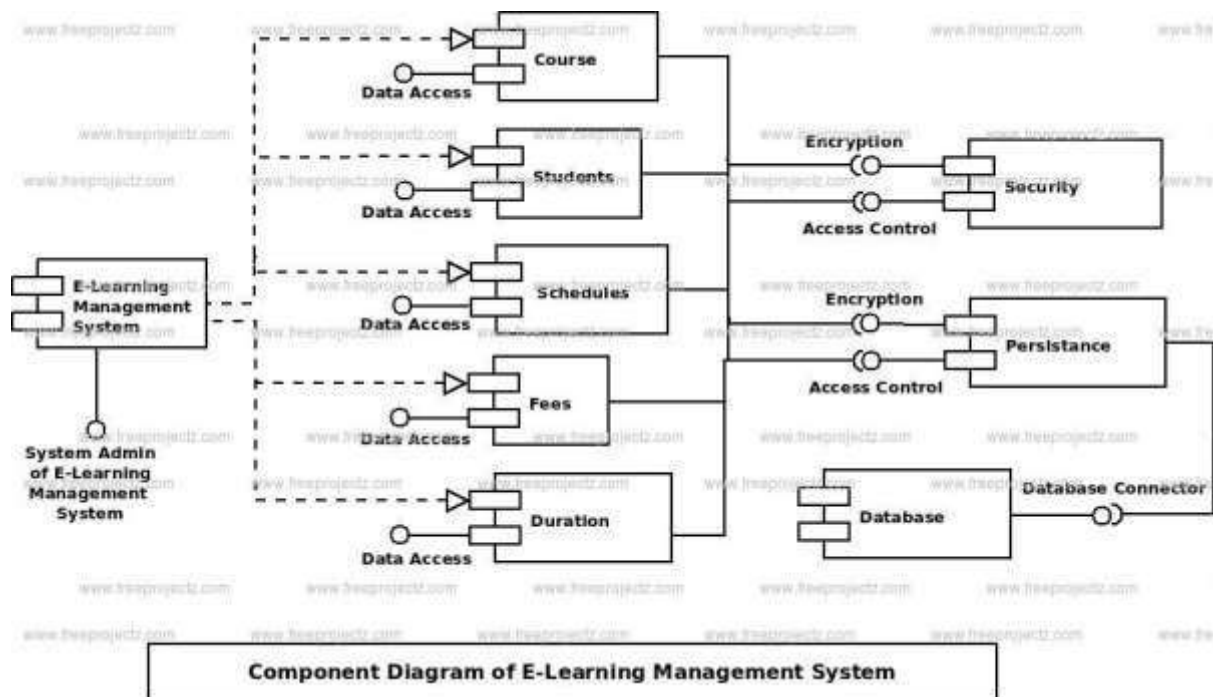## Collaboration Diagram for Study Material

# Collaboration Diagram for Quiz

## Component Diagram



**Component Diagram of E-Learning Management System**

## Deployment Diagram
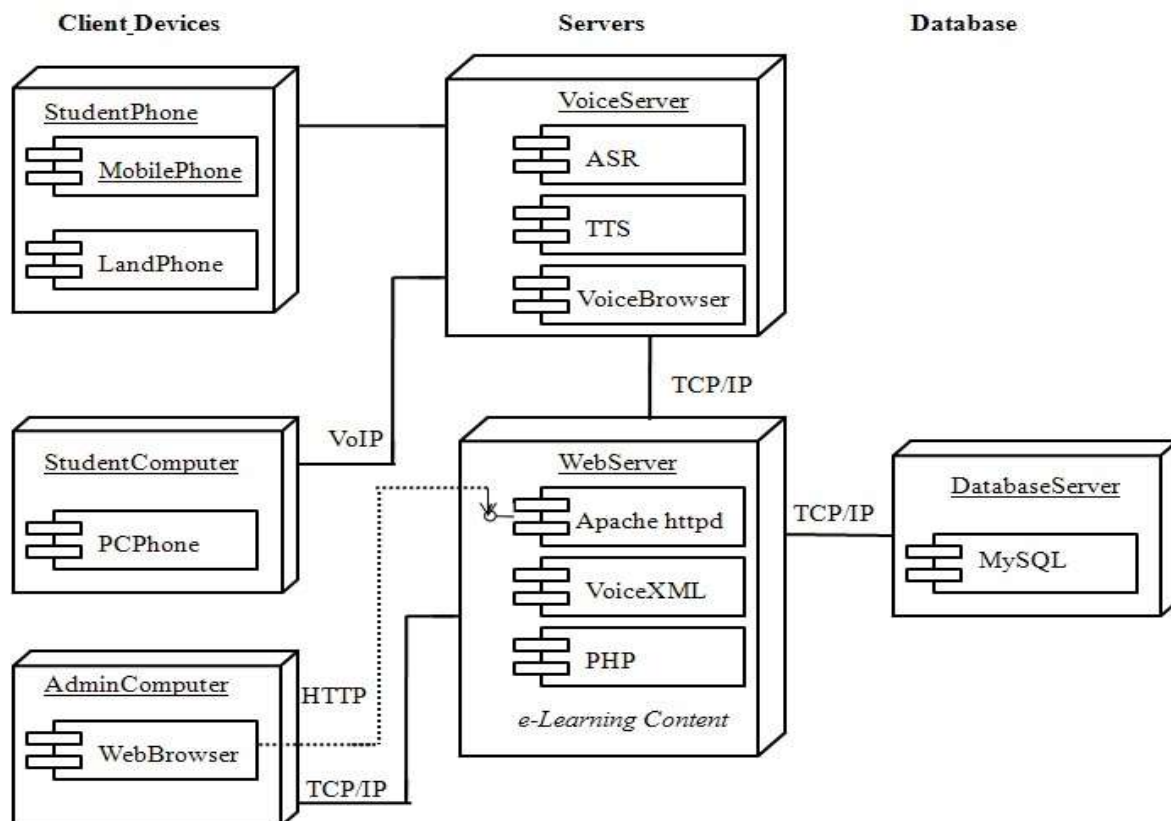
**Project Name: E – Learning System for Disabled Students**

# Test Case Template

| | |
|---|---|
| **Test Case ID:** 1 | **Test Designed by:** <Name> |
| **Test Priority (Low/Medium/High):** Med | **Test Designed date:** <Date> |
| **Module Name:** Sign Up | **Test Executed by:** <Name> |
| **Test Title:** Verify Sign up is running Properly or not. | **Test Execution date:** <Date> |
| **Description:** Test the Sign Up Page | |

**Pre-conditions:** User has valid details to sign up.

**Dependencies:**

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Student Sign Up) Providing all the details without neglecting data type of the input or not following the input pattern | User should be able to Sign up successfully. | Local host says that sign up is successful. | R2.2 | Pass |
| 2 | Provide the details asked. | | | | | |
| 3 | Click on Signup button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Student Sign Up) | User should be able to Sign up successfully. | Local host says that sign up is not successful . | R2.3 | Fail |
| 2 | Provide the details asked. | | | | | |
| 3 | Click on Signup button | Providing all the details with neglecting data type of the input or not following the input pattern | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Blind Students Sign Up) | User should be able to Sign up successfully. | Local host says that sign up is successful . | R2.3 | Pass |
| 2 | Provide the details asked. | Providing all the details without neglecting data type of the input or not following the input pattern | | | | |
| 3 | Click on Signup button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Blind Students Sign Up) Providing all the details without neglecting data type of the input or not following the input pattern | User should be able to Sign up successfully. | Local host says that sign up is not successful . | R1.3 | fail |
| 2 | Provide the details asked. | | | | | |
| 3 | Click on Signup button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail ) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Teacher Sign Up) Providing all the details without neglecting data type of the input or not following the input pattern | User should be able to Sign up successfully. | Local host says that sign up is successful . | R2.1 | Pass |
| 2 | Provide the details asked. | | | | | |
| 3 | Click on Signup button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail ) |
|---|---|---|---|---|---|---|
| 1 | Navigate to Sign Up page | (Teacher Sign Up) Providing all the details with neglecting data type of the input or not following the input pattern | User should be able to Sign up successfully. | Local host says that sign up is not successful . | R2.1 | Fail |
| 2 | Provide the details asked. | | | | | |
| 3 | Click on Signup button | | | | | |

| **Project Name: E – Learning System for Disabled Students** |
|---|

# Test Case Template

| Test Case ID: 2 | Test Designed by: <Name> |
|---|---|
| Test Priority (Low/Medium/High): Med | Test Designed date: <Date> |
| Module Name: Quiz Portal | Test Executed by: <Name> |
| Test Title: Verifying the Quiz Portal is working Properly or not | Test Execution date: <Date> |
| Description: Test the Quiz Portal | |

| | |
|---|---|
| **Pre-conditions: Teacher must logged in** | |
| **Dependencies:** | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Login to Teacher Account | (Preparing Quiz) Provide the Quiz Questions and provide options and answers to it and without neglecting the data types and set timer and enable the quiz | Teacher should be able to prepare quiz successfully. | Local host says that Quiz is Prepared successfully. | R2.5.3 | Pass |
| 2 | Provide the Quiz Questions | | | | | |
| 3 | Set Answers and time. | | | | | |
| 4 | Enable the Quiz | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Login to Teacher Account | (Preparing Quiz) Provide the Quiz Questions and provide options and answers to it and with neglecting the | Teacher should be able to prepare quiz successfully. | Local host says that Quiz is not Prepared Successfully. | R2.5.3 | Fail |
| 2 | Provide the Quiz Questions | | | | | |
| 3 | Set Answers and time. | | | | | |

| Step | Test Steps | Test Data |
|---|---|---|
| 4 | Enable the Quiz | data types and set timer and enable the quiz |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Login to Student Account | (Attempt Quiz)  Provide the answers and submit them in time. | Student should be able to submit the quiz successfully. | Local host says that Quiz is submitted successfully | R2.5.3 | Pass |
| 2 | Start the Quiz | | | | | |
| 3 | Provide the Answers | | | | | |
| 4 | Submit the Answers | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Login to Student Account | (Attempt Quiz)  If Quiz is already attempted.  Provide the answers and submit them in time. | Student should be able to submit the quiz successfully. | Local host says that Quiz is already attempted. | R2.5.3 | Fail |
| 2 | Start the Quiz | | | | | |
| 3 | Provide the Answers | | | | | |
| 4 | Submit the Answers | | | | | |
| | | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Login to Teacher Account | | | | R2.5.3 | |
| 2 | Go to Manage quiz window. | (Managing Quiz) Enable/Disable the Quiz | Teacher should be able to enable/Disable the quiz successfully. | Local host says that Quiz is enabled /Disabled Successfully. | | Pass |
| 3 | Enable/Disable the Quiz | | | | | |

**Project Name:  E- LEARNING FOR DISABLED.**

# Test Case Template

| | |
|---|---|
| **Test Case ID:** 3 | **Test Designed by:** <Name> |
| **Test Priority (Low/Medium/High):** Med | **Test Designed date:** <Date> |
| **Module Name:**  login screen | **Test Executed by:** <Name> |
| **Test Title:** Verify login with valid username and password | **Test Execution date:** <Date> |
| **Description:** Test the login page | |

**Pre-conditions:** User has valid username and password

**Dependencies:**

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | User= anu Password: 1234 (blind) | User should be able to login | User is navigated to dashboard with successful login | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | User= balu Password: 1234v (blind) | User should be able to login | User is navigated to dashboard with unsuccessful login | R2.5.3 | Fail.(incorrect password) |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | User= subbu Password: 1234 (faculty) | User should be able to login | User is navigated to dashboard with successful login | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | User=jagan Password: 32c14 (faculty) | User should be able to login | User is navigated to dashboard with unsuccessful login | R2.5.3 | Fail.(incorrect username) |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | User= vikas Password: 1213 (deaf/dumb) | User should be able to login | User is navigated to dashboard with successful login | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

**Project Name:  E- LEARNING FOR DISABLED.**

# Test Case Template

| | |
|---|---|
| **Test Case ID:** 4 | **Test Designed by:** <Name> |
| **Test Priority (Low/Medium/High):** Med | **Test Designed date:** <Date> |
| **Module Name:**  add course | **Test Executed by:** <Name> |
| **Test Title:** Verify add course with valid course code and name | **Test Execution date:** <Date> |
| **Description:** Test the course page | |
| **Pre-conditions:**  add course with valid course code and name | |
| **Dependencies:** | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3001 Course name: software | User should be able to add course | User is navigated to dashboard with successful addition of course | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3001 Course name: software | User should be able to add course | User is navigated to dashboard with unsuccessful addition of course | R2.5.3 | Fail.(already exist) |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3002 Course name: hci | User should be able to delete course | User is navigated to dashboard with successful deletion of course | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3004 Course name: dbms | User should be able to select course | User is navigated to dashboard with successful select course | R2.5.3 | pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | [ | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3003 Course name: dld | User should be able to delete course | User is navigated to dashboard with unsuccessful deletion of course. | R2.5.3 | Fail(course doesn't exist) |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

**Project Name: E- LEARNING FOR DISABLED.**

# Test Case Template

| | |
|---|---|
| **Test Case ID:** 5 | **Test Designed by:** <Name> |
| **Test Priority (Low/Medium/High):** Med | **Test Designed date:** <Date> |
| **Module Name:** Materials | **Test Executed by:** <Name> |
| **Test Title:** Verify add materials and download materials and delete materials | **Test Execution date:** <Date> |
| **Description:** Test the Materials page | |

**Pre-conditions:**  add materials and download materials and delete materials

**Dependencies:**

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3001 Course name: software | User should be able to add materials | User is navigated to dashboard with successful addition of materials | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3003 Course name: software | User should be able to add materials | User is navigated to dashboard with unsuccessful addition of materials | R2.5.3 | Fail.(course doesn't exist) |
| 2 | Provide valid username | | | | | |
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3002 Course name: hci | User should be able to delete materials | User is navigated to dashboard with successful deletion of materials | R2.5.3 | Pass |
| 2 | Provide valid username | | | | | |

| Step | Test Steps | Test Data | | | | |
|---|---|---|---|---|---|---|
| 3 | Provide valid password | | | | | |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3004 | User should be able to download materials | User is navigated to dashboard with successful download courses. | | |
| 2 | Provide valid username | Course name: dbms | | | | |
| 3 | Provide valid password | [ | | | R2.5.3 | pass |
| 4 | Click on Login button | | | | | |

| Step | Test Steps | Test Data | Expected Result | Actual Result | Requirements Validated | Status (Pass/Fail) |
|---|---|---|---|---|---|---|
| 1 | Navigate to login page | Course code: cse3003 | User should be able to download materials | User is navigated to dashboard with unsuccessful download of materials. | | |
| 2 | Provide valid username | Course name: dld | | | | |
| 3 | Provide valid password | | | | R2.5.3 | Fail(course doesn't exist) |
| 4 | Click on Login button | | | | | |

## Important Screenshots:

## Homepage:
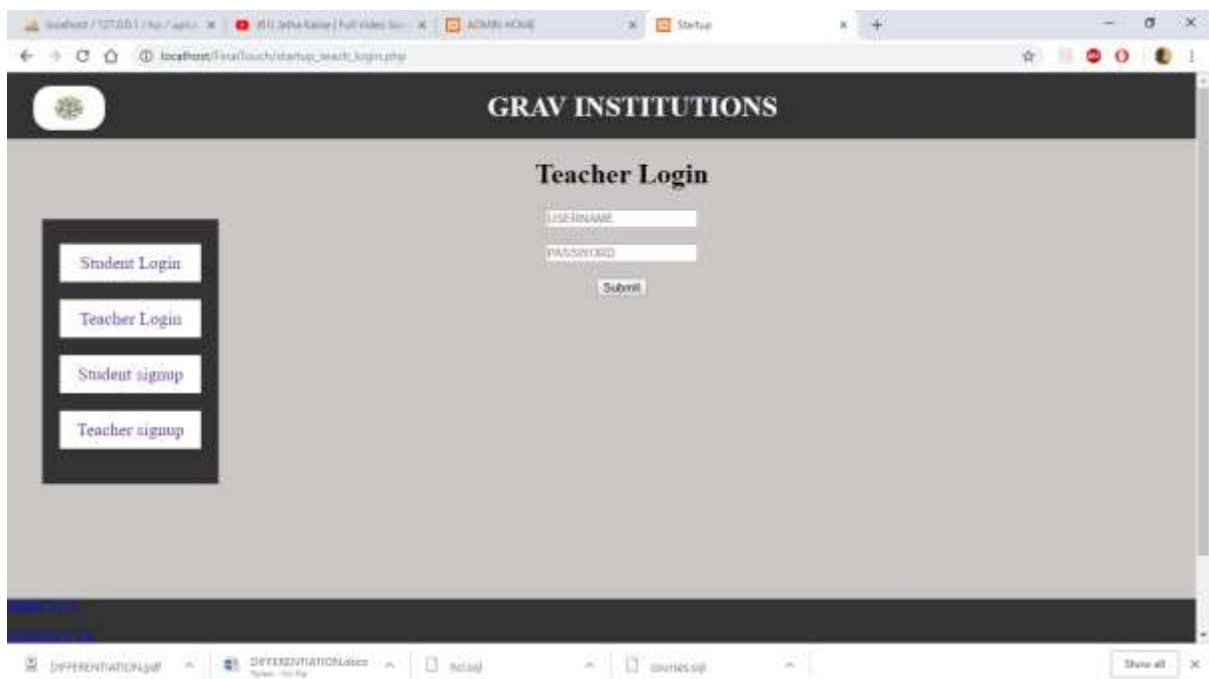




*Figure 1* Teacher Login Page

Figure 3 shows the GUI that has been designed by us for the teacher login.
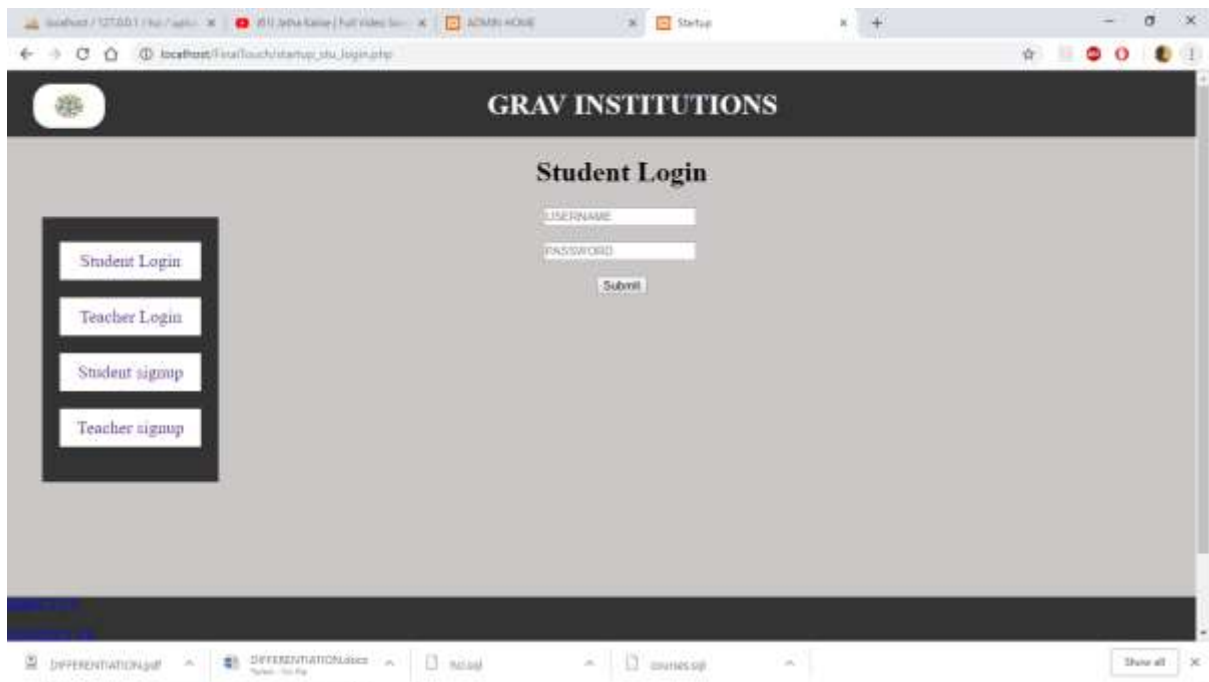
*Figure 2* Student Login Page

Figure 4 shows the GUI that has been designed by us for the student login.

## Sign Up:

We have given separate signup forms for the student and the users. The data taken from the form is then stored in the database.
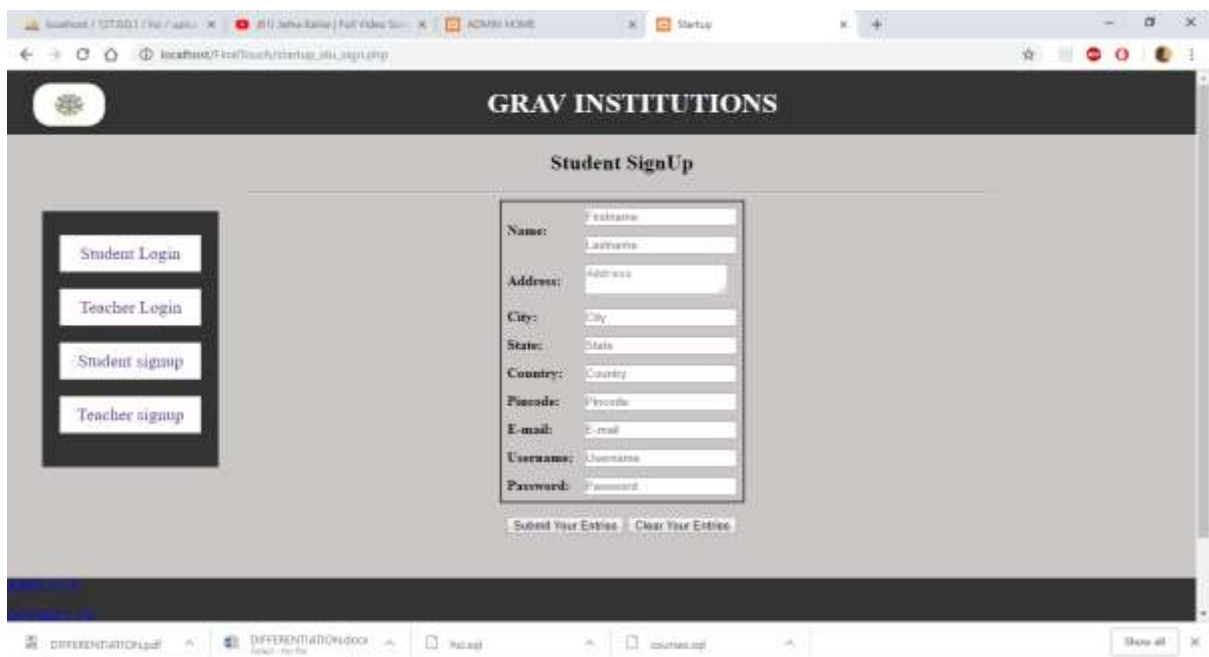


*Figure 3* Sign Up page

Figure 5 shows the signup page for the students. It has interactive voice for helping blind students.

## Student Home Page:

We have implemented three features in this page. The student can register for a course by selecting the select course. He can view registered courses by selecting enrolled course and view quizzes.
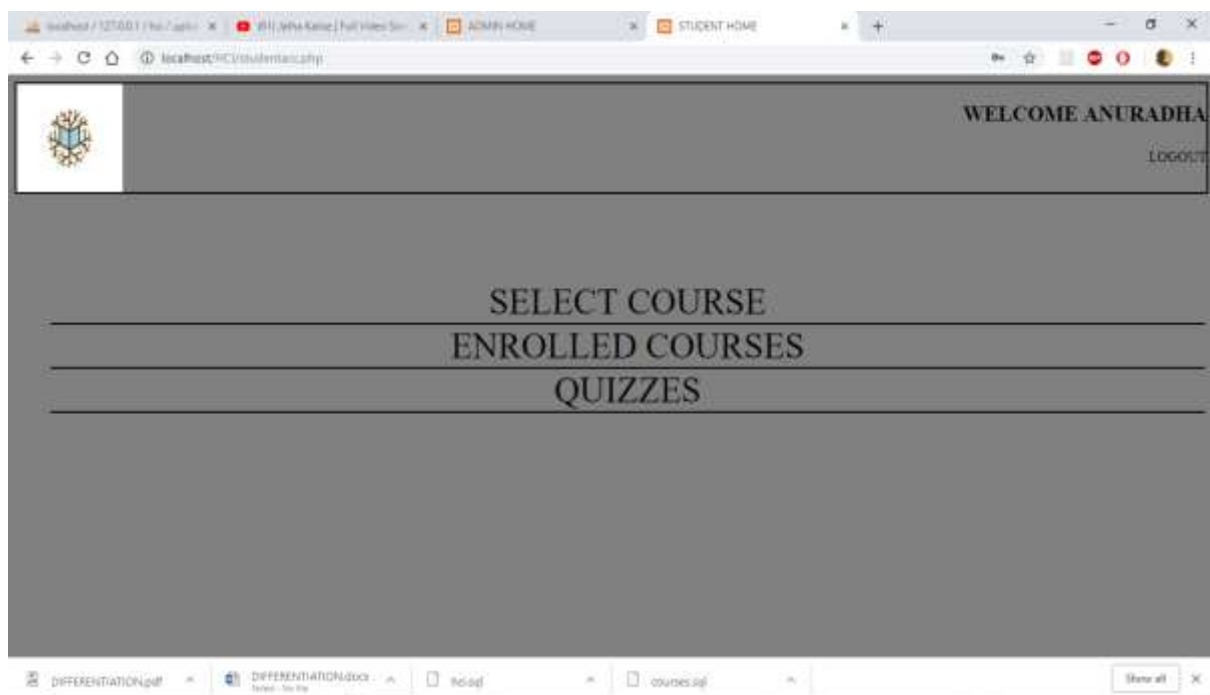


*Figure 4* Student Home Page

Figure 7 shows the design of the student home page.

## Select Course:

The student can register for new courses from this page. After clicking Register the course gets added to enrolled courses list.

*Figure 5* Course Registration Page

Figure 8 shows the design of the course registration page for the students.

## Enrolled Courses:

The student can view the list of courses that he has registered for. By clicking view he can view each course in detail.



*Figure 6* View Registered Courses

Figure 9 shows the design for the enrolled courses page.

## Quizzes:

The student can view the list of courses that have been posted by the teachers. All quizzes are multiple choice and have speech recognition for the blind students.
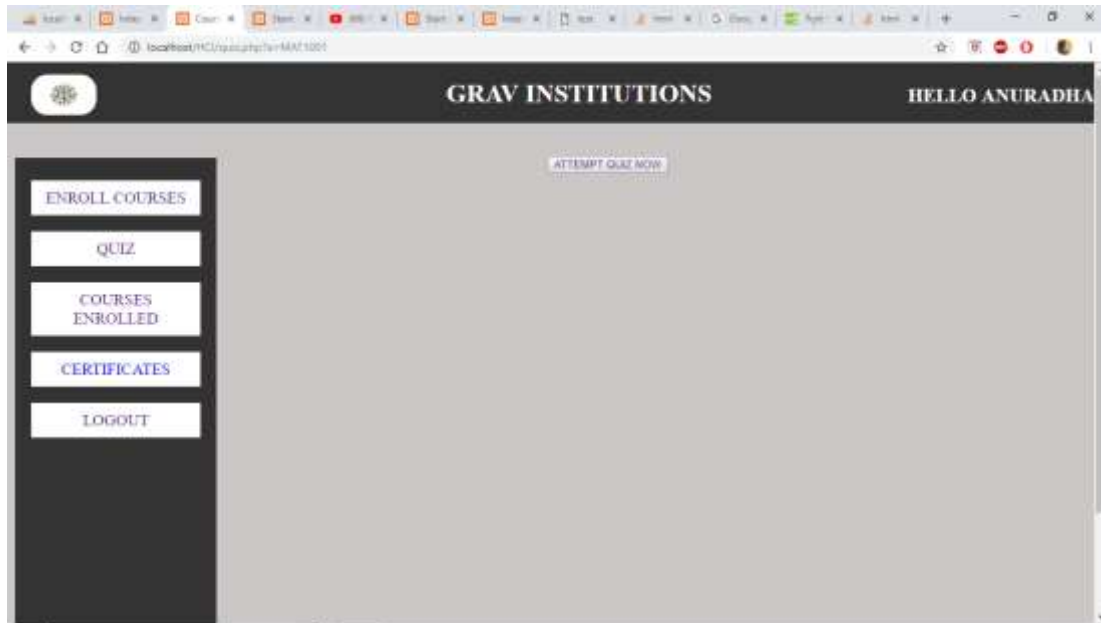
*Figure 7* Quiz Start Page

Figure 10 shows the startup page for the quiz. Students can attempt the by clicking the button provided.



*Figure 8* Example Quiz

*Figure 9* Quiz Mark Display

Figure 12 shows the mark display message.

## Teacher Home Page:

The teacher home page has the following features:

- Prepare Quiz
- Manage Quiz
- Upload Study Material



*Figure 10* Teacher Home Page

Figure 7 shows the design of the student home page.

## Prepare Quiz:

The teacher can prepare quizzes for any subject from the list of subjects that the teacher handles.
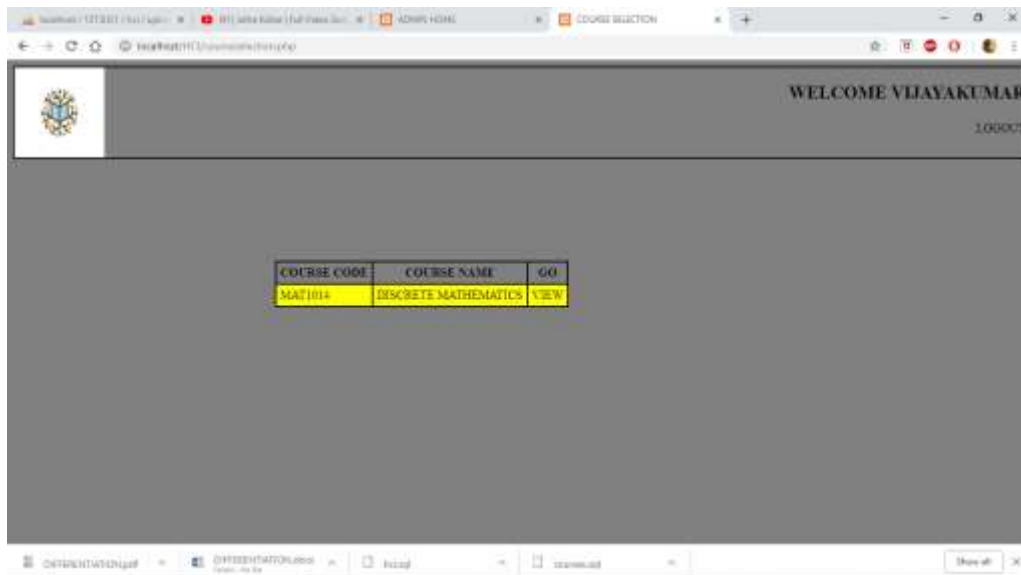


*Figure 11* Prepare Quiz Page

## Manage Quiz:

The teacher can enable and disable the prepared quizzes for the students from this page.



*Figure 12* Manage Quiz Page

**Uploads:**

The teacher can upload study materials for the selected subject.
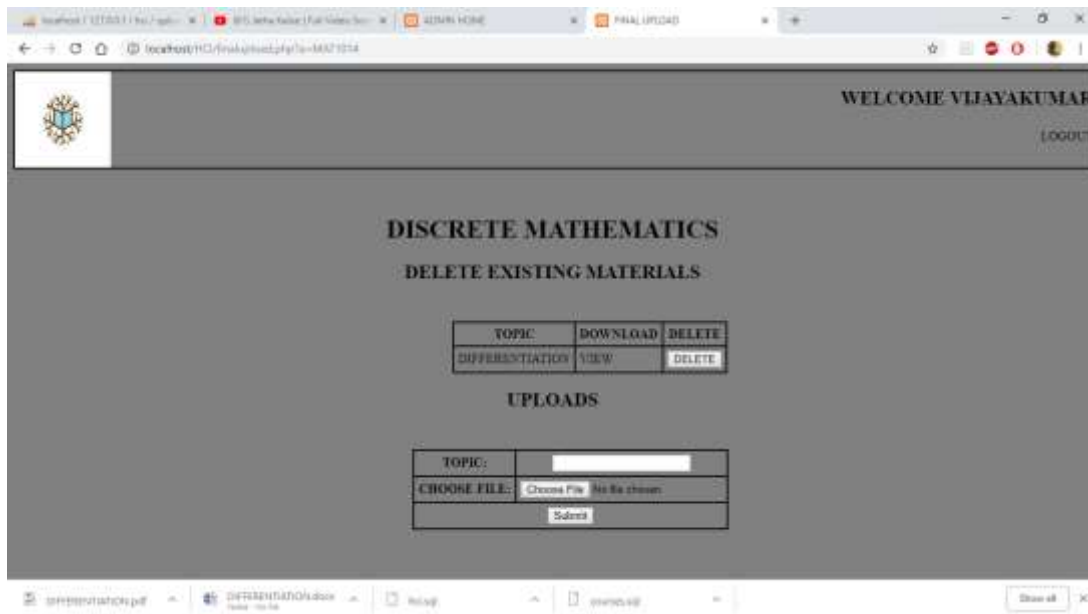


*Figure 13* Course Material Page

Figure 17 shows the course upload page for teachers. The teachers can upload study materials for the students from this page.

**Blind Login:**
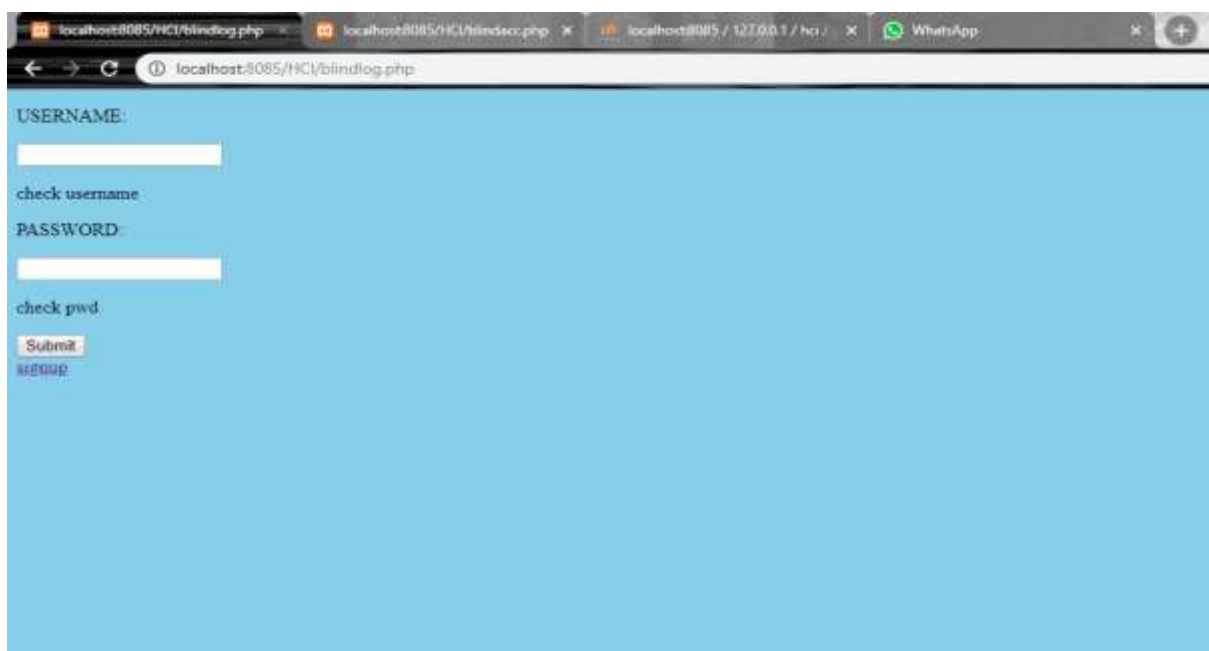
**Student Account:**



**Sign up page:**