

# National Institute of Technology Calicut

Department of Computer Science and  
Engineering



Software Requirements Specification

## Acethexam

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## **1.0. Introduction**

### ***1.1. Purpose***

The purpose of this document is to present a detailed description of a Web based old question paper access system for NIT-Calicut Students . It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

The expected audience of this document is the developer of the system, the reviewer of the SRS, also the client, who is in this case is Mr. R. Govind (Member of the SAC) and any other future contributors or modifiers.

The document will also serve as an agreement between the client and the developer of the system.

### ***1.2. Scope of Project***

This software system will be a Web based platform for access and discussion of old question papers for NIT-Calicut Students & Faculty. This system will be designed to make the access of old question papers easier for students, which is otherwise hard. By doing this we maximize the students' work efficiency while preparation and meet the students' needs while remaining easy to access and use.

More specifically, this system is designed to allow students to upload and download various question papers and to facilitate the discussion of the various aspects of each question paper by means of a forum.

The system is not meant to be a communication tool but only to facilitate discussion of question papers. The system is designed to run on a private server. The Question Papers will be held in an Access database on the server.

### 1.3. Glossary

Term	Definition
General User	An actor who can carry out search,view,download, question papers/answer papers or can register into the system.
Registered user	An actor who can carry out tasks like ask questions, reply to questions in the discussion forum, upload question papers/answer papers and can also carry out user tasks.
PseudoAdmin	An actor who can carry out tasks like approval of question papers/ answer papers and can also carry out User and Register User's tasks. Each course has a PseudoAdmin.
Admin	An actor who can carry out tasks like updating various databases and can also carry out User , Register User, PseudoAdmin's tasks. There's only a unique Admin.
Registered User base	A database containing details of Registered users.
Course Database	A database containing details of Courses.
Discussion Database	A database containing details of discussions corresponding to each question paper.
(Question paper/ Answer paper) Database	A database containing details of Question paper/ Answer paper.
Dashboard	A user type specific page that allows certain type of users to perform various tasks.
PseudoAdmin page	A page that offers functionalities related to PseudoAdmin.
Admin page	A page that offers functionalities related to Admin.
Question paper page	A page that displays the question paper, corresponding discussion forum and gives a link to the answer paper.
Academic Year	A period of time when the college is open. Eg 2014-2015.
Test type	It denotes T1, T2 or Endsemester.
Discussion forum	A forum specific to a question paper where one can post questions and reply to questions
Notifications	Message that informs the registered user the status of the registered user's upload.

#### ***1.4. References***

IEEE. *IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications*. IEEE Computer Society, 1998.

#### ***1.5. Overview of Document***

The next chapter, the Overall Description section, of this document gives an overview of the functionality of the product. It describes the informal requirements and is used to establish a context for the technical requirements.

The third chapter, Requirements Specification section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

Both sections of the document describe the same software product in its entirety, but are intended for different audiences and thus use different language.

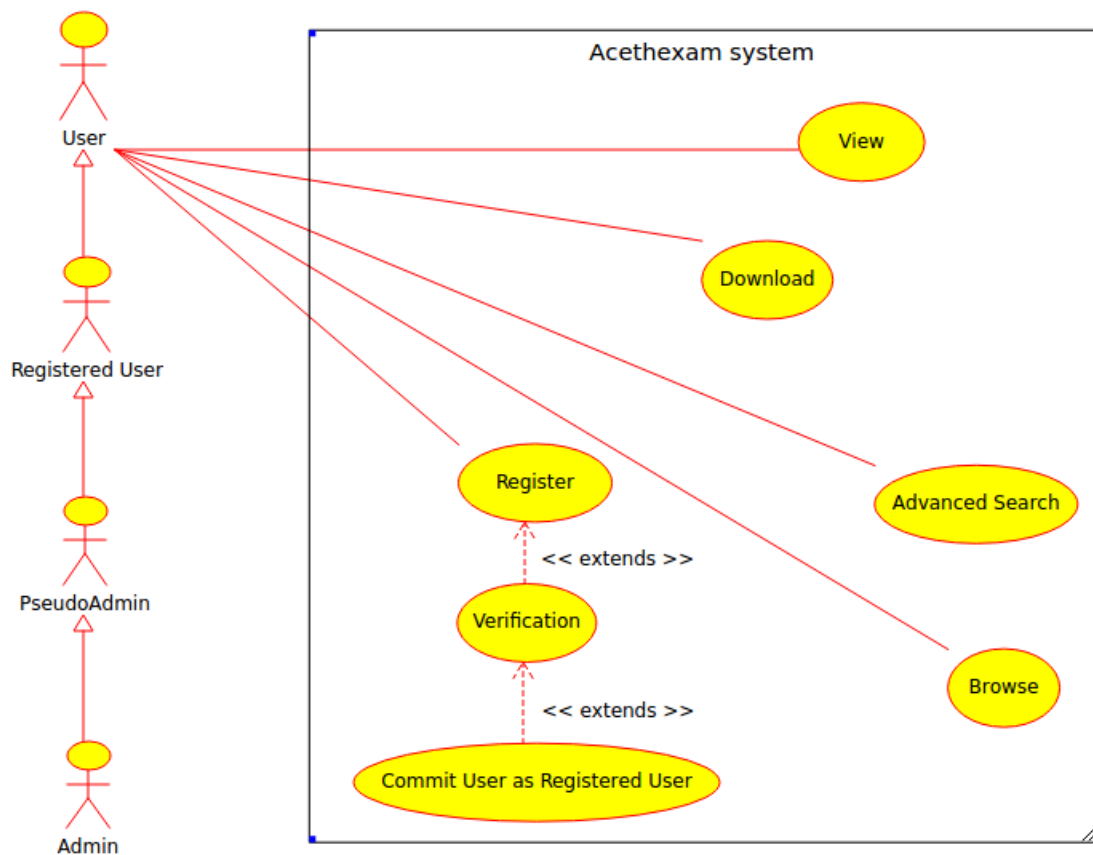
## 2.0 Overall Description

### 2.1 Functional Requirements Specification

This section outlines the use cases for each of the Users separately. The General User, the Registered user, the PseudoAdmin and the Admin have different use cases. The Admin is the main actor.

#### 2.1.1 General User Use Cases

**Diagram :** [2.1.1\(a\)](#), [2.1.1\(b\)](#), [2.1.1\(c\)](#), [2.1.1\(d\)](#), [2.1.1\(e\)](#), [2.1.1\(f\)](#), [2.1.1\(g\)](#).



#### 2.1.1(a) Use case: **Browse**

##### **Brief Description**

The General User accesses the Web Platform and structurally browses according to Department, Courses, Academic year, Test type in the same order.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the General User has already accessed the Web platform.

1. The System displays the Departments first.
2. The General User selects the Department desired.
3. The System displays the Course under the selected Department.
4. The General User selects the Course desired.
5. The System displays the Question papers grouped according to Academic year and type of test under the selected Course.
6. The General User selects the required Question paper to access the corresponding Question paper page.

**Xref:** [Section 3.2.1, Browse](#)

#### 2.1.1(b) Use case: **Advanced Search**

##### **Brief Description**

The General User accesses the Web Platform, gives information about the type of test, the academic year, the course and will receive corresponding matches.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the General User has already accessed the Web platform.

1. The General User chooses to search by Test type, Academic Year or Course name(id).
2. The system displays the choices to the General User.
3. The General User selects the Question paper desired.

**Xref:** [Section 3.2.2, Advanced Search](#)

#### 2.1.1(c) Use case: **View**

##### **Brief Description**

The General User can view the selected question paper on the platform itself.



### **Initial Step-By-Step Description**

Before this use case can be initiated, the General User either after searching or structurally finding the question paper has the question paper page.

1. The General User accesses the question paper page.
2. The system displays all the pages of the question paper, which can be accessed using a scroll event.
3. The system gives a choice of zoom for various levels of clarity and for readability.
4. The system also generates the corresponding discussion forum and the link to the answer paper.

**Xref:** [Section 3.2.3, View](#)

#### 2.1.1(d) Use case: **Download**

### **Brief Description**

The General User can download the (Question paper/Answer paper).( in pdf format)

### **Initial Step-By-Step Description**

Before this use case can be initiated, the General User either after searching or structurally finding the question paper has the question paper page.

1. The General User accesses the question paper page.
2. The system displays an option to download the current (Question paper/Answer paper).
3. When the download option is chosen the system sends the General User a link to download the corresponding file.

**Xref:** [Section 3.2.4, Download](#)

#### 2.1.1(e) Use case: Register

### **Brief Description**

The General User can register to become a Registered user.

**Extends to :** Verification

**Initial Step-By-Step Description**

Before this use case can be initiated, the General User has already accessed the Web platform.

1. The General User chooses to register.
2. The system displays a form to register containing email id, password and retype password.
3. The General User gives the respective details
4. If the General User fits the Profile( his email id is nitc.ac.in) is queued for Verification.

**Xref:** [Section 3.2.5, Register](#)

2.1.1(f) Use case: **Verification**

**Extension of:** Register

**Extends to:** Commit General User as Registered user

**Brief Description**

The General User's request to register is verified .

**Initial Step-By-Step Description**

Before this use case can be initiated, the General User has already sent a Register request.

1. The system sends a verification link to the General User's registered mail.
2. The General User's credentials are verified.
3. The General User's data is queued for commit.

**Xref:** [Section 3.2.6, Verification](#)

2.1.1(g) Use case: **Commit General User as Registered User**

**Extension of:** Verification

**Brief Description**

The General User's details are added to the Registered user base.

**Initial Step-By-Step Description**

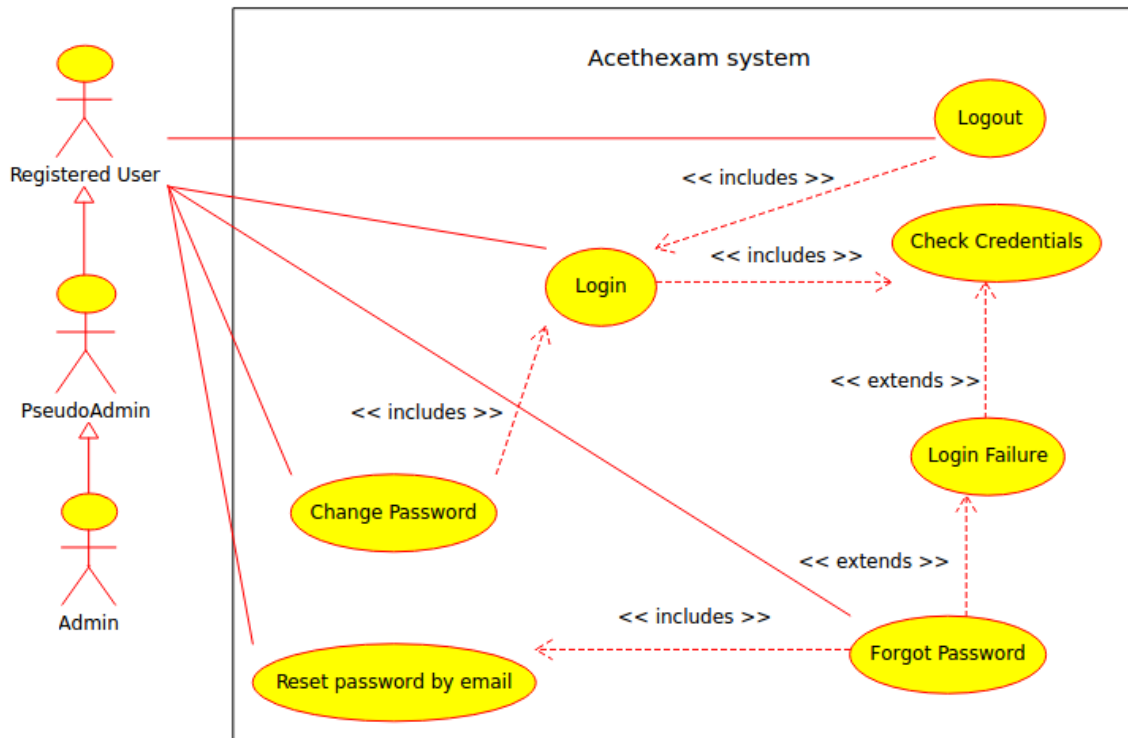
Before this use case can be initiated, the General User has already been verified.

1. Once the General User's request is verified then the General User's data is committed to the Registered user base.
2. The General User is now a Registered user.

**Xref:** [Section 3.2.7, Commit General User as Registered user](#)

#### 2.1.2 Registered User Use Cases

**Diagram :** [2.1.2\(a\)](#), [2.1.2\(b\)](#), [2.1.2\(c\)](#), [2.1.2\(d\)](#), [2.1.2\(e\)](#), [2.1.2\(f\)](#), [2.1.2\(g\)](#).



### 2.1.2(a) Use case: **Login**

**Includes :** Check credentials

#### **Brief Description**

The Registered user can give his credentials for a login.

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user has already accessed the Web platform.

1. The Registered user chooses to login.
2. The System displays a form containing email id and password.
3. The Registered user gives the credentials.
4. The Registered user's login request is queued to Check credentials.

**Xref:** [Section 3.2.8, Login](#)

### 2.1.2(b) Use case: **Check credentials**

**Extends to:** Login failure

#### **Brief Description**

The Registered user's credentials are checked by the system (Registered user base).

**Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user has already given credentials for login.

1. The System checks for the Registered user's credentials in the Registered user base.
2. If the check is successful then the Registered user is Logged in.
3. Else Login Failure.

**Xref:** [Section 3.2.9, Check credentials](#)

2.1.2(c) Use case: **Login Failure**

**Extension of:** Check credentials.

**Brief Description**

The Registered user's credentials are found to be wrong.

**Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user has already given credentials for login and the credentials are not found in the Registered user base.

1. The system generates a Login fail box.
2. The Registered user is notified of the unsuccessful login.

**Xref:** [Section 3.2.10, Login failure](#)

2.1.2(d) Use case: **Logout**

**Includes:** Login.

**Brief Description**

The Registered user is logged out.

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in.

1. The system generates a verification box("Do you really want to log out?").
2. The Registered user is logged out.

**Xref:** [Section 3.2.11, Logout](#)

#### 2.1.2(e) Use case: **Change password**

Includes: Login.

#### **Brief Description**

The Registered user can change his password.

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the Account settings.

1. The Registered user chooses the option of changing password under Account settings.
2. System generates a form for current password and new password.
3. The Registered user gives the corresponding details.
4. The current password is verified and the password is updated.

**Xref:** [Section 3.2.12, Change password](#)

#### 2.1.2(f) Use case: **Reset password by Email**

#### **Brief Description**

The Registered user can change his password through Email(usually in case of Forgot password).

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the Account settings.

1. The Registered user accesses the link to reset password through his email account.
2. The Registered user is then redirected to the Web platform.

3. The System generates a form for new password.
4. The password is updated to the new password.

**Xref:** [Section 3.2.13, Reset password by email](#)

#### 2.1.2(g) Use case: **Forgot Password**

**Extension of:** Login failure

**Includes:** Reset password by email.

##### **Brief Description**

The Registered user has an option to reset password in case of forgotten password.

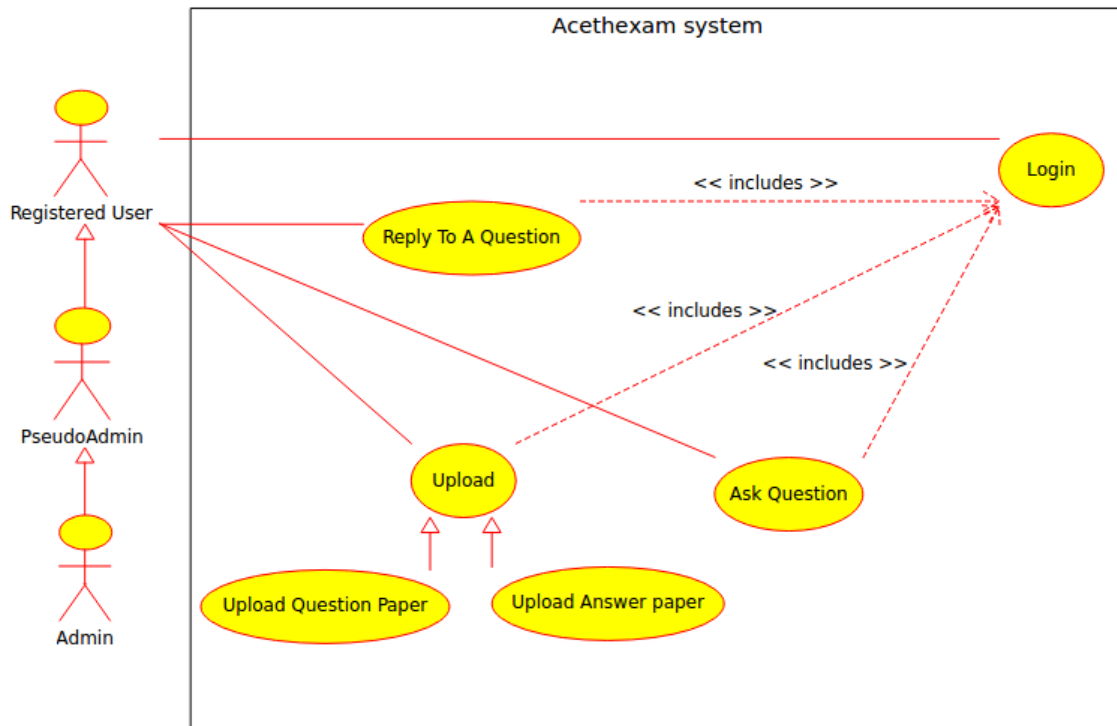
##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is unable to Login.

1. The Registered user gets an option to ask the system to send an email to the registered email id(for changing password).
2. The System generates and sends a link to the registered email id of the Registered user.

**Xref:** [Section 3.2.14, Forgot password](#)

**Diagram :** [2.1.2\(h\)](#), [2.1.2\(i\)](#), [2.1.2\(j\)](#).



#### 2.1.2(h) Use case: **Upload(Question paper/ Answer paper)**

**Includes:** Login.

##### **Brief Description**

The Registered user is provided with a way to upload a (question paper/answer paper) in Registered User's possession.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in.

1. The system generates a form through which the Registered user can upload.
2. The form contains attributes relating to the (question paper/answer paper)
  - Test type
  - Academic year
  - Course
3. The Registered user can upload the (question paper/answer paper) either as a set of images or as a .pdf extension file.
4. The upload is queued for Approval of PseudoAdmin.

**Xref:** [Section 3.2.15, Upload\(Question paper/ Answer paper\)](#)



### 2.1.2(i) Use case: **Ask a Question**

**Includes:** Login.

#### **Brief Description**

The Registered user is provided with a way to add Registered user's question to the discussion forum.

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the question paper page where he wants to post a question.

1. The Registered user accesses the question paper page where an option to ask question is already present.
2. The system generates a form through which the Registered user can give a question .
3. The question is then added to the discussion forum.

**Xref:** [Section 3.2.16, Ask a question.](#)

### 2.1.2(j) Use case: **Reply to a Question**

**Includes:** Login.

#### **Brief Description**

The Registered user is provided with a way to reply to a question in the discussion forum.

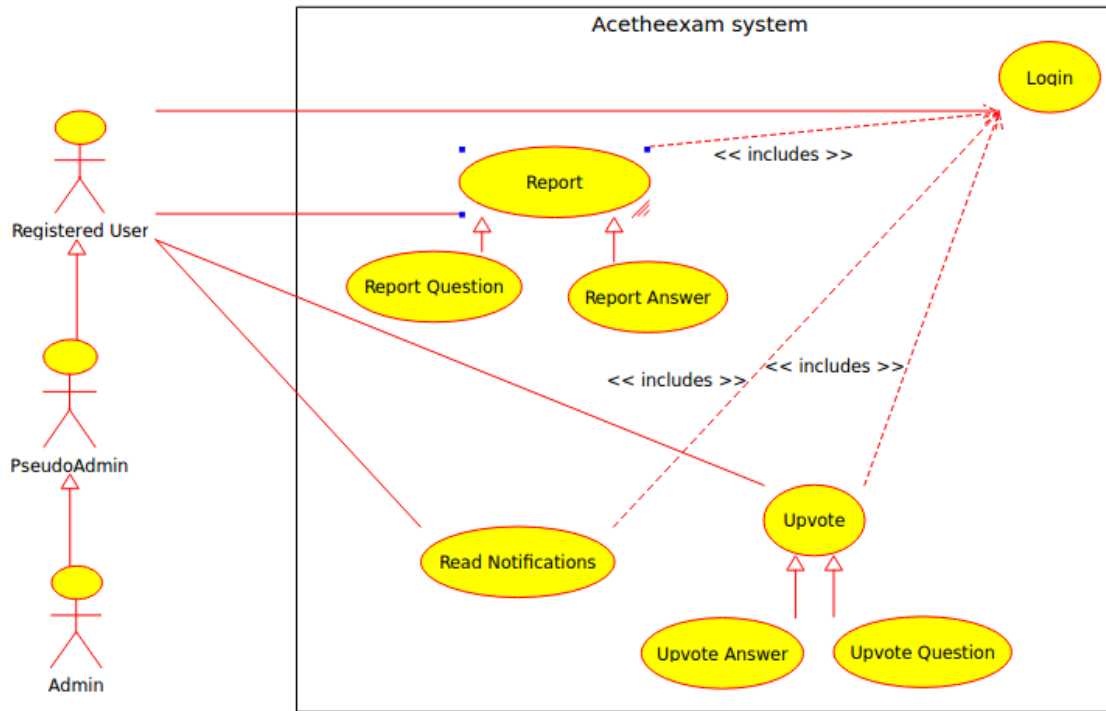
#### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the question paper page, also selects the question to which the Registered user wants to give a reply.

1. The Registered user accesses the question paper page where an option to reply to the particular question is already present.
2. The system generates a form through which the Registered user can give a reply.
3. The reply is then added as a reply to the corresponding question in the discussion forum.

**Xref:** [Section 3.2.17, Reply to a question](#)

**Diagram :** [2.1.2\(k\)](#), [2.1.2\(l\)](#), [2.1.2\(m\)](#).



#### 2.1.2(k) Use case: **Upvote(Question/Reply)**

**Includes:** Login.

##### **Brief Description**

The Registered user is provided with a way to upvote a (Question/Reply) in the discussion forum.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the question paper page, also selects the (Question/Reply) which Registered user wants to Upvote.

1. The Registered user accesses the question paper page where an option to upvote a particular (Question/Reply) is already present.
2. The system asynchronously increases the counter of votes of the corresponding (Question/Reply).

**Xref:** [Section 3.2.18, Upvote\(Question/Reply\)](#)

#### 2.1.2(l) Use case: **Report(Question/Reply)**

**Includes:** Login.

##### **Brief Description**

The Registered user is provided with a way to Report a (Question/Reply) in the discussion forum.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Registered user is already logged in, has access to the question paper page, also selects the (Question/Reply) which Registered user wants to Report.

1. The Registered user accesses the question paper page where an option to Report a particular (Question/Reply) is already present.
2. The System Reports the corresponding (Question/Reply) to the PsuedoAdmin.

**Xref:** [Section 3.2.19, Report\(Question/Reply\)](#)

#### 2.1.2(m) Use case: **Read Notifications**

**Includes:** Login.

##### **Brief Description**

The Registered user can Read notifications listed(corresponding to the uploads the Registered user has done).

##### **Initial Step-By-Step Description**

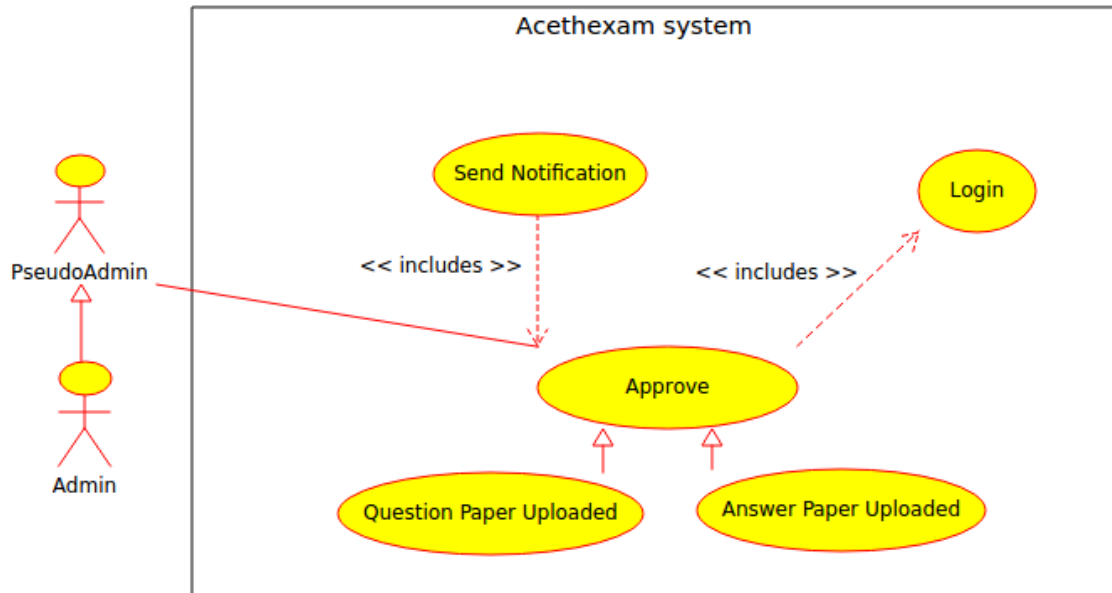
Before this use case can be initiated, the Registered user is already logged in, has access to the Dashboard.

1. The Registered user selects the Notifications option.
2. The System displays all the notifications of the Registered user.

**Xref:** [Section 3.2.20, Read Notifications](#)

### 2.1.3 PseudoAdmin Use Cases

**Diagram :** [2.1.3\(a\)](#), [2.1.3\(b\)](#).



#### 2.1.3(a) Use case: **Approve (Question paper/Answer paper)**

**Includes:** Login.

##### **Brief Description**

The PseudoAdmin can approve or reject the various (Question paper/Answer paper)s uploaded by the Registered users of the PseudoAdmin's course.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the PseudoAdmin is already logged in, has access to the Dashboard.

1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Approval of (Question paper/Answer paper)”.
2. The System generates links to review all the (Question paper/Answer paper)s uploaded and it's attributes.
3. If the (Question paper/Answer paper) is already in the (Question paper/Answer paper) Database the PseudoAdmin compares the uploaded (Question paper/Answer paper) with the (Question paper/Answer paper) in the Database.
4. The PseudoAdmin then decides to commit the (Question paper/Answer paper) to the Database.

**Xref:** [Section 3.2.21, Approve \(Question paper/Answer paper\)](#)

### 2.1.3(b) Use case: **Send Notification**

**Includes:** Approve.

#### **Brief Description**

The System sends notifications on the various uploads the Registered users have done.

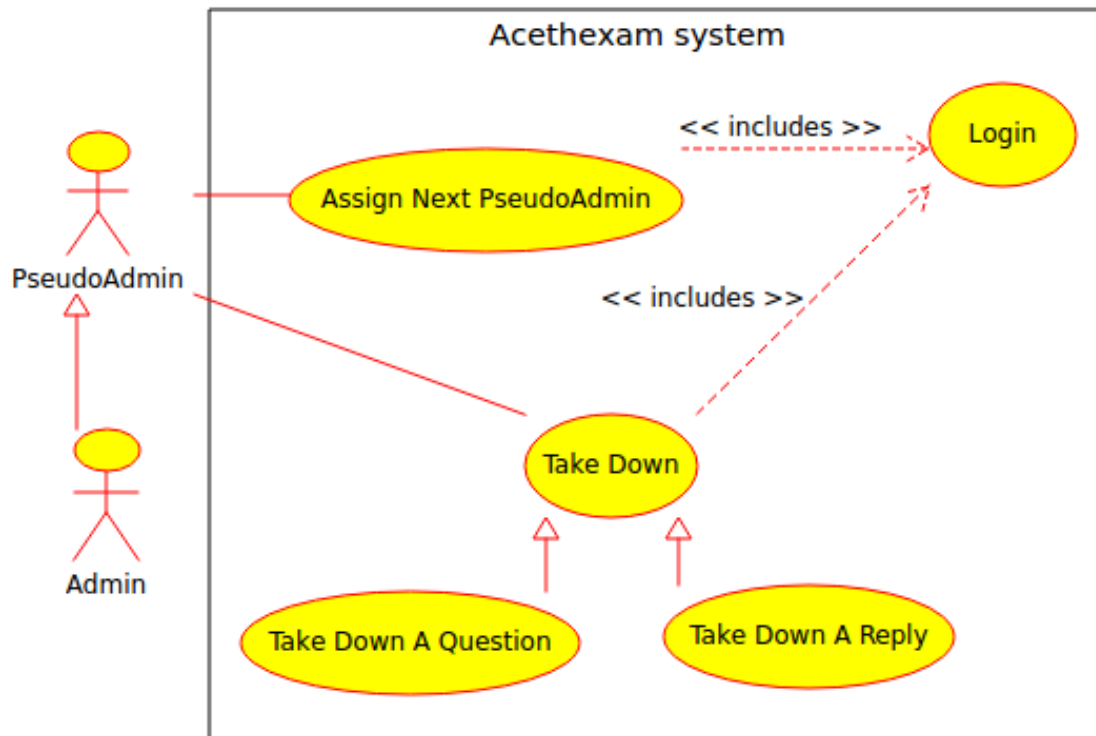
#### **Initial Step-By-Step Description**

The PseudoAdmin Approves/Rejects an upload(Question paper/Answer paper).

1. Once the approval of a question paper is done, the System notifies to the corresponding Registered users the status of their uploads.

**Xref:** [Section 3.2.24, Send Notification](#)

**Diagram :** [2.1.3\(c\)](#), [2.1.3\(d\)](#).



### 2.1.3(c) Use case: **Assign next PseudoAdmin**

**Includes:** Login.

#### **Brief Description**

The PseudoAdmin can assign the next PseudoAdmin of (his/her) course.

#### **Initial Step-By-Step Description**

Before this use case can be initiated, the PseudoAdmin is already logged in, has access to the Dashboard.

1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Assign next PseudoAdmin”.
2. The System generates a form (with id and course name/id).
3. The PseudoAdmin gives the next PseudoAdmin's details and the course he controls.
4. The System then updates the Databases accordingly.

**Xref:** [Section 3.2.22, Assign next PseudoAdmin](#)

### 2.1.3(d) Use case: **Takedown (Question/Reply)**

**Includes:** Login.

#### **Brief Description**

The PseudoAdmin can Takedown reported posts in Discussion forum.

#### **Initial Step-By-Step Description**

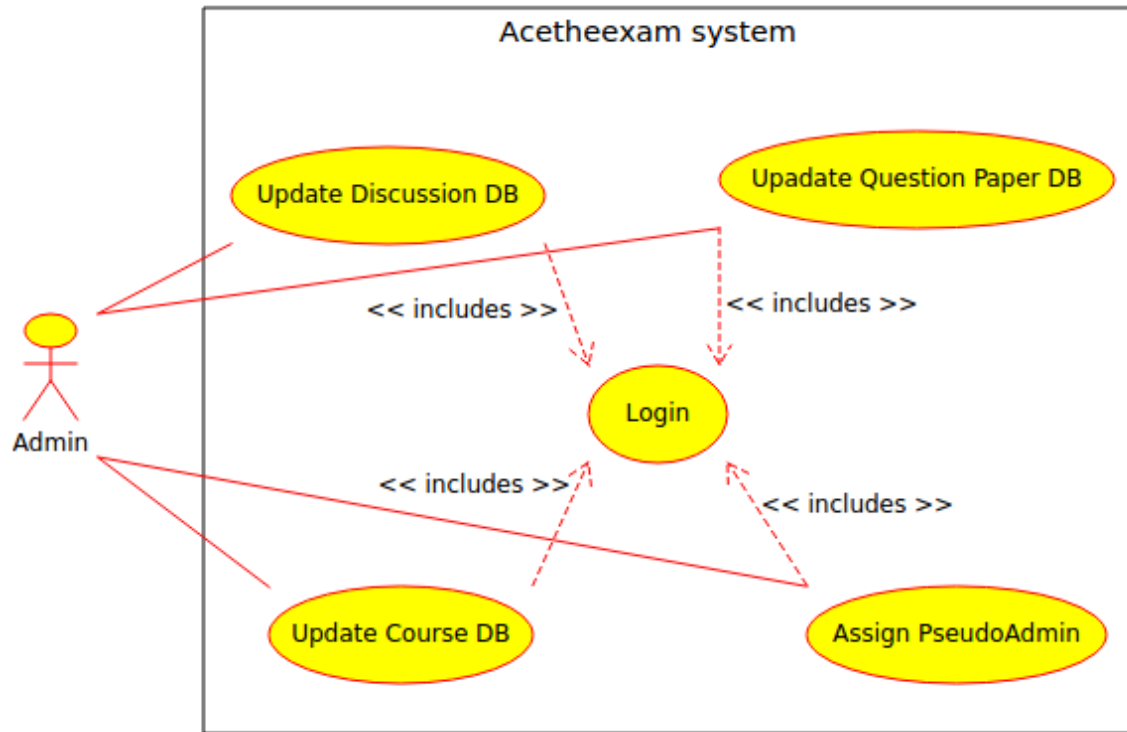
Before this use case can be initiated, the PseudoAdmin is already logged in, has access to the Dashboard.

1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Read Reports”.
2. The PseudoAdmin selects the (Question/Reply) needed to be taken down.
3. The System takes the (Question/Reply) down.

**Xref:** [Section 3.2.23, Takedown \(Question/Reply\)](#)

#### 2.1.4 Admin Use Cases

**Diagram :** [2.1.4\(a\)](#), [2.1.4\(b\)](#), [2.1.4\(c\)](#), [2.1.4\(d\)](#).



##### 2.1.4(a) Use case: **Update Course Database**

**Includes:** Login.

##### **Brief Description**

The Admin can update(read, change and create) the Course Database.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Admin is already logged in, has access to the Dashboard.

1. The Admin chooses the Admin page then selects the “Update Course Database” option.
2. The Admin then can search, view and change the Course Database at will.

**Xref:** [Section 3.2.25, Update Course Database](#)

#### 2.1.4(b) Use case: **Update (Question paper/Answer paper) Database**

**Includes:** Login.

##### **Brief Description**

The Admin can update(read, change and search) the (Question paper/Answer paper) Database.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Admin is already logged in, has access to the Dashboard.

1. The Admin chooses the Admin page then selects the “Update (Question paper/Answer paper) Database” option.
2. The Admin then can search, read and change the (Question paper/Answer paper) Database at will.

**Xref:** [Section 3.2.26, Update \(Question paper/Answer paper\) Database](#)

#### 2.1.4(c) Use case: **Update Discussion Database**

**Includes:** Login.

##### **Brief Description**

The Admin can update(read, change and search) the Discussion Database.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Admin is already logged in, has access to the Dashboard.

1. The Admin chooses the Admin page then selects the “Update Discussion Database” option.
2. The Admin then can search, read and change the Discussion Database at will.

**Xref:** [Section 3.2.27, Update Discussion Database](#)



#### 2.1.4(d) Use case: Assign/Re-Assign PseudoAdmin

**Includes:** Login.

##### **Brief Description**

The Admin can assign/re-assign a PseudoAdmin to any course.

##### **Initial Step-By-Step Description**

Before this use case can be initiated, the Admin is already logged in, has access to the Dashboard.

1. The Admin chooses the Admin page then selects the “Assign PseudoAdmin” option.
2. The System generates a form consisting of email id and (course name/course id).
3. The Admin enters the corresponding fields.
4. The System assigns the new PseudoAdmin.
5. If a PseudoAdmin was already assigned to the particular course, the old PseudoAdmin is relieved.

**Xref:** [Section 3.2.28, Assign/Re-Assign PseudoAdmin](#)

## **2.2 User Characteristics**

The General Users, PseudoAdmins, Admin and the Registered users are expected to be Internet literate . The main screen of the Web Platform will have the Advanced search function, an option to Login and Register and a way to browse according to Department name, Course name, Academic year and test type.

The PseudoAdmins are expected to have knowledge about their corresponding course and be able to ascertain the quality of the Question papers/ Answer papers.

The Admin is expected to have knowledge about the backend systems.

## 3.0 Requirements Specification

### 3.1 External Interface Requirements

None

### 3.2 Functional Requirements

#### 3.2.1 Browse

<b>Use Case Name</b>	<b>Browse</b>
<b>XRef</b>	<a href="#">Section 2.1.1(a), Browse</a>
<b>Trigger</b>	The General User clicks on Home page of the Web platform
<b>Precondition</b>	The General User accesses the Web Platform
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The System displays the Departments first.</li><li>2. The General User selects the Department desired.</li><li>3. The System displays the Course under the selected Department.</li><li>4. The General User selects the Course desired.</li><li>5. The System displays the Question papers grouped according to Academic year and type of test under the selected Course.</li><li>6. The General User selects the required Question paper to access the corresponding Question paper page.</li></ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The General User finds the Question paper needed..
<b>Exception Paths</b>	The General User may abandon the browse at any time.

#### 3.2.2 Advanced Search

<b>Use Case Name</b>	<b>Advanced Search</b>
<b>XRef</b>	<a href="#">Section 2.1.1(b), Advanced Search</a>
<b>Trigger</b>	The General User selects the Advanced Search option after entering all required fields.
<b>Precondition</b>	The General User accesses the Web Platform
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The General User chooses to search by Test type, Academic Year or Course name(id).</li><li>2. The system displays the choices to the General User.</li><li>3. The General User selects the Question paper desired.</li></ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The General User finds the Question paper needed..
<b>Exception Paths</b>	The General User may abandon the Advanced search at any time.

### 3.2.3 View

<b>Use Case Name</b>	<b>View</b>
<b>XRef</b>	<a href="#">Section 2.1.1(c), View</a>
<b>Trigger</b>	The General User selects the Question paper link.
<b>Precondition</b>	The General User has access to the Question paper link.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The General User accesses the Question paper link.</li><li>2. The system displays all the pages of the question paper, which can be accessed using a scroll event.</li><li>3. The system gives a choice of zoom for various levels of clarity and for readability.</li><li>4. The system also generates the corresponding discussion forum and the link to the answer paper.</li></ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The General User has seen the Question paper on the Platform itself.
<b>Exception Paths</b>	None

### 3.2.4 Download

<b>Use Case Name</b>	<b>Download</b>
<b>XRef</b>	<a href="#">Section 2.1.1(d), Download</a>
<b>Trigger</b>	The General User selects the Download option.
<b>Precondition</b>	The General User has access to the Question paper page.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The General User accesses the question paper page.</li><li>2. The system displays an option to download the current (Question paper/Answer paper).</li><li>3. When the download option is chosen the system sends the General User a link to download the corresponding file.</li></ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The (Question paper/Answer paper) is downloaded to and is available on the General User's system.
<b>Exception Paths</b>	The General User has network issues.

### 3.2.5 Register

<b>Use Case Name</b>	<b>Register</b>
<b>XRef</b>	Section 2.1.1(e), Register
<b>Trigger</b>	The General User selects the Register option.
<b>Precondition</b>	The General User has already accessed the Web platform.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The General User chooses to register.</li><li>2. The system displays a form to register containing email id, password and retype password.</li><li>3. The General User gives the respective details</li><li>4. If the General User fits the Profile( his email id is nitc.ac.in) is queued for Verification.</li></ol>
<b>Alternative Paths</b>	The General User if in step 3, gives weak or no password is

	prompted to enter a better password. The General User if in step 3, gives a non nitc.ac.in email id is prompted to give a proper nitc.ac.in email id.
<b>Postcondition</b>	The General User's request for registration is queued for verification.
<b>Exception Paths</b>	The General User may abandon the Registration at any time.

### 3.2.6 Verification

<b>Use Case Name</b>	<b>Verification</b>
<b>XRef</b>	<a href="#">Section 2.1.1(f), Verification</a>
<b>Trigger</b>	The General User clicks the verification link sent to General User's nitc.ac.in email id
<b>Precondition</b>	Should have already requested for registration.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The system sends a verification link to the General User's registered mail.</li> <li>2. The General User's credentials are verified.</li> <li>3. The General User's data is queued for commit.</li> </ol>
<b>Alternative Paths</b>	In step 2 if the General User does not access the verification link the General User's request for registration will stand cancelled.
<b>Postcondition</b>	The General User's credentials are verified and is queued for commit.
<b>Exception Paths</b>	None

### 3.2.7 Commit General User as Registered User

<b>Use Case Name</b>	<b>Commit General User as Registered User</b>
<b>XRef</b>	<a href="#">Section 2.1.1(g), Commit General User as Registered User</a>
<b>Trigger</b>	The General User's verified request is queued for commit.
<b>Precondition</b>	The General User's request should have been verified.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. Once the General User's request is verified then the General User's data is committed to the Registered user base.</li> <li>2. The General User is now a Registered user.</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The General User is now a Registered user .
<b>Exception Paths</b>	None.

### 3.2.8 Login

<b>Use Case Name</b>	<b>Login</b>
<b>XRef</b>	<a href="#">Section 2.1.2(a), Login.</a>
<b>Trigger</b>	The Registered user selects the login option.
<b>Precondition</b>	The Registered user has already accessed the Web platform.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user chooses to login.</li> <li>2. The System displays a form containing email id and password.</li> <li>3. The Registered user gives his credentials.</li> <li>4. The Registered user's login request is queued to Check</li> </ol>

	credentials.
<b>Alternative Paths</b>	None.
<b>Postcondition</b>	The Registered user's login request is queued to Check credentials.
<b>Exception Paths</b>	The Registered user may abandon the Login at any time.

### 3.2.9 Check credentials

<b>Use Case Name</b>	<b>Check credentials</b>
<b>XRef</b>	<a href="#">Section 2.1.2(b), Check credentials</a>
<b>Trigger</b>	The Registered user's login request is made.
<b>Precondition</b>	The Registered user has already given credentials for login.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The System checks for the Registered user's credentials in the Registered user base.</li> <li>2. If the check is successful then the Registered user is Logged in.</li> <li>3. Else Login Failure.</li> </ol>
<b>Alternative Paths</b>	If in case of step 3 the Registered user is not logged in.
<b>Postcondition</b>	The Registered user is Logged in.
<b>Exception Paths</b>	None

### 3.2.10 Login Failure

<b>Use Case Name</b>	<b>Login Failure</b>
<b>XRef</b>	<a href="#">Section 2.1.2(c), Login Failure</a>
<b>Trigger</b>	The Registered user's credentials are not found in the Registered user base
<b>Precondition</b>	The Registered user has already given credentials for login
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The system generates a Login fail box.</li> <li>2. The Registered user is notified of the unsuccessful login.</li> </ol>
<b>Alternative Paths</b>	None.
<b>Postcondition</b>	The Registered user is notified of the unsuccessful login.
<b>Exception Paths</b>	None

### 3.2.11 Logout

<b>Use Case Name</b>	<b>Logout</b>
<b>XRef</b>	<a href="#">Section 2.1.2(d), Logout</a>
<b>Trigger</b>	The Registered user selects the logout option.
<b>Precondition</b>	The Registered user is already logged in
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The system generates a verification box("Do you really want to log out?").</li> <li>2. The Registered user is logged out.</li> </ol>
<b>Alternative Paths</b>	None.
<b>Postcondition</b>	The Registered user is logged out.
<b>Exception Paths</b>	None

### 3.2.12 Change password

<b>Use Case Name</b>	<b>Change password</b>
<b>XRef</b>	<a href="#">Section 2.1.2(e), Change password.</a>
<b>Trigger</b>	The Registered user chooses the option of changing password under Account settings.
<b>Precondition</b>	The Registered user is already logged in, has access to the Account settings.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user chooses the option of changing password under Account settings.</li> <li>2. System generates a form for current password and new password.</li> <li>3. The Registered user gives the corresponding details.</li> <li>4. The current password is verified and the password is updated.</li> </ol>
<b>Alternative Paths</b>	The Registered user if in step 3, gives weak or no password is prompted to enter a better password.
<b>Postcondition</b>	The Password is updated.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.13 Reset password by Email

<b>Use Case Name</b>	<b>Reset password by Email</b>
<b>XRef</b>	<a href="#">Section 2.1.2(f), Reset password by Email.</a>
<b>Trigger</b>	The Registered user accesses the link to reset password through his email account.
<b>Precondition</b>	The Registered user has the link for resetting password.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user accesses the link to reset password through his email account.</li> <li>2. The Registered user is then redirected to the Web platform.</li> <li>3. The System generates a form for new password.</li> <li>4. The Registered user gives the new password.</li> <li>5. The password is updated to the new password.</li> </ol>
<b>Alternative Paths</b>	The Registered user if in step 4 gives weak or no password is prompted to enter a better password.
<b>Postcondition</b>	The Password is updated.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.14 Forgot Password

<b>Use Case Name</b>	<b>Forgot Password</b>
<b>XRef</b>	<a href="#">Section 2.1.2(g), Forgot Password.</a>
<b>Trigger</b>	The Registered user selects the Forgot password option.
<b>Precondition</b>	The Registered user is unable to Login.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user gets an option to ask the system to send an email to the registered email id (for changing password).</li> <li>2. The System generates and sends a link to the registered</li> </ol>

	email id of the Registered user.
<b>Alternative Paths</b>	In step 1 if the email id given is not in the Registered user base, then link is not sent.
<b>Postcondition</b>	The link (for resetting password )is sent.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.15 Upload(Question paper/ Answer paper)

<b>Use Case Name</b>	<b>Upload(Question paper/ Answer paper)</b>
<b>XRef</b>	<a href="#">Section 2.1.2(h), Upload(Question paper/ Answer paper).</a>
<b>Trigger</b>	The Registered user selects the Upload option.
<b>Precondition</b>	The Registered user is already logged in.
	<ol style="list-style-type: none"> <li>1. The system generates a form through which the Registered user can upload.</li> <li>2. The form contains attributes relating to the (question paper/answer paper) <ul style="list-style-type: none"> <li>• Academic year</li> <li>• Test type</li> <li>• Course</li> </ul> </li> <li>3. The Registered user can upload the (question paper/answer paper) either as a set of images or as a .pdf extension file.</li> <li>4. The upload is queued for Approval of PseudoAdmin.</li> </ol>
<b>Basic Path</b>	
<b>Alternative Paths</b>	In step 1 if the email id given is not in the Registered user base, then link is not sent.
<b>Postcondition</b>	The link (for resetting password )is sent.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.16 Ask a Question

<b>Use Case Name</b>	<b>Ask a Question</b>
<b>XRef</b>	<a href="#">Section 2.1.2(i), Ask a Question.</a>
<b>Trigger</b>	The Registered user selects the option to ask a question.
<b>Precondition</b>	The Registered user is already logged in, has access to the question paper page where he wants to post a question
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user accesses the question paper page where an option to ask question is already present.</li> <li>2. The system generates a form through which the Registered user can give his question .</li> <li>3. The question is then added to the discussion forum.</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The Question is then added to the discussion forum.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.17 Reply to a Question

<b>Use Case Name</b>	<b>Reply to a Question</b>
<b>XRef</b>	<a href="#">Section 2.1.2(j), Reply to a Question.</a>
<b>Trigger</b>	The Registered user selects the option to reply to a question.
<b>Precondition</b>	The Registered user is already logged in, has access to the question paper page, also selects the question to which he wants to give a reply.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user accesses the question paper page where an option to reply to the particular question is already present.</li> <li>2. The system generates a form through which the Registered user can give his question .</li> <li>3. The reply is then added as a reply to the corresponding question in the discussion forum.</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The Reply to the selected Question is then added to the discussion forum.
<b>Exception Paths</b>	The Registered user may abandon the operation at any time.

### 3.2.18 Upvote(Question/Reply)

<b>Use Case Name</b>	<b>Upvote(Question/Reply)</b>
<b>XRef</b>	<a href="#">Section 2.1.2(k), Upvote(Question/Reply).</a>
<b>Trigger</b>	The Registered user selects the option to upvote a ( question/reply).
<b>Precondition</b>	The Registered user is already logged in, has access to the question paper page, also selects the (Question/Reply) which he wants to Upvote.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user accesses the question paper page where an option to upvote a particular (Question/Reply) is already present.</li> <li>2. The system asynchronously increases the counter of votes of the corresponding (Question/Reply).</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The Upvote count of selected (question/reply) is increased by one.
<b>Exception Paths</b>	None.

### 3.2.19 Report(Question/Reply)

<b>Use Case Name</b>	<b>Report(Question/Reply)</b>
<b>XRef</b>	<a href="#">Section 2.1.2(l), Report(Question/Reply).</a>
<b>Trigger</b>	The Registered user selects the option to report a ( question/reply).
<b>Precondition</b>	The Registered user is already logged in, has access to the question paper page, also selects the (Question/Reply) which he wants to report.



<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user accesses the question paper page where an option to Report a particular (Question/Reply) is already present.</li> <li>2. The System Reports the corresponding (Question/Reply) to the PsuedoAdmin.</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The System Reports the corresponding (Question/Reply) to the PsuedoAdmin.
<b>Exception Paths</b>	None.

### 3.2.20 Read Notifications

<b>Use Case Name</b>	<b>Read Notifications</b>
<b>XRef</b>	<a href="#">Section 2.1.2(m), Read Notifications.</a>
<b>Trigger</b>	The Registered user selects the Notifications option.
<b>Precondition</b>	The Registered user is already logged in, has access to the Dashboard.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Registered user selects the Notifications option.</li> <li>2. The System displays all the notifications of the Registered user.</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The Registered user has read the notifications.
<b>Exception Paths</b>	None.

### 3.2.21 Approve (Question paper/Answer paper)

<b>Use Case Name</b>	<b>Approve (Question paper/Answer paper)</b>
<b>XRef</b>	<a href="#">Section 2.1.3(a), Approve (Question paper/Answer paper).</a>
<b>Trigger</b>	The PseudoAdmin selects the option “Approval of (Question paper/Answer paper)”
<b>Precondition</b>	The PseudoAdmin has access to the PseudoAdmin page.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Approval of (Question paper/Answer paper)”.</li> <li>2. The System generates links to review all the (Question paper/Answer paper)s uploaded and it's attributes.</li> <li>3. If the (Question paper/Answer paper) is already in the (Question paper/Answer paper) Database the PseudoAdmin compares the uploaded (Question paper/Answer paper) with the (Question paper/Answer paper) in the Database.</li> <li>4. The PseudoAdmin then decides to commit the (Question paper/Answer paper) to the Database</li> </ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The PseudoAdmin either approves or rejects the files uploaded by the Registered users.
<b>Exception Paths</b>	The PseudoAdmin does not attend to the uploads for approval.

### 3.2.22 Assign next PseudoAdmin

<b>Use Case Name</b>	<b>Assign next PseudoAdmin</b>
<b>XRef</b>	<a href="#">Section 2.1.3(c), Assign next PseudoAdmin.</a>
<b>Trigger</b>	The PseudoAdmin selects the option “Assign next PseudoAdmin”.
<b>Precondition</b>	The PseudoAdmin has access to the PseudoAdmin page.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Assign next PseudoAdmin”.</li><li>2. The System generates a form (with id and course name/id).</li><li>3. The PseudoAdmin gives the next PseudoAdmin's details and the course he controls.</li><li>4. The System then updates the Databases accordingly.</li></ol>
<b>Alternative Paths</b>	In step 3, if the PseudoAdmin gives an unregistered email id, then PseudoAdmin's request is rejected.
<b>Postcondition</b>	The New PseudoAdmin is assigned.
<b>Exception Paths</b>	None

### 3.2.23 Takedown (Question/Reply)

<b>Use Case Name</b>	<b>Takedown (Question/Reply)</b>
<b>XRef</b>	<a href="#">Section 2.1.3(d), Takedown (Question/Reply).</a>
<b>Trigger</b>	The PseudoAdmin selects the option “Read Reports”.
<b>Precondition</b>	The PseudoAdmin has access to the PseudoAdmin page.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. The PseudoAdmin selects the option for PseudoAdmin page, then selects the option “Read Reports”.</li><li>2. The PseudoAdmin selects the (Question/Reply) needed to be taken down.</li><li>3. The System takes the (Question/Reply) down.</li></ol>
<b>Alternative Paths</b>	In step 3, if the report is not valid, (Question/Reply) is not taken down.
<b>Postcondition</b>	The (Question/Reply) is taken down.
<b>Exception Paths</b>	The PseudoAdmin does not attend to the Reports.

### 3.2.24 Send Notification

<b>Use Case Name</b>	<b>Send Notification</b>
<b>XRef</b>	<a href="#">Section 2.1.3(b), Send Notification.</a>
<b>Trigger</b>	The PseudoAdmin Approves/Rejects an upload(Question paper/Answer paper).
<b>Precondition</b>	The Approval or rejection of a Question paper/Answer paper) has taken place.
<b>Basic Path</b>	<ol style="list-style-type: none"><li>1. Once the approval of a question paper is done, the System notifies to the corresponding Registered users the status of their uploads.</li></ol>
<b>Alternative Paths</b>	None
<b>Postcondition</b>	The Notification is sent to the corresponding Registered user.
<b>Exception Paths</b>	None

### 3.2.25 Update Course Database

<b>Use Case Name</b>	<b>Update Course Database</b>
<b>XRef</b>	<a href="#">Section 2.1.4(a), Update Course Database.</a>
<b>Trigger</b>	The Admin selects the “Update Course Database” option.
<b>Precondition</b>	The Admin has access to the Admin page.
<b>Basic Path</b>	1. The Admin chooses the Admin page then selects the “Update Course Database” option. 2. The Admin then can search, view and change the Course Database at will.
<b>Alternative Paths</b>	In step 2 if Admin gives invalid fields, the Admin is prompted.
<b>Postcondition</b>	The Course database is updated.
<b>Exception Paths</b>	The Admin may abandon the operation at any time.

### 3.2.26 Update (Question paper/Answer paper) Database

<b>Use Case Name</b>	<b>Update (Question paper/Answer paper) Database</b>
<b>XRef</b>	<a href="#">Section 2.1.4(b), Update (Question paper/Answer paper) Database.</a>
<b>Trigger</b>	The Admin selects the “Update (Question paper/Answer paper) Database” option.
<b>Precondition</b>	The Admin has access to the Admin page.
<b>Basic Path</b>	1. The Admin chooses the Admin page then selects the “Update (Question paper/Answer paper) Database” option. 2. The Admin then can search, read and change the (Question paper/Answer paper) Database at will.
<b>Alternative Paths</b>	In step 2 if Admin gives invalid fields, the Admin is prompted.
<b>Postcondition</b>	The (Question paper/Answer paper) database is updated.
<b>Exception Paths</b>	The Admin may abandon the operation at any time.

### 3.2.27 Update Discussion Database

<b>Use Case Name</b>	<b>Update Discussion Database</b>
<b>XRef</b>	<a href="#">Section 2.1.4(c), Update Discussion Database.</a>
<b>Trigger</b>	The Admin selects the “Update Discussion Database” option.
<b>Precondition</b>	The Admin has access to the Admin page.
<b>Basic Path</b>	1. The Admin chooses the Admin page then selects the “Update Discussion Database” option. 2. The Admin then can search, read and change the Discussion Database at will.
<b>Alternative Paths</b>	In step 2 if Admin gives invalid fields, the Admin is prompted.
<b>Postcondition</b>	The Discussion database is updated.
<b>Exception Paths</b>	The Admin may abandon the operation at any time.

### 3.2.28 Assign/Re-Assign PseudoAdmin

<b>Use Case Name</b>	<b>Assign/Re-Assign PseudoAdmin</b>
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<b>XRef</b>	<a href="#">Section 2.1.4(d), Assign PseudoAdmin.</a>
<b>Trigger</b>	The Admin selects the “Assign PseudoAdmin” option.
<b>Precondition</b>	The Admin has access to the Admin page.
<b>Basic Path</b>	<ol style="list-style-type: none"> <li>1. The Admin chooses the Admin page then selects the “Assign PseudoAdmin” option.</li> <li>2. The System generates a form consisting of email id and (course name/course id).</li> <li>3. The Admin enters the corresponding fields.</li> <li>4. The System assigns the new PseudoAdmin.</li> <li>5. If a PseudoAdmin was already assigned to the particular course, the old PseudoAdmin is relieved.</li> </ol>
<b>Alternative Paths</b>	In step 3, if the Admin gives an unregistered email id, then Admin's request is rejected.
<b>Postcondition</b>	The corresponding new PseudoAdmin is assigned and if a PseudoAdmin already existed , he/she is relieved.
<b>Exception Paths</b>	The Admin may abandon the operation at any time.

### 3.3 *Detailed Non-Functional Requirements*

#### 3.3.1 Security

Enhanced security for sensitive data . It should be made sure that users who are given specific rights can perform certain tasks, thus providing an extensive role based authorization.

#### 3.3.2 Backup

There should be a backup feature for the data to prevent any mishaps.

#### 3.3.3 Platform/Browser Independence

The client side system should work on any modern web browsers like Firefox, chrome, opera and any of the common operating systems like Windows, Linux, Mac-OS.

#### 3.3.4 Ease of use

The user interface should be intuitive and easy to navigate. People with basic understanding of the internet should be navigate through the system and perform various tasks.

### **3.3.5 Flexibility**

The system should accommodate any future changes in the courses and the question paper database needs to be updated over time.

### **3.3.6 Performance**

The system should be able to handle a load of around 1000 users during high traffic period.