*EDUTATIVE*

USECASE ANALYSIS

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*Rida Bari l14-4021*

*Ch Waqar Ali l14-4035*

*Qandeel Mushtaq l14-4087*

*Zainab Iftikhar l14-4304*

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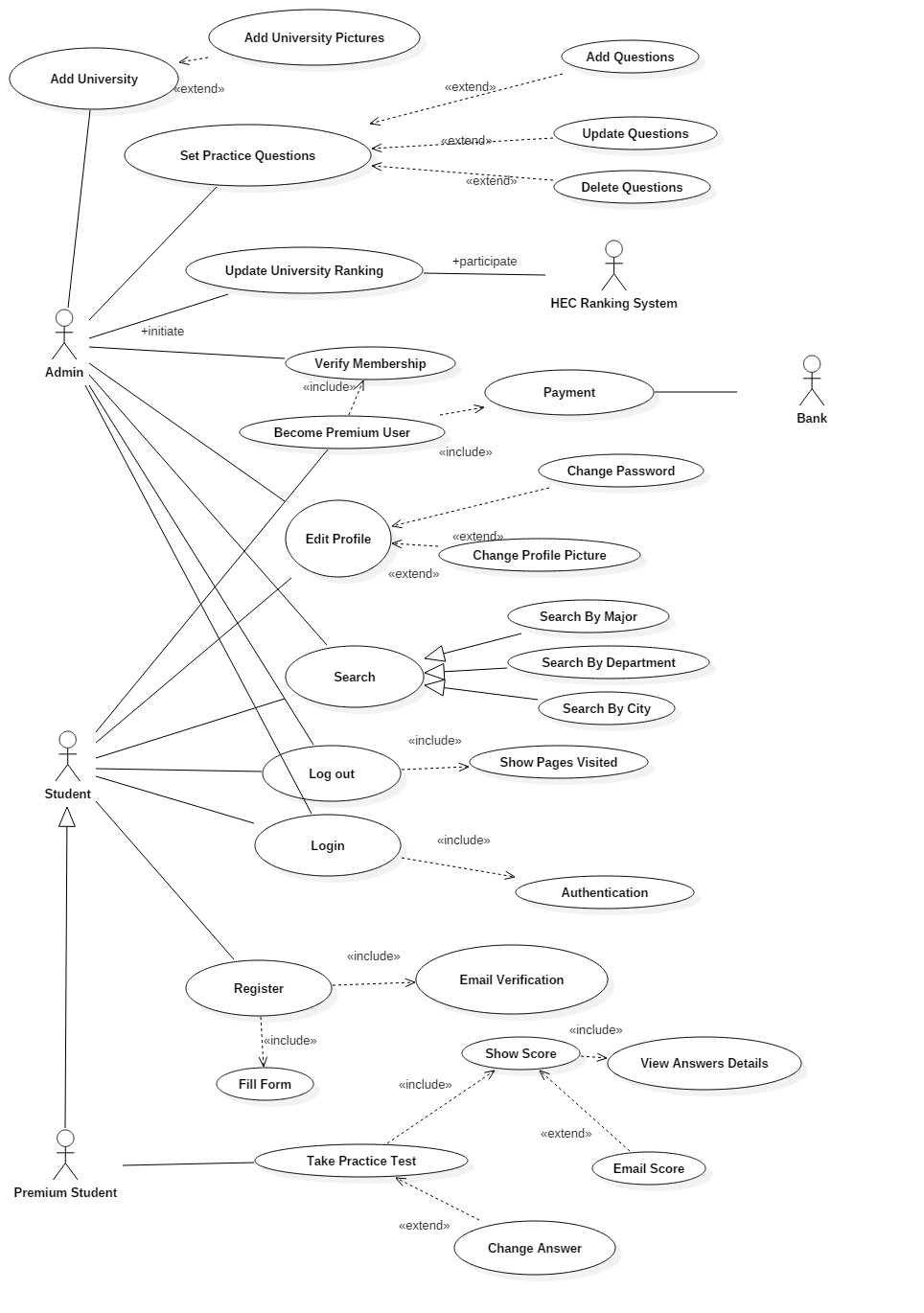
# INTRODUCTION

## BUSINESS PROBLEM STATEMENT

According to a study conducted by NEMIS (National Education Management Information System), the total enrolment of students at higher secondary schools is 1.246 million. That means about a million confused students unsure about the major they want to pursue and the appropriate university for that. The confusion leads to frustration, disorder, and rushed decisions about one’s future sometimes transforming into four years of regret.

## CLIENT DETAILS

Hassan Shahid is an entrepreneur and a LUMS Alumni. He is a founder of successful startup named Kickstart. In the next couple of years, Hassan hopes to expand his vision by opening Kickstart’s offices in all the major cities of Pakistan with all major startups utilizing its services to transform their ambitions into realities. Besides managing Kickstart, Hassan is also engaged in working on ‘Edutative’ which is collaborating with 40 top universities in Pakistan to create a forum where students could easily look for solutions in their respective field of study which would help them prepare efficiently along with regular tracking of their progress.

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# USE CASE DESCRIPTION

**Use Case:** Login

**Identifier:** UC1

**Related Requirements: The system shall let member/admin log in  
Initiating Actor:** Student, Admin **Participating Actor:   
Actor’s Goal:** To Log into the system and access functions of system  
**Preconditions:** The User has an authenticated account **Trigger:** The User requests to login by clicking on Login Button on Homepage  
**Post-conditions:** The user is successfully logged in.

**Flow of Event for Main Success Scenario:**

1. System takes the User to the Login page.
2. System shows form asking for Username and Password
3. Student enters Username and Password.
4. Student clicks on Login button
5. Systems checks username length
6. System checks the database to authenticate the Student via the Use Case Authentication
7. Student in now logged in
8. System redirects to User Homepage in less than 3 seconds

**Flow of Event for Alternative Scenario:**

**5(a).** The system determines that username length is less than 5 characters

1. System shows “Username must be at least 5 characters long” message
2. User enters correct username

**6(a).** The system determines that the username is incorrect

1. System shows “This username is not registered” message to Student
2. User enters correct username

**6(b).** The system determines that the password is incorrect

1. System shows “Incorrect Password” message to Student
2. User enters correct password

**Use Case:** Logout

**Identifier:** UC2

**Related Requirements: The system shall let the members log out.  
Initiating Actor:** Student **Participating Actor:   
Actor’s Goal:** To Log out of the system  
**Preconditions:** The student is already Logged In  **Trigger:** Student requests to logout by clicking on Logout Button on Page Header  
**Post-conditions:** The student is successfully logged out.

**Flow of Event for Main Success Scenario:**

1. System ends the student’s Session.
2. System redirects the student to session history/activity page in less than 3 seconds via the Use Case Show Visited Pages

**Use Case:** Logout

**Identifier:** UC3

**Related Requirements:**

**Initiating Actor:** Admin

**Participating Actor: The system shall let the admin log out.**

**Actor’s Goal:** To Log out of the system

**Preconditions:** The admin is already Logged In

**Trigger:** Admin requests to logout by clicking on Logout Button on Page Header

**Post-conditions:** The admin is successfully logged out.

**Flow of Event for Main Success Scenario:**

1. System ends the admin’s Session.
2. System redirects the admin to Homepage in less than 3 seconds.

**Use Case:** Register

**Identifier:** UC4

**Related Requirements: The system shall be able to register new users.  
Initiating Actor:** Student  **Participating Actor:** Email Service **Actor’s Goal:** To register a new account  
**Preconditions:** The student has no account & is on Homepage.  **Trigger:** Student clicks on Signup Button on Homepage  
**Post-conditions:** The student has successfully created a new account.

**Flow of Event for Main Success Scenario:**

1. System takes the Student to the Sign Up page.
2. System shows form asking for Name, Username, Email, Password, Current Education and Contact Number
3. Student fills signup form **via Use Case Fill Form**
4. Student clicks on Sign Up button
5. System checks for empty fields
6. System encrypts password.
7. System send confirmation mail to Email Service
8. System requests user to check email and verify
9. User verifies email via **Use Case Email Verification**
10. System redirects to Login page in less than 3 seconds

**Flow of Event for Alternative Scenario:**

**5(a).** The system determines that student has left some fields empty

1. System shows “Please Fill All Fields” message to Student
2. Student fills all fields

**Use Case:** Fill Form

**Identifier:** UC5

**Related Requirements: The system shall be able to register new users.**

**Initiating Actor:** Student

**Participating Actor:**

**Actor’s Goal:** To fill signup form

**Preconditions:** The student is on Signup page.

**Trigger:**

**Post-conditions:** The student has successfully filled signup form.

**Flow of Event for Main Success Scenario:**

1. Student enters his name.
2. Student enters his email.
3. System checks for email format
4. System checks for database to check for uniqueness of email
5. Student enters username.
6. System checks for username length
7. System checks for database to check for uniqueness of username
8. Student enters his contact number.
9. System checks for contact number length
10. Student enters his password.
11. Student selects his current education from dropdown menu.

**Flow of Event for Alternative Scenario:**

**3(a).** The system determines that email format is wrong

1. System shows “Please Enter Correct Email” message to Student
2. Student enters correct email

**4(a).** The system determines that email already exists

1. System asks Student to choose new Email
2. Student enters new Email

**6(a).** The system determines that username length is less than 5 characters

1. System shows “Username must be at least 5 characters long” message
2. Student enters correct username

**7(b).** The system determines that username already exists

1. System asks Student to choose new Username

2. Student enters new Username

**8(a).** The system determines that contact number length is not 11 digits

1. System shows “Contact Number must be 11 digit long” message
2. Student enters correct contact number.

**Use Case:** Edit Profile

**Identifier:** UC6

**Related Requirements: The system shall allow members/admin to edit their profiles**

**Initiating Actor:** Student, Admin

**Participating Actor:**

**Actor’s Goal:** To edit User personal profile information

**Preconditions:** The User is Logged In

**Trigger:** The User requests to edit profile by clicking on Edit Profile Button on Header  
**Post-conditions:** The User has successfully made changes in profile.

**Flow of Event for Main Success Scenario:**

1. System takes the User to the Edit Profile page.
2. System shows Add Profile Picture, Change Password and Cancel Buttons
3. System shows form with Name, Username and Email
4. User edits desired fields
5. User clicks on Save Changes button
6. System checks for empty fields
7. System checks for email format
8. System checks for username length
9. System checks for database to check for uniqueness of Email and Username
10. System makes changes in database
11. System redirects to Student Homepage

**Flow of Event for Alternative Scenario:**

**4(a).** User can add photo via **Use case Add Profile Picture**

**4(b).** User can change password via **Use case Change Password**

**4(c).** The User clicks on Cancel Button

1. System redirects to Homepage without saving

**6(a).** The system determines that student has left some fields empty

1. System shows “Please Fill All Fields” message to Student
2. User fills all fields

**7(a).** The system determines that email format is wrong

1. System shows “Please Enter Correct Email” message to Student
2. Student enters correct email

**8(a).** The system determines that username length is less than 5 characters

1. System shows “Username must be at least 5 characters long” message
2. User enters correct username

**9(a).** The system determines that email already exists

1. System asks User to choose new Email
2. User enters new Email

**9(b).** The system determines that username already exists

1. System asks User to choose new Username
2. User enters new Username

**Use Case:** Add Profile Picture

**Identifier:** UC7

**Related Requirements: The system shall allow members/admin to edit their profiles**

**Initiating Actor:** Student, Admin

**Participating Actor:**

**Actor’s Goal:** To upload profile photo on profile page

**Preconditions:** The User is Logged In

**Trigger:** The User requests to add profile photo by clicking on Add Profile Photo Button

**Post-conditions:** The User has successfully uploaded profile photo.

**Flow of Event for Main Success Scenario:**

1. System opens a wizard for user.
2. User browses through directories to choose a photo.
3. User double clicks photo to upload it.
4. Systems saves the photo link in database.

**Use Case:** Change Password

**Identifier:** UC8

**Related Requirements: The system shall allow members/admin to edit their profiles**

**Initiating Actor:** Student, Admin

**Participating Actor:**

**Actor’s Goal:** To change current set password

**Preconditions:** The student should be Logged In

**Trigger:** Student clicks on Change Password Button on Edit Profile

**Post-conditions:** The student has successfully set a new password.

**Flow of Event for Main Success Scenario:**

1. System takes the Student to the Change Password page.
2. System shows form with Current Password and New Password fields
3. Student enters current password and new password
4. Student clicks on Change Password button
5. System checks for empty fields
6. System checks database for current password’s verification
7. System Encrypts new Password
8. System saves new encrypted password in database
9. System redirects to Edit Profile

**Flow of Event for Alternative Scenario:**

**5(a).** The system determines that student has left some fields empty

1. System shows “Please Fill All Fields” message to Student
2. Student fills all fields

**7(a).** The system determines that current password is not correct

1. System shows “Incorrect Current Password” message to Student
2. Student enters correct password

**Use Case:** Search Universities by City  
**Identifier:** UC9  
**Related Requirements: The system shall allow member/admin to search for a university**  
**Initiating Actor:** Student, Admin  
**Participating Actor:**   
**Actor’s Goal:** To search for universities on basis cities  
**Preconditions:** The student should be on Homepage  
**Trigger:** Student clicks on Search University  
**Post-conditions:** The student gets list of universities

**Flow of Event for Main Success Scenario:**

1. System shows Department, Majors and Cities drop down list with “All” option as default
2. Student selects City from dropdown menu.
3. Student clicks on Search button
4. System runs query on database
5. System redirects to Result Page in less than 3 seconds.
6. System shows list of universities that met the criteria on Result Page

**Use Case:** Search Universities by Major

**Identifier:** UC10

**Related Requirements: The system shall allow member/admin to search for a university**  
**Initiating Actor:** Student, Admin

**Participating Actor:**

**Actor’s Goal:** To search for universities on basis major

**Preconditions:** The student should be on Homepage

**Trigger:** Student clicks on Search University

**Post-conditions:** The student gets list of universities

**Flow of Event for Main Success Scenario:**

1. System shows Department, Major and City drop down list with “All” option as default
2. Student selects Major from dropdown menu.
3. Student clicks on Search button
4. System runs query on database
5. System redirects to Result Page in less than 3 seconds.
6. System shows list of universities that met the criteria on Result Page

**Use Case:** Search Universities by Department

**Identifier:** UC11

**Related Requirements: The system shall allow member/admin to search for a university**

**Initiating Actor:** Student, Admin

**Participating Actor:**

**Actor’s Goal:** To search for universities on basis Department

**Preconditions:** The actor should be on Homepage

**Trigger:** Actor clicks on Search University

**Post-conditions:** The actor gets list of universities

**Flow of Event for Main Success Scenario:**

1. System shows Department, Major and City drop down list with “All” option as default
2. Actor selects Department from dropdown menu.
3. Actor clicks on Search button.
4. System runs query on database.
5. System redirects to Result Page in less than 3 seconds.
6. System shows list of universities that met the criteria on Result Page

**Use Case:** Become Premium Member

**Identifier:** UC12

**Related Requirements: The system shall allow members to upgrade to premium members**

**Initiating Actor:** Student

**Participating Actor:** Admin, Bank

**Actor’s Goal:** To become a premium member and access exclusive features

**Preconditions:** The student should be Logged In

The student should be an Ordinary User/Member

**Trigger:** Student clicks on Premium Member Button on Header

**Post-conditions:** The student role is successfully changed to premium member

**Flow of Event for Main Success Scenario:**

1. System takes the Student to the Premium Membership Registration page.
2. System shows Edutative Bank Account Details and Membership Fee
3. System shows form with CNIC, CNIC Registered Name fields
4. Student enters CNIC, CNIC Registered Name
5. Student clicks on Submit button
6. System checks for empty fields
7. System checks for CNIC length
8. System checks for database to check for uniqueness of CNIC
9. System saves data in Database
10. System notifies **Admin** about registration

**Flow of Event for Alternative Scenario:**

**6(a).** The system determines that student has left some fields empty

1. System shows “Please Fill All Fields” message to Student
2. Student fills all fields

**7(a).** The system determines that CNIC length is not 13 digits

1. System shows “CNIC Number must be 13 digit long” message
2. Student enters correct CNIC

**8(a).** The system determines that CNIC already exists

1. System shows “Request already dispatched against this CNIC” message to Student

**Use Case:** TakePractice Test

**Identifier:** UC13

**Related Requirements: The system shall allow members to take test   
Initiating Actor:** Premium Student

**Participating Actor:**

**Actor’s Goal:** To practice for university entry exams

**Preconditions:** The student should be Logged In

The student should be a Premium User/Member

Each Subject has at least 50 questions in database

**Trigger:** Student clicks on Take Test Button on Header

**Post-conditions:** Test is taken and the score is displayed to user

**Flow of Event for Main Success Scenario:**

1. System takes the Student to the Test Preparation page.
2. System shows Subjects drop list to Student with first subject as default
3. System shows Number of questions field
4. Student selects subject from drop list
5. Student enters number of questions
6. Student clicks on Start Preparation Button
7. System checks for empty fields
8. System checks number of questions field
9. System runs query on database and randomly selects desired number of questions
10. System shows resulting questions on Test Page
11. Student answers a question.
12. After completion, System displays scores via **Show Score** use case.

**Flow of Event for Alternative Scenario:**

**7(a).** The system determines that student has left some fields empty

1. System shows “Please Fill All Fields” message to Student
2. Student fills all fields

**8(a).** The system determines that student has entered 0 or less than 0 value

1. System shows “The number of questions should be >0” message to Student

**8(b).** The system determines that student has entered 50 or greater than 50 value

1. System shows “The number of questions should be <50” message to Student
2. **11(a).** On selecting wrong answer, student go back via **Change Answer** Use case.

**Use Case:** Add University

**Identifier:** UC14

**Related Requirements: The system shall let admin add university in the database  
Initiating Actor:** Admin  **Participating Actor:   
Actor’s Goal:** To add a new university to the Edutative website  
**Preconditions:** The Admin is already Logged In  **Trigger:** Admin requests to add new university by clicking on Add University button.  
**Post-conditions:** The admin has successfully added a new university.

**Flow of Event for Main Success Scenario:**

1. Admin clicks on the “Add University” button on his home page.
2. System redirects the admin to the Add University page in 3 seconds or less.
3. Admin enters university Name.
4. Admin enters university’s HEC ranking.
5. Admin enters programs offered by university.
6. Admin enters location of university.
7. Admin can add photos via **Use case** **Add University Photos.**
8. Admin clicks on the submit button.
9. System adds the university in the database.
10. Admin is redirected to home page in 3 or less seconds

**Flow of Event for Alternative Scenario:**

**7(a).** The system determines that admin has left some fields empty

1. System shows “Please Fill All Fields” message to admin
2. Admin fills all fields

**Use Case:** Add University Pictures

**Identifier:** UC15

**Related Requirements: The system shall let admin add university in the database**

**Initiating Actor:** Admin

**Participating Actor:**

**Actor’s Goal:** To add photos of a university

**Preconditions:** Admin is already Logged In

**Trigger:** Admin requests to add photos of a university by clicking on Add Photos button.

**Post-conditions:** The admin has successfully added photos of a university.

**Flow of Event for Main Success Scenario:**

1. System redirects admin to the add Universities page in 3 seconds or less.
2. Admin selects the university of which he wants to add photos.
3. System redirects to that specific university’s (Edutative) page in 3 seconds or less.
4. Admin clicks on the “Add Photos” button.
5. System open wizard to select picture.
6. Admin double clicks picture from desired directory
7. Admin clicks on submit.
8. System saves the photos to the database.

**Use Case:** Add questions

**Identifier:** UC16

**Related Requirements: The system shall let admin add test questions in database.**

**Initiating Actor:** Admin

**Actors Goal:** To add test questions

**Participating Actors:** Admin

**Precondition:** Admin is already logged in.

**Trigger:** Admin requests to add new questions by clicking on the “Add questions” button.

**Post condition:** The admin has successfully added new questions.

**Flow of Event for Main Success Scenario:**

1. System redirects admin to the Add New Questions page in 3 seconds or less.
2. Admin selects the subject of which he wants to add questions.
3. Admin enter the question along with its options (answers) in the text box.
4. Admin clicks submit.
5. System adds the question in the selected subject’s database table.

**Use Case:** Delete questions

**Identifier:** UC17

**Related Requirements: The system shall let admin delete test questions from database.**

**Initiating Actor:** Admin

**Actors Goal:** To delete previously added test questions

**Participating Actors:** Admin

**Precondition:** Admin is already logged in.

**Trigger:** Admin requests to delete questions by clicking on the “Delete questions” button.

**Post condition:** The admin has successfully deleted desired questions.

**Flow of Event for Main Success Scenario:**

1. System redirects admin to the View Questions page in 3 seconds or less.
2. Admin selects the subject of which he wants to add questions.
3. Admin selects the Delete option.
4. Admin clicks submit.
5. System adds the question in the selected subject’s database table.

**Use Case:** Update questions

**Identifier:** UC18

**Related Requirements: The system shall let admin edit test questions in database.**

**Initiating Actor:** Admin

**Actors Goal:** To update existing test questions

**Participating Actors:** Admin

**Precondition:** Admin is already logged in.

**Trigger:** Admin requests to update questions by clicking on the “Update questions” button.

**Post condition:** The admin has successfully updated desired questions.

**Flow of Event for Main Success Scenario:**

1. System redirects admin to the View Questions page in 3 seconds or less.
2. Admin selects the subject of which he wants to update questions.
3. Admin selects desired the question.
4. Admin clicks update.
5. System saves the modified question in the selected subject’s database table.

**Use Case:** Update Universities Rankings

**Identifier:** UC19

**Related Requirements: The system shall let admin update university ranking.  
Initiating Actor:** Admin  
**Actors Goal:** To update the university rankings  
**Participating Actors:** Admin  
**Precondition:** Admin is logged in.  
**Trigger:** Admin requests to update the university rankings by clicking on the “Update rankings” button.  
**Post condition:** The admin has successfully updated the rankings.

**Flow of Event for Main Success Scenario:**

1. System redirects admin to the Update Rankings page in 3 seconds or less.
2. Admin modifies the university ranking as provided by HEC on its website.
3. Admin clicks “Update” button.
4. System saves changes in the database.

**Use Case:** Verify Premium User Membership

**Identifier:** UC20

**Related Requirements: The system shall let admin verify premium membership**

**Initiating Actor:** Admin

**Actors Goal:** To verify the premium user membership

**Participating Actors:** Admin

**Precondition:** Admin is logged in.

**Trigger:** Admin receives a new premium membership request.

**Post condition:** The admin has approved membership.

**Flow of Event for Main Success Scenario:**

1. System displays new membership requests.
2. Admin confirm payment from **Bank**
3. Admin verifies the membership.
4. System changes the membership status of user in database.

**Flow of Event for Alternative Scenario:**

**2(a).** Admin determines that payment is not done

1. The request remains pending

**Traceability Matrix**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **FR** | **UC 1** | **UC 2** | **UC 3** | **UC 4** | **UC 6** | **UC 9** | **UC 10** | **UC 11** | **UC 12** | **UC 13** | **UC 14** | **UC 16** | **UC 17** | **UC 18** | **UC 19** | **UC 20** |
| **FR1** |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |
| **FR2** | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **FR3** |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |
| **FR4** | X |  |  |  | X |  |  |  |  |  |  |  |  |  |  |  |
| **FR5** | X |  |  |  |  |  |  |  |  | X |  |  |  |  |  |  |
| **FR6** | X |  |  |  |  |  |  |  | X |  |  |  |  |  |  |  |
| **FR7** |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **FR8** | X |  |  |  |  |  |  |  |  |  | X |  |  |  |  |  |
| **FR9** |  |  | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **FR10** | X |  |  |  |  |  |  |  |  |  |  |  |  |  | X |  |
| **FR11** | X |  |  |  |  |  |  |  |  |  |  | X |  |  |  |  |
| **FR12** | X |  |  |  |  |  |  |  |  |  |  |  | X |  |  |  |
| **FR13** | X |  |  |  |  |  |  |  |  |  |  |  |  | X |  |  |
| **FR14** | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X |