

USE CASES OF CEA ROOM INFORMATION SYSTEM (CEA RIS)

Use Cases for Student Representative's Login Webpage

Use Case 1.1: Registering to the system

Introduction: This use case outlines the process for a student, acting as a class representative, to register and gain access to a dedicated system designed to facilitate their role. The system will allow them to interact with administrators, access important resources, and fulfill their duties effectively.

Actor: User

Preconditions:

- The user is the representative of the class.
- The user is on the login page.

Main Flow:

1. The User clicks the "Register as Student Representative"
2. The user enters their student number.
3. The user enters their valid email address.
4. The user enters their password.
5. The user confirms their password.
6. The user submits their Certificate of Registration.
7. The user submits their class schedule.
8. The user clicks the register button.
9. The user is redirected to the registration confirmation webpage.

Postconditions:

The system displays a confirmation message that their registration is upon confirmation by the admin.

Alternate Flows:

- If the user enters invalid email address, the system displays an error message and does not proceed to step 9.

Use Case 1.2: Logging in to the system

Introduction: This use case outlines the process for a registered user to log into the dedicated system designed for student representatives. Once logged in, the user gains access to the student representative's module, enabling them to perform their role and access relevant resources and tools.

Actor: User

Preconditions:

- User is already registered to the system.
- User is on the login page.

Main Flow:

1. User enters their student number on the provided.
2. User enters their password registered to the system.
3. The system validates the credentials of the user.
4. User clicks the login button.
5. The user is redirected to the student's dashboard.

Postconditions:

- The user has access to the student representative's module/system.

Alternate Flows:

- If the user enters incorrect credentials in step 1, the system displays an error message and does not proceed to step 5.
- If the user fails to provide both a student number and a password in step 1 and 2, the system displays an error message and does not proceed to step 5.
- If the user forgets their password, they can click a "Forgot Password" link, leading them to a password recovery process.

Exceptions:

- If the system experiences technical issues (e.g., database connectivity problems) while trying to validate the user's credentials in step 3, it displays an error message and does not proceed to step 5.

Use Case 1.3: User forgets their registered password

Introduction: This use case outlines the password recovery process, allowing the user to reset their password and regain access to their account. This procedure ensures that users who have forgotten their login credentials can securely and efficiently reset their passwords.

Actor: User

Preconditions:

- User is already registered to the system.
- User is on the login page.

Main Flow:

1. User clicks "Forgot Password"
2. The system prompts the user to enter their registered email address
3. The user enters their registered email address and clicks the "Submit" button
4. The system validates the email address to ensure that it is registered to the system
5. If the email address is valid, the system will send a unique link to the user's email address.
6. The user receives an email with the reset link and instructions on how to reset their password.
7. The user clicks the reset link, which opens a web page where they can set a new password.
8. The user enters a new password and confirms it.
9. The system validates the new password, updates the user's account, and logs them in automatically.
10. The user is redirected to the student's dashboard.
11. The system records the password reset activity in an audit log.

Postconditions:

- The user's password has been successfully reset, and they are logged in with their new password.
- The user can access the application with their updated credentials.

Alternate Flows:

- If the user enters invalid email address in step 3, the system displays an error message and the process is halted.
- If the user fails to provide both a student number and a password in step 1, the system displays an error message and does not proceed to step 4.
- If the user forgets their password, they can click a "Forgot Password" link, leading them to a password recovery process.

Use Cases for Student Representative's Homepage

Use Case 1: Navigating to Rooms Page

Introduction: This use case describes the process of a user, specifically a Student Representative, navigating to the "Rooms" section from their homepage. It allows the Student Representative to access information and resources related to the status of availability of the rooms.

Actor: User (Student Representative)

Preconditions:

- The user is logged in.
- The user is in the student's representative's homepage.

Main Flow:

1. On the left panel of the homepage, the user, acting as a Student Representative, locates and clicks the "Rooms" button.
2. The system processes the user's selection and redirects them to the dedicated "Rooms" web page.
3. The "Rooms" web page loads and displays the following elements:
 - a. A multifunctional search bar labeled as "Filter Room," enabling the Student Representative to search and filter rooms based on various criteria.
 - b. A "Floor Map" section that displays a visual representation of CEA rooms per storey, making it easy to visualize the room layout.

Postconditions:

- The Student Representative is now on the "Rooms" web page, where they can access information and resources related to room availability and utilize the "Filter Room" search bar and "Floor Map" to assist in their tasks.

Exceptions:

- If the user is not logged into the system, they should not have access to the student representative's homepage. If they attempt to access it without being logged in, the system should prompt them to log in first.
- If the "Rooms" button is not present on the left panel of the homepage (e.g., it is not a feature available to Student Representatives), the user should not be able to access this section. In this case, the system should provide appropriate feedback or a message indicating that this feature is not available to them.

Use Case 1.1: Utilizing the "Filter Room" Search Functionality

Introduction: This use case details the process of making use of the "Filter Room" search bar within the room information system, enabling users to refine their room search criteria. The features include searching rooms based on the room name and searching based on the time-in and time-out in a room planned to be reserved.

Actor: User

Preconditions:

- The user is logged in
- The user is already in the “Rooms” page

Main flow:

1. The "Filter Room" search bar is presented, allowing the user to input their search criteria
2. The user has the option to search for rooms based on the following criteria:
 - Room Name: The user can enter a room name or keywords associated with the room name.
 - Time-In and Time-Out: The user can specify the desired check-in and check-out times for the room they plan to reserve.
3. The user enters specific search parameters based on the selected criteria.
4. The system processes the user's input and generates a filtered list of rooms that match the specified room name and are available during the specified time-in and time-out.

Postconditions:

- The user has successfully utilized the "Filter Room" search bar to narrow down room search results based on their specified room name and check-in/check-out time criteria.

Alternate Flows:

- There are no alternate flows for this use case; the main flow represents the standard user interaction.

Exception Flows:

- If the user enters invalid or unsupported search criteria, the system should provide feedback and guide the user to use valid parameters.
- If there are technical issues or network problems during the search process, the system should inform the user and offer the option to try the search again later.

Use Case 1.2: Navigating the “Floor map” section

Introduction: This use case outlines the process of using the "Floor Map" section within the room information system. Users can click on rooms in the floor map to view their availability, check the schedule of room availability, schedule their reservation, and make a reservation using the "Reservation" button.

Actor: User

Preconditions:

- The user is logged in

- The user is already in the “Rooms” page

Main flow:

1. The system is displaying a visual representation of rooms on a particular floor.
2. The user can interact with the floor map in the following ways:
 - a. Room Availability (Room Status):
 1. The user clicks on a specific room on the floor map.
 2. The system displays the room's current availability status (e.g., available, occupied).
 3. The user can view details about the room's status, such as the time of the next reservation.
 - b. View Room Schedule:
 1. After clicking on a room, the user has the option to view the schedule for that room.
 2. The system presents a timeline showing the room's reservation schedule.
 3. The user can see existing reservations and availability for different time slots.
 - c. Schedule Reservation:
 1. If the room is available and the user wants to make a reservation, they can select an available time slot on the room's schedule.
 2. The system prompts the user to confirm the reservation details, such as the date, time, and room selected.
 3. The user can choose to cancel the reservation.
- D. Confirm Reservation Button:
 1. In addition to interacting with rooms directly on the floor map, the user has the option to use a "Confirm Reservation" button on the floor map interface.
 2. Clicking the "Confirm Reservation" button essentially confirms all the details the user has inputted regarding reserving a room.
 3. The user successfully reserved a room.

Postconditions:

- The user can check the availability and room status of specific rooms by clicking on them in the floor map.
- The user can view room schedules and existing reservations for selected rooms.
- The user can schedule their reservation by selecting an available time slot and confirming the reservation details.

Alternate Flows:

- If a user attempts to reserve a room during a time slot that is already reserved or occupied, the system should display an error message and prompt the user to choose an available time slot or select a different room.

Exception Flows:

- If there are technical issues or network problems while making a reservation, the system should inform the user and offer the option to try the reservation again later.

Use Case 2: Navigating the “Policies” page

Introduction: This use case describes the process by which users can access and view the "Policies" page within the room information system. The "Policies" page contains important rules and guidelines related to room reservations and usage.

Actor: User

Preconditions:

- The user is logged into the room reservation system.
- The user is on the system's homepage.

Main Flow:

1. The user navigates to the "Policies" section of the room reservation system
2. The system loads the "Policies" page, displaying a set of policies and guidelines related to room reservations and room usage.
3. The user can scroll through the policies to read and understand them.

Postconditions:

- The user has successfully viewed the policies and guidelines on the "Policies Page."

Alternate Flows:

- There are no alternate flows for this use case; the main flow represents the standard user interaction.

Exception Flows:

- If the user encounters any technical issues or the "Policies Page" fails to load, the system should display an error message and provide options to retry or seek assistance.
- This use case outlines the simple process of users accessing and viewing the policies and guidelines within the room information system, ensuring that users are aware of the rules and expectations when reserving and using rooms.

Use Case 3: Navigating the FAQs page

Introduction: This use case describes the process by which users can access and view the "FAQs" (Frequently Asked Questions) page within the room information system. The FAQs page contains answers to common questions and provides assistance to users.

Actor: User

Preconditions:

- The user is logged into the room reservation system.
- The user is on the system's homepage.

Main Flow:

1. The user navigates to the "FAQs" section of the room reservation system, typically accessible from the system's main menu or a dedicated "FAQ" link.
2. The system loads the "FAQs Page," displaying a list of frequently asked questions and their respective answers.
3. The user can click on a question to reveal the answer or use a search bar to find specific questions and answers.
4. The user can scroll through the FAQs to find information or solutions to their queries.

Postconditions:

- The user has successfully accessed and viewed the FAQs, finding answers to common questions and inquiries.

Alternate Flows:

- If the user searches for a specific question using the search bar, the system should display relevant FAQs that match the search terms.

Exception Flows:

- If the user encounters any technical issues or the "FAQs Page" fails to load, the system should display an error message and provide options to retry or seek assistance.
- This use case outlines the process of users accessing the FAQs page to find answers to common questions and receive assistance within the room reservation system.

Use Case 4: Navigate "My Reservations" page

Introduction: The user can access this page when they are already within the system and need to explore and interact with different sections: Upcoming, History, and Cancelled reservations.

Actor: User

Preconditions:

- The user is already logged in.
- User is in the "My Reservations" page.

Main Flow:

1. In the "My Reservations" page, the user is presented with three sections to choose from: "Upcoming," "History," and "Cancelled":
 - a. To navigate to the "Upcoming" section:
 - i. The user clicks on the "Upcoming" section.
 - ii. The system displays a list of all upcoming reservations for the user's class.
 - iii. The user can view, edit, or cancel upcoming reservations in this section.
 - b. To navigate to the "History" section:
 - i. The user clicks on the "History" section.
 - ii. The system displays a list of all past reservations for the user's class.
 - iii. The user can review the details of past reservations in this section.
 - c. To navigate to the "Cancelled" section:
 - i. The user clicks on the "Cancelled" section.
 - ii. The system displays a list of all previously cancelled reservations for the user's class.
 - iii. The user can review the details of the canceled reservations in this section.

Postconditions:

- The user has successfully navigated and interacted with the "My Reservations" page, including the sections: "Upcoming," "History," and "Cancelled."
- The user can view, edit, or cancel reservations as required within each respective section.

Alternate Flows:

- If there are no reservations in a particular section (e.g., no upcoming reservations or no reservation history), the system should display a message informing the user that there are no records to display in that section.

Exceptions:

- If the user encounters technical issues, such as a system error or unresponsive interface when navigating between sections, the user may need to contact the system administrator or support for assistance.

Use Case 5: Navigate “About Us” page

Introduction: This use case describes the steps for a user to navigate the "About Us" page within the room information system.

Actor: User

Preconditions:

- The user logged in.
- The user is already on the "About Us" page.

Main Flow:

1. The user is on the "About Us" page, and the page displays two scrollable sections: "The Team" and "Contact Us."
2. To navigate to "The Team" section:
 - a. Upon entering the page, the "The Team" section is already displayed, and scrolling down will reveal the entire "The Team" section.
 - b. The "The Team" section is now visible, and the user can read information about the team.
3. To navigate to "Contact Us" section:
 - a. The user scrolls or swipes further down the page to move the content, revealing the "Contact Us" section.
 - b. The "Contact Us" section is now visible, and the user can view contact information and details about how to get in touch.

Postconditions:

- The user has successfully navigated within the "About Us" page.
- The user has viewed the content in "The Team" section as needed.
- The user has viewed and interacted with the “Contact Us” section as needed.

Alternate Flows:

- There are no alternate flows for this use case; the main flow represents the standard user interaction.

Exceptions:

- If the user encounters difficulties scrolling or navigating through the page, they may need to ensure that their device and browser are functioning correctly. If the issue persists, they should contact system support for assistance.
- If the content within the "The Team" or "Contact Us" sections is not up-to-date or incomplete, the user may need to report this to the system administrator or responsible personnel to update the information.

Use Case 6: Navigate “Profile” dropdown menu

Introduction: This use case tackles regarding the steps taken to fully navigate the “Profile” dropdown menu within the room information system

Actor: User

Preconditions:

- The user is already logged in to the system.
- The user already clicked the “Profile” dropdown menu button.

Main Flow:

1. The “Profile” dropdown menu appears
2. The “Profile” dropdown menu displays the following options:
 - a. Personal Data
 - b. Change Password
 - c. Sign out
3. To navigate “Personal Data” option:
 - a. The user clicks the “Personal Data” option
 - b. The user will be redirected to a page viewing their Student Number, Name, Date of Birth and Contact information (contact number, email address, residential address)
 - c. The user can edit these existing information
4. To navigate “Change Password” option:
 - a. The user clicks the “Change Password” option
 - b. The system responds by displaying a form with three textboxes and labels:
 - i. Old password,
 - ii. New Password
 - iii. Repeat New Password

- c. When the user fills up those three textboxes to change their current password, they must click the 'Change Password' button to successfully change the password of their account
5. Upon selecting "Sign out" option:
 - a. The system will log the user out of their current session and returns them to the login page for student representatives, ending their session

Postconditions:

- The user has successfully navigated the "Profile" dropdown menu
- The user can view and edit their personal information in "Personal Data" option
- The user can change their password in "Change Password" option
- The user can log out their current session by clicking the "Sign out" option

Alternate Flows:

- There are no alternate flows for this use case; the main flow represents the standard user interaction.

Exceptions:

- If the user enters incorrect credentials (wrong current password) while attempting to change their password, the system displays an error message (and the 'current password' textbox color turns into red) and prompts the user to provide the correct current password.
- If the "New Password" and "Repeat New Password" fields do not match or do not meet the password complexity requirements, the system displays an error message (the 'new password' textbox will turn into red) and guides the user to enter a valid password.
- If there are technical issues or network problems during the password change process, the system informs the user and offers the option to try again later.

Use Cases for Admin's Login Web Page

Use Case 1.1: Logging in to the system

Introduction: This use case outlines the process for the admin to log into the dedicated system designed for administrators. Once logged in, the user gains access to the admin's dashboard, enabling them to perform their role and access relevant resources and tools.

Actor: Admin

Preconditions:

- Admin is on the login page.

Main Flow:

1. Admin enters their faculty number on the provided.
2. Admin enters their password registered to the system.
3. The system validates the credentials of the admin.
4. Admin clicks the login button.
5. The admin is redirected to the admin's dashboard.

Postconditions:

- The admin has access to the admin's dashboard.

Alternate Flows:

- If the admin enters incorrect credentials in step 1, the system displays an error message and does not proceed to step 5.
- If the admin fails to provide both a faculty number and a password in step 1 and 2, the system displays an error message and does not proceed to step 5.
- If the admin forgets their password, they can click a "Forgot Password" link, leading them to a password recovery process.

Exceptions:

- If the system experiences technical issues (e.g., database connectivity problems) while trying to validate the user's credentials in step 3, it displays an error message and does not proceed to step 5.

Use Case 1.2: Admin forgets their password

Introduction: This use case outlines the password recovery process, allowing the admin to reset their password and regain access to their account. This procedure ensures that admin who have forgotten their login credentials can securely and efficiently reset their passwords.

Actor: Admin

Preconditions:

- Admin is on the login page.

Main Flow:

1. The admin clicks "Forgot Password"
2. The system prompts the admin to enter their registered email address
3. The admin enters their registered email address and clicks the "Submit" button
4. The system validates the email address to ensure that it is registered to the system
5. If the email address is valid, the system will send a unique link to the admin's email address.

6. The admin receives an email with the reset link and instructions on how to reset their password.
7. The admin clicks the reset link, which opens a web page where they can set a new password.
8. The admin enters a new password and confirms it.
9. The system validates the new password, updates the admin's account, and logs them in automatically.
10. The admin is redirected to the admin's dashboard.
11. The system records the password reset activity in an audit log.

Postconditions:

- The admin's password has been successfully reset, and they are logged in with their new password.
- The admin can access the application with their updated credentials.

Alternate Flows:

- If the admin enters invalid email address in step 3, the system displays an error message and the process is halted.
- If the admin fails to provide both a faculty number and a password in step 1, the system displays an error message and does not proceed to step 4.
- If the admin forgets their password, they can click a "Forgot Password" link, leading them to a password recovery process.

Use Cases for Admin's Homepage

Use Case 1: Navigating Homepage

Introduction: This use case outlines the steps to be taken by the admin to navigate the homepage of CEA RIS

Actor: Admin

Preconditions:

- The admin is logged into the system.

Main Flow:

1. Admin clicks on the "Home: link or logo located in the navigation bar.
2. The system loads the homepage.
3. The homepage displays general information, updates, and options for navigation.

4. The Admin can view and interact with elements on the homepage such as rooms, reservations, policies, and profile.

Postconditions:

- The Admin successfully navigates the homepage, can access and interact with the information and features.

Alternate Flows:

- There are no specific alternate flows for this use case. It represents the standard process for accessing the homepage.

Exceptions:

- There are no exceptions specified in this use case, as it assumes that the homepage is accessible without any technical issues. Any potential technical issues or error handling related to homepage navigation should be addressed in the overall system's error handling and technical support procedures.

Use Case 1.1: Navigating Statistics Overview

Introduction: This use case outlines the process of an administrator (Admin) navigating to the "Statistics Overview" within the admin's dashboard. The "Statistics Overview" provides essential statistical insights and data for administrators to make informed decisions and track the system's performance.

Actor: Admin

Preconditions:

- The admin is logged in.
- The admin is in the homepage of the admin's dashboard.

Main Flow:

1. The admin clicks the "Statistics Overview" button.
2. The system loads the "Statistics Overview" web page.
3. The admin is redirected to the web page of "Statistics Overview".

Postconditions:

- The admin is navigated to the "Statistics Overview" web page, where they can access important statistical information and insights.

Exceptions:

- If the admin is not logged into the system, they should not have access to the admin's dashboard. In this case, the system should prompt the admin to log in first.
- If the "Statistics Overview" button is not present on the admin's dashboard homepage (due to permissions or system configuration), the admin should not be able to access this section. In such instances, the system should provide appropriate feedback or a message indicating that this feature is not available.

Use Case 1.2: Navigating User Management

Introduction: This use case outlines the process of navigating the "User Management" page within the room information system.

Actor: Admin

Preconditions:

- The admin is logged into the room reservation system.
- The admin is on the system's homepage.

Main Flow:

1. The admin selects the "User Management" option from the system's homepage
2. The system loads the "User Management" page, providing access to various user-related functionalities.
3. Within the "User Management" section, the admin can perform the following actions:
 - a. Delete User
 - b. Create User
 - c. View User List

Postconditions:

- The admin has successfully navigated the "User Management" section.
- The admin can delete a user, create a new user, or view the list of existing users, depending on their needs.

Alternate Flows:

- There are no specific alternate flows for this use case. It represents the standard process for accessing the homepage.

Exception Flows:

- If the admin attempts to create a user without providing mandatory information or enters invalid data, the system should display error messages and guide the user to correct the input.
- If the admin attempts to delete a user and encounters an issue (e.g., the selected user doesn't exist or has associated reservations), the system should provide relevant error messages and instructions.

Use Case 1.3: Navigating Room Management

Introduction: This use case outlines the steps taken by the admin to manage rooms within the room information system.

Actor: Admin

Preconditions:

- The admin is logged in.
- The admin is in the homepage of the admin's dashboard.

Main Flow:

1. The admin clicks the "Room Management" button.
2. The system loads the "Room Management Overview" web page.
3. The admin is redirected to the web page of "Room Management Overview".
4. The Admin can perform various room management actions, including:
 - a. Adding a new room by providing room details.
 - b. Editing room information, such as capacity or availability status.
 - c. Deleting a room from the system.
 - d. Assigning or reassigning rooms to specific categories or purposes.
 - e. Viewing room occupancy history.
5. After performing the necessary actions, the Admin can save the changes or updates.

Postconditions:

- The Admin successfully manages rooms, including adding, editing, deleting, assigning, or scheduling maintenance for rooms, and any changes are saved in the system.

Alternate Flows:

- There may be variations in room management actions, such as adding a new room or editing existing room details. Each of these actions can be considered as alternate flows within the broader use case.

Exceptions:

- The system may encounter exceptions or errors when performing room management actions, such as database errors, duplicate room numbers, or scheduling conflicts. In such cases, the system should provide error messages and guide the Admin on how to address these issues. These exceptions should be handled as part of the system's error handling and user support procedures.

Use Case 1.4: Navigating Reservation Management

Introduction: This use case describes the process of navigating the "Reservation Management" page within the room information system. Users can access this section to perform actions such as updating a reservation (creating and canceling reservations) and viewing existing reservations.

Actor: Admin

Preconditions:

- The admin is logged into the room information system.
- The admin is on the system's homepage.

Main Flow:

1. The user selects the "Reservation Management" option from the system's main menu or dashboard.
2. The system loads the "Reservation Management" section, providing access to various reservation-related functionalities.
3. Within the "Reservation Management" section, the user can perform the following actions:
 - a. Update Reservations
 - i. Create Reservations
 - ii. Cancel Reservations of User
 - b. View Reservations

Postconditions:

- The admin has successfully navigated the "Reservation Management" section.
- The admin can update reservations (create and cancel) and view their existing reservations, depending on their requirements.

Alternate Flows:

- There are no specific alternate flows for this use case. It represents the standard process for accessing the homepage.

Exception Flows:

- If the admin attempts to create a reservation without providing mandatory information or enters invalid data, the system should display error messages and guide the user to correct the input.
- If the admin attempts to cancel a reservation and encounters an issue (e.g., the selected reservation doesn't exist or has already passed), the system should provide relevant error messages and instructions.

Use Case 1.5: Navigating FAQs

Introduction: This use case describes the process of an administrator (Admin) navigating to the "FAQs" section within the admin dashboard. The "FAQs" section typically provides a collection of frequently asked questions and their answers, which can be helpful for both administrators and users in understanding the system and its features.

Actor: Admin

Preconditions:

- The admin is logged into the system.
- The admin is on the homepage of the admin's dashboard.

Main Flow:

1. The admin, on the admin's dashboard homepage, identifies and selects the "FAQs" button.
2. The system processes the admin's request and loads the "FAQs" web page.
3. The admin is subsequently redirected to the "FAQs" web page.

Postconditions:

- The admin is successfully navigated to the "FAQs" web page, where they can access a collection of frequently asked questions and their corresponding answers.

Exceptions:

- If the admin is not logged into the system, they should not have access to the admin's dashboard. In such a case, the system should prompt the admin to log in first.
- If the "FAQs" button is not available on the admin's dashboard homepage due to permissions or system configuration, the admin should not be able to access this section. The system should provide appropriate feedback or a message indicating that this feature is not accessible to them.

Use Case 1.6: Navigating Profile

Introduction: This use case outlines the steps taken by the admin to navigate their profile within the room information system.

Actor: Admin

Preconditions:

- The admin is logged in.
- The admin is in the homepage of the admin's dashboard.

Main Flow:

1. The admin clicks the "Profile" button.
2. The system loads the "Profile" web page.
3. The admin is redirected to the web page of "Profile".
4. The user profile page displays the Admin's personal information, such as name, contact details, and profile picture.
5. The Admin can perform various profile-related actions, including:
 - a. Editing personal information, such as name, email, or phone number.
 - b. Changing the profile picture by uploading a new image.
 - c. Updating the password.
6. After performing any necessary actions, the Admin can save the changes.

Postconditions:

- The Admin successfully navigates their user profile, makes any desired changes, and saves those changes in the system.

Alternate Flows:

- There may be variations in profile-related actions, such as changing the password or updating contact information. Each of these actions can be considered as alternate flows within the broader use case.

Exceptions:

- The system may encounter exceptions or errors when performing profile-related actions, such as incorrect password input, image upload errors, or database issues. In such cases, the system should provide error messages and guide the Admin on how to address these issues. These exceptions should be handled as part of the system's error handling and user support procedures.