**Title: Allocate Hall and Room for Student**

As a hall administrator, I want to efficiently allocate a hall and room to a student in the Hall Management System, ensuring a seamless process for room assignment based on availability and preferences.

**Acceptance Criteria:**

Scenario: Accessing the system.

Given: I am logged into the Hall Management System.

When: I navigate to the "Allocate Hall and Room" section.

Then: The system provides a user-friendly interface for selecting a student and assigning a hall and room.

Scenario: Selecting a student.

Given: I am on the "Allocate Hall and Room" page.

When: I can search and select a student from the list.

Then: The system displays the student's current details, such as name, student ID, and any existing hall or room assignment.

Scenario: Checking room availability.

Given: A student is selected.

When: I choose to allocate a room.

Then: The system displays a list of available rooms, including their current occupancy status, allowing me to make an informed selection.

Scenario: Allocating a room.

Given: Room availability is confirmed.

When: I select an available room for the student.

Then: The system updates the student's record with the allocated hall and room information.

Scenario: Handling preferences and restrictions.

Given: A student has specific preferences or restrictions.

When: Allocating a room.

Then: The system considers any specified preferences or restrictions (e.g., quiet areas, roommate requests) and accommodates them as much as possible.

Scenario: Verifying the allocation.

Given: The room is allocated.

When: I review the details before confirming.

Then: The system displays a summary of the allocated hall and room for verification.

Scenario: Confirmation and notification.

Given: The information is verified.

When: I confirm the allocation.

Then: The system displays a confirmation message, and an email or notification is sent to the student with their hall and room assignment details.

Scenario: Handling errors.

Given: Incorrect or incomplete information is entered.

When: I attempt to submit the allocation form.

Then: The system provides clear error messages indicating the fields that need correction**.**

**Success:**

Given: I am logged into the Hall Management System.

When: I navigate to the "Allocate Hall and Room" section.

Then: The system provides a user-friendly interface for selecting a student and assigning a hall and room.

Given: I am on the "Allocate Hall and Room" page.

When: I can search and select a student from the list.

Then: The system displays the student's current details, such as name, student ID, and any existing hall or room assignment.

Given: A student is selected.

When: I choose to allocate a room.

Then: The system displays a list of available rooms, including their current occupancy status, allowing me to make an informed selection.

Given: Room availability is confirmed.

When: I select an available room for the student.

Then: The system updates the student's record with the allocated hall and room information.

Given: A student has specific preferences or restrictions.

When: Allocating a room.

Then: The system considers any specified preferences or restrictions (e.g., quiet areas, roommate requests) and accommodates them as much as possible.

Given: The room is allocated.

When: I review the details before confirming.

Then: The system displays a summary of the allocated hall and room for verification.

Given: The information is verified.

When: I confirm the allocation.

Then: The system displays a confirmation message, and an email or notification is sent to the student with their hall and room assignment details.

Given: The process is completed successfully.

When: I navigate to the student list or hall occupancy page.

Then: The system reflects the newly allocated room for the selected student, and the room status is updated accordingly.

**Failure:**

Given: I am logged into the Hall Management System.

When: I navigate to the "Allocate Hall and Room" section.

Then: The system does not load the "Allocate Hall and Room" page, displaying an error message or remaining unresponsive.

Given: I am on the "Allocate Hall and Room" page.

When: I attempt to search and select a student, but the system fails to retrieve the student list.

Then: The system displays an error message indicating a failure in fetching the student information. The user is advised to try again later.

Given: A student is selected.

When: I choose to allocate a room.

Then: The system fails to display the list of available rooms, showing an error or loading indefinitely.

Then: The system displays an error message, indicating a failure in retrieving room information. The user is advised to try again or contact support if the issue persists.

Given: Room availability is confirmed.

When: I select an available room for the student.

Then: The system encounters an error while updating the student's record with the allocated hall and room information.

Then: The system displays an error message, indicating a failure in the allocation process. The user is advised to check the entered information or contact support.

Given: A student has specific preferences or restrictions.

When: Allocating a room.

Then: The system fails to consider the specified preferences or restrictions, assigning a room that doesn't meet the criteria.

Then: The system should display a warning message, indicating the deviation from the specified preferences.

Given: The room is allocated.

When: I review the details before confirming.

Then: The system freezes or encounters an error when attempting to display the summary.

Then: The user is unable to proceed, and the system advises a refresh or restart.

Given: The information is verified.

When: I confirm the allocation.

Then: The system fails to send the confirmation message or email to the student.

Then: The system displays an error message, indicating a failure in notifying the student. The user is advised to contact support.

Given: The process is completed successfully.

When: I navigate to the student list or hall occupancy page.

Then: The system does not reflect the newly allocated room for the selected student, indicating a failure in updating the records. The user may need to re-enter the information.