## Create Account

| Test Case ID | Test Scenario | Preconditions | Test steps |
|---|---|---|---|
| TC_001 | Create Account with Valid Input | User is on the registration page | 1. Enter valid first name (e.g., "John"). <br> 2. Enter valid last name (e.g., "Doe"). <br> 3. Enter valid username (e.g., "johndoe"). <br> 4. Enter valid password (e.g., "Password123"). <br> 5. Confirm password (e.g., "Password123"). <br> 6. Enter valid email (e.g., "johndoe@example.com"). <br> 7. Select valid date of birth from the drop-down calendar (e.g., "01/01/1990"). <br> 8. Click "Create Account". |
| TC_002 | Create Account with Invalid Email | User is on the registration page. | 1. Enter valid first name (e.g., "John"). <br> 2. Enter valid last name (e.g., "Doe"). <br> 3. Enter valid username (e.g., "johndoe"). <br> 4. Enter valid password (e.g., "Password123"). <br> 5. Confirm password (e.g., "Password123"). <br> 6. Enter invalid email (e.g., "johndoe"). <br> 7. Select valid date of birth from the drop-down calendar (e.g., "01/01/1990"). <br> 8. Click "Create Account". |
| TC_003 | Create Account with Mismatched Passwords | User is on the registration page. | 1. Enter valid first name (e.g., "John"). <br> 2. Enter valid last name (e.g., "Doe"). <br> 3. Enter valid username (e.g., "johndoe"). <br> 4. Enter valid password (e.g., "Password123"). <br> 5. Confirm password (e.g., "Password456"). <br> 6. Enter valid email (e.g., "johndoe@example.com"). <br> 7. Select valid date of birth from the drop-down calendar (e.g., "01/01/1990"). <br> 8. Click "Create Account". |

## Edit Mealtimes

| Test Case ID | Test Scenario | Preconditions | Test steps |
|---|---|---|---|
| TC_001 | Edit Mealtimes with Valid Input | User is logged in. Carb-to-unit ratio is stored (e.g., 10). | 1. Navigate to "Edit Mealtimes & Algorithm". <br> 2. Select new mealtime from the drop-down menu (e.g., "08:00 AM"). <br> 3. Enter valid carb-to-unit ratio (e.g., "15"). <br> 4. Click "Save". |
| TC_002 | Edit Mealtimes with Missing Carb-to-Unit Ratio | User is logged in. Carb-to-unit ratio is stored (e.g., 10). | 1. Navigate to "Edit Mealtimes & Algorithm". <br> 2. Select new mealtime from the drop-down menu (e.g., "08:00 AM"). <br> 3. Leave carb-to-unit ratio field empty. <br> 4. Click "Save". |
| TC_003 | Edit Mealtimes with Default Mealtime (00:00 AM/P | User is logged in. Carb-to-unit ratio is stored (e.g., 10). | 1. Navigate to "Edit Mealtimes & Algorithm". <br> 2. Leave mealtime as the default value (00:00 AM/PM). <br> 3. Enter valid carb-to-unit ratio (e.g., "15"). <br> 4. Click "Save". |
| TC_004 | Edit Mealtimes with Multiple Mealtimes | User is logged in. Carb-to-unit ratio is stored (e.g., 10). | 1. Navigate to "Edit Mealtimes & Algorithm". <br> 2. Select new mealtime for breakfast (e.g., "08:00 AM"). <br> 3. Enter valid carb-to-unit ratio for breakfast (e.g., "15"). <br> 4. Select new mealtime for lunch (e.g., "12:00 PM"). <br> 5. Enter valid carb-to-unit ratio for lunch (e.g., "10"). <br> 6. Click "Save". |
| TC_005 | Edit Mealtimes and Navigate Away Without Saving | User is logged in. Carb-to-unit ratio is stored (e.g., 10) | 1. Navigate to "Edit Mealtimes & Algorithm". <br> 2. Select new mealtime from the drop-down menu (e.g., "08:00 AM"). <br> 3. Enter valid carb-to-unit ratio (e.g., "15"). <br> 4. Navigate away from the edit screen without clicking "Save". |

## Authentication

| Test Case ID | Test Scenario | Preconditions | Test steps |
|---|---|---|---|
| TC_Auth_001 | System authenticates a user with valid credentials. | User credentials exist in the database and user is not already logged in. | 1. Navigate to login screen. <br> 2. Enter valid username and password. <br> 3. Click "Login". |
| TC_Auth_002 | System rejects authentication with a username not in the database. | Invalid username. | 1. Enter a non-existent username. <br> 2. Enter any password. <br> 3. Click "Login". |
| TC_Auth_003 | System rejects authentication with incorrect password. | Username exists but password is incorrect. | 1. Enter a valid username. <br> 2. Enter wrong password. <br> 3. Click "Login". |
| TC_Auth_004 | System prevents duplicate login for same credentials if already logged in. | User session already exists. | 1. Attempt login from a second device/tab. |
| TC_Auth_005 | System should not authenticate if username/password fields are empty. | Login page is loaded. | 1. Leave one or both fields empty. <br> 2. Click "Login". |
| TC_Auth_006 | Verify login immediately after successful sign-up. | User completes sign-up. | **1. Sign up with new username/password.** <br> **2. Attempt to log in with those credentials.** |
| TC_Auth_007 | On successful authentication, user adherence data should load. | User has adherence records stored. | 1. Login with valid credentials. |

## Access Data

| Test Case ID | Test Scenario | Preconditions | Test steps |
|---|---|---|---|
| TC_001 | User successfully accesses data | User is on the main screen <br> User has data to access | 1. Navigate to main screen <br> 2. Press access data button <br> 3. Scroll to find relevant data |
| TC_002 | User does not have data to access | User is on the main screen <br> User has not collected any data | 1. Navigate to main screen <br> 2. Press access data button <br> 3. Error message is displayed |
| TC_003 | User exits data display | User is accessing data | 1. Press back button |

| Expected result | Postconditions |
| --- | --- |
| Account is created successfully. User is redirected to the login screen. | User credentials are stored in the system. |
| Error message: "Invalid email format. Please enter a valid email address." | User remains on the registration page. No account is created. |
| Error message: "Passwords do not match." | User remains on the registration page. No account is created. |
| Mealtime and carb-to-unit ratio are updated successfully. Previous values are overwritten | User is returned to the main screen. Updated values are stored in the system. |
| Error message: "Carb-to-unit ratio cannot be empty." | User remains on the edit screen. No changes are saved. |
| Mealtime remains as "00:00 AM/PM" (indicating no mealtime selected). Carb-to-unit ratio is updated successfully. | User is returned to the main screen. Updated values are stored in the system. |
| Mealtimes and carb-to-unit ratios for breakfast and lunch are updated successfully. Previous values are overwritten. | User is returned to the main screen. Updated values are stored in the system. |
| No changes are saved. Previous values remain unchanged. | User is returned to the main screen. No updates are made to the system. |
| User is authenticated, and adherence data is retrieved. | User session is initiated. |
| Authentication fails. Error message is shown. | User stays on login screen. |
| Error message: "Invalid username or password." | Authentication fails. |
| Either session timeout on first device, or second login attempt is blocked. | One active session is maintained. |
| Error message: "Username and password are required." | Authentication fails. |
| Login is successful. | User session begins and adherence data is created. |
| Dashboard loads with user's adherence data. | Adherence data is accessible and visible. |
| Data is accessed and displayed | User is accessing data |
| User is prompted to start tracking data | User begins tracking data |
| User is back on the main menu | User is on the main screen |