**Test Cases: Automated Equipment Checkout System**

**Test Case #1: User Authentication (REQ-001)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-001  
**Requirements Addressed:** REQ-001  
**Prerequisite Conditions:** System is running, and a valid user account is created.  
**Test Input:** Enter valid and invalid credentials (username and password).  
**Expected Test Results:**

* Valid credentials allow the user to log in.

Invalid credentials display an error message and deny access.  
Criteria for Evaluating Results: Successful login with valid credentials and rejection with invalid credentials.

**Instructions for Conducting Procedure:**

1. Launch the application.
2. Enter a valid username and password, then click "Login."
3. Enter an invalid username or password and click "Login."  
   Features to Be Tested: User login functionality.

**Test Case #2: Equipment Checkout (REQ-002)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-002  
**Requirements Addressed:** REQ-002  
**Prerequisite Conditions:** Equipment exists in the system and is available.  
**Test Input:** Select a piece of equipment and perform a checkout.  
**Expected Test Results:** Equipment status changes to "In Use," and the due date is recorded.  
**Criteria for Evaluating Results:** Equipment status updates correctly, and a due date is displayed.  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Select available equipment and click "Checkout."
3. Verify that the status changes to "In Use."

**Features to Be Tested:** Equipment checkout functionality.

**Test Case #3: Equipment Check-In (REQ-003)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-003  
**Requirements Addressed:** REQ-003  
**Prerequisite Conditions:** Equipment is checked out and overdue.  
**Test Input:** Return the equipment.  
**Expected Test Results:** Status updates to "Available."  
**Criteria for Evaluating Results:** Equipment is marked as returned, and status changes to "Available."  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Select checked-out equipment and click "Return."
3. Verify the status changes to "Available."

**Features to Be Tested:** Equipment return functionality.

**Test Case #4: Real-Time Status Updates (REQ-004)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-004  
**Requirements Addressed:** REQ-004  
**Prerequisite Conditions:** Equipment exists in the system.  
**Test Input:** Perform check-out and check-in actions.  
**Expected Test Results:** Status changes in real time to "Available," "In Use," or "Overdue."  
**Criteria for Evaluating Results:** Status updates in real-time after each action.  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Check out equipment and verify its status changes to "In Use."
3. Return overdue equipment and verify status changes to "Available."

**Features to Be Tested:** Real-time status updates.

**Test Case #5: Notify Overdue Equipment (REQ-005)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-005  
**Requirements Addressed:** REQ-005  
**Prerequisite Conditions:** Equipment is overdue.  
**Test Input:** Allow the due date to pass without returning the equipment.  
**Expected Test Results:** Notification is sent to the user and manager.  
**Criteria for Evaluating Results:** Notification is sent correctly when equipment is overdue.  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Check out equipment and let the due date pass.
3. Verify that notifications are sent.

**Features to Be Tested:** Notification system.

**Test Case #6: Generate Usage Reports (REQ-006)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-006  
**Requirements Addressed:** REQ-006  
**Prerequisite Conditions:** System contains equipment usage data.  
**Test Input:** Generate a usage report.  
**Expected Test Results:** Report is generated with accurate usage data.  
**Criteria for Evaluating Results:** Report contains accurate and complete data.  
**Instructions for Conducting Procedure:**

1. Log in as an admin user.
2. Click "Generate Report."
3. Verify that the report contains accurate data.

**Features to Be Tested:** Report generation.

**Test Case #7: Display Available Equipment (REQ-007)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-007  
**Requirements Addressed:** REQ-007  
**Prerequisite Conditions:** Equipment exists in the system.  
**Test Input:** Request to display available equipment.  
**Expected Test Results:** List of available equipment is displayed.  
**Criteria for Evaluating Results:** Displayed list matches the current availability.  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Click "View Available Equipment."
3. Verify the list of equipment matches the expected availability.

**Features to Be Tested:** Display functionality.

**Test Case #8: Log Check-In and Check-Out Transactions (REQ-008)**

**Test Case Creator:** Victor Camacho  
**Tester Name:** Victor Camacho  
**Test Date:** 12/08/2024  
**Test Identifier:** TC-008  
**Requirements Addressed:** REQ-008  
**Prerequisite Conditions:** Equipment is checked in and out.  
**Test Input:** Perform check-out and check-in actions.  
**Expected Test Results:** Transactions are logged with correct details.  
**Criteria for Evaluating Results:** Transaction log contains accurate records.  
**Instructions for Conducting Procedure:**

1. Log in as a valid user.
2. Check out and return equipment.
3. Verify the transaction log contains accurate entries.

**Features to Be Tested:** Transaction logging.