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TASK: WRITE 3 FUNCTIONAL TEST CASES AND TWO NONFUNCTIONAL TEST CASES (FOR PERFORMANCE SECURITY OR USABILITY)

FUNCTIONAL TEST CASES (LOGIN VALIDATION)

TC001 – SUCCESSFUL LOGIN

| Test Case ID | TC001 |
| --- | --- |
| Test Case Name | Verify Successful Login |
| Description | Ensure that users with valid credentials can log in successfully. |
| Preconditions | The user has a registered account. |
| Test Steps | 1. Navigate to the login page. 2. Enter a valid email and password. 3. Click the "Login" button. |
| Expected Result | The user is redirected to the dashboard or homepage. |
| Test Data | Valid Credentials: Email - user@example.com, Password - ValidPass@123 |
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TC002 – LOGIN WITH INCORRECT PASSWORD

| Test Case ID | TC002 |
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| Test Case Name | Verify Error Message for Incorrect Password |
| Description | Ensure that the system displays an appropriate error message when a user enters an incorrect password. |
| Preconditions | The user has a registered account. |
| Test Steps | 1. Navigate to the login page. 2. Enter a valid email but an incorrect password. 3. Click the "Login" button. |
| Expected Result | The system should display an error message: "Incorrect password. Please try again." |
| Test Data | Email: user@example.com Incorrect Password: WrongPass123 |

TC003: Login with invalid email password

| Test Case ID | TC003 |
| --- | --- |
| Test Case Name | Verify Error Message for Invalid Email |
| Description | Ensure that the system rejects invalid email formats during login. |
| Preconditions | None |
| Test Steps | 1. Navigate to the login page. 2. Enter an incorrectly formatted email (e.g., user@com). 3. Enter a valid password. 4. Click the "Login" button. |
| Expected Result | The system should display an error message: "Please enter a valid email address." |
| Test Data | Invalid Emails: user@com, user@.com, user.com |

TC004: LOGIN RESPONSE TIME

| Test Case ID | TC004 |
| --- | --- |
| Test Case Name | Measure Login Response Time |
| Description | Ensure the login page loads within an acceptable time limit under normal conditions. |
| Preconditions | User has a valid account and network connection. |
| Test Steps | 1. Navigate to the login page. 2. Enter valid credentials. 3. Click "Login" and measure response time. |
| Expected Result | The login process should complete within 3 seconds. |
| Test Data | Email: user@example.com Password: ValidPass@123 |

TC005: High Traffic Login stress Test

| Test Case ID | TC005 |
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| Test Case Name | Stress Test for Login Under High Traffic |
| Description | Check if the system can handle multiple simultaneous logins without crashing. |
| Preconditions | System has multiple user accounts. |
| Test Steps | 1. Simulate 100-500 simultaneous login requests using a load-testing tool (e.g., JMeter, Locust). 2. Measure system response. |
| Expected Result | The system should not crash, and response time should remain acceptable (≤ 5 sec). |
| Test Data | Multiple login credentials generated for testing. |