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***The startup has developed a financial application with the following features:***

***● User login and registration***

***● Show the user's account balance.***

***● Block and unblock a user's credit card***

***Challenge:***

***As a QA engineer, you are responsible for creating a comprehensive test plan. to ensure the quality of the application.***

***1. Test Scenarios: Develop a set of test scenarios to cover the login and registration functionality.***

**1. 1 Test Scenarios for Login**

**A.**

*Action*: Successful login with correct credentials.

*Description* : The user attempts to log in with a correct username and password.

*Expected* : The user accesses the main page of the application and can see their account balance.

**B.**

*Action*: Login failed with incorrect user.

*Description* : The user attempts to log in with an incorrect username.

*Expected* : An error message should be displayed indicating that the user is incorrect.

**C.**

*Action*: Login failed with incorrect password.

*Description* : The user attempts to log in with an incorrect password.

*Expected* : An error message should be displayed indicating that the password is incorrect.

**D.**

*Action*: Login failed with empty user field.

*Description* : User attempts to log in without entering username.

*Expected* : An error message should be displayed indicating that the user is required.

**E.**

*Action*: Login failed with empty password field.

*Description* : User tries to log in without entering password.

*Expected* : An error message should be displayed indicating that the password is required.

**F.**

*Action*: Login with special characters in the user field.

*Description* : The user attempts to log in with special characters in the user field.

*Expected* : An error message should be displayed indicating that the user is invalid.

G.

*Action*: Account lock after multiple failed attempts.

*Description* : The user attempts to log in with incorrect credentials multiple times in a row.

*Expected* : The account is locked after a set number of failed attempts, and a message is displayed indicating the account has been locked.

**H.**

*Action*: Successful login.

*Description* : The user successfully logs in and checks their account balance.

*Expected* : User can see their account balance after login.

**1.2. *Test Scenario for User Registration***

**A.**

*Action*: Successful registration with valid data.

*Description* : The user attempts to register with a valid username, email, and password.

*Expected* : The user receives a registration confirmation and can log in with the new credentials.

***B.***

*Action*: Registration with already existing username.

*Description* : The user attempts to register with a username that is already in use.

*Expected* : An error message is displayed stating that the username already exists

***C.***

*Action*: Registration with already existing email.

*Description* : User tries to register with an email that is already in use.

*Expected* : An error message is displayed indicating that the email is already registered.

***D.***

*Action*: Registration with empty mandatory fields

*Description* : The user attempts to register without filling out all required fields (username, email, password).

*Expected*: Error messages are displayed for empty fields.

***E.***

*Action*: Registration with email in incorrect format.

*Description* : The user attempts to register with an email in an incorrect format.

*Expected* : An error message is displayed indicating that the email is not in a valid format

***F.***

*Action*: Register with weak password

*Description* : The user attempts to register with a password that does not meet security requirements (minimum length, character mix).

*Expected* : An error message is displayed indicating that the password is too weak.

***G.***

*Action*: Email verification after registration.

*Description* : After registration, a verification email is sent to the user.

*Expected* : The user should receive an email with a verification link, and clicking the link activates their account.

***H.***

*Action*: Register with special characters in the username.

*Description* : The user attempts to register with special characters in the username.

*Expected* : An error message is displayed if the username is invalid.

*2. Test Cases: For each of the test scenarios, write detailed test cases, including test steps, expected results, and pass/fail criteria.*

***Test Cases for Login***

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| Test Case ID | Description | Test Steps | Expected result | Approval/Rejection Criteria |
| TC01 | The user tries to log in with a correct username and password | 1.Open the application.  2.Go to the login screen.  3. Enter a correct username.  4. Enter a correct password.  5. Click on the “Login” button. | You must access the main page of the application and you can see your account balance | The user should be correctly redirected to the main page and see their account balance. |
| TC02 | The user tries to log in with an incorrect username. | 1.Open the application.  2.Go to the login screen.  3.Enter an incorrect username.  4.Enter a correct password.  5.Click the "Login" button. | An error message is displayed indicating that the user is incorrect. | The error message must be clear and specific. |
| TC03 | The user tries to log in with an incorrect password. | 1.Open the application.  2.Go to the login screen.  3.Enter a valid username.  4.Enter an incorrect password.  5.Click the "Login" button. | An error message is displayed indicating that the password is incorrect. | The error message must be clear and specific. |
| TC04 | The user tries to log in without entering username. | 1.Open the application.  2.Go to the login screen.  3.Leave the username field empty.  4.Enter a valid password.  5.Click on the "Login" button. | An error message is displayed indicating that the user is required. | The error message must be clear and specific. |
| TC05 | The user tries to log in without entering a password. | 1.Open the application.  2.Go to the login screen.  3.Enter a valid username.  4.Leave the password field empty.  5.Click the "Login" button. | An error message is displayed indicating that the password is required. | The error message must be clear and specific. |
| TC06 | The user attempts to log in with special characters in the user field. | 1.Open the application.  2.Navigate to the login screen.  3.Enter a username with special characters.  4.Enter a valid password.  5.Click on the "Login" button. | An error message is displayed indicating that the user is invalid. | The error message must be clear and specific. |
| TC07 | User tries to log in with incorrect credentials multiple times in a row | 1.Open the application.  2.Navigate to the login screen.  3.Enter a valid username.  4.Enter an incorrect password.  5.Repeat steps 3 and 4 until you reach the maximum number of failed attempts allowed. | The account is locked after a set number of failed attempts, and a message is displayed indicating the account has been locked. | The blocking message must be clear and specific, and the account must be blocked. |
| TC08 | The user successfully logs in and checks their account balance. | 1.Open the application.  2.Navigate to the login screen.  3.Enter a valid username.  4.Enter a valid password.  5.Click on the "Login" button.  6.Verify that the account balance is displayed correctly. | User can view their account balance after login. | The balance should be displayed correctly and match the expected data. |

***Test Cases for User Registration***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test Case ID | Description | Test Steps | Expected result | Approval/Rejection Criteria |
| TC09 | The user attempts to register with a valid username, email, and password. | 1.Open the application.  2.Navigate to the registration screen.  3.Enter a valid username.  4.Enter a valid email address.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button. | The user receives a registration confirmation and can log in with the new credentials. | The confirmation message must be clear and specific, and the user must be able to log in |
| TC10 | The user attempts to register with a username that is already in use. | 1.Open the application.  2.Navigate to the registration screen.  3.Enter a username that already exists.  4.Enter a valid email address.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button. | An error message is displayed stating that the username already exists.  . | The error message must be clear and specific. |
| TC11 | The user tries to register with an email that is already in use. | 1.Open the application.  2.Navigate to the registration screen.  3.Enter a valid username.  4.Enter an email that already exists.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button. | An error message is displayed stating that the email is already registered. | The error message must be clear and specific. |
| TC12 | The user tries to register without filling out all required fields (username, email, password). | 1.Open the application.  2.Go to the registration screen.  3.Leave one or more required fields empty.  4.Click on the "Register" button. | Error messages are displayed for empty fields. | The error message must be clear and specific. |
| TC13 | User tries to register with an email in an incorrect format | 1.Open the application.  2.Navigate to the registration screen.  3.Enter a valid username.  4.Enter an incorrectly formatted email.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button. | An error message is displayed indicating that the email is not in a valid format. | The error message must be clear and specific. |
| TC14 | The user attempts to register with a password that does not meet the security requirements (minimum length, character mix). | 1.Open the application.  2.Go to the registration screen.  3.Enter a valid username.  4.Enter a valid email address.  5.Enter a weak password.  6.Confirm the password.  7.Click on the "Register" button. | An error message is displayed indicating that the email is not in a valid format. | The error message must be clear and specific. |
| TC15 | After registering, a verification email is sent to the user. | 1. Open the application.  2.Go to the registration screen.  3.Enter a valid username.  4.Enter a valid email address.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button.  8.Verify receipt of the verification email.  9.Click the verification link in the email. | The user should receive an email with a verification link, and by clicking the link their account is activated | The verification email must be sent, received, and the link must activate the account correctly. |
| TC16 | The user attempts to register with special characters in the username. | 1.Open the application.  2.Go to the registration screen.  3.Enter a username with special characters.  4.Enter a valid email.  5.Enter a valid password.  6.Confirm the password.  7.Click on the "Register" button. | An error message is displayed if the username is invalid. | The error message must be clear and specific. |