Documentation and Test Scenario Identification

Overview

As a QA Engineer, the primary objective is to ensure that the online registration form functions as expected, with a focus on input validation, error message display, and successful data submission. Below is a detailed test plan outlining the test scenarios, expected outcomes, and validation checks.

Test Scenarios

1. Full Name Field Validation

- **Test Case 1.1:** Submit the form with an empty Full Name field.
    - **Expected Result:** An error message "Full Name is required" should be displayed.
- **Test Case 1.2:** Submit the form with a Full Name containing special characters.
    - **Expected Result:** An error message "Full Name cannot contain special characters" should be displayed.
- **Test Case 1.3:** Submit the form with a valid Full Name.
    - **Expected Result:** The Full Name field should be accepted without errors.

2. Email Address Field Validation

- **Test Case 2.1:** Submit the form with an empty Email Address field.
    - **Expected Result:** An error message "Email Address is required" should be displayed.
- **Test Case 2.2**: Submit the form with an invalid Email Address format.
    - **Expected Result:** An error message "Invalid Email Address format" should be displayed.
- **Test Case 2.3:** Submit the form with a valid Email Address.
    - **Expected Result:** The Email Address field should be accepted without errors.

3. Password Field Validation

- **Test Case 3.1:** Submit the form with an empty Password field.
    - **Expected Result:** An error message "Password is required" should be displayed.
- **Test Case 3.2:** Submit the form with a Password less than 8 characters.
    - **Expected Result:** An error message "Password must be at least 8 characters" should be displayed.
- **Test Case 3.3:** Submit the form with a valid Password.
    - **Expected Result:** The Password field should be accepted without errors.

4. Confirm Password Field Validation

- **Test Case 4.1:** Submit the form with an empty Confirm Password field.
  - **Expected Result:** An error message "Confirm Password is required" should be displayed.
- **Test Case 4.2:** Submit the form with a Confirm Password not matching the Password.
  - **Expected Result:** An error message "Passwords do not match" should be displayed.
- **Test Case 4.3:** Submit the form with a matching Confirm Password.
  - **Expected Result:** The Confirm Password field should be accepted without errors.

5. Date of Birth Field Validation

- **Test Case 5.1:** Submit the form with an empty Date of Birth field.
  - **Expected Result:** An error message "Date of Birth is required" should be displayed.
- **Test Case 5.2:** Submit the form with an invalid Date of Birth format.
  - **Expected Result:** An error message "Invalid Date of Birth format" should be displayed.
- **Test Case 5.3:** Submit the form with a valid Date of Birth.
  - **Expected Result:** The Date of Birth field should be accepted without errors.

6. Gender Field Validation

- **Test Case 6.1:** Submit the form without selecting a Gender.
  - **Expected Result:** An error message "Gender is required" should be displayed.
- **Test Case 6.2:** Submit the form with a selected Gender.
  - **Expected Result**: The Gender field should be accepted without errors.

7. Newsletter Subscription Field Validation

- **Test Case 7.1:** Submit the form without selecting a Newsletter Subscription option.
  - **Expected Result:** The form should be accepted as this field is optional.
- **Test Case 7.2:** Submit the form with "Yes" selected for Newsletter Subscription.
  - **Expected Result:** The Newsletter Subscription field should be accepted without errors.
- **Test Case 7.3:** Submit the form with "No" selected for Newsletter Subscription.
  - **Expected Result:** The Newsletter Subscription field should be accepted without errors.

8. Form Submission Validation

- **Test Case 8.1:** Submit the form with all required fields empty.
  - **Expected Result:** Appropriate error messages for each required field should be displayed.

- **Test Case 8.2:** Submit the form with all fields correctly filled.
  - **Expected Result**: The form should be submitted successfully, and a success message should be displayed.

Task: Documentation

Test Plan Outline for Testing the Registration Form

1. Introduction

This test plan outlines the strategy, objectives, scope, and schedule for testing the online registration form of the website. The registration form is designed to collect user information including Full Name, Email Address, Password, Confirm Password, Date of Birth, Gender, and Newsletter Subscription preference. The goal is to ensure that the form functions correctly, validates inputs properly, displays appropriate error messages, and successfully submits data to the server.

2. Objectives

The objectives of this test plan are to:
- Verify that all input fields validate user data correctly.
- Ensure error messages are displayed appropriately for invalid inputs.
- Confirm successful data submission upon correct completion of the form.
- Validate client-side and server-side data processing.
- Test the form's compatibility across different browsers and devices.
- Ensure the security of data transmission and storage.

3. Scope

This test plan covers:
- Functional testing of all input fields.
- Validation of client-side and server-side error messages.
- Usability and compatibility testing across different browsers and devices.
- Security testing to ensure data protection.
- Performance testing to ensure the form handles multiple submissions effectively.

4. Test Environment

The test environment includes:
- Operating Systems: Windows 10, macOS, iOS, Android
- Browsers: Google Chrome, Mozilla Firefox, Microsoft Edge, Safari
- Devices: Desktop computers, tablets, and smartphones

- Network: Test the form on both high-speed and low-speed internet connections

5. Test Data

Test data will include:
- Valid and invalid Full Names
- Valid and invalid Email Addresses
- Passwords of varying lengths and complexities
- Matching and non-matching Confirm Password entries
- Valid and invalid Date of Birth formats
- Different Gender selections (Male, Female, Other)
- Newsletter Subscription preferences (Yes, No)

6. Test Scenarios

Full Name Field Validation

1. Submit with an empty Full Name field.
2. Submit with a Full Name containing special characters.
3. Submit with a valid Full Name.

Email Address Field Validation

1. Submit with an empty Email Address field.
2. Submit with an invalid Email Address format.
3. Submit with a valid Email Address.

Password Field Validation

1. Submit with an empty Password field.
2. Submit with a Password less than 8 characters.
3. Submit with a valid Password.

Confirm Password Field Validation

1. Submit with an empty Confirm Password field.
2. Submit with a Confirm Password not matching the Password.
3. Submit with a matching Confirm Password.

Date of Birth Field Validation

1. Submit with an empty Date of Birth field.
2. Submit with an invalid Date of Birth format.
3. Submit with a valid Date of Birth.

Gender Field Validation

1. Submit without selecting a Gender.
2. Submit with a selected Gender.

Newsletter Subscription Field Validation

1. Submit without selecting a Newsletter Subscription option.
2. Submit with "Yes" selected for Newsletter Subscription.
3. Submit with "No" selected for Newsletter Subscription.

Form Submission Validation

1. Submit the form with all required fields empty.
2. Submit the form with all fields correctly filled.

7. Test Execution Schedule

Test Activity	Start Date	End Date
Test Plan Review	2024-07-15	2024-07-16
Test Case Development	2024-07-17	2024-07-18
Test Environment Setup	2024-07-19	2024-07-19
Test Data Preparation	2024-07-20	2024-07-20
Test Execution	2024-07-21	2024-07-23
Defect Reporting and Retesting	2024-07-24	2024-07-25

8. Risks and Assumptions

Risks

- Delays in setting up the test environment.
- Unavailability of necessary devices for testing.
- Potential changes in form requirements during the testing phase.

Assumptions

- All necessary resources (hardware, software, network access) will be available for testing.
- The test environment will be a close replica of the production environment.
- The form requirements will remain stable throughout the testing phase.

Test Cases for Registration Form

Test Case ID	Test Case Description	Preconditions	Test Steps	Expected Results	Post-conditions

TC-001	Validate that the Full Name field does not accept empty input or special characters and accepts valid names.	User is on the registration form page.	1. Leave the Full Name field empty. 2. Fill in all other fields with valid data. 3. Click the Submit button.	An error message "Full Name is required" should be displayed.	The form should not be submitted, and the Full Name field should be highlighted.
TC-002	Validate that the Full Name field does not accept special characters.	User is on the registration form page.	1. Enter "John@Doe" in the Full Name field. 2. Fill in all other fields with valid data. 3. Click the Submit button.	An error message "Full Name cannot contain special characters" should be displayed.	The form should not be submitted, and the Full Name field should be highlighted.
TC-003	Validate that the Full Name field accepts valid names.	User is on the registration form page.	1. Enter "John Doe" in the Full Name field. 2. Fill in all other fields with valid data. 3. Click the Submit button.	The Full Name field should be accepted without errors. The form should proceed to the next step or display a success message.	The form should be submitted successfully.
TC-004	Validate that the Email Address field does not accept empty input or invalid email formats and accepts valid emails.	User is on the registration form page.	1. Leave the Email Address field empty. 2. Fill in all other fields with valid data. 3. Click the Submit button.	An error message "Email Address is required" should be displayed.	The form should not be submitted, and the Email Address field should be highlighted.
TC-005	Validate that the Email Address field does not accept invalid	User is on the registration form page.	1. Enter "john.doe@com" in the Email Address field. 2. Fill in all other fields with valid data. 3. Click the Submit button.	An error message "Invalid Email Address format" should be displayed.	The form should not be submitted, and the Email Address field should

					be highlighted.
TC-006	Validate that the Email Address field accepts valid email addresses.	User is on the registration form page.	1. Enter "john.doe@example.com" in the Email Address field. 2. Fill in all other fields with valid data. 3. Click the Submit button.	The Email Address field should be accepted without errors. The form should proceed to the next step or display a success message.	The form should be submitted successfully.
TC-007	Validate that the Password field does not accept passwords shorter than 8 characters.	User is on the registration form page.	1. Enter "Pass123" in the Password field. 2. Enter "Pass123" in the Confirm Password field. 3. Fill in all other fields with valid data. 4. Click the Submit button.	An error message "Password must be at least 8 characters" should be displayed.	The form should not be submitted, and the Password field should be highlighted.
TC-008	Validate that the Confirm Password field matches the Password field.	User is on the registration form page.	1. Enter "Password123" in the Password field. 2. Enter "Password12" in the Confirm Password field. 3. Fill in all other fields with valid data. 4. Click the Submit button.	An error message "Passwords do not match" should be displayed.	The form should not be submitted, and the Confirm Password field should be highlighted.
TC-009	Validate that the Password and Confirm Password fields accept matching passwords with at least 8 characters.	User is on the registration form page.	1. Enter "Password123" in the Password field. 2. Enter "Password123" in the Confirm Password field. 3. Fill in all other fields with valid data. 4. Click the Submit button.	Both the Password and Confirm Password fields should be accepted without errors. The form should proceed to the next step or display a	The form should be submitted successfully.

				success message.	

Scenario Identification for Registration Form

Positive Scenarios

Positive Scenario 1: Successful Registration with Valid Data

Steps

1. Navigate to the registration form page.
2. Enter "John Doe" in the Full Name field.
3. Enter "john.doe@example.com" in the Email Address field.
4. Enter "Password123" in the Password field.
5. Enter "Password123" in the Confirm Password field.
6. Enter "01/01/1990" in the Date of Birth field.
7. Select "Male" as the Gender.
8. Select "Yes" for Newsletter Subscription.
9. Click the Submit button.

Expected Outcome:

- The form is submitted successfully.
- A success message is displayed, such as "Registration completed successfully."
- User data is stored in the server database.

Positive Scenario 2: Successful Registration without Newsletter Subscription

Steps:

1. Navigate to the registration form page.
2. Enter "Jane Smith" in the Full Name field.
3. Enter "jane.smith@example.com" in the Email Address field.
4. Enter "SecurePass456" in the Password field.
5. Enter "SecurePass456" in the Confirm Password field.
6. Enter "12/31/1985" in the Date of Birth field.
7. Select "Female" as the Gender.
8. Select "No" for Newsletter Subscription.
9. Click the Submit button.

Expected Outcome:

- The form is submitted successfully.
- A success message is displayed, such as "Registration completed successfully."
- User data is stored in the server database.

Negative Scenarios

Negative Scenario 1: Registration with Missing Required Fields

Steps:

1. Navigate to the registration form page.
2. Leave the Full Name field empty.
3. Enter "invalid.email@example.com" in the Email Address field.
4. Leave the Password field empty.
5. Leave the Confirm Password field empty.
6. Leave the Date of Birth field empty.
7. Do not select a Gender.
8. Do not select a Newsletter Subscription preference.
9. Click the Submit button.

Expected Outcome:

- Error messages are displayed for each required field, such as "Full Name is required," "Password is required," "Confirm Password is required," "Date of Birth is required," "Gender is required."
- The form is not submitted.
- User data is not stored in the server database.

Negative Scenario 2: Registration with Non-Matching Passwords

Steps:

1. Navigate to the registration form page.
2. Enter "Alex Johnson" in the Full Name field.
3. Enter "alex.johnson@example.com" in the Email Address field.
4. Enter "MyPassword123" in the Password field.
5. Enter "DifferentPassword123" in the Confirm Password field.
6. Enter "05/15/1992" in the Date of Birth field.
7. Select "Other" as the Gender.
8. Select "Yes" for Newsletter Subscription.
9. Click the Submit button.

Expected Outcome:

- An error message is displayed, such as "Passwords do not match."

- The form is not submitted.
- User data is not stored in the server database.

Test Writing

Automated test scripts for the two positive scenarios using Cypress for JavaScript

Positive Scenario 1: Successful Registration with Valid Data

Test Script:

```javascript
describe('Registration Form - Positive Scenarios', () => {
it('should successfully register with valid data', () => {
cy.visit('https://example.com/registration'); // replace with actual URL

cy.get('#fullName').type('John Doe'); // replace with actual selector
cy.get('#email').type('john.doe@example.com'); // replace with actual selector
cy.get('#password').type('Password123'); // replace with actual selector
cy.get('#confirmPassword').type('Password123'); // replace with actual selector
cy.get('#dateOfBirth').type('1990-01-01'); // replace with actual selector and
format
cy.get('#gender').select('Male'); // replace with actual selector
cy.get('#newsletterSubscription').check(); // replace with actual selector if it's
a checkbox

cy.get('#submitButton').click(); // replace with actual selector

// Assert success message
cy.get('.success-message').should('contain', 'Registration completed
successfully'); // replace with actual selector and message
});
});
```

Positive Scenario 2: Successful Registration without Newsletter Subscription

Test Script:

```javascript
describe('Registration Form - Positive Scenarios', () => {
  it('should successfully register without newsletter subscription', () => {
    cy.visit('https://example.com/registration'); // replace with actual URL

    cy.get('#fullName').type('Jane Smith'); // replace with actual selector
```

```
    cy.get('#email').type('jane.smith@example.com'); // replace with actual
selector
    cy.get('#password').type('SecurePass456'); // replace with actual selector
    cy.get('#confirmPassword').type('SecurePass456'); // replace with actual
selector
    cy.get('#dateOfBirth').type('1985-12-31'); // replace with actual selector and
format
    cy.get('#gender').select('Female'); // replace with actual selector
    cy.get('#newsletterSubscription').uncheck(); // replace with actual selector if
it's a checkbox

    cy.get('#submitButton').click(); // replace with actual selector

    // Assert success message
    cy.get('.success-message').should('contain', 'Registration completed
successfully'); // replace with actual selector and message
  });
});
```