CMPE-285

Lab8 – Software Testing Strategies

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Lab1 Task:

Your group is hired as the QE automation team to test Discover tab under https://creativecloud.adobe.com/

Research tools for your group to use

Develop a short proposal on how your group is going to test discover

General methodology / approach

Test Plan

Test Cases (write a sample or two test cases to illustrate)

Budget (People and Hardware / Software Resources needed)

Proposal:

To conduct effective testing on the Discover tab, our team will utilize a range of tools, including:

- **Selenium WebDriver:** For automated testing of web application functionality.
- **Jenkins or other CI/CD tools:** To enable continuous integration and automate the test execution process.
- **TestRail or JIRA:** For test case management, tracking, and reporting.
- **BrowserStack or Sauce Labs:** For cross-browser and cross-platform compatibility testing.
- **Load testing tools:** Such as Apache JMeter for performance and scalability testing.
- **Accessibility testing tools:** Like Axe or WAVE to ensure accessibility compliance.

- **Cypress or Playwright:** For end-to-end testing of critical user flows.

After that, our testing approach will encompass the following phases:

Requirements Analysis: Understanding the specific functionalities and features of the Discover tab.

Test Strategy: Defining the overall testing strategy, including the mix of automated and manual testing.

Test Planning: Creating a detailed test plan, which includes test objectives, scope, schedule, and resources.

Test Design: Developing test cases, test data, and test environments.

Automation: Implementing automated test scripts for frequently executed scenarios.

Manual Testing: Executing manual tests for exploratory and ad-hoc testing.

Integration Testing: Ensuring seamless integration with the rest of the application.

Performance Testing: Evaluating system performance under different conditions.

Security Testing: Checking for vulnerabilities and potential security risks.

Accessibility Testing: Ensuring compliance with accessibility standards.

Usability Testing: Assessing the user-friendliness and overall user experience.

Regression Testing: Continuously testing to catch any regressions as the application evolves.

Coming to the plan, the test plan for the Discover tab will be divided into several categories, including functional, non-functional, and user experience testing. It will specify the objectives, scope, schedule, responsibilities, and resources for each category.

Following are the couple of test cases that we came up with:

Functional Test Case:

Verify search functionality on the Discover tab.

Ensure that the search bar on the Discover tab returns relevant results when a user enters a query.

Steps to Reproduce:

Open the Discover tab.

Enter a search query in the search bar.

Click the search button.

Expected Result: Relevant search results are displayed.

Performance Test Case:

Assess loading times for Discover tab content.

Measure the time it takes for the Discover tab to load, particularly when handling a significant number of assets and recommendations.

Steps to Reproduce:

Access the Discover tab.

Record the time taken for the page to load.

Expected Result: The Discover tab loads within an acceptable timeframe.

Talking about the budget,

The resources required for this project include:

1. People:

Quality Engineers (3)

Automation Engineers (2)

Manual Testers (2)

Test Manager (1)

Accessibility Testing Expert (1)

Performance Testing Expert (1)

2. Hardware/Software:

Workstations for the team

Licenses for testing tools and automation frameworks

Cloud-based testing infrastructure (e.g., BrowserStack)

3. Testing Environments:

Multiple browsers (Chrome, Firefox, Safari, Edge)

Different operating systems (Windows, macOS, Linux)

Mobile devices (iOS and Android)