REQ-166299 Testing Engineer (Information Systems Specialist 7) Take Home Test

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1. **What are the benefits and limitations of automation testing?**

Automation testing offers significant benefits, including speed, efficiency, and consistency, allowing for quicker feedback and the ability to run tests across various scenarios without human error. It promotes reusability of test scripts and can be cost-effective in the long run by reducing manual testing efforts. Additionally, automation facilitates continuous testing within CI/CD pipelines, enhancing overall development processes.

However, there are notable limitations. The initial setup can be costly and time-consuming, and automated tests require ongoing maintenance, particularly as applications evolve. Certain tests, such as those assessing user experience or requiring human judgment, are difficult to automate effectively. This reliance on automation can also create a false sense of security, leading to potential oversights that manual testing could catch. Balancing both automation and manual testing is crucial for comprehensive test coverage.

1. **How can you determine if an element is displayed on the screen in Selenium WebDriver?**

To determine if an element is displayed on the screen using Selenium WebDriver, you can utilize the is\_displayed() method in Python on the WebElement. First, locate the element with one of the findElement methods, and then call the visibility check method. It returns true if the element is visible, meaning it has dimensions greater than zero and is not hidden via CSS.

It's important to handle potential exceptions, such as NoSuchElementException, if the element is not found. Additionally, ensure that the element has loaded properly before checking its visibility, which can be managed using explicit waits to avoid timing issues. This approach allows you to effectively verify whether an element is currently visible to the user.

1. **What are some benefits and drawbacks of using xpath as a selector in Selenium WebDriver?**

XPath is a powerful selector in Selenium WebDriver that offers several benefits and drawbacks. One major advantage is its flexibility; XPath can navigate through complex XML structures, allowing for precise element targeting based on various attributes and relationships. This makes it particularly useful for dynamic web applications where other selectors, like CSS, might struggle. Additionally, XPath supports both absolute and relative paths, giving testers greater control over element selection.

However, there are also drawbacks to using XPath. It can be more verbose and complex than other selectors, which may lead to less readability and maintainability of test scripts. XPath expressions can also be slower than CSS selectors, potentially impacting test performance. Furthermore, if the structure of the web page changes, XPath selectors can easily break, requiring frequent updates. Balancing the use of XPath with other selectors is important for maintaining effective and efficient test automation.

1. **What are the most essential details that should be included in a bug report?**

A comprehensive bug report should include several essential details to effectively communicate the issue to the development team. Key elements include a clear and concise title, a detailed description of the problem, and steps to reproduce the bug. Additionally, including information about the environment (such as the operating system, browser, and version) and any relevant screenshots or error messages can provide crucial context.

Other important details include the severity or priority of the bug, the expected versus actual behavior, and any relevant logs or system information. By providing this information, the bug report can facilitate faster diagnosis and resolution, ultimately improving the software quality and user experience.

1. Using Redfin (https://www.redfin.com/), **write manual and automated test script** that checks whether the property search returned the correct results.

Test Details:

* Use your city to perform the property search.
* Use at least 3 filters to perform the search.
* Verify that the results returned matches the search criteria.

Instructions:

* Use Word/Excel to write your manual test cases.
* Use Selenium to write your automation script.
* You may use any programming language, testing framework, and library to complete the assignment.
* We prefer design pattern such as Page Object Model.
* Feel free to ask questions regarding the assignment.