Applying Selenium to Test the SammyNguyen Website

Trần Thu Trang
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
student498@ictu.edu.vn

***Abstract*—This thesis applies Selenium WebDriver to test selected functions of the SammyNguyen website. It reviews software-testing concepts, contrasts manual and automated testing, and describes browser automation with Java. The applied section documents test cases for site functions including login, search, and shopping-cart interactions, with screenshots and script examples. The author reports gaining practical experience in test-case design and Selenium use but acknowledges incomplete coverage of WebDriver functions, weaknesses in the cases, and code that needs optimization. The source does not give a complete aggregate pass rate for the site. The work is a scoped demonstration of automated website testing.**

***Index Terms*—Selenium, Web testing, Automated testing, VoiceTrans, Java**

I. Introduction

The thesis provides an overview of software and software quality, emphasizing the importance of testing. It reviews various testing methods and strategies, including black box and white box testing, and discusses the Selenium testing tool. The author aims to apply Selenium to test the SammyNguyen website, enhancing her understanding of automated testing and Java programming. The study covers the theoretical background of software testing, including the definition of software, software quality, and testing methods, and introduces Selenium as a key tool for automated testing [1]. Earlier ICTU student work on related designs is included here for context [7], [8], [9], [10], [11], [12], [13], [14]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The author reviews relevant literature on software testing and Selenium. She applies Selenium WebDriver to test specific functionalities of the SammyNguyen system, focusing on automated testing techniques. The study does not report any numerical evaluations or performance metrics. The author describes the process of setting up the testing environment, creating test cases, and executing tests using Selenium. The tests cover basic functionalities such as login, navigation, and form submission, but the study does not provide detailed results or performance data [1].

Supervisor: Lê Thu Trang, Thai Nguyen University of Information and Communication Technology (lttrang@ictu.edu.vn).

III. Results

The report contains test-case tables for SammyNguyen website functions, including login, search, and shopping-cart behaviour. It also documents Selenium WebDriver scripts and screenshots illustrating automated interaction with the site. The source conclusion confirms that selected website functions were tested and that the author compared manual and automated workflows. It does not provide a single aggregate success rate or evidence that every site feature was covered. The documented cases support a scoped test of this website, with further test design needed for broader coverage [1].

IV. Discussion

The author discusses the benefits of using Selenium for automated testing, noting the differences in processes between manual and automated testing. She suggests that further research could involve applying Selenium to other systems to gain more practical experience. The study acknowledges that the exploration of Selenium features was limited and that test case design could be improved. The author emphasizes the importance of continuous learning and improvement in the field of software testing [1]. Earlier ICTU undergraduate work by Trần Thị Thắm addressed Selenium WebDriver automation for website testing [6].

V. Conclusion

The thesis concludes that the author has gained a deeper understanding of software testing, particularly automated testing, and has reinforced her Java programming skills. However, the study acknowledges that there are still areas for improvement, such as a more comprehensive exploration of Selenium features and better test case design. The author suggests that future work should focus on applying Selenium to a wider range of systems to gain practical experience and improve test case design [1].

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