Research and Application of JMeter Tool for Performance Testing of Viblo.asia Website

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***Abstract*—This thesis explores the application of JMeter, a performance testing tool, to evaluate the efficiency of the Viblo.asia website. The author provides a comprehensive overview of software testing, including various testing methods and strategies. The study focuses on the practical implementation of JMeter for performance testing, covering its introduction and basic operations. The results include a detailed description of the testing process and the application of the tool to the target website, highlighting the limitations due to limited experience and time constraints. The author acknowledges that not all functionalities of the website were tested, and only basic user paths were evaluated. The study concludes that while the application of JMeter for performance testing was successful, there are still areas for improvement, and the author plans to continue researching software testing methods, particularly JMeter, to apply them to larger applications in the future.**

***Index Terms*—JMeter, performance testing, software testing, Viblo.asia, testing methods, testing strategies**

I. Introduction

The thesis begins with an overview of software testing, discussing concepts, processes, and principles. It covers different testing methods and strategies, such as black box and white box testing, and their respective advantages and disadvantages. The author then delves into the software testing process, from planning to execution and reporting. The introduction sets the stage for the practical application of JMeter in performance testing, emphasizing the importance of understanding the testing process and the tools available [1].

II. Methods

The author introduces JMeter, a performance testing tool, and explains its basic operations. JMeter is described as a powerful tool for load testing and performance testing of web applications. The practical application of JMeter to the Viblo.asia website is detailed, focusing on the performance testing of the website. The study acknowledges that not all functionalities of the website were tested, and only basic user paths were evaluated. The author explains the setup process, including the creation of test plans and test cases, and the execution of tests. The limitations of the study are acknowledged, including the incomplete testing of all website functionalities and the testing of only basic user paths [1].

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III. Results

The thesis details the implementation of JMeter for performance testing of the Viblo.asia website. The author presents a thorough explanation of the testing process and the application of the tool, but notes that the testing was limited due to the researcher's limited experience and time constraints. The results include a detailed description of the testing process, including the setup of test plans and the execution of tests. The author describes the basic user paths that were tested, such as login and navigation, but acknowledges that not all functionalities were evaluated. The study does not provide any measured evaluation or performance metrics, as the focus was on the practical application of JMeter [1].

IV. Discussion

The limitations of the study are acknowledged, including the incomplete testing of all website functionalities and the testing of only basic user paths. The author suggests that further research is needed to fully utilize JMeter for more comprehensive testing of web applications. The discussion highlights the importance of thorough testing and the need for more extensive testing to ensure the reliability and efficiency of web applications. The author emphasizes the need for continuous learning and improvement in the field of software testing [1].

V. Conclusion

The thesis concludes that while the application of JMeter for performance testing of the Viblo.asia website was successful, there are still areas for improvement. The author plans to continue researching software testing methods, particularly JMeter, to apply them to larger applications in the future. The conclusion reiterates the importance of thorough testing and the need for more comprehensive testing to ensure the reliability and efficiency of web applications. The author expresses a commitment to contributing to the professionalization of software testing in Vietnam through further research and application of testing tools [1].

References

[1] Vũ Thị Huệ, "Research and Application of JMeter Tool for Performance Testing of Viblo.asia Website," internal undergraduate thesis (original in Vietnamese), Thai Nguyen University of Information and Communication Technology, 2021.