TRIPLE-STAGE BLACK BOX TESTING MANUAL

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TRIPLE-STAGE BLACK BOX TESTING MANUAL

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ABSTRAK

Pengujian perisian merupakan satu proses yang amat penting di dalam proses pembangunan perisian. Namun, untuk menghasilkan perisian yang berkualiti, pengujian perlu dijalankan dengan teknik-teknik yang betul. Pembangun perisian yang tidak mempunyai banyak pengalaman didapati mempunyai masalah untuk menjalankan proses ini. Kekurangan sumber serta panduan merupakan di antara masalah yang mereka hadapi. Sehubungan itu, matlamat kajian adalah untuk membangunkan sebuah manual iaitu Manual Prosidur: Pengujian Kotak Hitam Tiga Fasa yang boleh digunakan oleh pembangun perisian untuk menjalankan pengujian perisian dengan cara yang berkesan. Manual dihasilkan dengan mengikuti metodologi pembangunan manual ADDIE. Secara amnya, prosidur manual ini mengandungi 3 fasa yang perlu dijalankan secara berperingkat-peringkat dan selari dengan kitaran proses pembangunan perisian. Pra-pengesahan telah dilakukan ke atas manual untuk menguji tahap kemudah bacaan dan didapati 60% daripada responden bersetuju manual tersebut adalah mudah dibaca dan difahami. Walau bagaimanapun, manual tersebut perlu penambahbaikan dengan mengambil kira pengujian tambahan jenis kotak hitam dan kotak putih.

ABSTRACT

In sofware development life cycle process, software testing phase is the most important process. However, in producing a good software, software testing should be conducted in a proper way by using the right techniques. Normally, novice developers who are lacking in experiences in conducting software testing encountered problems. Among the issues that they encountered are lack of resources and guidelines. Therefore, the objective of this study is to develop a procedure manual called as Triple-Stage Black Box Testing Manual in helping novice developers how to conduct software testing. The manual was developed by adopting the ADDIE manual development model. Basically, this manual consists of 3 stages, which have to be executed stage by stage in synchronized with software development life cycle process. Pre-validation was conducted to test ease of read and ease of understand by potential develepoers. Only 60% of the participants agreed that the manual is easy to read and easy to understand. However, all of them agreed that the procedures for each technique are clearly explained. All of them also agreed that the manual is a good step in providing assistance to young developers to conduct software testing. However, the proposed manual only focuses on 3 black box testing strategies. Some modifications could be done to expand the testing strategies by adding more black box and white box testing strategies. Thus, users can be guided in conducting a white box testing strategies as well.

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LIST OF ABBREVIATION

SDLC	Software Development Lifecycle

CHAPTER 1

INTRODUCTION

1.0 BACKGROUND OF STUDY

Software testing has grown rapidly in this age due to the implementation of software validation. Basically, software testing consumes around 40%-50% efforts and costs in software development (Luo, 2005; Chakrabarti & Godefroid, 2006; Kettunen, Kasurinen, Taipale & Smolander, 2010) and this reveals how important software testing in software development. Before the developed system is delivered to the user environment, it must be tested first to validate all the functional and non-functional requirements work as expected. There are always needs to test the developed system to conform it to the entire requirements in achieving user satisfaction. Indeed, software testing assists developers to identify the errors that arise, thus providing better software quality.

Software testing is a crucial process that needs to be performed correctly. In performing the software testing, software tester must select the most suitable testing approach that will satisfy the software testing process. The selected approach, will guide the software tester for what should be done and it will produce the results based on what has been tested.

In a preliminary study conducted in UUM, 40 randomly selected final year BIT students were asked about:

- purpose of black box testing
- how to conduct black box testing
- how to conduct Usability evaluation, Boundary Value, Decision Table, State Transition and Stress Technique black box testing approaches

The contents of the thesis is for internal user only

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