IMPLEMENTING SMOKE TEST TECHNIQUE ON ONLINE APPLICATION

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To my beloved family

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ABSTRACT

Software testing primarily has two purposes (1) evaluate an attribute or capability of a program, (2) ensure the program delivers expected outcomes. There are many approaches of software testing but complex product testing cannot be done through routine procedures, instead, it involves a process of investigation. The primary concern of software testing revolves around the selection of testing strategy to meet the specific testing requirements. Therefore, it can be commented that selection of the right strategy in right time can make the software testing efficient and effective. Software testing is a set of activities that intent to find errors in software. This attempts to detect the bugs that create software malfunctions and verifies and validates the functionality of the software. In this project, software testing by implementing smoke test technique on Online Application will help the company to test their product see whether this module will meet the customer requirements and also decrease the determines of producing faulty software. This is used to detect defects early in the software development lifecycle and give idea whether this module is ready or not to save the time and effort to start the further formal testing. Smoke test is probably the most important test, it gives the confidence that the application actually runs. If it does not run, smoke test should be able to give us some basic diagnostics as to whether this application is down because something it depends on is not working. With this process we can have preliminary testing on the product and able to gage the risk and the status from it. Testing process in this project involves: study and analysis requirements, design test cases, document them in detailed, writing test procedures in formal document, execute test cases, automated all written test cases by using selenium tool, and report all detected defects among test execution process. All detected defects were reported.

ABSTRAK

Ujian perisian mempunyai dua tujuan utama iaitu(1) menilai sifat atau keupayaan sesuatu program, (2) memastikan program itu menghasilkan sesuatu yang diiginkan. Terdapat banyak cara pengujian perisian tetapi ujian produk yang kompleks tidak boleh dilakukan melalui prosedur biasa, sebaliknya, ia melibatkan proses penyiasatan. Perhatian utama pengujian perisian melibatkan pemilihan strategi ujian untuk memenuhi kehendak ujian tersebut. Oleh itu, ia boleh dikatakan bahawa pemilihan strategi yang betul dalam masa yang tepat boleh membuat ujian perisian yang cekap dan berkesan. Pengujian perisian adalah satu set aktiviti yang bertujuan untuk mencari kesilapan dalam perisian. Ini bertujuan untuk mengesan bug yang memnyebabkan kerosakan pada perisian dan mengnalpasti serta mengesahkan fungsi perisian tersebut. Dalam projek ini, pengujian perisian melalui pelaksanaan teknik 'smoke test' kepada Permohonan Online akan membantu syarikat untuk menguji produk mereka yang berada di bawah ujian untuk melihat sama ada modul ini akan memenuhi kehendak pelanggan dan juga mengurangkan penentuan penghasilan kegagalan perisian. Ini digunakan untuk mengesan kecacatan awal dalam kitaran hayat pembangunan perisian dan memberikan idea sama ada modul ini bersedia atau tidak bagi menjimatkan masa dan usaha untuk memulakan ujian rasmi yang seterusnya. 'Smoke test' adalah ujian yang paling penting, ia memberikan keyakinan bahawa aplikasi itu benar-benar berfungsi. Jika ia tidak berfungsi, 'smoke test akan dapat memberi kita beberapa diagnostik asas sama ada aplikasi ini gagal kerana sesuatu yang ia bergantung kepadanya tidak berfungsi. Dengan proses ini kita boleh mempunyai ujian awal mengenai produk dan dapat mengukur risiko dan status daripadanya. Proses ujian dalam projek ini melibatkan: kajian dan analisis keperluan, reka bentuk kes-kes ujian,

mendokumentasinye d dengan terperinci, menulis prosedur ujian dalam dokumen rasmi, melaksanakan kes-kes ujian, mengautomatikan semua kes-kes ujian bertulis dengan menggunakan alat selenium, dan melaporkan segala kerosakan yang dikesan di antara pelaksanaan proses Ujian. Semua kerosakan dikesan dilaporkan.

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LIST OF ABBRIVIATIONS

DOCS	**Documents**
GUI	**Graphic User Interface**
ICT	**Information and Communication Technology**
IT	**Information Technology**
KPI	**Key Performance Index**
OA	**Online Application**
PLC	**Public Listing Companies**
SDD	**Screen Design Document**
SRS	**Software Requirements Specification**
UI	**User Interface**
WIP	**Working in Progress**

CHAPTER 1

PROJECT OVERVIEW

1.1 Introduction

This Company has been established in the beginning of the IT industry, and it became fully operational company after a strategic plan developed to grow the local entrepreneurial skills, which includes the use of ready talents. The evolved to become a multi-platform business solutions provider and it always seeks for ways to provide experience to their customers, to make them accomplish their Business targets

The company is very acknowledged and recognized by the costumes, who encouraged to enhance their knowledge and activities through training courses and understand the people needs, to provide the best way to satisfied them, as well as reducing the customers worry to contact the company

This Company Contributes to give full support to the government initiative in mitigates graduate unemployment issue. It has been a various departments that implements business area. And has a form under one of it is the department namely manage services (MS). It has offered the students in information technology to have experience in work while undergoing comprehensive in management and technical skills.

1.1.1 Basic Solution of the Company

Following are the basic solutions of the Company:

- Constructing: the company has ability to build systems of ICT for all business and this Systems are reliable and scalable regardless of the requirements
- Management: the company has ability to provide solutions that allows businesses to measure system performance. These solutions monitor and align system processes to resources thereby ensuring optimum performance and availability of ICT infrastructure
- Protection: this company has ability to protect and safeguard businesses from both external and internal ICT threats thereby ensuring system security for smooth business flow and peace of mind
- Acceleration :this company can offer a suite of modern solutions to provide businesses with a competitive edge that will maximize business potential
- Counsel: this company has ability to provide strategic consultation and conceptions throughout the ICT architecture ensuring that systems achieve the best fit with organizational requirements:
- Assistance: this company able to give continuous technical assistance, maintenance, managements and coverage throughout the entire ICT architecture

1.2 Background of the Problem

Nowadays, software testing techniques and tools have become one of the most important factors and essential in software development. So, a lot of jobs, business and activities are involved with devices such as computer and mobile phone which are based

on software. Therefore, software testing issue has become more concerned for all software developer.

In these days, a lot of companies working in software marketing and they increased significantly. However, customers always seek about the best products for their business. Thus, if the company introduce any software not satisfy by the customer, that's means this company will definitely be in financial crisis and assets for no benefit, because this software does not meet customer's expectations.

As a result, software testing helps to decrease the detriments of producing faulty software. And also help the companies to test their products to see whether this software will meet their customer's requirements.

1.3 Statement of the Problem

Testing is a vital part of software development, and it is important to start it as early as possible. Moreover, testing plays significant role in deciding requirements. In order to get useful perspectives on development projects, developers need to allocate some thoughts to the entire lifecycle of the project including how user feedback may influence the future of the application. The tools and techniques that are discussed in this project may assist company teams to be more responsive to changes through integration of different development processes without involving additional costs.

The main goals of this project are to determine the numbers and the reasons of the defects that can be detect in (Online Application) system by implementing smoke test cases. Once, numbers of defects get determined as well as the reason of the defects.

Smoke Testing, alternatively known as "Build Verification Testing", is a software testing technique consisting of a non-exhaustive set of tests. This approach attempts to ensure that the most important functions of the program work flawlessly. Moreover, the results of this testing is used to decide if a built is stable enough for

further testing. Thus, *smoke test attempt to cover all the important fixed and achieve system stability*

1.4 Importance of the Project

This project is to test (Online Application) of the system that is to replace the current link system with an new online application that is to be built based on Web 2.0 technological standards and structured database format. And this system under testing

Implementing Smoke test on this module gives idea whether this module is ready or not. Also it can help software testing team candidate in this company to discovering all bugs and defects early in the system under development to achieve the functional requirements specified on the new system. This saves the time and effort of testing team to start the formal further testing.

1.5 Objectives of the Project

The main objective of this project is to test the module (Online Application) in this company which is under the development cycle. And the following is the details of project objectives:

1. To study the functional requirement of the Online Application
2. To design test cases and procedures for the system functionality.
3. To test the system based on test cases and find defects during the test process by compare the expected result with actual result using smoke test technique

(manually) and selenium automation tool (automatically) as well as produce report based on company's repository.

4. To evaluate the results

1.6 Scope of the Project

Online Application is a module under test in this project and the following are the limitations and the scopes of this project:

- Studying the general features and understanding the user requirement of the online application
- Testing the major functionalities of the OA
- Implementing smoke test technique for manually test
- Using selenium tool for automation test
- Applying defects management through the company repository
- Construct software test plan (STP) for planning and managing test process
- Construct software test description (STD) for designing test cases specifications and test procedures.
- Evaluate test process of (OA) throughout software test report (STR)
- Produce and format all test documents during project implementation according to IEEE standard for software test documentation (IEEE Std 829)

1.7 Project Deliverables

The list of deliverables that will be produced throughout the project period is as follows

1. Software Testing Plan (STP) document.
2. Software Testing Description (STD) document
3. Software Testing Report (STR) document
4. Project Report.
5. Industrial Attachments Log Book

1.8 Project Schedule

The schedule and plan of the tasks and activities of this project divided into two phases, each phase has specific tasks and activities to be performed. The first phase started on 19th of May 2014 and the ends of this phase on 21th August 2014. This phase include the following activities: first three chapter and the initial findings of this project and software testing plan

The second phase of this project is planned to start from 22th August 2014 to continue until 20th January 2015. This phase include these activities: last two chapters of the project, software testing design, test execution, test summary, software testing report, evaluating the results and finishing the project. The details of this planning are illustrated in Gantt chart in appendix A

.

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