The Preferable Test Documentation Using IEEE 829

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Abstract. During software development, testing is one of the processes to find errors and aimed at evaluating a program meets its required results. In testing phase there are several testing activity involve user acceptance test, test procedure and others. If there is no documentation involve in testing the phase the difficulty happen during test with no solution. It because no reference they can refer to overcome the same problem. IEEE 829 is one of the standard to conformance the address requirements. In this standard has several documentation provided during testing including during preparing test, running the test and completion test. In this paper we used this standard as guideline to analyze which documentation our companies prefer the most. From our analytical study, most company in Malaysia they prepare document for Test Plan and Test Summary.

Keywords: Documentation, Testing, Bug, Test Plan, Software Test Documentation.

1   Introduction

Defects is become a major problem for all developer during software development. The defect should be solved as many as it can to make end product reliable, usable and others. To detect the defect is in testing phase which called software testing. Software testing is very important to make software free error. In testing stages the tester should document all testing activities to improve the testing activity easier for next time. If there is lack of documentation a lot of problem will occur. As mentioned by Roslina Mohd Sidek et al [1] regarding all difficulties if there is no well prepare documentation for testing example product delay, wasting time and money. If documentation is not applied during the testing, it makes the finding bug become more complicated. R. Kumar [2] said that careful documentation can save an organization's time and money. It is because of finding the bug will make cost of correction becomes higher. According to Software QA Associates[2][3] in the internet era, in organizations with little software configuration management, projects

are often built and tested without adequate documentation for example, no formal test planning, no test procedures, etc. Refer to L.P David et al said [4] to conduct inspection and test effectively with good documentation. The precise documents will allow engineers to authorize all component meets its stated specification, and the product will be more satisfactory. In K.Hertel et al [5] use photo in documentation purposely preparation for new colleagues who are not familiar with the test project or with the daily work routines.

Software testing states a number of rules that can serve as well as testing objectives: Testing is a process of executing a program with the intent of finding an error; good test case is one that has a high probability of finding as many as we can; successful test is one that uncovers an as-yet-undiscovered error. The aim of software testing according Sommerville [6] is discover defects by testing individual program components. The components may be functions, objects or reusable components. the paper discuss about IEEE 829 standard in Section 2. The factors of software test documentation are discussed in Section 3 and discussion in Section 4 and conclusion in Section 5.

2   Literature Review

In this section we discuss the software test documentation according to IEEE 829 Documentation [7]. The IEEE 829 is a standard that specifies the form of a set of documents for use in eight defined stages of software testing, each stage possibly making its own separate type of document. The standard specifies the format of these documents but does not require whether they all must be produced, nor does it include any criteria regarding adequate content for these documents. These are a matter of decisions outside the purview of the standard.This standard is one of the standards of conformance to address the requirements to which a software developer must conform. Other standard such as IEEE 828 used for software configuration, IEEE 1012 used for verification and validation and others. The IEEE 829 has several types of document for testing which can be used in three distinct phases of software testing. The types of document are preparation of tests, running the test and completion of testing.

2.1   IEEE 829[8]

In this IEEE 829 divided into 3 sections which are preparation of tests, running the test and completion the test.

2.1.1   Preparation of Tests
The most important part of any software testing is preparation of testing. The purpose of this state is to prepare an effective and efficient set of test, and create the environment for them to run in. In preparation test the test involves are Test Plan, Test Design Specification, Test Case Specification, Test Procedure and Test Item Transmittal Report. The functions of those tests are in the Table 1.