GENERATING TEST CASES FOR LEARNINGZONE

A project report submitted to College of Arts and Sciences in partial fulfillment of the requirement for Master Degree in

Information Technology (IT)

Universiti Utara Malaysia

By

Samer Ali Sari Alshammari

Samer Ali Sari Alshammari

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Abstract

The increment of web-based applications in all over the internet increase the concern about quality of these web-applications, which requires testing the designs (both black and white boxes) of these systems and generating new methodologies and tools for testing. This research is concern about the applications that are related to Learning Management Systems (LMS) and precisely Modular Objected Oriented Dynamic/Distributed/Development Learning Environment (Moodle), an open source software. Universiti Utara Malaysia (UUM) has named its Moodle as LearningZone which still lacks of testing. Therefore, a suitable testing approach for deriving test cases to evaluate this open source application has been identified. This application represents the case study of this research which focuses mainly on student functionalities of LearningZone. Such an objective can be achieved through identifying the suitable UML diagram for the research's case study. Later on, applying the generation of the test cases from the chosen UML diagram. Finally, the generated test cases have to be evaluated in terms of accuracy and system’s errors. This will ensure the suitability of the usage of that diagram for LearningZone as a result of this research.
ACKNOWLEDGEMENT

By the name of Allah, the Most Compassionate Most Merciful

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<th>Description</th>
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<tr>
<td>UUM</td>
<td>Universiti Utara Malaysia</td>
</tr>
<tr>
<td>UML</td>
<td>Unified Modeling Language</td>
</tr>
<tr>
<td>LMS</td>
<td>Learning Management System</td>
</tr>
<tr>
<td>Moodle</td>
<td>Modular Object Oriented Dynamic Language Environment</td>
</tr>
<tr>
<td>IS</td>
<td>Information System</td>
</tr>
<tr>
<td>V&amp;V</td>
<td>Validation and Verification</td>
</tr>
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<td>CRM</td>
<td>Customer Relationship Management</td>
</tr>
<tr>
<td>BPR</td>
<td>Business Process Reengineering</td>
</tr>
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<td>CMS</td>
<td>Course Management System</td>
</tr>
<tr>
<td>VLE</td>
<td>Virtual Learning Environment</td>
</tr>
<tr>
<td>PHP</td>
<td>Preprocessor Hypertext Preprocessor</td>
</tr>
<tr>
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<td>structured Query Language</td>
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<td>Macintosh</td>
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<td>Software Quality Assurance</td>
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<td>HTML</td>
<td>Hyper Text Markup Language</td>
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<td>End to End</td>
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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Nowadays, there are many open source applications available for organisation to choose from to be used as applications in their organization. In the education context, one of the commonly used information systems (IS) is Learning Management System (LMS). This application is important as a means of sharing of resources among students and lecturers, for facilitating active learning and important for distance and virtual learning.

Many of these open source applications have undergone certain degree of testing. However, when they are adapted and applied in a new environment, where some of them might not be tested adequately or not tested at all. Taking an example of Moodle, one of the leading LMS, at the point this research was conducted, it has been tested only at unit level testing as conducted by the Moodle’s contributors (Moodle.org). However, how well this application is tested at the educational institutions that adopt this application is not known.

The purpose of this study is to identify a testing approach that might be suitable to test running applications. One of the important elements in conducting testing is test case generation. Patton (2001, p. 65) as cited in Kaner (2003), has defined that test cases as specific inputs and approach that are followed in software are tested. Moreover, studying a system is the initial point of system construction and test case generation that can be planned at an early stage of the software development life cycle (Kundu & Samanta, 2009).
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REFERENCES


