Time Monitoring Tool
Test Evaluation Report

Version <1.0>

Revision History

Date	Version	Description	Author
<28/03/01>	<1.0>	First Version	Robert Latour
		Test Coverage revision	Sabrina Laflamme

Preface

The following case study has been modified from its original content.

The case study is meant to be used as a starting point to help you understand how to use the artifact. Thus, information has been shrunk to avoid navigating an enormous document (in size and pages).

You can also refer to the related template (in HTML format or WORD format) in the UPEDU Artifacts Templates Test Section.

Regards,

Unified Process for Education Team

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Test Evaluation Report

1. Introduction

1.1 Purpose

The purpose of the Test Evaluation Report is to summarize the results of the testing efforts and provide evaluations based on those results.

1.2 Scope

This Test Evaluation Report describes the results of the tests on Time monitoring Tool system, in terms of test coverage and defect analysis. The tests conducted are described in the Test Plan for the Time Monitoring Tool system. The data used in this evaluation are based on the test results data base and on Test Results Summary documents. This Evaluation Report is to be used for the following:

- **assess the acceptability of the performance behavior of the TMT system**
- **assess the acceptability of the tests**
- **identify improvements to increase test quality.**

1.3 Definitions, Acronyms and Abbreviations

This information may be provided by reference to the project Glossary – upedu_ex_gloss.pdf

1.4 References

The references can be obtained from the documents:

- **TMT Test Plan**
- **TMT Results Report**
- **TMT Glossary**

1.5 Overview

The following sections present and analyze the test results. Some diagrams are added in order to illustrate this analyze.

2. Test Results Summary

The test cases defined in the Test Model for the Time Monitoring Tool were executed following the test strategy as defined in the Test Plan.

Test coverage refers the covering of the use cases and test requirements as defined in the Test Plan. A number of 109 tests were executed. The test coverage was complete.

Package	Executed test	Passed test	Failed test
Total	100%	89.38%	29.42%

Code coverage was not considered as a significant measure of success for the prototype, but for the final product.

The performance tests that involved access to the Time Monitoring Tool system are in the average of the established targets.

3. Requirements-based Test Coverage

The tests to be performed on the prototype are defined in the Test Plan along with their completion criteria. The test coverage results are as follows:

Package	Performed Test Case	Successful Test Cases	Failed Test Cases
Server	25	17	8
Users::Administrator	24	19	5
Users:Developper	28	22	6
Export Data	32	24	8
Total	109	82	27

The area of tests with the highest failure rate was:

- **Tests involving access to the Server**
- **Tests involving export to Excel and MS Project**

3.1 Error types and impacts

3.1.1 Data Integrity

Error on test cases outputs.

- ***Potential Impact*: High, timestamps validity is important.**
- ***Relative Impact*: Superior to all other error types**

3.1.2 Edge Effect

These errors are caused by using out of range function parameters. If the application cannot control adequately the passed values, an error occurs.

- ***Potential Impact*: Moderate, the application is unstable only in a few extreme cases.**
- ***Relative Impact*: More important than Design divergence errors since there is an instability risk presence.**

3.1.3 Design divergence

These errors are caused by a test case implementation which did not follow initial design.

- ***Potential Impact*: Minor, the application doesn't respond entirely to the fixed requirements which slightly decrease the application ability to fulfill its objectives.**
- ***Relative Impact*: Less important than the Edge effect errors since the application stability is not affected.**

3.2 Error type frequency

The following table shows the error types frequencies for all tests. We can easily see that Design divergence errors have a higher occurrence percentage than other error types.

ERROR TYPE	FREQUENCY
Data Integrity	28%
Edge Effect	12%
Design Divergence	48%

4. Code-based Test Coverage

Approximately, 54% of the code was executed during the testing. It was determined that this coverage was adequate for the prototype tests as all interfaces were thoroughly exercised. Later iterations will require a significantly higher measure for code coverage. The coverage target for the final code has to exceed 90%.

5. Suggested Actions

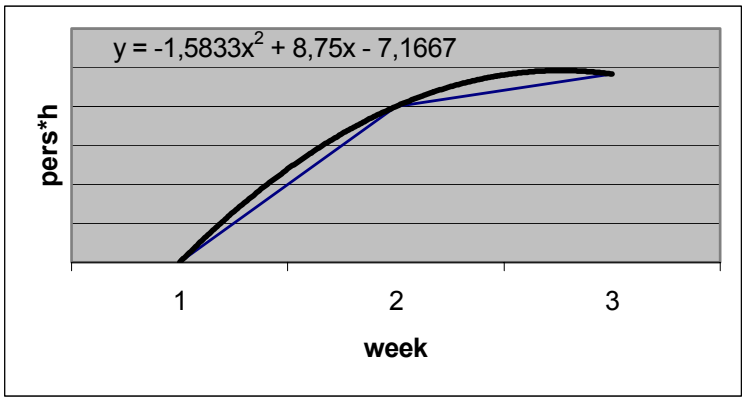
1. Suggested Actions

The recommended actions are as follows:

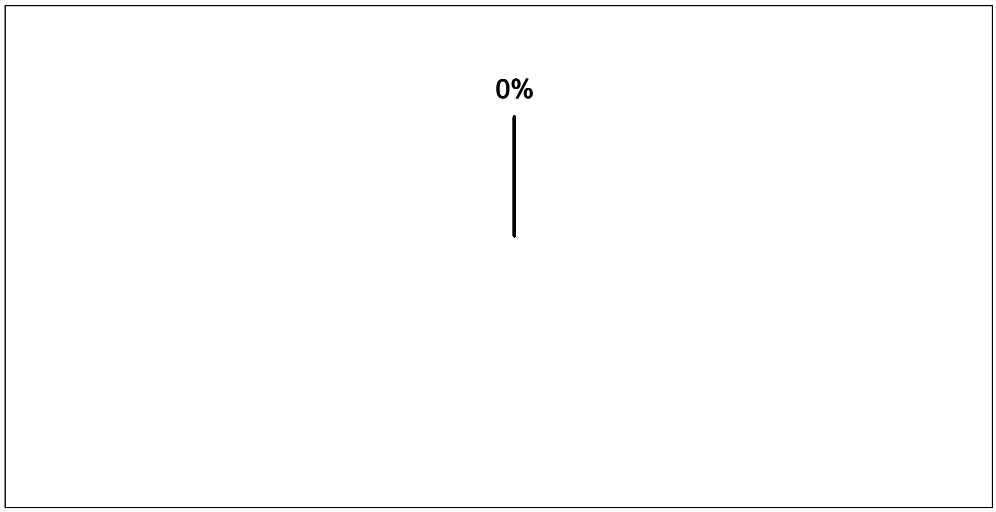
- **Delay start of next iteration pending resolution of Critical Defects.**
- **Design additional tests to further tests.**
- **It is recommended that future iterations include inspections of the all design or code involving external interfaces. These inspections should reduce the number of problems found during Test.**

6. Summary of Activities

The figure below illustrates that the project team follows a pattern with uniformly spread of effort and an intensive work in the second and the third week of the project. The effort pattern could be approximate by a second degree polynomial.



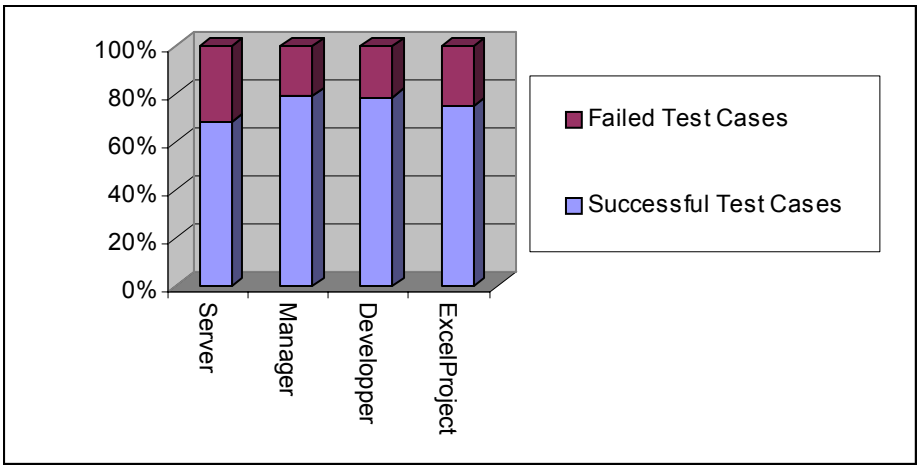
The effort dissipation in these four test activities:



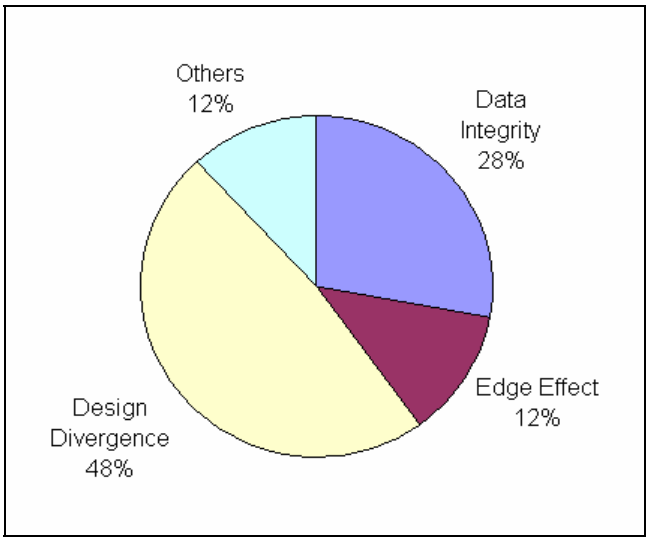
The first iteration is dominated by work on the Requirements discipline. The construction of a prototype required in order to complete the requirements specification shows up as an effort burst during the second and the third week in Test discipline.

Even though the process used is based on the concept of iterations, one can find behaviors that are related to the classic Waterfall software process model, particularly within the engineering disciplines. However, the Test discipline offers a behavior that is very different from the Waterfall model. Much effort is spent on tests at the beginning of the project, on the plan and design test activities.

7. Diagrams



Requirements-based Test Coverage



Error Type Frequency