SIM5202   ADVANCED SOFTWARE ENGINEERING

FACULTY OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

"SOFTWARE TESTING PLAN"

By:

Shirin Nazemoroaya (GS29086)

Nazanin Manafi   (GS31020)

Ava Moradi   (GS31026)

Meysam Karimi   (GS33205)

LECTURER: DR.MARZANAH BT A JABAR

TABLE OF CONTENTS

1. TEST PLAN IDENTIFIER

STP_MRCP_V1.0

2. INTRODUCTION

2.1 Purpose

This is the Test Plan for **Management of a research center projects**. This plan will address only those items and elements that are related to Management of a research center projects, both directly and indirectly affected elements will be addressed. The primary focus of this plan is to ensure that the system is reliable while allowing for improvements and increases in customer satisfaction. The project will have three levels of testing, Unit, System/Integration and Acceptance. Then details for each level are addressed in the approach section and will be further defined in the level specific plans.

2.2 Objective

This Test Plan for **Management of a research center projects** supports the following objectives:
- Define the activities required to prepare for and conduct System test.
- Communicate to all responsible parties the System Test strategy.
- To define the sources of information used to prepare the plan.
- To define the test tools and environment needed to conduct the system test.
- Define deliverables and responsible parties.
- Communicate to all responsible parties the various Dependencies and Risks

2.3 Project Scope

This Test Plan covers a full systems test of Management of a research center projects. This includes the Unit Test to be handled by the developer, Integration testing to be handled by the testing group, and finally the acceptance test by the client.

2.4 Reference

[1] Software Requirement Specification (SRS) for Management of a research center projects.
[2] Ian Sommerville, Software Engineering 9th Edition

3. TEST ITEM

The following is item to be tested:

Management of a research center projects requirements document

4. SOFTWARE RISK ISSUES

Not applicable

5. FEATURES TO BE TESTED

The following is a list of the areas to be focused on during testing of the application.
   a) View, add/insert , assign , estimate , ranking , salary record process
   b) The process of report generation

6. FEATURES NOT TO BE TESTED

The following is a list of the areas that will not be specifically addressed. All testing in these areas will be indirect as a result of other testing efforts.

   a) Non- Management of a research center projects Processes
   b) Network security in process
   c) Compatibility with any machine (platform independent)
   d) Response time for each process

7. APPROACHES

7.1 Testing Levels

The testing for the Management of a research center projects will consist of Unit, System/Integration (combined) and Acceptance test levels. It is hoped that there will be at least one full time independent test person for system/integration testing. However, with the budget constraints and time line established; most testing will be done by the test manager with the development team's participation.

UNIT TESTING will be done by the developer and will be approved by the development team leader. Proof of unit testing (test case list, sample output, data printouts, and defect information) must be provided by the programmer to the team leader before unit testing will be accepted and passed on to the test person. All unit test information will also be provided to the test person.

SYSTEM/INTEGRATION TESTING will be performed by the test manager and development team leader with assistance from the individual developers as required. No specific test tools are available for this system. Programs will enter into System/Integration test after all critical defects have been corrected. A program may have up to two Major defects as long as they do not impede testing of the program (I.E. there is a work around for the error).

ACCEPTANCE TESTING will be performed by the actual end users with the assistance of the test manager and development team leader. Programs will enter into Acceptance test after all critical and major defects have been corrected. A program may have one major defect as long as it does not impede testing of the program (I.E. there is a work around for the error).

7.2 Configuration Management / Change Control

7.3 Test tools

The only test tools to be used are the standard computer that this program is installed on and which is can access Management of a research center projects program through that computer.

7.4 Meetings

The test team will meet once in a weeks to evaluate progress to date and to identify error trends and problems as early as possible. The test team leader will meet with development and the project manager every weeks as well. These two meetings will be scheduled on different weeks. Additional meetings can be called as required for emergency situations.

7.5 Measures and Metrics

The following information will be collected by the Development team during the Unit testing process. This information will be provided to the developer team.

- Defect Origin (Requirement, Design, Code)
- Time spent on defect resolution by defect, for Critical & Major only. All Minor defects can be totalled together.

8. ITEM PASS/FAIL CRITERIA

The test process will be completed once the initial developer team has successfully sent in Management of a research center projects. When the client is satisfied that all the process working correctly using Management of a research center projects, testing process will be stopped.

9. SUSPENSION CRITERIA AND RESUMPTION REQUIREMENTS

9.1 Suspension criteria

If any defects are found which seriously impact the test progress, the Test Plan manager may choose to Suspend. Criteria that will justify test suspension are:

a) Hardware/software is not available at the times indicated in the project schedule.
b) Source code contains one or more critical defects, which seriously prevents or limits testing progress.
c) Assigned test resources are not available when needed by the test team.

9.2 Resumption requirements

If testing is suspended, resumption will only occur when the problem(s) that caused the suspension has been resolved. When a critical defect is the cause of the suspension, the "FIX" must be verified by the test department before testing is resumed.

10. TEST DELIVERABLES

Following is the test deliverable for the test plan of E-PERUBATAN

a) Test plan *(This document)*

b) Test design specification *(appendix A)*

c) Test procedure specifications *(appendix B)*

d) Test script *(appendix C)*

11. REMAINING TEST TASK

TASK	ASSIGNED TO	STATUS
Create acceptance test plan	Test Manager, Project Manager, ITA	
Create system/ integration test plan	Test Manger, Project Manager, Developer	
Define unit test rules and procedures	Test Manger, Project Manager, Developer	
Verify prototype of output	Test manager	

12. ENVIRONMENTAL NEEDS

The following elements are required to support the overall testing effort at all levels within **Management of a research center projects**.
   a) Access to Management of a research center projects
   b) Reliable PC's with fast processing speed
   c) All documents that are to be referenced

13. STAFFING AND TRAINING NEEDS

It is preferred that there will be at least one (1) full time tester assigned to the project for the system/integration and acceptance testing phases of the project. This will require assignment of a person part time at the beginning of the project to participate in reviews etc and approximately four days into the project they would be assigned full time. If a separate test person is not available the project manager/test manager will assume this role.

In order to provide complete and proper testing the following areas need to be addressed in terms of training.
   a) The developers and tester(s) will need to be trained on the basic operations of handling computer

14. RESPONSIBILITIES

	TM	PM	DEVELOPER	ITA

Acceptance test Documentation & Execution	X	X		X
System/Integration test Documentation & Exec.	X		X	
Unit test documentation & execution	X		X	
System Design Reviews	X	X	X	X
Detail Design Reviews	X	X	X	
Test procedures and rules	X	X	X	

15. SCHEDULE

Time has been allocated within the project plan for the following testing activities. The specific dates and times for each activity are defined in the project plan time line. The persons required for each process are detailed in the project time line and plan as well. Coordination of the personnel required for each task, test team, development team, management and customer will be handled by the project manager in conjunction with the development and test team leaders.

16. APPROVALS

ROLES	NAME	APPROVAL
Project Manager	Shirin Nazemoroaya	
Test Manager 1	Ava Moradi	
Test Manager 2	Nazanin Manafi	
Development Leader	Meysam Karimi	
ITA	Amghezi	

17. APPENDIX A: TEST DESIGN SPECIFICATION

17.1   Test design specification identifier

Identifier for document is **TDS_ MRCP _1.0**.
This is document is associated with test plan STP_MRCP_V1.0

17.2   Features to be tested

The following use case diagram from Figure 1 shows the basic functionality of

the program.

Figure 1: Overall use case
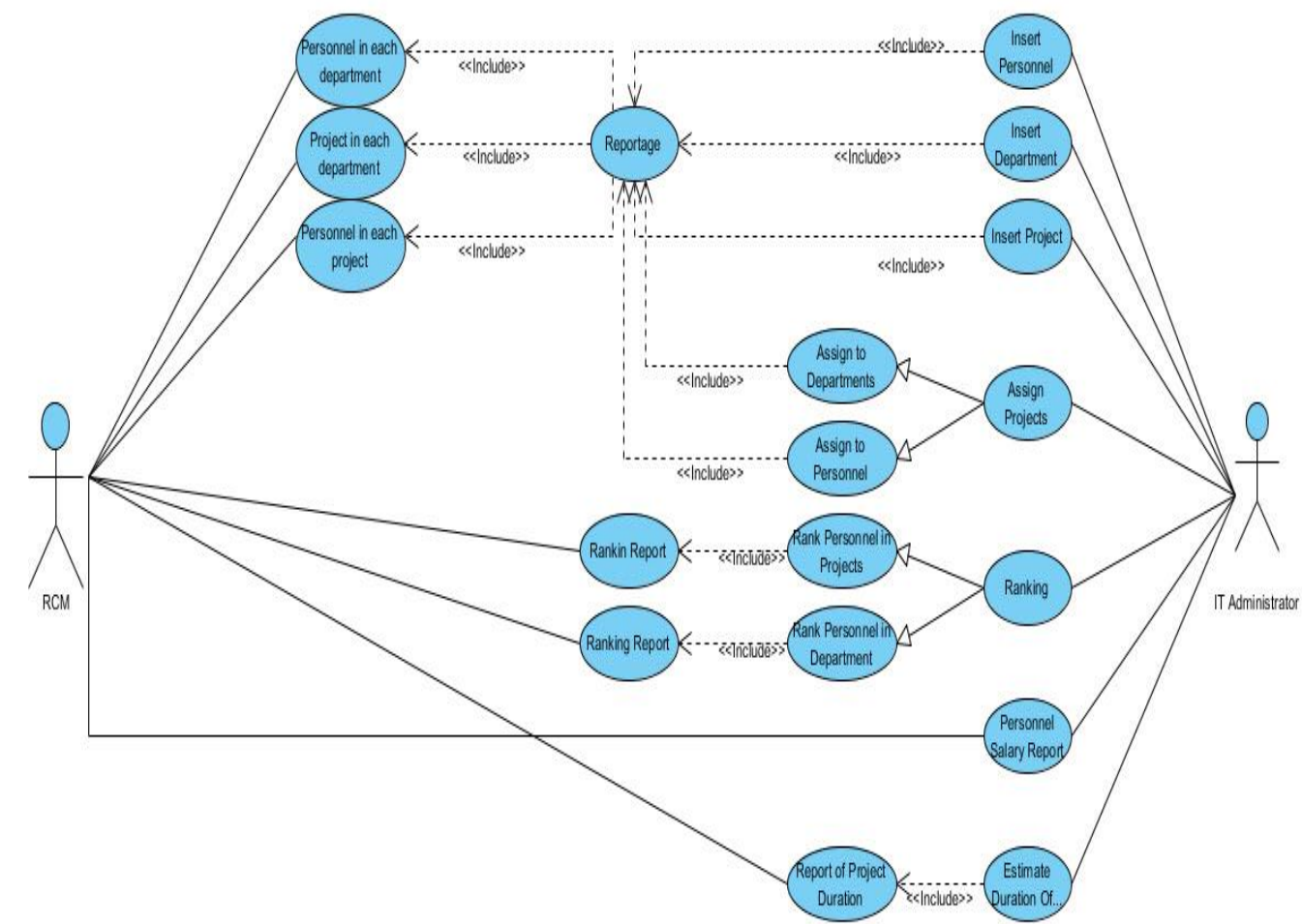
The most common functional features are listed above. They are also rated according to their priority. The used scaling is the following:

- High
- Medium
- Low

Feature	Priority
Insert	High
Assign	High
View Report	High
Estimate	High
Ranking	Medium
Salary calculation	Medium

17.3 Approach refinements

The four levels of the V-model will be tested separately.

Level	Responsibility	Refinement	Identification
Acceptance testing	ITA	Show the system to the ITA	ITA sees that the system is created according to demands.
System testing	Test manager	Create new tests, run them	Manual tests cases produce visible result
Integration testing	Developer	Insert new module	System works visually and compiles, automated tests return clear result
Module testing	Developer	Create new module, test changed module	Module compiles and testing passes.

17.4   Features pass/fail criteria

Bugs will be rated according to their severity as follows:

- Minor
- Normal
- Serious
- Critical

Items will be passed, if the following requirements are met:

Priority	Requirement
High	Average less than 2 unresolved bugs with severity **Minor** /module. Not over 5 unresolved bugs/module.
Medium	Same as above, but can contain less than average 1 unresolved bugs of severity **Normal**/module.
Low	No unresolved bugs with severity **Serious**. Not more than 5 unresolved bugs/module.

18. APPENDIX B: TEST PROCEDURE SPECIFICATION

18.1   Test procedure specification identifier

Identifier for document is **TPS_ MRCP _1.0**.
This is document is associated with test plan STP_ MRCP _V1.0

18.2   Purpose

This procedure describes the steps necessary to perform the test specified in the test design specification for Management of a research center projects. The procedure describes the execution of the test case described in **Management of a research center projects** Test Case Specification (TCS_E-MRCP_1.0).This test will exercise the clock in and clock out requirement procedures specified in the MRCP.

18.3   Special requirements

In order to execute this procedure, need to make sure following steps are taken.

a) The data about researchers and Apprentice must exist in database
b) The data about projects and departments must exist in database
c) Each personnel must have unique personnel ID
d) Management team members must have the authority to access the system.

18.4   Procedure steps

18.4.1 Log.

Record the execution of this procedure on a standard test log
(TL_MRCP_1.0).

18.4.2 Set up.

a) Visit MRCP website.
b) The next screen will be deploying according to the access level of the user.
c) Menu will be displayed.

18.4.3 Proceed

Proceed with the view, add/insert, submit and assign record.

19. APPENDIX C: TEST SCRIPT

19.1   Test script identifier

Identifier for document is **TS_MRCP_1.0**.

LIST OF MODULES FOR CHECKING

No.	Test Case	Mark (√) for modules that have been revised
1.0		
2.0		
3.0	MODULE 1: MAIN FORM: MAIN	
4.0	BASIC INFO	
5.0	ASSIGN PERSONNEL TO PROJECTS	
6.0	REPORTS	
	ESTIMATE REQUIRED TIME	
	RANK	
	SALARY	
7.0	MODULE 2: BASIC INFO: MAIN	
8.0	DEPARTMENT REGISTRATION	
9.0	PROJECT REGISTRATION	
10.0	PERSONNEL REGISTRATION	
11.0	MODULE 3: ASSIGN PERSONNEL TO PROJECTS: MAIN	
12.0	MODULE 4:REPORTS	
13.0	LIST OF PERSONNEL IN EACH DEPARTMENT	
14.0	LIST OF PROJECTS IN EACH DEPARTMENT	
15.0	LIST OF PERSONNEL IN EACH PROJECT	
	MODULE 5: ESTIMETE TIME FOR PROJECT	
	MODULE 6:RANK	
	LIST OF PERSONNEL AND THEIR RANK IN EACH DEPARTMENT	
	LIST OF PERSONNEL WITH HIGHEST RANK IN EACH DEPARTMENT	
	LIST OF PERSONNEL AND THEIR RANK IN EACH PROJECT	
	LIST OF PERSONNEL WITH HIGHEST RANK IN EACH PROJECT	
	MODULE 7: SALARY	

Test Case	
Testing objective	User can access to MRCP according to their access level

Type of testing	Function	Module	-

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	Click on the MRCP icon on the installed computer	MRCP Main form will be displayed.		

Test Case			
Testing objective	If the Main form displayed correctly.		
Type of testing	Function	Module	-

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	Clicks on 'Basic Info' tab in the screen.	The basic info panel screen will appear.		
2	User need to select one of the options.	The related menue will be appear.		

Test Case			
Testing objective	To display basic info form		
Type of testing	Function	Module	-

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	User click on 'Assign personnel to projects' menu.	The screen will be display the related form.		

Test Case	
Testing objective	To assign personnel to the projects
Type of testing	Function	Module	1

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	User select 'Reports' menu.	The panel screen will be displayed.		
2	User should select one of the options.	Screen will display the available lists.		

Test Case	
Testing objective	Display list of registered patient

Type of testing	Function	Module	1

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	Click on the 'Estimate time for projcts' menu.	Estimate required time for project screen will be displayed.		
2	User select the project.			
3	User press the "View the result" button,	The number of required time wil be displayed in form of mounths.		

Test Case	
Testing objective	View the required time for each project.
Type of testing	Function	Module	1

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	User select 'Rank' menu.	The relarted form will be displayed.		
2	User should choose of the options.			

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
3	Click on 'List of personnel and their rank in each department' .	The related form will be displayed.		
4	User choose the department and click on the "show" button.	The list of personnel will be displayed.		
	Click on 'List of personnel with the highest rank in each department' .	The related form will be displayed.		
	User choose the department and click on the "show" button.	The list of personnel will be displayed.		

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
	Click on 'List of personnel and their rank in each projectt' .	The related form will be displayed.		
	User choose the project ID and click on the "show" button.	The list of personnel will be displayed.		
	Click on 'List of personnel with the highest rank in each project' .	The related form will be displayed.		
	User choose the project ID and click on the "show" button.	The list of personnel will be displayed.		

Test Case	
Testing objective	View ranking
Type of testing	Function	Module	2

Information of Module Tester				
Name	Position	ITA	Signature	Date

Detailed Testing				
No.	Step of Testing	Expected Results	Comment	Passed/Failed
1	Click on the 'Salary' menu.	Screen will display the option.		
2	Click on the 'List of personnel and their salaries' link to view panel clinic information.	Screen will display the information.		
3	User should select the department. And press the "Show" button.	The list of personnel with their salary will be displayed.		

Test Case			
Testing objective	View list of personnel and their salaries.		
Type of testing	Function	Module	2