SECP3204: Software Engineering WBL

System Testing Documentation (STD)

Student Health and Wellness Management System

Version 1.0

29th June 2023

Faculty Computing

Prepared by: Software

Revision Page

a. **Overview**

In this version of system description, we have completed the System Test Description (STD) section. This section will list out every test case needed and also the Test Approach we will take to test our system. For every test case, we have outlined the detailed steps and the expected results. While for the test approach analysis section, we will explain how we conduct the test using equivalence partitioning (EP) and boundary value analysis (BVA).

b. **Target Audience**

The targeted audience of this system description are the developers, lecturers of UTM 2u2i Program and also the CEO of Mengaji One to One Program. They will use this system description to understand how the system testing is conducted (how to conduct the system testing) and the testing outcome.

c. **Project Team Members**

Member Name	Role	Task	Status
Goh Jiale	Main Developer	Section 8.4	Complete
		Section 8.5	Complete
		Section 8.6	Complete
		Section 9.4	Complete
		Section 9.5	Complete
		Section 9.6	Complete
		Appendix A	Complete
Lee Yik Hong	User Experience Designer	Section 8.7	Complete
		Section 8.8	Complete
		Section 8.16	Complete
		Section 8.17	Complete
		Section 9.7	Complete
		Section 9.8	Complete
		Section 9.16	Complete
		Section 9.17	Complete

Ong Yi Yan	Requirements Analyst	Section 8.1	Complete
		Section 8.2	Complete
		Section 8.3	Complete
		Section 9.1	Complete
		Section 9.2	Complete
		Section 9.3	Complete
Koh Su Xuan	Quality Assurance Tester	Section 8.9	Complete
		Section 8.10	Complete
		Section 8.14	Complete
		Section 8.15	Complete
		Section 9	Complete
		Section 9.9	Complete
		Section 9.10	Complete
		Section 9.14	Complete
		Section 9.15	Complete
Tang Yan Qing	Documentation Specialists	Section 8.11	Complete
		Section 8.12	Complete
		Section 8.13	Complete
		Section 9	Complete
		Section 9.11	Complete
		Section 9.12	Complete
		Section 9.13	Complete

d. **Version Control History**

Version	Primary Author(s)	Description of Version	Date Completed
Version 1.0	Goh Jiale	Completed the solution proposal and produced Use Case Diagram (PR1.0)	04/05/2023
Version 2.0	Tang Yan Qing Koh Su Xuan	Completed the SRS - Software Requirement Description (PR2.0)	06/06/2023
Version 3.0	Ong Yi Yan	Completed the SDD - Software Design Description (PR3.0)	25/06/2023
Version 4.0	Lee Yik Hong	Completed the STD - Software Test Description (PR4.0)	04/07/2023

Note:
This System Documentation (SD) template is adapted from IEEE Recommended Practice for Software Requirements Specification (SRS) (IEEE Std. 830-1998), Software Design Descriptions (SDD) (IEEE Std. 10161998 1), and Software Test Documentation (IEEE Std. 829-2008) that are simplified and customized to meet the need of SCSJ2203 course at Faculty of Computing, UTM. Examples of models are from Arlow and Neustadt (2002) and other sources stated accordingly.

Table of Contents

8. Test Cases

8.1 TC01: Test <Authentication Module> Subsystem: <Sign Up (UC01)>

This test contains the following test cases:
(a) TC01_01: Test <Sign Up (SD01)>

8.1.1 TC01_01: Test <Sign Up (SD01)>

Test Case ID		TC01_01	Test Case Description		Test the functionality of sign up for all users (admin, doctor and student)		
Created By		Ong Yi Yan	Reviewed By		Goh Jiale	Version	1
QA Tester's Log		None					
Tester's Name		Ong Yi Yan	Date Tested		2/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data		
1	The user has installed and opened the app on mobile devices			1	email = ongyan@graduate.utm.my		
2	The user has active internet connection to the system			2	password = abc1234567		
3	The user has a UTM organisation email address			3			
4				4			
5				5			

Test Scenario	Verify that the user can sign up						

Step #	Step Details		Expected Results		Actual Results		Pass / Fail / Not Expected / Suspended
1	Cllick on the 'Sign Up' button		Sign up interface is displayed				
2	Type in email address		No errors and field is filled				
3	Type in password for two times		No errors and field is filled				
4	Click on the 'Sign Up' button		Successful signups interface is displayed and a new account is created				
5							
6							

8.2 TC02: Test <Authentication Module> Subsystem: <Login (UC02)>

This test contains the following test cases:
(a) TC02_01: Test <Login (SD02)>

8.2.1 TC02_01: Test <Login (SD02)>

Test Case ID		TC02_01	Test Case Description		Test the functionality of login for all users (admin, doctor and student)		
Created By		Ong Yi Yan	Reviewed By		Tang Yan Qing	Version	1
QA Tester's Log		None					
Tester's Name		Ong Yi Yan	Date Tested		2/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data		
1	The user has installed and opened the app on mobile devices			1	email = ongyan@graduate.utm.my		
2	The user has active internet connection to the system			2	password = abc1234567		
3	The user has a registered account			3			
4				4			
5				5			

Test Scenario	Verify that the user can login						

Step #	Step Details		Expected Results		Actual Results		Pass / Fail / Not Expected / Suspended
1	Cllick on the 'Login' button		Login interface is displayed				
2	Type in email address		No errors and field is filled				
3	Type in password		No errors and field is filled				
4	Click on the 'Login' button		Redirected to home interface				
5							
6							

8.3   TC03: Test <Authentication Module> Subsystem: <Forgot Password (UC03)>
This test contains the following test cases:
(a) TC03_01: Test <Forgot Password (SD03)>

8.3.1   TC03_01: Test <Forgot Password (SD03)>

Test Case ID		TC03_01	Test Case Description		Test the functionality of password reset for all users (admin, doctor and student)		
Created By		Ong Yi Yan	Reviewed By		Koh Su Xuan	Version	1
QA Tester's Log		None					
Tester's Name		Ong Yi Yan	Date Tested		2/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:		S#	Test Data		
1	The user has installed and opened the app on mobile devices		1	email = ongyan@graduate.utm.my		
2	The user has active internet connection to the system		2			
3	The user has a registered account		3			
4	The user has forgotten their password or can not login due to password issues.		4			
5			5			

Test Scenario	Verify that the user can reset password

Step #	Step Details		Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Cllick on the 'Login' button		Login interface is displayed		
2	Cllick on the 'Forgot Password' button		Forgot Password is displayed		
3	Type in email address		No errors and field is filled		
4	Click on the 'Request Password Reset' button		Password rest link will be sent to email address		
5					
6					

8.4   TC04: Test <Account Management> Subsystem: <Manage Own Account (UC04)>
This test contains the following test cases:
(a) TC04_01: Test <Manage Own Account (SD04)>

8.4.1   TC04_01: Test <Manage Own Account (SD04)>

Test Case ID		TC04_01	Test Case Description		Test the functionality of manage own account		
Created By		Jialegoh	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		Jegan	Date Tested		2/07/2022	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:		S#	Test Data	
1	Users login to the system.		1	username = Jegan	
2	Users click on "Manage Profile" in the User Profile page.		2	password = 1w3er3	
3			3	contact = 01323452342	
4			4	email = kagen@graduate.utm.my	
5			5	usertype = Admin	

Test Scenario	Verify that the user can manage own account

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click on arrow at the right of the row of "Password"	Navigate to "Edit Password" page	Navigate to "Password" page	Pass
2	Users enter the wrong original password and new password	Error message	Error message	Pass
3	Users enter the correct original password and new password			
4	Users enter a contact number and otp	New password saved	New password saved	Pass
5	Click on arrow at the right of the row of "Contact Number"	Navigate to "Edit Contact Number" page	Navigate to "Contact Number" page	Pass
6	Users enter a new Contact Number and wrong otp	Error message	Error message	Pass
7	Users enter a new Contact Number and correct otp	New contact number saved	New contact number saved	Pass
8	Click on arrow at the right of the row of "Role"	Navigate to "Edit Role" page	Navigate to "Edit Role" page	Pass
9	Users choose Role and click on "Save" button	New role saved	New role saved	Pass

8.5 TC05: Test <Account Management> Subsystem: <Manage All Users Account (UC05)>

This test contains the following test cases:
(a) TC05_01: Test <Manage All Users Account (SD05)>

8.5.1 TC05_01: Test <Manage All Users Account (SD05)>

Test Case ID		TC05_01	Test Case Description		Test the functionality of manage all users account		
Created By		Jialegoh	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		Jegan	Date Tested		2/07/2022	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data	
1	Admin login to the system			1	username = Jegan	
2	Admin click on "Manage Users Profile" button in User Profile page			2	password = 1w3er3	
3				3	contact = 01323452342	
4				4	email = kagen@graduate.utm.my	
5				5	usertype = Admin	

Test Scenario	Verify that the admin can manage all users account

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click on "Search by email" button			
2	Key-in email address of users and click enter	Users with that email address displayed	Users with particular email address displayed	Pass
3	Click on "Add" button	Pop-up add user account interface	Pop-up add user account interface	Pass
4	Key-in email address, password and click on create button	New users successfully created	New users successfully created	Pass
5	Click on "Delete" button and click "Sure"	Users account successfully deleted	Users account successfully deleted	Pass
6	Click on arrow at the right of user's icon	Users account details displayed	Users account details displayed	Pass

8.6 TC06: Test <Account Management> Subsystem: <Upload Health Information (UC06)>

This test contains the following test cases:
(a) TC06_01: Test <Upload Health Information (SD06)>

8.6.1 TC06_01: Test <Upload Health Information (SD06)>

Test Case ID		TC06_01	Test Case Description		Test the functionality of upload health information		
Created By		Jialegoh	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		Jegan	Date Tested		2/07/2022	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data	
1	Users login to the system.			1	username = Jegan	
2	Users click on User Profile in the Home page			2	password = 1w3er3	
3				3	contact = 01323452342	
4				4	email = kagen@graduate.utm.my	
5				5	usertype = Admin	

Test Scenario	Verify that the user can upload health information

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click on "BMI Calculation" button	Navigate to BMI Calculation page	Navigate to BMI Calculation page	Pass
2	Key-in Gender, Weight, Height and Age	Displayed BMI marks and BMI Category	Displayed BMI marks and BMI Category	Pass
3	Click on "Medical Check-up Result"	Navigate to Medical Check-up page	Navigate to Medical Check-up page	Pass
4	Click on "Add" button	Navigate to add report page	Navigate to add report page	Pass
5	Key-in date, upload image and click on "Save" button	New report successfully saved	New report successfully saved	Pass
6	Click on arrow at the right of the date for the report	Navigate to view report page	Navigate to view report page	Pass
7	Click on "X-Ray Report"	Navigate to X-Ray Report page	Navigate to X-Ray Report page	Pass
8	Click on "Add" button	Navigate to add report page	Navigate to add report page	Pass
9	Key-in date, upload image and click on "Save" button	New report successfully saved	New report successfully saved	Pass
10	Click on arrow at the right of the date for the report	Navigate to view report page	Navigate to view report page	Pass
11	Click on "Urine Test Report"	Navigate to Urine Test Report page	Navigate to Urine Test Report page	Pass
12	Click on "Add" button	Navigate to add report page	Navigate to add report page	Pass
13	Key-in date, upload image and click on "Save" button	New report successfully saved	New report successfully saved	Pass
14	Click on arrow at the right of the date for the report	Navigate to view report page	Navigate to view report page	Pass
15	Click on "Mental Health Result"	Navigate to Mental Health Result page	Navigate to Mental Health Result page	Pass
16	Click on arrow at the right of the date for the report	Navigate to view report page	Navigate to view report page	Pass
17	Click on "Blood Pressure" button	Navigate to Blood Pressure page	Navigate to Blood Pressure page	Pass
18	Key-in Systolic mmHg and Diastolic mmHg	Displayed Blood Pressure Category	Displayed Blood Pressure Category	Pass

8.7 TC07: Test <Patient Queue Management> Subsystem: <Key in Patient Estimated Waiting Time and people remained (UC07)>

This test contains the following test cases:

(a) TC07_01: Test <Key in Patient Estimated Waiting Time and people remained (SD07)>

8.7.1 TC07_01: Test <Key in Patient Estimated Waiting Time and people remained (SD07)>

Test Case ID		TC07_01	Test Case Description		Admin able to edit the number of patient with estimated waiting time.		
Created By		LEE YIK HONG	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		LEE YIK HONG	Date Tested		30/06/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data	
1	Access to Internet Browser			1	email = lee.hong@graduate.utm.my	
2	Logged into system as Admin			2	password = 123@yhyh	
3				3		
4				4		
5				5		

Test Scenario	Verify that admin can edit the number of patient and the estimated waiting time changed

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click "+" and "-" button to edit the number of patient.	Number of patient add and deduct.	Number of patient add and deduct.	Pass
2	Review is there changing of estimated waiting time at same time.	Estimated waiting time add and deduct.	Estimated waiting time add and deduct.	Pass
3				
4				
5				
6				

8.8 TC08: Test <Patient Queue Management> Subsystem: <View Patient Waiting Time and people remained (UC08)>

This test contains the following test cases:

(a) TC08_01: Test <View Patient Waiting Time and people remained (SD08)>

8.8.1 TC08_01: Test <View Patient Waiting Time and people remained (SD08)>

Test Case ID		TC08_01	Test Case Description		Test the view of number of patient and the estimated waiting time changed		
Created By		LEE YIK HONG	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		LEE YIK HONG	Date Tested		30/06/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data	
1	Access to Internet Browser			1	email = lee.hong@graduate.utm.my	
2	Logged into system as Doctor and Student			2	password = 123@yhyh	
3				3		
4				4		
5				5		

Test Scenario	Verify that Doctor and Student can view the number of patient and the estimated waiting time changed

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	View the number of patient and the estimated waiting time changed	Number of patient and the estimated waiting time changed	Number of patient and the estimated waiting time changed	Pass
2				
3				
4				
5				
6				

8.9 TC09: Test \<Health Tips> Subsystem: \<Upload Health Tips (UC09)>

This test contains the following test cases:

(a) TC09_01: Test \<Upload Health Tips (SD09)>

8.9.1 TC09_01: Test \<Upload Health Tips (SD09)>

Test Case ID		TC09_01	Test Case Description		Test the functionality of Upload Health Tips			
Created By		Koh Su Xuan	Reviewed By		Jialegoh		Version	1
QA Tester's Log		None						
Tester's Name		Koh Su Xuan	Date Tested			3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:			S#	Test Data		
1	User logged in as Administrator			1	email=admin@utm.my		
2				2	password=4bz2zd8rxc11		
3				3			
4				4			
5				5			

Test Scenario	Verify that the Administrator can upload and edit health tips in the system

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click the "Health Tips" button of Home Page	Direct to the "Health Tips" interface	Direct to the "Health Tips" interface	Pass
2	Click on "Edit" button	Able to arranges the uploaded health tips	Able to arranges the uploaded health tips	Pass
3	Click on "Save" button	The arrangement of health tips successfully updated	The arrangement of health tips successfully updated	Pass
4	Click on "Add" button	Direct to the "Add Health Tips" interface	Direct to the "Add Health Tips" interface	Pass
5	Upload the health tips	Add the health tips title, details and images	Add the health tips title, details and images	Pass
6	Click on "Save" button	The new health tips successfully uploaded	The new health tips successfully uploaded	Pass
7	Click on the brief introduction of the health tip	Display the details of the health tip	Display the details of the health tip	Pass
8	Click on "Edit" button	Modify the health tips title, details and images	Modify the health tips title, details and images	Pass
9	Click on "Save" button	The modified health tip successfully saved	The modified health tip successfully saved	Pass

8.10 TC10: Test \<Health Tips> Subsystem: \<View Health Tips (UC10)>

This test contains the following test cases:

(a) TC10_01: Test \<View Health Tips (SD10)>

8.10.1 TC10_01: Test \<View Health Tips (SD10)>

Test Case ID		TC10_01	Test Case Description		Test the functionality of View Health Tips			
Created By		Koh Su Xuan	Reviewed By		Jialegoh		Version	1
QA Tester's Log		None						
Tester's Name		Koh Su Xuan	Date Tested			3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:			S#	Test Data		
1	User logged on to the system with correct credential			1	email=user@utm.my		
2				2	password=4bz2zd8rxc11		
3				3			
4				4			
5				5			

Test Scenario	Verify that the User can view the health tips in the system

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click the "Health Tips" button of Home Page	Direct to the "Health Tips" interface	Direct to the "Health Tips" interface	Pass
2	Browse the "Health Tips" interface	Display the brief introduction of all health tips	Display the brief introduction of all health tips	Pass
3	Click on the brief introduction of the health tip	Display the details of the health tip	Display the details of the health tip	Pass

8.11 TC11: Test <Mental Health Support> Subsystem: <Self-test (UC11)>

This test contains the following test cases:

(a) TC11_01: Test <Self-test (SD11)>

8.11.1 TC11_01: Test <Self-test (SD11)>

Test Case ID			TC11_01	Test Case Description		Test the functionality of Self-Test		
Created By			Tang Yan Qing	Reviewed By		Jialegoh	Version	1
QA Tester's Log			None					
Tester's Name			Tang Yan Qing	Date Tested		3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:		S#	Test Data
1	User logged in as Student		1	email = student@graduate.utm.my
2			2	password = 0123456abcd
3			3	
4			4	
5			5	

Test Scenario	Verify that the student can do the self-test

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Clicks on the "Mental Health" button in home interface	Redirectes to "Mental Health" interface	Redirected to "Mental Health" interface	Pass
2	Clicks on the "Self-Test" button	A list of self-test questions is displayed	A list of self-test questions is displayed	Pass
3	Do not answers all the questions and clicks on "Submit" button	Error message is displayed	Error message displayed	Pass
4	Answers all the questions and clicks on "Submit" button	Self-test score, self-test grade and counselling information are displayed	Self-test score, self-test grade and counselling information are displayed	Pass

8.12 TC12: Test <Mental Health Support> Subsystem: <Set Up Mental Appointment (UC12)>

This test contains the following test cases:

(a) TC12_01: Test <Set Up Mental Appointment (SD12)>

8.12.1 TC12_01: Test <Set Up Mental Appointment (SD12)>

Test Case ID			TC12_01	Test Case Description		Test the functionality of Set Up Mental Appointment		
Created By			Tang Yan Qing	Reviewed By		Jialegoh	Version	1
QA Tester's Log			None					
Tester's Name			Tang Yan Qing	Date Tested		3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:		S#	Test Data
1	User logged in as Student		1	email = student@graduate.utm.my
2	Student who obtained a severe or extremely severe grade in self-test has clicked on the "Apply Appointment" button		2	password = 0123456abcd
3			3	
4			4	
5			5	

Test Scenario	Verify that the Student can set up mental appointment

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Selects the date and time from the dropdown	Dropdown can be used	Dropdown can be used	Pass
2	Click on "Submit" button	"Submit Successfully" and "Await for Approval" messages are displayed	"Submit Successfully" and "Await for Approval" messages are displayed	Pass
3	Click on "Appointment" button in "Mental Health" interface	A list of appointment records is displayed	A list of appointment records is displayed	Pass
4	Click on "Edit" button of "Pending" status appointment	Redirectes to "Edit Appointment" interface	Redirectes to "Edit Appointment" interface	Pass
5	Selects the date and time from the dropdown	Dropdown can be used	Dropdown can be used	Pass
6	Click on "Submit" button	"Save Successfully" and "Await for Approval" messages are displayed	"Save Successfully" and "Await for Approval" messages are displayed	Pass

8.13 TC13: Test <Mental Health Support> Subsystem: <Manage Mental Appointment (UC13)>

This test contains the following test cases:

(a) TC13_01: Test <Manage Mental Appointment (SD13)>

8.13.1 TC13_01: Test <Manage Mental Appointment (SD13)>

Test Case ID		TC13_01	Test Case Description		Test the functionality of Manage Mental Appointments		
Created By		Tang Yan Qing	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		Tang Yan Qing	Date Tested		3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:			S#	Test Data	
1	User logged in as Admin or Doctor			1	email = admin/doctor@utm.my	
2				2	password = 0123456abc	
3				3		
4				4		
5				5		

Test Scenario	Verify that the doctor and admin can manage mental appointments

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Clicks on the "Mental Health" button in home interface	Redirectes to "Mental Health" interface	Redirected to "Mental Health" interface	Pass
2	Clicks on the "Appointment" button	Appointments that are awaiting approval and appointments that have already been approved are displayed	Appointments that are awaiting approval and appointments that have already been approved are displayed	Pass
3	Clicks on an appointment that is awaiting approval	Details of the appointment is displayed	Details of the appointment is displayed	Pass
4	Clicks on the "Approve" button	The appointment is disappeared from the list of appointments that are awaiting approval and is displayed in the list of appointments that are already approved	The appointment is disappeared from the list of appointments that are awaiting approval and is displayed in the list of appointments that are already approved	Pass
5	Clicks on an appointment that are awaiting approval	Details of the appointment is displayed	Details of the appointment is displayed	Pass
6	Clicks on the "Decline" button	The appointment is disappeared	The appointment is disappeared	Pass
7	Clicks on an appointment that are already approved	Details of the appointment is displayed	Details of the appointment is displayed	Pass
8	Clicks on the "Reschedule" button	Redirects to "Reschedule Appointment" interface	Redirects to "Reschedule Appointment" interface	Pass
9	Selects the date and time from the dropdown	Dropdown can be used	Dropdown can be used	Pass
10	Clicks "Save" button	"Save Successfully" message is displayed.	"Save Successfully" message is displayed.	Pass
11	Clicks on an appointment that are already approved	Details of the appointment is displayed	Details of the appointment is displayed	Pass
12	Clicks on the "Cancel" button	"Cancel Successfully" message is displayed. The appointment is disappeared.	"Cancel Successfully" message is displayed. The appointment is disappeared.	Pass

8.14 TC14: Test <Dental Health Appointment> Subsystem: <Set Up Dental Appointment (UC14)>

This test contains the following test cases:

(a) TC14_01: Test <Set Up Dental Appointment (SD14)>

8.14.1 TC14_01: Test <Set Up Dental Appointment (SD14)>

Test Case ID		TC14_01	Test Case Description		Test the functionality of Set Up Dental Appointment		
Created By		Koh Su Xuan	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		Koh Su Xuan	Date Tested		3/7/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisites:			S#	Test Data	
1	User logged in as Student			1	email=student@graduate.utm.my	
2				2	password=4bz2zd8rxc11	
3				3		
4				4		
5				5		

Test Scenario	Verify that the Student can set up dental appointment in the system

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click the "Dental Health" button of Home Page	Direct to the "Dental Health" interface	Direct to the "Dental Health" interface	Pass
2	Click on "Add Your Appointment" button	Direct to the "Add Appointment" interface	Direct to the "Add Appointment" interface	Pass
3	Select the desired appointment date and time	Display the selected appointment date and time	Display the selected appointment date and time	Pass
4	Click on "Submit" button	Application successfully saved. Display "Submit Successfully" and "Await for Approval" messages	Application successfully saved. Display "Submit Successfully" and "Await for Approval" messages	Pass
5	Click on "Edit Your Appointment" button	Direct to the "Appointment Record" interface	Direct to the "Appointment Record" interface	Pass
6	Browse the "Appointment Record" interface	Display the details of appointment records	Display the details of appointment records	Pass
7	Click on "Edit" button of "Pending" status appointment	Direct to the "Edit Appointment" interface	Direct to the "Edit Appointment" interface	Pass
8	Select the desired reschedule appointment date and time	Display the selected reschedule appointment date and time	Display the selected reschedule appointment date and time	Pass
9	Click on "Save" button	Application for reschedulation successfully saved. Display "Save Successfully" and "Await for Approval" messages	Application for reschedulation successfully saved. Display "Save Successfully" and "Await for Approval" messages	Pass

8.15 TC15: Test <Dental Health Appointment> Subsystem: <Manage Dental Appointment (UC15)>

This test contains the following test cases:

(a) TC15_01: Test <Manage Dental Appointment (SD15)>

8.15.1 TC15_01: Test <Manage Dental Appointment (SD15)>

Test Case ID		TC15_01	Test Case Description		Test the functionality of Manage Dental Appointment			
Created By		Koh Su Xuan	Reviewed By		Jialegoh		Version	1
QA Tester's Log		None						
Tester's Name		Koh Su Xuan	Date Tested		3/7/2023	Test Case (Pass/Fail/Not)		Pass

S#	Prerequisites:			S#	Test Data	
1	User logged in as Administartor or Doctor			1	email=admin/doctor@utm.my	
2				2	password=4bz2zd8rxc11	
3				3		
4				4		
5				5		

Test Scenario	Verify that the Doctor and Administrator can manage dental appointment in the system

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Click the "Dental Health" button of Home Page	Direct to the "Dental Health" interface	Direct to the "Dental Health" interface	Pass
2	Click on "Appointment" button	Display the appointments that are awaiting approval and appointments that have already been approved	Display the appointments that are awaiting approval and appointments that have already been approved	Pass
3	Click on an appointment that are awaiting approval	Display the details of the appointment	Display the details of the appointment	Pass
4	Click on the "Approve" button	The appointment disappears from the list of appointments that are awaiting approval and is displayed in the list of appointments that are already approved	The appointment disappears from the list of appointments that are awaiting approval and is displayed in the list of appointments that are already approved	Pass
5	Click on an appointment that are awaiting approval	Display the details of the appointment	Display the details of the appointment	Pass
6	Click on the "Decline" button	The appointment disappears	The appointment disappears	Pass
7	Click on an appointment that are already approved	Display the details of the appointment	Display the details of the appointment	Pass
8	Click on the "Reschedule" button	Directs to "Reschedule Appointment" interface	Directs to "Reschedule Appointment" interface	Pass
9	Select the date and time from the dropdown	Dropdown can be used	Dropdown can be used	Pass
10	Click "Save" button	Display "Save Successfully" message	Display "Save Successfully" message	Pass
11	Click on an appointment that are already approved	Display the details of the appointment	Display the details of the appointment	Pass
12	Click on the "Cancel" button	Display "Cancel Successfully" message. The appointment disappear	Display "Cancel Successfully" message. The appointment disappear	Pass

8.16 TC16: Test <Feedback and Reviews> Subsystem: <Give Feedbacks (UC16)>

This test contains the following test cases:
(a) TC16_01: Test <Give Feedbacks (SD16)>

8.16.1 TC16_01: Test <Give Feedbacks (SD16)>

Test Case ID		TC16_01	Test Case Description		Test the functionality of giving feedbacks			
Created By		LEE YIK HONG	Reviewed By		Jialegoh		Version	1
QA Tester's Log		None						
Tester's Name		LEE YIK HONG	Date Tested		30/06/2023	Test Case (Pass/Fail/Not)		Pass

S#	Prerequisities:			S#	Test Data	
1	Access to Internet Browser			1	email = lee.hong@graduate.utm.my	
2	Logged into system as Doctor and Student			2	password = 123@yhyh	
3				3	Fill_feedback = "Short waiting time and good services"	
4				4		
5				5		

Test Scenario	Verify that the Doctor and Student can give feedbacks

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Type and fill feedback in the blank space.	Able to fill the feedbacks by typing	Able to fill the feedbacks by typing	Pass
2	Able to submit feedback by clicking "Submit".	Able to submit and the admin able to view	Able to submit and the admin able to view	Pass
3				
4				
5				
6				

8.17   TC17: Test \<Feedback and Reviews\> Subsystem: \<View Feedbacks (UC17)\>

This test contains the following test cases:
(a) TC17_01: Test \<View Feedbacks (SD17)\>

8.17.1 TC17_01: Test \<View Feedbacks (SD17)\>

Test Case ID		TC17_01	Test Case Description		Test the functionality of viewing feedbacks		
Created By		LEE YIK HONG	Reviewed By		Jialegoh	Version	1
QA Tester's Log		None					
Tester's Name		LEE YIK HONG	Date Tested		30/06/2023	Test Case (Pass/Fail/Not)	Pass

S#	Prerequisities:			S#	Test Data		
1	Access to Internet Browser			1	email = lee.hong@graduate.utm.my		
2	Logged into system as Admin			2	password = 123@yhyh		
3	Navigate to "Feedbacks" page			3	Search_Keyword = "Short waiting"		
4				4	Date_Filter = ((Any time provided in the dropdown))		
5				5	Role_Filter = Doctor/Student		

Test Scenario	Verify that the Doctor and Student can give feedbacks

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not Expected / Suspended
1	Navigate to "Feedbacks" page from home page.	Able to navigate to "Feedbacks" page from home page.	Able to navigate to "Feedbacks" page from home page	Pass
2	Sort and view feedbacks with keywords.	Able to sort and view feedbacks with keywords.	Able to sort and view feedbacks with keywords.	Pass
3	Sort and view feedbacks with date.	Able to sort and view feedbacks with date.	Able to sort and view feedbacks with date.	Pass
4	Sort and view feedbacks with role.	Able to sort and view feedbacks with role.	Able to sort and view feedbacks with role.	Pass
5				
6				

9. Test Approach Analysis

The test approach includes the use of a combination of testing techniques and tools to ensure thorough testing of the software. Our approach encompasses black-box testing, specifically utilizing Equivalence Partitioning (EP) and Boundary Value Analysis (BVA) strategies. These techniques allow us to effectively validate the functionality of the software without delving into its internal structure.

By utilizing Black-Box Testing strategy, we concentrate on the output obtained from a given set of inputs, without extensively testing the internal workings of the system. The emphasis is on evaluating the system's behavior and ensuring that it meets the expected functionality requirements.

Due to the application of Equivalence Partitioning (EP), we are able to minimize the number of test cases required. EP classifies input values into "Valid" and "Invalid" classes for each test case. The underlying concept is that if a value in one class produces a certain error, it is likely that other values in the same class would also result in the same error. By leveraging this concept, we can reduce the number of input values used for testing, saving time and effort while still effectively covering different scenarios and potential errors.

In addition to Equivalence Partitioning (EP), our test approach also incorporates Boundary Value Analysis (BVA) to complement and enhance the testing process. BVA focuses on testing the system using boundary input values, which are the values at the extreme ends of the valid input range. The rationale behind this is that systems often exhibit errors or vulnerabilities when operating with these boundary values.

All in all, Black-Box Testing offers several notable advantages. Firstly, it does not require the tester to possess any internal knowledge of the system, enabling clients to effectively participate in the testing process since they have a clear understanding of their requirements. Additionally, test cases in Black-Box Testing are easily reproducible, allowing for consistent and reliable testing results. Moreover, each test case is intentionally designed to explore and uncover potential weaknesses or errors within the system, ensuring

comprehensive test coverage. These advantages make Black-Box Testing a valuable strategy for evaluating system functionality and identifying areas for improvement. Thus, after considering all benefits of Black-Box Testing strategy, we have selected this strategy to conduct the testing of our software, the Student Health and Wellness Management System.

9.1. TC01: Test \<Authentication Module\> Subsystem: \<Sign Up (UC01)\>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC01_01	2	Email address	Personal email address	lee@graduate.utm.my	Invalid email format
TC01_01	3	Password	Less than 6 characters / More than 15 characters	1e3W3$	Does not contain at least a number and lowercase letter

● **Boolean / Set Value**
NO INPUT DATA

9.2. TC02: Test \<Authentication Module\> Subsystem: \<Login (UC02)\>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC02_01	2	Email address	Personal email address	lee@graduate.utm.my	Invalid email format
TC02_01	3	Password	Less than 6 characters / More than 15 characters	1e3W3$	Does not contain at least a number and lowercase letter

● **Boolean / Set Value**
NO INPUT DATA

9.3. TC03: Test <Authentication Module> Subsystem: <Forgot Password (UC03)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC03_01	2	Email address	Personal email address	lee@graduate. utm.my	Unregistered email address

● **Boolean / Set Value**

NO INPUT DATA

9.4. TC04: Test <Account Management> Subsystem: <Manage Own Account (UC04)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC04_01	2	Password	Less than 6 character	1e3W3$	More than 15 character
TC04_01	4	Contact Number	Less than 10 character	0123456789	More than 11 character
TC04_01	4	OTP	Less than 6 character	123456	More than 6 character
TC04_01	6	Contact Number	Less than 10 character	0123456789	More than 11 character
TC04_01	7	OTP	Less than 6 character	123456	More than 6 character

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC04_01	4	Contact Number	0123456789	Input is not in numbers
TC04_01	4	OTP	123456	Input is not in numbers
TC04_01	6	Contact Number	0123456789	Input is not in numbers
TC04_01	7	OTP	123456	Input is not in numbers

9.5. TC05: Test <Account Management> Subsystem: <Manage All Users Account (UC05)>

- **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC05_01	2	Email	Less than 2 characters & not valid email format	lee@graduate.utm.my	More than 50 characters & not valid email format
TC05_01	4	Email	Less than 2 characters & not valid email format	lee@graduate.utm.my	More than 50 characters & not valid email format
TC05_01	4	Password	Less than 6 character	1e3W3$	More than 15 character

- **Boolean / Set Value**
  NO INPUT DATA

9.6. TC06: Test \<Account Management\> Subsystem: \<Upload Health Information (UC06)\>

- **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC06_01	2	Weight	Less than 4 characters	45.89	More than 5 numbers
TC06_01	2	Height	Less than 3 numbers	175.6	More than 5 numbers
TC06_01	2	Age	Less than 1 numbers	21	More than 3 numbers
TC06_01	5	Date	Less than 5 characters and not in format of date	21/07/2023	More than 10 characters and not in format of date
TC06_01	9	Date	Less than 5 characters and not in format of date	21/07/2023	More than 10 characters and not in format of date
TC06_01	13	Date	Less than 5 characters and not in format of date	21/07/2023	More than 10 characters and not in format of date
TC06_01	18	Systolic mmHg	Less than 3 characters	111.18	More than 5 characters
TC06_01	18	Diastolic mmHg	Less than 3 characters	77.69	More than 5 characters

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC06_01	2	Gender	Women	Input is not of "Man" or "Women"
TC06_01	2	Weight	45.89	Input is not in numbers
TC06_01	2	Height	175.6	Input is not in numbers
TC06_01	2	Age	21	Input is not in numbers
TC06_01	5	Date	21/07/2023	Input is not in format of date
TC06_01	9	Date	21/07/2023	Input is not in format of date
TC06_01	13	Date	21/07/2023	Input is not in format of date
TC06_01	18	Systolic mmHg	111.18	Input is not in numbers
TC06_01	18	Diastolic mmHg	77.69	Input is not in numbers

9.7. TC07: Test <Patient Queue Management> Subsystem: <Key in Patient Estimated Waiting Time and people remained (UC07)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC01_01	2	Email address	Personal email address	lee.hong@graduate.utm.my	Invalid email format
TC01_01	3	Password	Less than 6 characters / More than 15 characters	123@yhyh	Does not contain at least a number and lowercase letter

● **Boolean / Set Value**

No input data

9.8. TC08: Test <Patient Queue Management> Subsystem: <View Patient Waiting Time and people remained (UC08)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC01_01	2	Email address	Personal email address	lee.hong@graduate.utm.my	Invalid email format
TC01_01	3	Password	Less than 6 characters / More than 15 characters	123@yhyh	Does not contain at least a number and lowercase letter

● **Boolean / Set Value**

No input data

9.9.   TC09: Test \<Health Tips\> Subsystem: \<Upload Health Tips (UC09)\>

- **Range value**

  No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC09_01	5	Detail	Any PDF document	Files with document type other than PDF document

9.10.   TC10: Test \<Health Tips\> Subsystem: \<View Health Tips (UC10)\>

No input data.

9.11.   TC11: Test \<Mental Health Support\> Subsystem: \<Self-test (UC11)\>

- **Range value**

  No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC11_01	3	Self-test Answers	{Almost always, Often, Sometimes, Never}	Options that is not provided

9.12. TC12: Test <Mental Health Support> Subsystem: <Set Up Mental Appointment (UC12)>

- **Range value**

  No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC12_01	1	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC12_01	1	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown
TC12_01	5	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC12_01	5	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown

9.13. TC13: Test <Mental Health Support> Subsystem: <Manage Mental Appointment (UC13)>

- **Range value**

  No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC13_01	9	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC13_01	9	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown

9.14. TC14: Test <Dental Health Appointment> Subsystem: <Set Up Dental Appointment (UC14)>

- **Range value**

  No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC14_01	3	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC14_01	3	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown

TC14_01	8	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC14_01	8	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown

9.15. TC15: Test <Dental Health Appointment> Subsystem: <Manage Dental Appointment (UC15)>

- **Range value**

    No input data.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC13_01	9	Date	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC13_01	9	Time	{(*Any time provided in the dropdown*)}	Time that is not provided in the dropdown

9.16. TC16: Test <Feedback and Reviews> Subsystem: <Give Feedbacks (UC16)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC01_01	2	Email address	Personal email address	lee.hong@graduate.utm.my	Invalid email format
TC01_01	3	Password	Less than 6 characters / More than 15 characters	123@yhyh	Does not contain at least a number and lowercase letter
TC16_01	1	Fill_feedback	Empty	Any alphabets, symbol, numbers and emojis. (must contain alphabets.)	Without any alphabets.

● **Boolean / Set Value**

No input data

9.17. TC17: Test <Feedback and Reviews> Subsystem: <View Feedbacks (UC17)>

● **Range value**

Test Case ID	Step#	Input data	Invalid	Valid	Invalid
TC01_01	2	Email address	Personal email address	lee.hong@graduate.utm.my	Invalid email format
TC01_01	3	Password	Less than 6 characters / More than 15 characters	123@yhyh	Does not contain at least a number and lowercase letter

TC17_01	2	Search_Keyword	Empty	Any alphabets, symbols, numbers and emojis. (must contain alphabets.)	Without any alphabets.

- **Boolean / Set Value**

Test Case ID	Step#	Input data	Valid	Invalid
TC17_01	3	Date_Filter	{(*Any date provided in the dropdown*)}	Date that is not provided in the dropdown
TC17_01	4	Role_Filter	Doctor/Student	Role that not provided for selection

Appendix A: Traceability Matrix

Test Case ID	Use Case ID/ Sequence Diagram ID	Package ID
TC01: Test <Authentication Module> Subsystem: <Sign Up (UC01)> ● TC01_01	UC01 ● SD01	P001
TC02: Test <Authentication Module> Subsystem: <Login (UC02)> ● TC02_01	UC02 ● SD02	P001
TC03: Test <Authentication Module> Subsystem: <Forgot Password (UC03)> ● TC03_01	UC03 ● SD03	P001
TC04: Test <Account Management> Subsystem: <Manage Own Account (UC04)> ● TC04_01	UC04 ● SD04	P002
TC05: Test <Account Management> Subsystem: <Manage All Users Account (UC05)> ● TC05_01	UC05 ● SD05	P002
TC06: Test <Account Management> Subsystem: <Upload Health Information (UC06)> ● TC06_01	UC06 ● SD06	P002
TC07: Test <Patient Queue Management> Subsystem: <Key in Patient Estimated Waiting Time and people remained (UC07)> ● TC07_01	UC07 ● SD07	P003
TC08: Test <Patient Queue Management> Subsystem: <View Patient Waiting Time and people remained (UC08)> ● TC08_01	UC08 ● SD08	P003

TC09: Test <Health Tips> Subsystem: <Upload Health Tips (UC09)> • TC09_01	UC09 • SD09	P004
TC10: Test <Health Tips> Subsystem: <View Health Tips (UC10)> • TC10_01	UC10 • SD10	P004
TC11: Test <Mental Health Support> Subsystem: <Self-test (UC11)> • TC11_01	UC11 • SD11	P005
TC12: Test <Mental Health Support> Subsystem: <Set Up Mental Appointment (UC12)> • TC12_01	UC12 • SD12	P005
TC13: Test <Mental Health Support> Subsystem: <Manage Mental Appointment (UC13)> • TC13_01	UC13 • SD13	P005
TC14: Test <Dental Health Appointment> Subsystem: <Set Up Dental Appointment (UC14)> • TC14_01	UC14 • SD14	P006
TC15: Test <Dental Health Appointment> Subsystem: <Manage Dental Appointment (UC15)> • TC15_01	UC15 • SD15	P006
TC16: Test <Feedback and Reviews> Subsystem: <Give Feedbacks (UC16)> • TC16_01	UC16 • SD16	P007
TC17: Test <Feedback and Reviews> Subsystem: <View Feedbacks (UC17)> • TC17_01	UC17 • SD17	P007