Integrated Design Project

CSE – 460

SOFTWARE TEST DOCUMENT

GROUP HOTEL A:

PREDICTIS

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1.INTRODUCTION

1.1 Objectives

Software Testing is a method to check whether the actual software product matches expected requirements and to ensure that software product is defect free. It involves execution of software/system components using manual or automated tools to evaluate one or more properties of interest. Our project Predictis focuses on the health tracking of the user who are concerned about their heart. The system works in a sequential manner. Different sensors such as blood pressure sensor, Pulse, ECG sensor is used to sense different health parameters such as blood pressure, pulse, thalach, ECG data and many more. Then these values will be stored in Firebase. User's personal information are also recorded and stored in Firebase. Later on the values both sensed from the sensors and user's own personal information will be shown in the UI of the system. So therefore, we will find out different features of the software to test them and validate whether the features are working properly or not. For that, we have designed the test cases and have a proper scope.

1.2 Scope

The purpose of testing is to ensure whether the application meets all the functional requirements and the non-functional requirements or not. This document focuses on the strategies and plans for testing the application.

2.TEST ITEMS

- Requirement Specification
- Design Specification
- Availability
- Response Time
- Security
- Usability
- Verification and Validation

3.FEATURES TO BE TESTED

3.1 User's Information

3.1.1 Criteria Assessment : Time Elapsed and Consistency
3.1.2 Testing Type : Unit Testing

3.2 Device Connection

3.2.1 Criteria Assessment : Time Elapsed and Reliability
3.2.2 Testing Type : Unit Testing

3.3 View Risk Zone

3.3.1 Criteria Assessment : Response Time and Reliability
3.3.2 Testing Type : Unit Testing

3.4 ECG Monitor

3.4.1 Criteria Assessment : Integration and Accuracy
3.4.2 Testing Type : Unit Testing

3.5 Blood Pressure Monitor

3.5.1 Criteria Assessment : Data Integration and Functionality
3.5.2 Testing Type : Unit Testing

3.6 Calling Emergency Contact

3.6.1 Criteria Assessment : Response Time
3.6.2 Testing Type : Unit Testing

3.7 View History

3.7.1 Criteria Assessment : Response Time and Accuracy
3.7.2 Testing Type : Unit Testing

4.SOFTWARE TESTING

4.1 Development Testing

1) **Unit Testing:** Unit testing is the testing of individual features or each component of a software is tested. The main aim of unit testing is to validate data of each unit component. We have done unit testing in the following components :
   - View Dashboard
   - View History
   - View Risk Zone
   - Connect Devices
   - Call Emergency Contact
   - View Medical Consultation
   - Edit Profile
   - Vie Monitoring(ECG, Pulse, Blood Pressure)
   - **Integrating Testing:** Integrating test is a test of integration of each unit components. The aim behind the integration test is to explore all the issues while integrating the unit components to find out whether the integration was successful or not. Some Integrated testing are :
   - View Risk Zone, Device Connection and call Emergency Contact.
   - View history of pulse and ECG.
   - View Update Profile And Logout.

5.HARDWARE TESTING

Without the proper integration of hardware with our software our total project will fail. One of the major task of our project is to fetch data from the hardware and check whether the data is valid or not. Therefore, a set test cases are designed for testing the hardware functionalities. Some of the functionalities are:

- **View Weekly Report:** A weekly report is generated from the hardware data in both textual and graphical presentation. After integrating all the hardware the data for a week is shown and validated.
- **View Real Time Monitoring:** A dynamic value of the current sensing data is shown in the UI in real time and is validated by cross checking with the value the hardware is displaying.

6.RESULT

The result of the software testing using katalon test suit is given as follow:

Monitor

Execution Environment

Host name	User - DESKTOP-82J4S15
OS	Windows 10 64bit
Katalon version	8.0.1.208
Browser	

Summary

ID	Test Suites/Monitor		
Description			
Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Start	2021-06-19 22:17:23	End	2021-06-19 22:17:24
Elapsed	1.465s		

#	ID	Description	Status
1	Test Cases/Pulse		PASSED

emergency_call

Execution Environment

Host name	User - DESKTOP-82J4S15
OS	Windows 10 64bit
Katalon version	8.0.1.208
Browser	

Summary

ID	Test Suites/emergency_call		
Description			
Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Start	2021-06-19 22:22:17	End	2021-06-19 22:22:19
Elapsed	1.447s		

#	ID	Description	Status
1	Test Cases/Emergency		PASSED

history

Execution Environment

Host name	User - DESKTOP-82J4S15
OS	Windows 10 64bit
Katalon version	8.0.1.208
Browser	

Summary

ID	Test Suites/history		
Description			
Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Start	2021-06-19 22:23:46	End	2021-06-19 22:23:47
Elapsed	1.419s		

#	ID	Description	Status
1	Test Cases/History		PASSED

Log out

Execution Environment

Host name	User - DESKTOP-82J4S15
OS	Windows 10 64bit
Katalon version	8.0.1.208
Browser	

Summary

ID	Test Suites/Log out		
Description			
Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Start	2021-06-19 22:31:10	End	2021-06-19 22:31:11
Elapsed	1.436s		

#	ID	Description	Status
1	Test Cases/Logout		PASSED

7.TESTING SCHEDULE

Testing	10 days?	13 Jun '21	24 Jun '21	78
Develop test plans using product specific	4 days?	13 Jun '21	16 Jun '21	78
Test modular code	3 days	17 Jun '21	21 Jun '21	80
Review modular code	3 days?	22 Jun '21	24 Jun '21	81
Testing complete	0 days?	24 Jun '21	24 Jun '21	82

8.ENVIORNMENTAL TESTING

8.1 Hardware

The following components were used in the hardware :

1) Blood Pressure Sensor
2) Pulse Sensor
3) ECG Monitoring Sensor

8.2 Software

The following items were required in our software part:

1) Mobile Phone
2) Android Studio
3) Firebase
4) Microsoft Project

8.3 Tools

The following tools were used in our project:

1) Figma
2) Katalon