

Deliverable #2

Team Correct

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2 Deliverable 2

2.0 Testing Process

Our testing process for this project is very closely related to the Agile process, specifically Scrum practices. Our current Scrum process has included short sprint planning, sprints, and sprint review meetings over skype. We have been following this process throughout the development of this project and will continue to do so to finish. Our scrum master is Professor Leclerc, who is responsible for setting up our team and guiding us in the process. This process is currently working well for us, as we are able to meet our delivery deadlines. The scrum process also works well with our Glucosio project as we continue to build and test our project this semester.

- Our major phases of our testing process so far have included each deliverable, which are focused on a specific portion of the final process.
 - Phase 0: Select 3 H/FOSS projects to present to class and ultimately discuss with Professor Leclerc to decide which one we would work on.
 - Phase 1: Clone project and work on existing tests within the system. Report on experience.
 - Phase 2: Produce a test plan and create 5 of the eventual 25 test cases.
 - Phase 3: Build an automated testing framework.
 - Phase 4: Finish the 25 test cases which will be tested using the automated testing framework previously built.
 - Phase 5: Insert 5 faults into code to ensure 5 tests fail and discuss experience.
 - Phase 6: Compile our final report and present our project.

2.1 Requirements Traceability

- The main requirements of Glucosio include:
 - User Input
 - Log of input
 - Graphics
 - Export of data
 - Ability to connect to other devices
 - Provide diabetes information
 - Reminders/Schedule
- We will be focusing our testing on more specific components of these requirement categories.

2.2 Tested Items

- The items we will be testing include:
 - Glucosio GitHub repository code
 - Glucosio Android App Folder
 - Via Android Studio
 - Glucosio Android App
 - Via Android emulator
 - Glucosio iOS App
 - Via iPhone

2.3 Testing Schedule

Test cases 1-5 date: 10/13

Deliverable 2 date: 10/15

Automated Testing Framework: 11/7

Deliverable 3 date: 11/9

Test cases 6-25: 11/17

Deliverable 4 date: 11/19

Deliverable 5 and Final Report: 11/28

2.4 Test Recording Procedures

- Our tests will be recorded through shared Google Drive Documents to ensure all team members have access and each member is using the most up-to-date document.
- Our tests will also be uploaded to our Team Correct Github Repository.

2.5 Hardware and Software Requirements

- Operating System: Linux Ubuntu
- Software Requirements: Android Studio, VirtualBox
- Hardware Requirements: PC, iOS phone

2.6 Constraints

- Time: For this project, we have a limited timetable of a semester. We have explicit deliverables that will need to be completed in a timely manner.
- Staff: We have a team of 4 members which is small for a normal software team, however, for the scope of our project, we have an appropriate team size.
- Cost: We do not currently have an associated cost with our project.
- Risk: We will be using VirtualBox for our system testing and project, so if there were to be a problem with a virtual machine, then we may need to start the process over. This is not a huge risk due to our team backing up files to Google Drive and uploading work to GitHub.
- Resources: Our resources include our personal computers and the lab, which means this should not be a constraint in our current project scope.

2.7 System Tests

Test Case 01

Test Suite ID TS001

Test Case ID TC001

Test Case Summary	To verify that Share Anonymous Data For Research checkbox allows user to share their glucosio data with researchers
Related Requirement	RS005
Prerequisites	1) User has downloaded Glucosio app 2) User has entered data into app
Test Procedure	1) Open Settings within Glucosio app 2) Enter user data 3) Select 'Share anonymous data for research'
Test Data	N/a
Expected Result	1) 'Share anonymous data for research' should have a check next to it
Actual Result	1) If the checkbox is working correctly, a check will display 2) If the checkbox is not working correctly, an error message will display
Status	Pass
Remarks	N/a
Created By	Team Correct (Hannah P.)
Date of Creation	10/11/18
Executed By	Team Correct (Hannah P.)
Date of Execution	10/11/18
Test Environment	OS: iOS 12.0.1 App: Glucosio Application on iPhone

Test Case 02

Test Suite ID	TS001
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Test Case ID	TC002
Test Case Summary	To verify that the user data is properly displayed graphically
Related Requirement	RS004
Prerequisites	1) User has downloaded Glucosio app 2) User has entered readings into app
Test Procedure	1) Open Overview within Glucosio app 2) View day, week, month graphs
Test Data	At least one input of each type (Glucose, HbA1c, Ketones, Body Weight, Blood Pressure, and Cholesterol)
Expected Result	1) Readings are displayed correctly on graphs
Actual Result	1) Readings are displayed correctly 2) If there are no readings for a certain type, the message “No chart data available” will be displayed
Status	Pass
Remarks	How to automate?
Created By	Team Correct (Daniel L.)
Date of Creation	10/12/18
Executed By	Team Correct (Daniel L.)
Date of Execution	10/12/18
Test Environment	Emulator: Pixel API 28 OS: Android Version 9 (Pie) App: Glucosio Application on Android

Test Case 03

Test Suite ID	TS001
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Test Case ID	TC003
Test Case Summary	To verify that user data can be input properly
Related Requirement	RS001
Prerequisites	1) User has downloaded Glucosio app
Test Procedure	1) Open Overview within Glucosio app 2) Press + in lower right hand corner 3) Select input type 4) Complete input form
Test Data	Any kind of input
Expected Result	1) Readings are displayed in 'History'
Actual Result	1) Readings are displayed correctly
Status	Pass
Remarks	Can you delete readings?
Created By	Team Correct (Daniel L.)
Date of Creation	10/12/18
Executed By	Team Correct (Daniel L.)
Date of Execution	10/12/18
Test Environment	Emulator: Pixel API 28 OS: Android Version 9 (Pie) App: Glucosio Application on Android

Test Case 04

Test Suite ID	TS001
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Test Case ID	TC004
Test Case Summary	To verify that the app successfully logs users past entries
Related Requirement	RS001
Prerequisites	1) User has downloaded Glucosio app 2) Users have previously entered data
Test Procedure	1) Open Overview tab within Glucosio app 2) Press the History Tab located next to the Overview tab 3) Verify past entries to be correct
Test Data	Past Data Points
Expected Result	1) Readings to be displayed in 'History'
Actual Result	1) Readings displayed correctly
Status	Pass
Remarks	Can you delete readings?
Created By	Team Correct (Alex T)
Date of Creation	10/12/18
Executed By	Team Correct (Alex T)
Date of Execution	10/12/18
Test Environment	Emulator: Pixel API 28 OS: Android Version 9 (Pie) App: Glucosio Application on Android

Test Case 05

Test Suite ID	TS001
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Test Case ID	TC005
Test Case Summary	To verify that the app exports spreadsheet data effectively
Related Requirement	RS001
Prerequisites	1) User has downloaded Glucosio app 2) User has entered readings into app
Test Procedure	1) Open Settings within Glucosio app 2) Select “Export to CSV”
Test Data	Any kind of input
Expected Result	1) User inputs and calculated readings are converted to a .csv file properly
Actual Result	1) Charts are converted to zip file 2) 11 individual .csv files for each reading are produced within the zip file
Status	Pass
Remarks	Composite csv containing all chart readings
Created By	Team Correct (Daniel Baczmaga)
Date of Creation	10/12/18
Executed By	Team Correct (Daniel Baczmaga)
Date of Execution	10/12/18
Test Environment	OS: iOS 12.0.1 App: Glucosio Application on iPhone

2.8 Evaluation and Experiences

We had a good experience when creating deliverable #2 due to Glucosio's organization and ability to work with the app via the Android emulator and iOS app. We were able to create the

test cases relatively easily, due to organization the project's requirements and focusing our tests on these main categories.