

# Software Test Documentation

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## Consolidated Health App

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# 1. Introduction

## 1.1 Purpose

The purpose of this document is to specify and describe the testing strategies and deployment of the mobile application HealthOut. This document will discuss how to use the app, how to set up the testing environment, and how it should be tested through the use of test cases. Each functionality of the app will be represented by a test case to ensure that all user stories get satisfied.

The expected audience of this document is Dr. Yeong-Tae Song (the client of this project), the group 5 development team (the developers of this project), and the testers of the application. [1]

## 1.2 Scope

HealthOut is a mobile application that allows the user to consolidate their log data from multiple 3rd party health apps (provided the 3rd party health apps have an available API that we have been given access to). The user can then set health-related goals, view their progress, and displays each goal graphically.

Any changes or additions made to the design of the project after the SDD will be declared; the user manual will outline what and how the user can access all functionalities of HealthOut; how to prepare the testing environment and what should be tested will be explained thoroughly; how the project will be deployed for production will be explained including a diagram. [1]

## 1.3 Definitions

HealthOut	Name of the consolidated health app project
User	Someone that interacts with “HealthOut”
Database	Program used for storing, finding, and changing information
Health data	Facts and statistics, pertaining to health (i.e. steps walked, miles walked, calories burned, etc.), collected together for reference or analysis.
3rd party app	Programs developed by a 3rd party developer

Android Studio	The official integrated development environment for Google's Android operating system.
APK	Android application package; file format used to distribute and install mobile apps for Android devices.

## 2. References

- [1] IEEE Standard for Software Test Documentation
- [2] CDC.gov, Test Plan  
[https://www2a.cdc.gov/cdcup/library/templates/CDC\\_UP\\_Test\\_Plan\\_Template.doc](https://www2a.cdc.gov/cdcup/library/templates/CDC_UP_Test_Plan_Template.doc)
- [3] UML Deployment Diagram Example  
<https://www.uml-diagrams.org/android-application-uml-deployment-diagram-example.html>
- [4] BluePay, SwipeSimple Mobile Application User Guide
- [5] Sample Test Case Template with Test Case Examples  
<https://www.softwaretestinghelp.com/test-case-template-examples/>

### **3. Improvements and Changes**

These are all of the changes to the project made since the SDD was written:

1. Home button was added to the navigation bar (bar on top of screen). This functionality was added so that the user may always navigate back to the main menu page
2. The need for an external database, Microsoft Azure, was replaced with an internal database, SQLite. This was due to time constraints and small scope of the project.
3. Forget password and Activate email modules were removed due to time constraints.
  - a. Replaced all email fields with username
4. Third Party App Registration features have been deferred to later versions due to time constraints.
5. Added ability for users to add log data manually.
6. Included Change Username, Change Password, and Delete Account user stories/use cases to the traceability table.
7. Database schema was altered. Changes are marked in excel document by blue highlight.

## 4. User manual

### Part 1: Getting Started

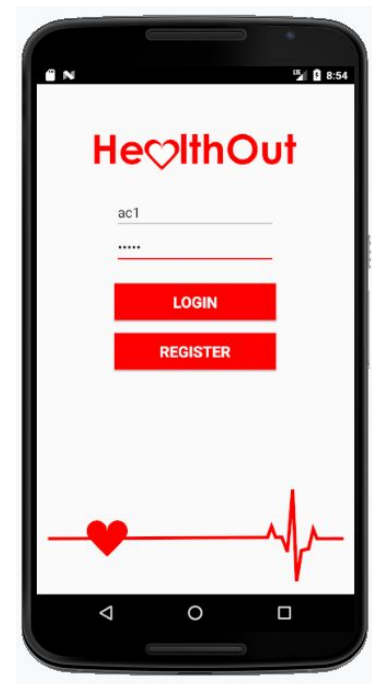
#### Register an Account

1. Go to the Login page.
2. Once at the login page, click the “Register” button. This will take you to the Register Account page.
3. Click the “username” textbox and enter your desired email.
4. Click the “Password” textbox and enter your desired password.
5. Click the “Confirm Password” textbox and confirm your password.
6. Click the “Sign Up” button.
7. If the username is taken or more than 15 characters, and the password is not between 5 - 15 characters, then the user will be prompted to choose different ones.



#### Login to Account

1. Go to the Login page
2. Enter in your username and password registered to your account and click the “Login” button.
3. If the username and password you entered were correct, then you will be logged in and taken to the main menu. If incorrect, retype your username and password before clicking the “Login” button again. [4]



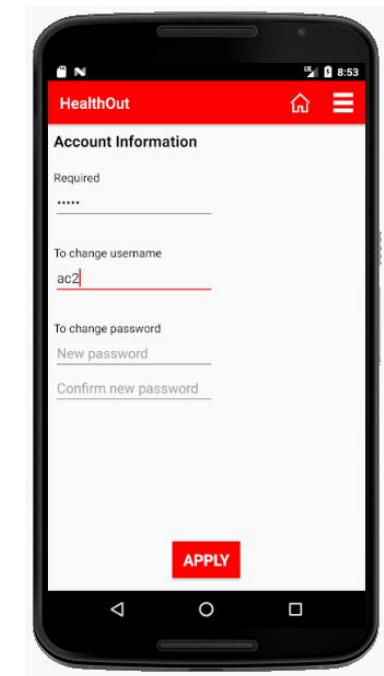
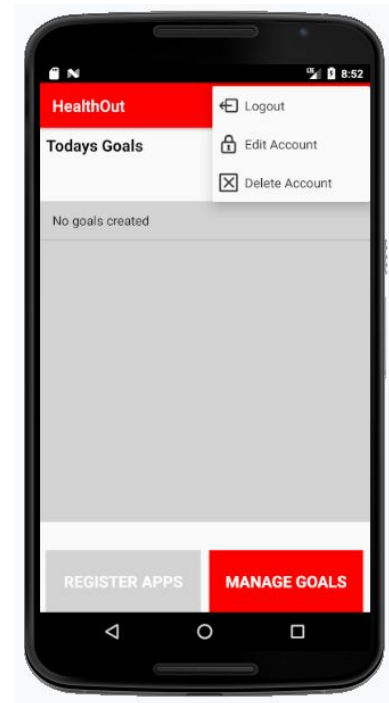
## Part 2: Manage Account

### Logout of Account

1. On any page while logged in, click the hamburger menu button (three horizontal lines) in the top right corner. This will open a sidebar menu with account options.
  2. Click the “Logout” button. You will be prompted if you are sure.
  3. Click the text that says “Yes”. This will log you out and take you back to the login page.
- [4]

### Change Username

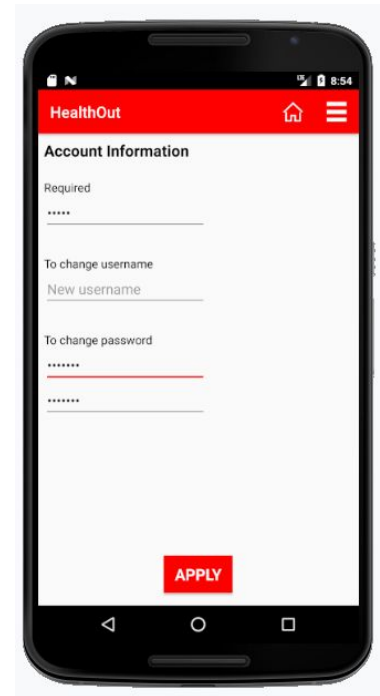
1. On any page while logged in, click the hamburger menu button (three horizontal lines) in the top right corner. This will open a sidebar menu with account options.
2. Click the “Edit Account” button. This will take you to the Edit Account page.
3. Click the “Current password” textbox and enter your current password.
4. Click the “New Username” textbox and enter your new desired username.
5. Click the “Apply” button.
6. If the password you entered is correct, and the new username you entered is valid, your username will be changed. If not, then the user will be prompted to correct their password or choose a valid username, as appropriate [4]





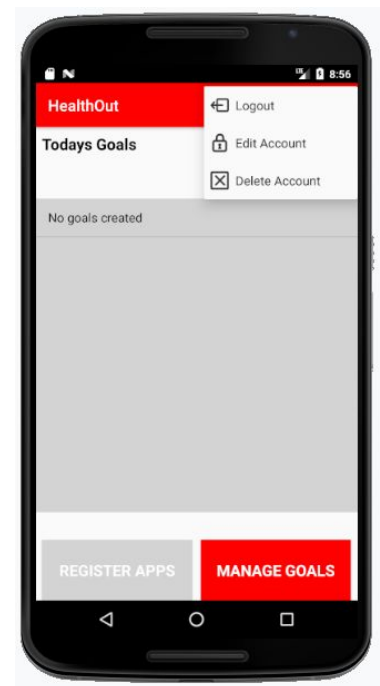
### Change Password

1. On any page while logged in, click the hamburger menu button (three horizontal lines) in the top right corner. This will open a sidebar menu with account options.
2. Click the “Edit Account” button. This will take you to the Edit Account page.
3. Click the “Current password” textbox and enter your current password.
4. Click the “New password” textbox and enter your new desired password.
5. Click the “Confirm new password” textbox and confirm your new desired password.
6. Click the “Apply” button.
7. If the current password is correct, the new password is valid, and the second new password entry matches the first, then your password will be updated. If not, then retype your current password and both new desired passwords again, before re-clicking the “Apply” button. [4]



### Delete Account

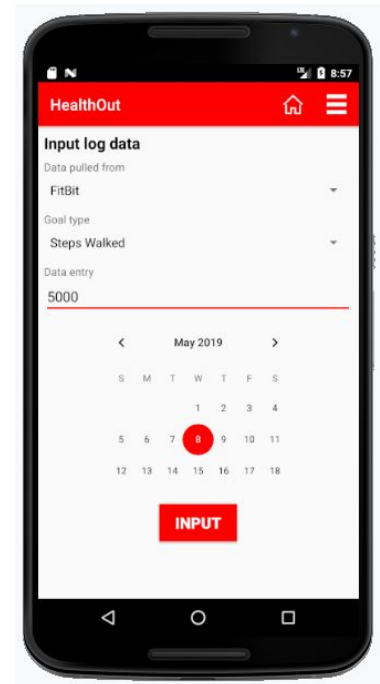
1. On any page while logged in, click the hamburger menu button (three horizontal lines) in the top right corner. This will open a sidebar menu with account options.
2. Click the “Delete Account” button. You will be prompted if you are sure.
3. Click the text that says “Yes”. This will delete your account and take you back to the login page. [4]



## Part 4: Inputting Log Data

### Input Data

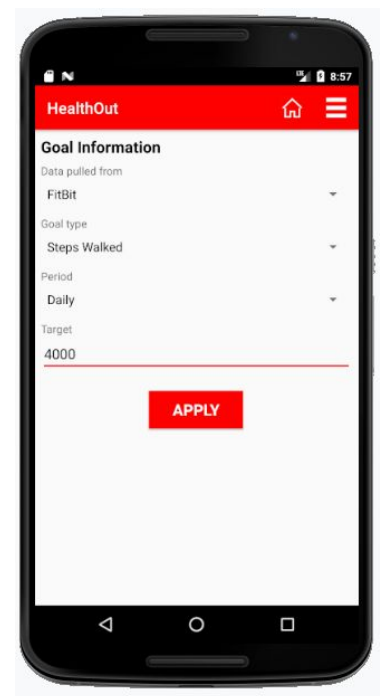
1. Go to the Main Menu page
2. Click the “Input Log” button at the top of the screen.
3. Click the “Data pulled from” drop down box and select the health app from which this log data is from.
4. Choose the data type from the drop-down menu (e.g. Calories Burned, Steps Walked, etc.).
5. Click the data entry text box and enter the data.
6. Click the date on the Calendar widget for which the data is being entered.
7. Click the “Input” button at the bottom of the screen to submit the log data entry.



## Part 5: Manage Goals

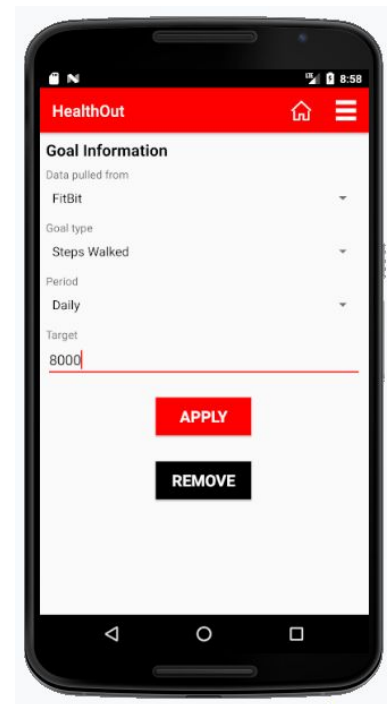
### Add Health Goal

1. Go to the Manage Goals page.
2. Click the “Add new” button. This will take you to the Goal Detail page.
3. Click the “Data pulled from” drop down box and select the health app you wish to pull data from for the goal (this will be for the future feature of pulling data from third party apps).
4. Click the “Goal type” drop down box and select the type of goal you want.
5. Click the “Period” drop down box and select the time period you want for the goal.
6. Click the “Target” box and enter your desired target for the goal.
7. Click the “Apply” button. Now your goal will be viewable at the main menu. [4]



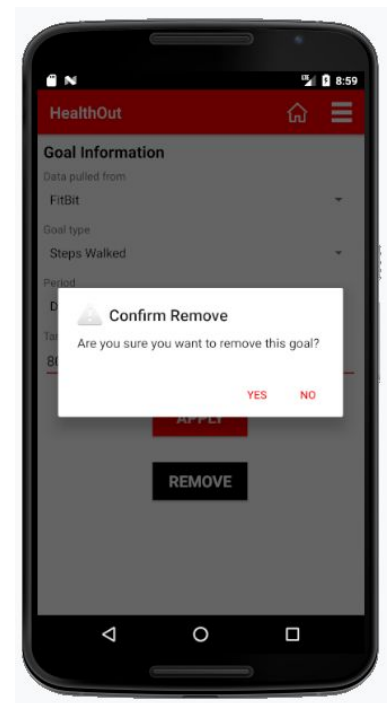
### Change Health Goal

1. Go to the Manage Goals page.
2. Click on the goal you wish to edit. This will take you to the Goal Detail page for that particular goal.
3. Click on whichever aspects of the goal you wish to edit and make the changes you desire.
4. Click the “Apply” button. Now your goal will be updated. [4]



### Remove Health Goal

1. Go to the Manage Goals page.
2. Click on the goal you wish to remove. This will take you to the Goal Detail page for that particular goal.
3. Click the “Remove” button. This will prompt you if you are sure.
4. Click “Yes”. This will remove the goal. [4]



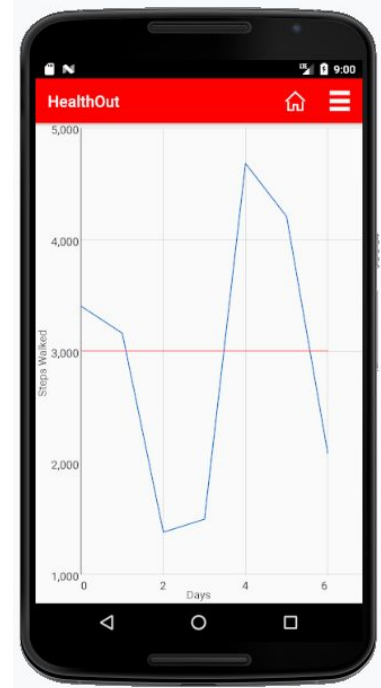
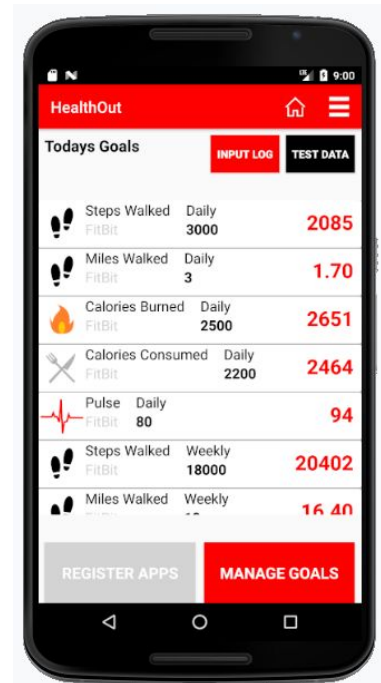
## Part 6: View Goals and Progress Graphs

### View Health Goals

1. Go to the Main Menu page.
2. All goals are displayed at the main menu (you may need to scroll down to view a goal if you have multiple goals). [4]

### View Progress Graph for Goal

1. Go to the Main Menu page.
2. Click on the goal you want to view a progress graph for. This will take you to the progress graph for that particular goal. [4]



## 5. Deployment documentation

In order to deploy the application for testing, testers will need to have an Android device running Android OS version 5 or higher. The testers will download the HealthOut APK file from an email sent to them. Once the APK file finishes installing the app, the testing environment will be ready for testing. [2]

## 6. Test cases [5]

<b>Test Case ID</b>		1-Register Account		
<b>Test Case Description</b>		Register account - Positive test case		
<b>Related Design Models</b>		Register Account use case Register Account sequence diagram Register Account activity diagram		
<b>Pre-condition(s)</b>				
Step	Action	Inputs	Expected result	Actual result
1	Launch application		Display Login page	
2	Press REGISTER button		Display Register Account page	
3	Enter desired username & password and press SIGN UP button	<u>Username:</u> [choose username] <u>Password:</u> [choose password] <u>Confirm Password:</u> [repeat_password]	Register account success; Move to Login page	
<b>Post-condition(s)</b>		User has a valid username and password		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>		2-Login		
<b>Test Case Description</b>		Login - Positive test case		
<b>Related Design Models</b>		Login use case Login sequence diagram Login activity diagram		
<b>Pre-condition(s)</b>		User has a valid username and password		
Step	Action	Inputs	Expected result	Actual result
1	Launch application		Display Login page	
2	Enter correct username & password and press LOGIN button	<u>Username:</u> [chosen username] <u>Password:</u> [chosen password]	Login success; Move to Main Menu page	
<b>Post-condition(s)</b>		User validated through database and allowed access to app		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>		3-Logout		
<b>Test Case Description</b>		Logout - Positive test case		
<b>Related Design Models</b>		Logout use case Logout sequence diagram Logout activity diagram		
<b>Pre-condition(s)</b>		User has logged in		

Step	Action	Inputs	Expected result	Actual result
1	Press hamburger menu button (3 parallel lines)		Display menu options drop-down list	
2	Press LOGOUT button		Display confirm logout dialog box	
3	Press YES		Logout success; Move to Login page	
<b>Post-condition(s)</b>		User logged out		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>	4-Change Username
<b>Test Case Description</b>	Change account username - Positive test case
<b>Related Design Models</b>	Change username use case Change username sequence diagram Edit Account Information activity diagram
<b>Pre-condition(s)</b>	User has a valid username and password and is logged in

Step	Action	Inputs	Expected result	Actual result
1	Press hamburger menu button (3 parallel lines)		Display menu options drop-down list	
2	Press EDIT ACCOUNT button		Display Account Information page	

3	Enter correct current password & desired new username and press APPLY button	<u>Current Password:</u> [chosen password] <u>New username:</u> [choose new username]	Username change success; Move to Main Menu page	
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<b>Post-condition(s)</b>	User has new username for logging in
<b>Testing Date</b>	
<b>Tested By</b>	

<b>Test Case ID</b>	5-Change Password
<b>Test Case Description</b>	Change account password - Positive test case
<b>Related Design Models</b>	Change password use case Change password sequence diagram Edit Account Information activity diagram
<b>Pre-condition(s)</b>	User has a valid username and password and is logged in

Step	Action	Inputs	Expected result	Actual result
1	Press hamburger menu button (3 parallel lines)		Display menu options drop-down list	
2	Press EDIT ACCOUNT button		Display Account Information page	
3	Enter correct current password, desired new	<u>Current Password:</u> [chosen password] <u>New password:</u> [choose new	Password change success; Move to Main Menu page	



	password & confirm new password and press APPLY button	password] <u>Confirm new Password:</u> [repeat new password]		
<b>Post-condition(s)</b>		User has new username for logging in		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>		6-Delete Account		
<b>Test Case Description</b>		Delete account - Positive test case		
<b>Related Design Models</b>		Delete Account use case Delete Account sequence diagram Edit Account Information activity diagram		
<b>Pre-condition(s)</b>		User has a valid username and password and is logged in		
Step	Action	Inputs	Expected result	Actual result
1	Press hamburger menu button (3 parallel lines)		Display menu options drop-down list	
2	Press DELETE ACCOUNT button		Display confirm delete account dialog box	
3	Press YES		Delete account success; Move to Login page	
<b>Post-condition(s)</b>		User has deleted their account		
<b>Testing Date</b>				

Tested By	
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Test Case ID	7-Input Log Data
Test Case Description	View goal graph - Positive test case
Related Design Models	
Pre-condition(s)	User logged in

Step	Action	Inputs	Expected result	Actual result
1	If not at the Main Menu page, press home button (house icon)		Display Main Menu page	
2	Press on INPUT LOG button		Display Input log data page	
3	Select the goal type, enter the data entry, select date from calendar, and press INPUT button	<u>Data pulled from:</u> [choose app] <u>Goal Type:</u> [choose goal type] <u>Data entry:</u> [enter data] <u>Date:</u> [choose date]	Input log data success; Move to Main Menu page	

Post-condition(s)	Log data added
Testing Date	
Tested By	

Test Case ID	8-Set Goal
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<b>Test Case Description</b>		Create new goal - Positive test case		
<b>Related Design Models</b>		Set Goal use case Set Goal sequence diagram Edit Goal activity diagram		
<b>Pre-condition(s)</b>		User logged in		
Step	Action	Inputs	Expected result	Actual result
1	If not at the Main Menu page, press home button (house icon)		Display Main Menu page	
2	Press MANAGE GOALS button		Display Manage Goals page	
3	Press ADD NEW button		Display Goal Detail page	
4	Select the App, Goal type, period & enter desired target then press APPLY button	<u>Data pulled from:</u> [choose app] <u>Goal Type:</u> [choose goal type] <u>Period:</u> [choose period] <u>Target:</u> [enter target value]	Add goal success; Move to Manage Goals page - with new goal added to list	
<b>Post-condition(s)</b>		User has new goal created		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>	9-Change Goal
<b>Test Case Description</b>	Change goal - Positive test case

<b>Related Design Models</b>		Change Goal use case Change Goal sequence diagram Edit Goal activity diagram		
<b>Pre-condition(s)</b>		User logged in and has set goals		
Step	Action	Inputs	Expected result	Actual result
1	If not at the Main Menu page, press home button (house icon)		Display Main Menu page	
2	Press MANAGE GOALS button		Display Manage Goals page	
3	Press on a goal from the list to change		Display Goal Detail page	
4	Select the App, Goal type, period and/or enter desired target then press APPLY button	<u>Data pulled from:</u> [change app] <u>Goal Type:</u> [change goal type] <u>Period:</u> [change period] <u>Target:</u> [change target value]	Change goal success; Move to Manage Goals page - with goal updated	
<b>Post-condition(s)</b>		User has updated goal		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>	10-Remove Goal
<b>Test Case Description</b>	Remove goal - Positive test case

<b>Related Design Models</b>		Remove Goal use case Remove Goal sequence diagram Edit Goal activity diagram		
<b>Pre-condition(s)</b>		User logged in and has set goals		
Step	Action	Inputs	Expected result	Actual result
1	If not at the Main Menu page, press home button (house icon)		Display Main Menu page	
2	Press MANAGE GOALS button		Display Manage Goals page	
3	Press on a goal from the list to remove		Display Goal Detail page	
4	Press the REMOVE button		Display confirm remove goal dialog box	
5	Press YES		Remove goal success; Move to Manage Goals page - with goal deleted	
<b>Post-condition(s)</b>		User has removed goal		
<b>Testing Date</b>				
<b>Tested By</b>				

<b>Test Case ID</b>	11-View Goal Graph
<b>Test Case Description</b>	View goal graph - Positive test case

<b>Related Design Models</b>		View Progress Graph for Goal use case View progress for a goal sequence diagram View Graph activity diagram		
<b>Pre-condition(s)</b>		User logged in, has set goals, and inputted data		
Step	Action	Inputs	Expected result	Actual result
1	If not at the Main Menu page, press home button (house icon)		Display Main Menu page	
2	Press TEST DATA button to add preloaded goals and log data		Main Menu page and Manage Goals page have goals listed	
3	Press on a goal on the Main Menu from the list view		Display GraphView of goal	
<b>Post-condition(s)</b>		Graph of user's progress towards goal is displayed		
<b>Testing Date</b>				
<b>Tested By</b>				

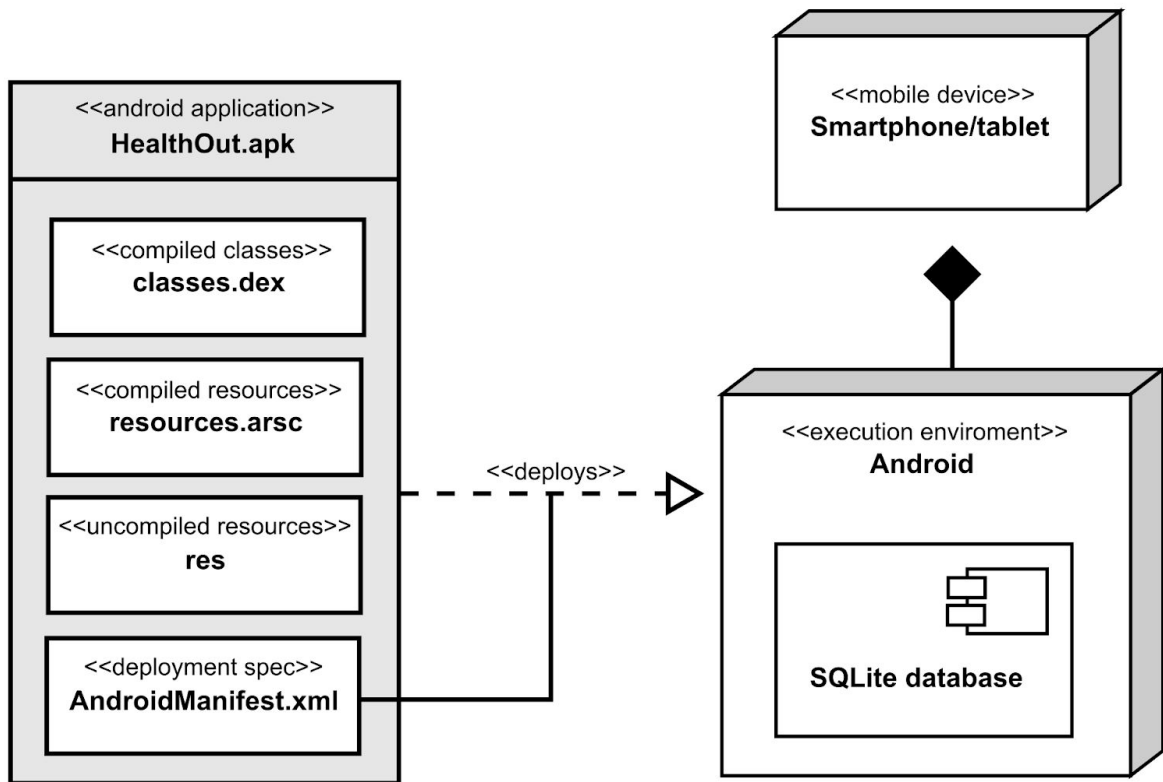
## 7. Traceability analysis

User story	Use Case(s)	Activity Diagram(s)	GUI(s)	User Manual section(s)	Test case
As a user, I want to register for HealthOut so that I have an account to access the app	Register Account	Register Account	UI 02 UI 01	Register an Account	1-Register Account
As a user, I want to login to HealthOut so that I can have access to its features	Login	Login	UI 01 UI 03	Login to Account	2-Login
As a user, I want to logout of HealthOut so that my information is secure	Logout	Log out	UI 09 UI 13 UI 01	Logout of Account	3-Logout
As a user, I want to change my account information at any point	Change Username Change Password	Edit Account Information	UI 09 UI 10 UI 03	Change Username Change Password	4-Change Username 5-Change Password
As a user, I want to delete my account at any point, if I no longer want one.	Delete Account	Edit Account Information	UI 09 UI 12 UI 01	Delete Account	6-Delete Account
As a user, I want to input log data so that my goals can graph my progress				Input Data	7-Input Log Data

As a user, I want to set a daily /weekly /monthly /yearly goal so that I can begin tracking my progress	Set Goal	Edit Goal	UI 03 UI 05 UI 06	Add Health Goal	8-Set Goal
As a user, I want to be able to change my goals at any point, so it better fits my needs	Change Goal	Edit Goal	UI 03 UI 05 UI 06	Change Health Goal	9-Change Goal
As a user, I want to be able to remove a goal at any point if I no longer interested in that goal	Remove Goal	Edit Goal	UI 03 UI 05 UI 14	Remove Health Goal	10-Remove Goal
As a user, I want to view my progress towards a goal, graphically, so that I know if it's fulfilled	View Goal  View Progress Graph for Goal	View Goal View Graph	UI 03 UI 04	View Health Goals View Progress Graph for Goal	11-View Goal Graph



## 8. Deployment diagram [3]



## 9. Meeting minutes notes

### Meeting 1 (04/12/19):

- Created User, ThirdPartyApp, AppLog, and the Goal classes for data entities.
- Worked on developing user interfaces.
- Completed introduction of the test document

### Meeting 2 (04/19/19):

- Created deployment diagram, began traceability analysis table, and finished user manual
- Worked more on building the app; changed from using Microsoft Azure to built-in SQLite
- Sent out API use requests to several health apps; waiting for their responses

### Meeting 3 (04/26/19):

- Updated deployment diagram in accordance with SQLite database change
- Worked more on building the app; creating working and viewable goals; goal graph work in progress
- Created website for terms and services & privacy policy for using 3rd party apps APIs

### Meeting 4 (05/03/19):

- Worked more on building the app; graph fully functional for all goal types; negotiated the project down.
- Created test cases and made changes to traceability analysis
- Documented deployment of the app

### Meeting 5 (05/04/19):

- Continued work finalizing the app systems; implemented user input, and ensured its functionality with the database system while avoiding compromising the existing systems' maintainability.
- Continued refining documentation and test cases.

### Meeting 6 (05/06/19):

- Discussed updates to user manual and documentation; made changes to the user manual according to the improvements and changes that were made.
- Finalized test cases, created presentation and test document