Chapter 5 – feelin alive

# Introduction

Chapter 3: New Ideas established the lack of a solution currently available that operates using a casual fitness model, this being an application that can be operated by the user without any fitness elements, however, should the user wish to, they can make use of the in-built fitness elements within the application to gain some reward within the context of the application itself, this being in addition to the general benefits fitness has on the body.

Based on the above, if the application discussed in the previous chapter meets the aim of the project, this being; To create a socially interactive mobile based game targeted at older adults, that gives the player character an in-game advantage determined by fitness data captured through their mobile device then, a novel solution that has not previously been created and explored should have been produced. To confirm or disprove this, in the following sections the final version of the application presented in Chapter 4: Implementation is compared to several metrics which have been established in previous chapters.

The metrics that shall be used in this investigation are; the project objectives, the project test plan and the hypotheses as defined through the use of the Lean UX project methodology, below find each individual metric discussed in detail regarding whether the solution presented has been able to match the criteria of the aforementioned metric.

# Project objectives

Perhaps the most important of the three judging criteria, the project objectives act as small aims which when taken as a collective should form the overall aim of the project, **table 1** below denotes the objectives of the project as well as a result for whether these objectives were achieved. Results on whether objectives have been met are based on the project solution and user testing results presented in Chapter 4: Implementation.



The solution presented in the previous chapter was able to pass all of the objectives outlined in Chapter 3: New Ideas; the presented application followed a theme and style that would be pleasing to the target demographic, the application has been built with access to a fitness data store and offers users an in-game reward for achieving goals based on the user’s fitness activity.

At the end of the project implementation three objectives were only considered partially passed, these are Objective 3 and Objective 4 due to its association with Objective 4.7. The root cause of these objectives only partially passing is as a result of insufficient user testing, whilst multiple testing sessions did take place, in the opinion of this author, not enough user testing was conducted in order to impact the design and development of the presented solution.

# Test plan

At test plan was developed at the outset of the project in order to accurately identify the functionality the application would need to implement so as to meet the aims of the project. As opposed to the project objectives which are a high level overview of the whole project, the test plan is able to be much more concerned with making sure the application does what it is intended to do in a bug free manor. The test plan was split into three sections relating to the different components of the project these being; the Android hosted Google Fit API integration, the Node.js based webserver and the Unity based game client, the test results of these individual components are discussed below.

## Google Fit API integration

Below in **FIGURE 1** are the results from the Google Fit API integration section of the test plan, of five tests all were able to pass, however two of the tests, these being tests ID’s GF3 and GF4 are only considered partial passes the reasons for this are as follows;

GF3 – The system is able to initially handle multiple users logged into the application , a dialog is presented that offers the user a choice of who’s fitness data will be integrated into the application, however upon subsequent runs the user is no longer presented with this dialog, this is an issue due to the underlying way android asks for device permissions, a solution to this would require revoking and asking for device permissions whenever the application loads, which would present a worsened experience for the user.

GF4 – This test is considered a partial pass as whilst the system would still work if the Google Fit permission is not granted by the user, functionality in the system would be diminished. In addition to this the “Quests” activity present in the Unity solution does not react to the lack of this permission, when ideally it should explain why the app needed the permission in the hope of the user reconsidering their decision.



Figure 1

## Node.js webserver

Below in **FIGURE 2**,find the results from the Node.js webserver section of the test plan, in this portion of the test plan all tests passed with the exception of test ID’s WS6 and WS7, this is discussed below;

WS6 & WS7 – An aspiration for the development of this project was to store historical data on the applications usage which could be used in further work to help improve upon the implementation of the solution or as a means to help answer the scientific questions that were discussed briefly in Chapter 3: New Ideas. However, as this was not an objective within the current scope of the project, the functionality described in test cases WS6 & WS7 which would have worked towards this goal was dropped in favour of not having the users device sent an event whenever the triggers described in the test cases was fired, this was to reduce the networking cost to the user, as well as to avoid any potential network related programming errors that could have resulted from this functionality.



Figure 2

Unity game client

The final section of the test plan consisted of the functionality that made up the Unity game client, the results for this test plan game be viewed below in **FIGURE 3**. Of the cases present in this section only test cases G15 and G16 failed, the reason for this failure is due to a lack of development time for a tutorial and information section within the produced application. The tutorial and information activities were pushed back as they were considered superfluous during the user testing phase of the project as test subject were informed on the nature of the application before testing took place. In Chapter 6: Conclusions within the future work section, a sufficient tutorial is one of the discussed topics.



Figure 3

## Summary

Whilst some of the tests outlined in the test plan have failed they do not impact on the way in which the user interacts with the application, this can be seen as the user testing report section available in Chapter 4: Implementation did not identify any issues for the user in terms of application functionality, as such the presented application passes the test plan but will require additional future work in order to improve upon the partially passing tests as well as fixing those tests that currently fail.

# Lean UX hypotheses

The Lean UX project methodology requires practitioners create hypotheses, which are testable statements based on the project teams highest risk assumptions of the facts of the project, in Chapter 4: Implementation, two hypotheses were created based on the authors assumptions of the project area, in the following section these hypotheses will be reviewed for their accuracy and determined to be true or false.

## Hypothesis One

### Hypothesis statement

“I believe my target audience would make use of an application that aims to produce an enjoyable experience but that offers them the opportunity to gain an in-game rewards if they complete a fitness based challenge. I shall be able to test this by producing a prototype application which combines the above elements, which I can then use to test with members of the target demographic”

### Conclusion

Based on the feedback from the user testing sessions detailed in Chapter 4: Implementation, it is still difficult to suggest whether this hypothesis has been proven true or false, this is to say that the testable element to this hypothesis is whether the application will see use from its user base, and whilst this was true during the testing session it is unreasonable to assume the application will see wide use once users are not involved in a formal testing process. For this hypothesis to truly be confirmed or disproven a couple of options are available, either;

* The testing of the application is extended with a focus slowly shifting as the test subjects become accustomed to the application to their general attitude to the application and whether they would see themselves using it outside of the designated formal testing sessions.
* The application is released to the public via a medium such as the Google Play store, usage statistics present through this medium and built into the application itself will generate data on whether the application is being used as the hypothesis statement requires

## Hypothesis Two

### Hypothesis statement

“I believe one of the biggest risks to the success of this project is a lack of knowledge of whether my target audience want an application that aims to achieve the gaols laid out in this report, I can produce a paper prototype that will allow for a rapid testing session with my user base to conform or invalidate this hypothesis. “

### Conclusion

The result for hypothesis two is in fact identical to that of hypothesis one, it is currently unsuitable to confirm or invalidate the hypothesis based on the currently available data, the most suitable course of action at this stage is to follow the steps outlined in the Hypothesis One: Conclusion section above and proceed with releasing the application in order to generate results for whether this hypothesis will pass or fail.

# Appendix – Full test plan results

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