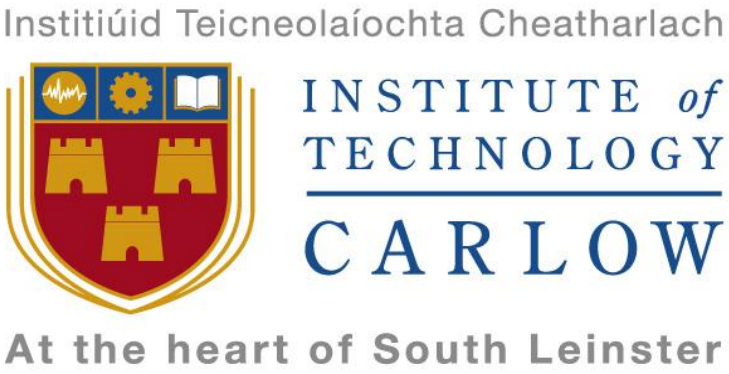

Project Report

WORKOUT FITNESS APP

Student Name: Dermot Cusack

Student Number: C00139631

Date: 17/04/2013

Project Supervisor: Paul Barry

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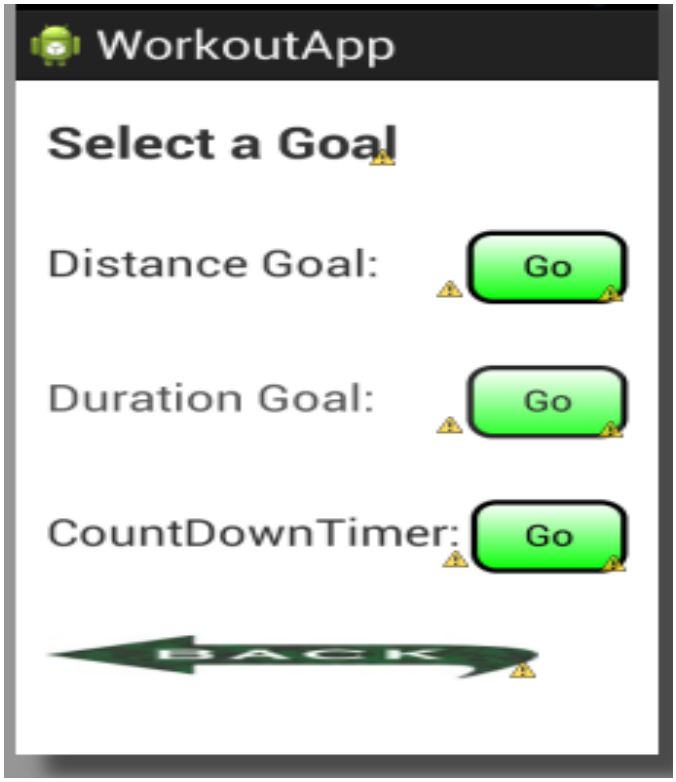
Introduction:

The purpose of this document is to outline how far I have come in my project. It will compare what I set out to achieve and the aims I had at the start of the project to what I actually accomplished with the project. This document will portray everything I have learned throughout the project both academically and personally.

The Finished Product

For our project we designed a workout fitness application. We designed this app for the Android 2.2 platform. This application allows the user to monitor their workout performances. The user can choose which activity they are participating in i.e. 'Walking', 'Running' or 'Cycling'. The number of requested signals from the GPS will be determined by the activity. For each workout the user will be presented with the details of his/her workout once they have finished. These details include the date, time, distance, duration, average speed, and average pace and also it will give an estimation of the amount of calories burned during the workout. The user can choose to save or delete the details after their workout. Once the user chooses to save their workout the details will be stored in the local SQLite database. The user can check all their previous workouts by going to the history page which will provide them with a list of all the workouts to date. There is also an activity option where the user can set up their profile. This profile will contain the users' weight and height which will in turn be used for calculating the calories burned during a workout. Also when the user goes into the options page he will be given a choice of going to the workout settings.

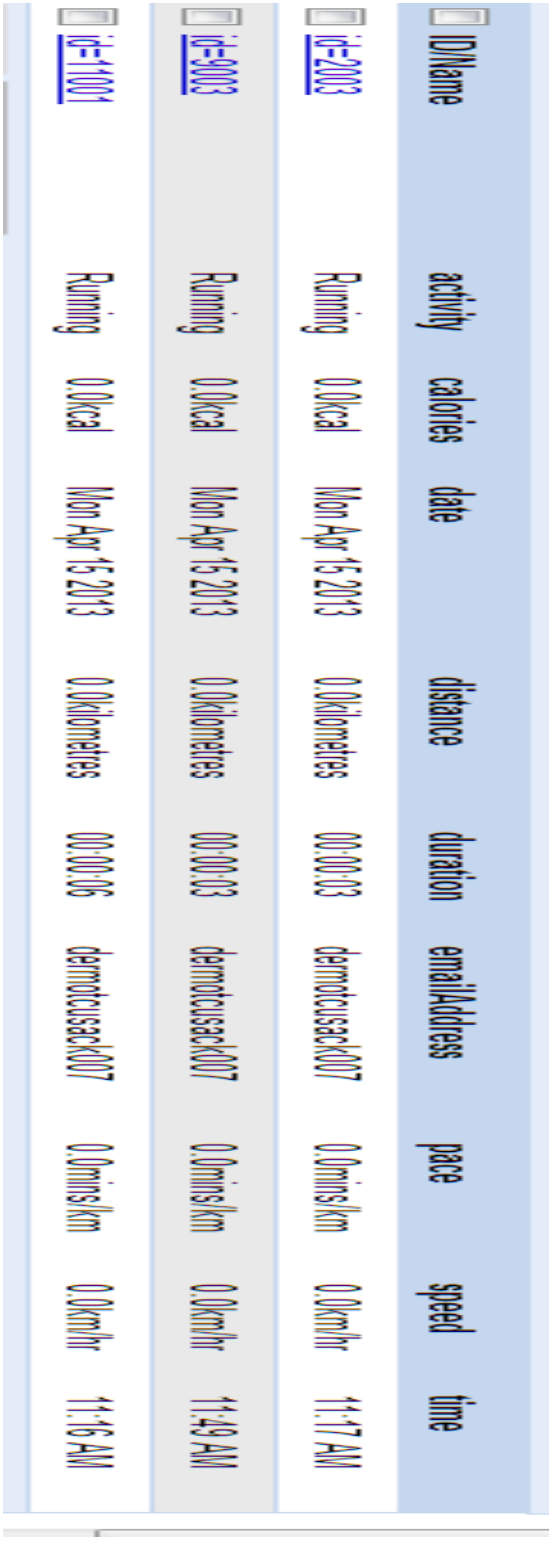
This is a snapshot of the front screen of our application. The user is presented with the option of just starting his workout straight away without any frills. The start timer button is only displayed if the user wishes to use a countdown on starting. The selected activity button will display the last activity in which the user participated in. The options button will bring the user to another page where the user can choose between setting their profile, viewing their history of workouts or going into the workout settings. From the workout settings' activity the user has the option of setting distance or duration goals for themselves. The front screen will also alert the user whether or not they have the GPS tracking turned on or off.



This next screen shot is what the user sees once they choose to go into workout settings. This is where the user can set targets for themselves which they hope to achieve in their workout. Once the user chooses to set distance or duration goals, they will be alerted through voice feedback when they have reached their target.

This is the screen presented to the user once they have completed their workout. As you can see it provides all the relevant details you would need to know.

Also if the phone has an internet connection these details will be uploaded on to Google app engine. Below is a snapshot of the workout statistics after being uploaded from the mobile on to app engine.



ID/Name	activity	calories	date	distance	duration	emailAddress	pace	speed	time
id=2003	Running	0.0kcal	Mon Apr 15 2013	0.0kilometres	00:00:03	demodcusaark007	0.0mins/km	0.0km/hr	11:17 AM
id=9003	Running	0.0kcal	Mon Apr 15 2013	0.0kilometres	00:00:03	demodcusaark007	0.0mins/km	0.0km/hr	11:49 AM
id=11001	Running	0.0kcal	Mon Apr 15 2013	0.0kilometres	00:00:06	demodcusaark007	0.0mins/km	0.0km/hr	11:16 AM

We have set up a simple web site where the user can log on and check their workout stats online if they so wish. The users' workout statistics will be pulled from Google app engines' data store as shown above. There is also a mechanism for the user to request friends with other members who have also registered with the website.

Conformance to Specification and Design

When designing this application we wanted the user interface to be as simple and user friendly as possible. So in our specification we came up with some simple user interfaces and that's what we stuck with. So the mock user interfaces are almost a carbon copy of the finished product. Also we have listed a number of features which were core to the application, some features which would be nice to have and also some features which would give it the wow factor. The list of features which we came up with in our functional specification is as follows:

Core Features:

1. Summary of Workouts
2. Average Speed mile/hr.
3. History of Workouts

Nice To Have:

1. Calories Burned.
2. Log for Calorie Budget.
3. Show Map of Run.

Wow Factor:

1. Voice feedback.
2. Upload Workout to Social Network site.
3. Set Goals.
4. Count down timer to start workout.

The features which we have implemented include all of the core features. Once the core features were implemented, given the time that was remaining we chose some of the other features from the nice to have column and the wow factor column. The features we chose were to show the estimation of calories burned after a workout. We then set up included the feature to allow user to set goals for themselves, i.e. duration or distance goals. Also we included a countdown timer that alerts the user to go after a number of seconds. Also voice feedback is included in our features which tells' the user when they have achieved their goals.

Our design document contained the three core java classes which are carrying out work behind all the activities in the android project. These classes were implemented in much the same way as specified in the design. All of the sample code from the design document was put into the project. During the design I couldn't foresee all the other activity classes which would be needed to carry out the functionality of the project. There are numerous Android activities and xml files which were needed to carry out the design of this project.

What Have I Learned?

Before this project I had no experience with Android or Eclipse. I have gained a much better knowledge of Android now. Although I found working with Android very difficult and labouring at the start I'm beginning to appreciate all the functionalities which Android has to offer. I have learned how to create graphical user interfaces by working with xml layouts. I have learned that Android is a powerful tool for creating mobile apps. Android allows the developer to have access to some of the system settings on the mobile device such as to check if GPS is enabled, or to check if mobile has network coverage and it also allows you to retrieve the email address which the user has stored on their phone. I have also worked with SQLite and learned how to store and retrieve information from the database. In creating our simple web site I have worked with technologies such as python, jinja2, webapp2 and html. I have gained experience with all these technologies and to try and use them together to create a working web site. Also I have come to realise that there is a lot of useful websites available to software developers such as stackoverflow.com.

Review of Project

The user interface of the workout app is as expected from the functional specification. The timer and GPS tracking are working as expected. The GPS is accurate of a workout to within 10 to 15 metres. Also the user has access to all of their workouts. Providing the mobile has internet access, the users' statistics for their workout will be uploaded to the server.

I never got around to providing the user with a map of the route which they covered in their workout. This feature was part of the nice to have features in the functional specification. I made a start on the web application but didn't take this as far as I would have liked.

If starting this project again I would probably spend more time looking at android tutorials. I would set aside a project notebook and make notes of everything new I learn in these tutorials as it was quite common for me to revisit some of these tutorials at a later stage. It definitely helped that I had created mock user interfaces for all the screens which would be

needed in my application as I was able to work off these to produce the actual user interfaces of the project.

For technologies it was easy for me to choose Android as it is quickly becoming the world's most popular mobile platform. Also with Google being the driving force behind the marketing for Android one can only see it growing even further. For the use of the technologies in building the website such as jinja2, webapp2 and python, I think these were the correct ones for me at this time since we have been learning about these technologies throughout the course year.

I would like to thank my supervisor Paul Barry for the help in designing and developing this mobile app.