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Documentation

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# Intro

I have created a fitness application with a Kivy Python framework. This was done by first of all teaching myself how to use Kivy with Python. Once I had got an idea of how to use the two languages together, I had started the project. I first created the log in and create account features, creating a series of questions that the user would answer. These inputs would be saved in a database which would be later called to determine the users calories. Once I had got that working, I started creating the training plans, implementing them into three sections; Featured, Gym and Home. It was essential to make sure that there was at least a plan for each section to show what it will look like. After that I created the exercise tutorial section where the user could click on the muscle group then exercise and learn how to perform the exercise properly. Finally, I made the users profile, calling their information from the database to display onto the screen. Then I created the privacy policy and log out button.

# Test plan

For testing I used both black and white box testing. Black box testing being testing the functionality of the buttons etc. and white box testing being me testing the functionality of the code for example making sure that the program runs the layout of the application correctly. These can both be seen in the test plan log which is included in the zip file. As well as these test cases I also done a usability test where I got other people to test the functionality of the program to make sure that it was suitable for this project.

# What Coding Languages I Used

For this project I used two different coding languages Python and Kivy. Python, which I learnt in the course, was easy to implement due to my extensive knowledge that I have on it. Kivy is a coding language which I had to learn. I learnt how to use Kivy by using the following websites:

|  |  |
| --- | --- |
| **Article title** | Welcome to Kivy¶ |
| **URL** | https://kivy.org/doc/stable/ |
| **Website title** | Kivy |

|  |  |
| --- | --- |
| **Article title** | kivy/kivy: Open source UI framework written in Python, running on Windows, Linux, macOS, Android and iOS |
| **URL** | https://github.com/kivy/kivy |
| **Website title** | GitHub |

|  |  |
| --- | --- |
| **Article title** | Python Kivy Tutorial - Setup/Creating A Simple Application |
| **URL** | https://www.techwithtim.net/tutorials/kivy-tutorial/setup/ |
| **Website title** | techwithtim.net |

Upon following some of the mini tasks that these websites provided I felt I had a grasp on how to use Kivy. Although I had an understanding on Kivy I was still learning on the job so to speak, encountering problems on the way to completing the application.

# What Changes from The Initial Plan

Whilst implementing the program it was evident that a few things had to change from the planning stage due to the time scale. The progress section of the program had to be removed as completing it within the time sale would not have been feasible. Another change from the initial plan was to have it as an android application, although this is still the plan for the future this won’t be able to be executed in the time scale due to the price that it would cost to compile the entire application. The initial idea was to have a recommended training plan, this was changed into having a featured plan instead, this was requested by the client. The Idea was to have a tutorial video for each exercise however it proved to be difficult to record in gyms as they were very rarely empty, and I didn’t want anyone else to be in the video as that could cause complications down the line.

# What Would I Have Done Differently

If I were to do this again there would be a few things that I would do differently. First of all, I would have slightly scaled down the project. I believe that although the application looks better with the 60+ exercise’s in hindsight it would have been better to just include the essentials. Having done that would have given me more time to improve the user profile as well as possibly finding other solutions for compiling the application to an apk file.

# What Difficulties Did I Run Into

The development stage for the most part went smoothly, however, the problems mainly occurred at the end of the development stage where, I struggled to compile the application to an apk file. There were many components involved which prevented me compiling the application due to the image/video files, although I think I found a solution, but due to the cost it was not feasible at this stage of the project.

Teaching myself how to operate Kivy with Python proved to be a struggle. First, I had to learn how the Kivy language worked which was difficult due to their operators being completely different to the ones used in Python. Kivy then proved to provide difficulties as I had to link the two files so that they ran and worked together.

# Internal Documentation

I internally documented the program wherever I felt that the program didn’t give an obvious direction. I also made sure to make use of white space, separating blocks of code from each other to make it easier for you to find specific blocks of code. These two documentation properties used together helps, not only with understanding the code, but with the overall aesthetic of the code. This is all visible in both the main.py and my.kv files.

# Error Handling

For error handling I made sure to cover all bases. I made sure to include input validation wherever I could, as well as informative error messages to aid the user. As well as that I went through a thorough testing stage to make sure that every button and feature worked how I intended it to. This can be found in the test log which is located in the documentation folder.

## Known errors

While running the exe file there is an issue, first of all when viewing the exercise tutorials that include videos the exe file currently crashes. I am currently looking into what is causing this. However, if you run the main.py file in python then you will be able to view the exercise tutorials with the videos.