Our IT Project (Assignment 3)

**Assignment 2 Doc:** [**https://docs.google.com/document/d/1I3rOkZcCWFCuxoLN3OpV\_arUbfIHf-xPmMh\_GsAQc9U/edit?usp=sharing**](https://docs.google.com/document/d/1I3rOkZcCWFCuxoLN3OpV_arUbfIHf-xPmMh_GsAQc9U/edit?usp=sharing)

**Assignment 2 GitHub:**

[**https://github.com/DharalPatel/RAD-DJ**](https://github.com/DharalPatel/RAD-DJ)

**Github:**

[**https://github.com/DharalPatel/IT-Project**](https://github.com/DharalPatel/IT-Project)

**Team Profile**

**Team Name:** RAD-DJ

**Personal Information:**

**Danny Pham:**

My background is Vietnamese but i was born here in Australia. I graduated from Keysborough Secondary College, and is currently doing a course in Information Technology at RMIT. My hobbies are playing video games, playing badminton if i have the chance, watching TV shows like The Flash and Agents of Shield. I also like to take photos and building computers. Fortnite squad up. My IT Interest is in Networks and Cloud Computing.

My experiences in IT has been doing Computing in Year 11 and doing work experiences in Year 10 at a computer repair shop.

**Jaidyn Jong:**

I was born and raised in Melbourne, Australia, with my background being half maltese and timorese. I completed my year 12 studies at Copperfield College, where I graduated in 2016. Currently, I am studying a bachelor’s degree in business, majoring in economics and finance and am in my second year of the course. In my downtime, I enjoy spending time playing sports and catching up with friends, working on cars, as well as playing video games and watching YouTube videos. In relation to IT, I am interested in programming, analysing databases, networking and cloud computing, where I have been taught the basics of these skills in my year 11 and 12 studies where I took IT related subjects.

**Ryan Harris:**

My background is that i’m half irish and half Australian, but i was born in Sydney, Australia, and have lived in melbourne for as long as i can remember.. I graduated from Brighton secondary college in 2017. I am currently in my first semester of studying IT at RMIT. I’d say that my hobbies would be playing video games (both PC and ps4) as well as watching tv, and by tv i mean netflix, stan and youtube. IT wise, i’d say i’m pretty interested in programming and creating programs using this, and i have had very little experience with IT in my junior years.

**Dharal Patel:**

I was born in India then migrated to Australia at the age of 14 where I completed my VCE in Maribyrnong college 2017. Currently, I am studying Bachelor of Information Technology at RMIT. My hobbies include playing Cricket and video games and I spent most of my time watching Youtube and Netflix. My career ambition is to become the very best programmer thus I code and program in my spare time. This passion of mine started back in high school when I was taught basic coding in my IT classes.

Link to website: <https://s3-ap-southeast-2.amazonaws.com/s3719882/index.html>

**Group processes:**

Our group worked very well in Assignment 2, as the assignment was done on time and to a high standard, so not much will be changed in this assignment, except for adding in a more cohesive timeline for the report in order to complete Assignment 3 on time, as it is more complex than the previous one. We also want to make sure that in assignment 3 everyone commits to Github and also pulls request as we didn’t had any pull any requests in assignment 2. And we also want to improve our communication as we lacked a bit in communication in assignment 2.

**Career plan:**

The ideal jobs for each group member are relatively similar in terms of being IT related, with the exception of one of the jobs being the Economic Regulator. Some of the common elements and general skill sets that each of the ideal jobs require are communication and problem solving skills which are the main elements which sets the jobs alike. As for what differentiates each position from one another, three out of the four IT related jobs (Support Analyst, Software Engineer and Systems Admin) obviously require a degree of knowledge in IT specific areas such as JavaScript and SQL, whereas non-IT pathways like the Economic Regulator would not demand skills in these areas. In terms of what sets the IT related jobs apart, a support analyst should also have troubleshooting skills as a key skill in addition to the basic IT requirements, similarly to the software developer. A system admin on the other hand must also be detail oriented and have a structured way of thinking much like the software developer. After having received feedback from our previous assignments, we are all likely to still pursue our ideal jobs, knowing that at present, they are likely to still be in great demand.

**Tools:**

Team Website:<https://dharalpatel.github.io/IT-Project/>

Team Github: <https://github.com/DharalPatel/IT-Project>

**Project Description**

An app for your dog(s) that allows you to:

* Track walk time/ length
* Remind you of feeding times
* Give recommended information for dog breed
* Information about the dog will be shared across all devices

The app will consist of:

* Main screen:
  + Will have a sign in page
  + This will be where you can "add" your dog to the device, you register the dogs age, breed, name and gender
  + Will also be a feature to "share" a dog across multiple devices
    - Useful for families or dogs with multiple people looking after it such as a dog walker

* Walking screen:
  + Will first have you select your dog, or multiple dogs and start the walk
  + Before starting the walk, there will be information about the dogs recommended walk length for their expected size and breed. For example "Muttons is a German Shepard who is 4 years old and so needs about 30 minutes. The app can also take into account the weather in this info (optional)
  + Will be a button to begin walk, which activates a timer and a pedometer.
  + After the walk, there will be a button to "end the session" this will display a map of where you walked, as well as the overall time and distance covered
* Feeding screen:
  + The times for feeding a dog will differ between each owner individually, so the owners will be prompted to select their dog and enter their preferred eating times.
  + The app will also give recommended serving sizes depending on the dog breed
  + After entering the preferred eating times, the app will then set an alarm 10 minutes before this scheduled time to remind the owner to feed the dog. Can be turned off or changed to a push notification
  + After feeding the dog, the owner hits a button that checks off the dog and signifies it as " fed", so now every member of the family can see that the dog has been fed

**Topic**

Our Assignment 3’s group IT project will be an application in conjunction with a device that has the functionality to monitor your dog’s main attributes. The main components that the device will encompass is a GPS tracker, a step counter and a thermometer that attaches to the collar of the dog, the device will have the ability to communicate with the app on your mobile device.

The application will allow the user to monitor the amount of physical activity the dog has completed, notify the user when the dog needs to be walked based off of the GPS tracker, allow the user to check off if the dog has been fed or not, and the ability to observe the ambient temperature around the dog to see if the dog is at any risk of overheating.

**Motivation**

The motivation for this project was based off of Ryan’s personal needs, as well as the needs of many dog owners, as it can sometimes be hard to keep track of your dogs health, especially when there are multiple members of the household. The project is important as it can help owners more closely monitor their dogs health and ensure their well-being by taking action when necessary. To a future employer, working on this project would show our group members ability to create and plan an app/ IT project, as well as show them that the group member are able to work on a project that they necessarily don’t have stakes in, or aren’t as interested in as Ryan, which is an important quality for potential employers to look out for.

**Landscape**

Here are some similar apps:

* Dog walk by Tractive (highest “competitor”)
* Map My Dog Walk
* Dog Walk Tracker & reminder by Halcien labs
* Dog Log by apps for good UK
* Hungry dog tracker & reminder by Halcien labs
* Pet diary by Behrang Javaherian

However, most of these apps are solely focused on dog walking or dog feeding, and not both at the same time, unlike our proposed app. The most polished and highest rated app was the Dog walk by tractive, it had a sleek and stylish design with many functions similar to what we would like to implement. A main point of difference our app would have to other one’s available, would be the tracking of walks and eating schedules in the same easy to use app, as well as the linking of multiple owners/ devices to one dog or multiple dogs, which would be essential for a family trying to use our app. It can be expected that this app can be created to be able to stand out from the rest.

**Detailed Description**

**Aims**

Our aim is to provide an application which will enable you to track your dog’s food and walk schedule. We aim to provide our users with an application which will allow the user to keep track of their dog’s health and wellbeing, whilst taking the complexity out of an everyday pet owner’s life in tracking these daily tasks. The app will be able to inform them about this information and will also remind them to feed their pet if they haven’t been fed. The app will allow to track dog’s walk by using GPS which will be fitted in the dogs collar. The GPS will be connected to their mobile devices and will allow them to start their dog’s walk at a particular time or location. Alongside this feature, it will also display the recommended duration of the walk based on the pet’s characteristics such as its breed, weight and age. For example, a German Shepherd may require a longer exercise period than a chihuahua.

**Goals**

One of the goals will be to ‘design the application’. The GPS tracker will be connected to the application where all the actions will be performed by the user. So the first task towards creating an application will be to design how it will look like by creating mock-ups. This is where all the designing of the application will be done and it should be designed while keeping the users in mind. This goal will help towards achieving in our aim to make an application that will allow to keep track of dog’s care. Designing the application be will the first task in creating the application.

Another goal would be to create prototype of the application. For this project, the farest we are going to go is creating a prototype in invision where the prototype will we tested. Prototypes will be created using Proto.io which is an online tool that can be used to create prototypes. Prototypes will be created using the high-fidelity mockups. Prototypes will be used to create the final product after getting user testing. Prototypes will be used to achieve our aim.

Getting user testing will be another goal. After creating prototype, getting user feedback is important as they are the ones who will be using the product. If the users are happy with the product then only they will recommend the the product to others. So getting user testing will help us to identify any bottlenecks in the app which will fixed later to make the app as productive as we can. After alterations, the application will be created which will achieve our aim to provide an app that help users to take care of their dog by using our app.

Another goal will be to create the product. The application will be created by a programmer who will program the app by using our designs and prototype. After creating the application, it will be again tested by some users to see how the final product will look like and to identify if there are anymore problems. After that the app will be made public and used by users. This will help to achieve the the aim as the users will be using the app.

The final goal will be to advertise the product. After the app being made public, advertisements will be created to let the public know that our product exists to fulfill their needs. The product will be advertise on Google Play, Youtube and many more social media platforms. By advertising, the users will be aware of the product and will recommend the product to others thus increasing our users. This will help achieve our aim as users will be using the our product to take care of their dog.

**Plans and progress (Recommended 3-4 pages)**

Our project idea being the dog tracker GPS system as mentioned will be designed and partially implemented to assist dog owner’s with keeping track of their dog’s health and state of wellbeing. This idea came about from Ryan, in order to assist not only him, but several thousands of other pet owner’s in helping them achieve this everyday task. More specifically as to what our project will accomplish, it will enable the end user to be able to keep track of the walking and feeding times and recommendations for their specified dog, based on their breed, weight and age. The app will also specify the length and duration of the walk recommended for the dog based on these characteristics.

Our team name that we decided to use was RAD-DJ. This was relevant to us as it is the initials of everyone in our group. A member that was in our group for the previous assignment only joined for one tutorial however we still kept his initial in our team name to signify all the members that have joined our group. Our group idea was then decided when everyone brought forward their idea, we resonated with Ryan’s idea the most. Later, roles were assigned to each member and the idea of having due dates for parts of the project were then decided on trello. This happened in the first week of planning. May 8th

For the project planning, the topic, motivation, landscape, roles, aims and goals were completed the week after. May 15th

We took a majority of our time researching other competing applications on the app store and found a discrepancy between other ideas and our idea. Other applications only had the feeding idea and not the walking feature vice versa, so we decided as a group to incorporate both of the features together.

In terms of developing any features or outcomes for this project and how far it has progressed, we currently have an idea set out for what this application will feature in each of its screen:

* The home screen will display a sign in/sign up page in which it will prompt the user to enter in the relevant details such as their dog’s breed, weight and age. After setting up the profiles, the dog profiles will be displayed in a grid in the main screen. This screen will allow the user to access other features of the application such as the feeding screen, walking screen and the settings.
* The feeding screen will prompt the user of a first time setup tutorial for creating a feeding profile, this will be shown if it is the first time using the feature. However, adding more dogs feeding profiles can be added in the feeding screen without the tutorial. Users will then select their dog, then how many times they can eat a day and a time to notify them. Recommended serving sizes will be provided to the user as an indication of a rough incentive.
* The walking screen will display a list of the user’s dogs, prompting the user to choose a dog to walk. The following screen will portray a recommended walking time and distances depending on the dog’s DogFile. The next screen will show a map showing your location. The distance will be calculated through the location difference from your mobile device relating point A to point B. After finishing the walk, statistics will be shown such as weekly goals and calories burnt.

These main features have been brought to life using proto.io and invisionApp online applications. We plan to add more main features to the application through feedback from existing users who will use the application.

At the start, we were planning on creating a device using the Arduino kit which measured the temperature, location and heart rate of the dog. However with our groups inadequate knowledge of Arduino programming and identification of devices to use, we decided to go on separate paths from using Arduino. It would have taken a long time for parts to arrive and even longer time to program the devices. Alongside linking the device with the application. This decision was decided by the group as we were running out of time.

The stage of the project that we are currently at is hiring a application developer to bring our prototype to reality. We have completed our high fidelity prototypes which gives us incentive to create the application coded by a application developer.

**Roles**

The specific roles are as follows:

**User Interface Designer:** Ryan, Danny

**Tester:**  Dharal, Jaidyn

The user interface designer is responsible for designing the program by keeping users in mind and develop products that meets users’ needs. In our project, Ryan and Danny designed the application. They created mockups: low-fidelity and high- fidelity, and created prototype.

The tester is responsible for testing the design the designers made. The tester checks if the design meets users’ needs and provides feedback about the program. In our case, Jaidyn and Dharal tested the design and provided feedback on the designs made by the designers.

There were general roles which changed from week to week. These are described in the table below along with timeframe.

**Scope and limits (Min 1 paragraph)**

The scope for our project is the prototype which will include all the features on the app. The prototype will be able to show the features of the app but it won’t include the GPS belt which will be on the dog’s collar. The prototype will be able to show how to add a dog but it won’t show the list of all dogs. It will also be able to show the walk and feed feature but these are hardcoded in the prototype which means that the user won’t be able to alter it. Everything is hardcoded but the prototype shows how they will function which is closest to the final product. The prototype will not be able to show the time it takes to load each function.

**Tools and technologies**

* Arduino UNO
* Arduino Software
* Wires
* LM35 Temperature Sensor
* Proto.io
* inVisionapp

All members in the group had experience with Proto.io and inVisionapp as we had an assignment in User Centered Design course which required us to make a prototype.

**Testing (Min 1 paragraph)**

We want to have user testing done after the prototype is created. The users will use the prototype to test. Testing after prototype is a good idea as it is easy to change during this stage of development. We will find the testers from our group members families as the motivation for this project was from the group members who wanted a program to take care of their dog. For the prototype we are looking to have about 10 testers will be easy to get from group members’ families. If the users find any problems then we will be able to change it easily. Testers who owns a dog will be taken as they will be well known of the troubles to take care of dog.

**Time frame (Presented in a table)**

Below is the time frame for 16 weeks. We planned and implemented due date on trello. The link to the trello: <https://trello.com/b/M0scECsx>

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Ryan** | **Danny** | **Dharal** | **Jaidyn** |
| **Week 1** | Deciding on Project | Deciding on Project | Deciding on Project | Deciding on Project |
| **Week 2** | Team Profile,  Assign Roles,  Implementing due dates | Team Profile,  Assign Roles,  Implementing due dates | Team Profile,  Assign Roles,  Implementing due dates | Team Profile,  Assign Roles,  Implementing due dates |
| **Week 3** | Features | Features | Features | Features |
| **Week 4** | Low-fidelity mockups | Low-fidelity mockups | Report,  Testing low-fidelity mockups,  Presentation | Report,  Testing low-fidelity mockups,  Presentation |
| **Week 5** | High-fidelity mockups,  Presentation,  Prototype | High-fidelity mockups,  Presentation,  Prototype | Testing high-fidelity mockups, Presentation,  Report | Testing high-fidelity mockups, Presentation, Report |
| **Week 6** | Prototype,  Report | Prototype,  Report | Testing,  Report | Testing,  Report |
| **Week 7 (est)** | User Testing | User Testing | User Testing | User Testing |
| **Week 8 (est)** | Changes to Prototype | Changes to Prototype | Hiring Programmers | Hiring Programmers |
| **Week 9 (est)** | Programmer Interview,  Explaining Project | Programmer Interview,  Explaining Project | Programmer Interview,  Explaining Project | Programmer Interview,  Explaining Project |
| **Week 10 (est)** | Programming App | Programming App | Programming App | Programming App |
| **Week 11 (est)** | Programming App | Programming App | Programming App | Programming App |
| **Week 12 (est)** | User Testing | User Testing | User Testing | User Testing |
| **Week 13 (est)** | Fixing Issues | Fixing Issues | Fixing Issues | Fixing Issues |
| **Week 14 (est)** | Publishing App | Publishing App | Publishing App | Publishing App |
| **Week 15 (est)** | Promoting App | Promoting App | Promoting App | Promoting App |
| **Week 16 (est)** | Promoting App | Promoting App | Promoting App | Promoting App |

**Risks**

Some risks that may occur in our project is the incapability of being able to demonstrate the features given, as we have do not have the required experience with Arduinos and mobile application development. However, when implementing the application, it would be likely that professionals within the specific fields of development would be employed in order to assist us in developing our concept, therefore limited the possibility of risks occurring.

**Group processes and communications**

Our group communication will be conducted both in class and out of class. For out of class, we will use the social media platform Facebook, where we have created a messenger group for which we discuss our plans for the assignment. We expect communication to take place at least once to twice a week. As all of our group members are frequently active on this platform, we should have no problems when it comes to no communication from our group members. In order to avoid any project failures, our Trello page will help each member keep track of each individual task which will eventually need to be accomplished, as well as displaying the due dates for each of these tasks.

**Skills and Jobs**

As previously mentioned in the ‘risks’ subsection, we would find that future potential employees with plenty of experience with Arduinos and mobile application development would definitely be a requirement for a position to help take our project to the next level, when it comes to technical expertise. These applicants should also have done previous work similar to that of this project in the past, so that they are exposed to what they are required to do. Another requirement for potential applicants would be someone who has very strong innovative skills, who can employ new ideas and concepts into a variety of different situations based on current needs of consumers. This is to help our project stay up to date and to continuously be on the edge of innovation above our competitors. Someone who possesses great managerial and leadership skills would also be of much benefit for our project so that they may act as our co-leader, as well any other potential applicants whose knowledge and level of expertise in other other fields such as application designing would be of value for our project.

**References:**