

Enterprise and innovation

by Sarann Strange

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3 Introduction

The report discusses the Version0 business and their product Doggogo (a canine care application). The initial steps must be taken to identify a unique selling point (UPS) through market research into other applications like Doggogo.

The initial design process including the expectations and capabilities of the application. To identify and report on the desired target market and the steps taken to increase the public's awareness of the application and business through social media and advertisement.

The creation of the production of the application and the development and improvement that team members made through the process of creating and working together to successfully build a prototype.

4 New Product development

The product is a dog-caring application that allows the user of the system to input information about the dog and receive notifications and reminders of upcoming care routines (such as defleaing, worming or veterinary check-ups). For users who are willing to pay, the application will include a device that attaches to the animals' collar and tracks the number of steps that the dog has taken while displaying an accurate location of a dog on a live map using GPS.

4.1 Unique selling point (UPS)

The unique selling point is the thing that an application, company or device is doing that is different to others, that individuals find valuable and want to buy or invest in due to its ability to provide a service or meet their needs they feel weren't being met before [1][2].

There are several applications that specialise mainly on one aspect of dogs' health, for instance, monitoring and tracking the dog's location [3][4] to prevent the animal from becoming lost or injured while an owner is trying to find it.

Monitoring the mental health of the animal through training regimes or a calendar application that specifically logs information on an animal [5] [6]. The UPS of the Doggogo application will be its inclusion of all aspect of the animal care, combining all the previously mentioned topics of physical health, mental health and location tracking to create a platform that allows pet owners to easily access all the information that they need in one location.

4.2 Design: Requirements / new product spec

The requirements of the application include the definitive aspects that will be included in the final product.

- The product must track the current location of the dog, displaying it on to a map that is accessible by users of the application.
- The capability to input required information of a pet such as its name, age, medical history, images and care routines.
- For the application and website to be intuitive, easily navigated and easily used while being visually appealing and attractive using a colour pallet that avoids excluding colour-blind individuals [7], that must appeal to the highest number of potential users [8].
- The user-interface must be no more than three clicks away from its home page to avoid confusion or the user becoming lost [9].
- Easily identifiable text, icons and labels to indicate and identify what each section of the application is doing and displaying.
- The navigation of the application must be consistent and recognisable for instance a next button or return button should be recognisable [10].

4.2.1 Illustration of design of application

During the design phase of the application, initial design concepts were drawn onto a whiteboard. The designs included buttons, text and image layouts. The functionality of the website and the navigation between pages, the initial images can be found within appendix 11.1 Initial designs of the Doggogo website drawn on a whiteboard.

4.2.1.1 Linking application pages

As shown in figure 1 each of the pages of the Doggogo website are identifiable and include the branded logo of the business with recognisable buttons and text. The image shows the index page on the far right that leads the user to all other pages of the Doggogo website.

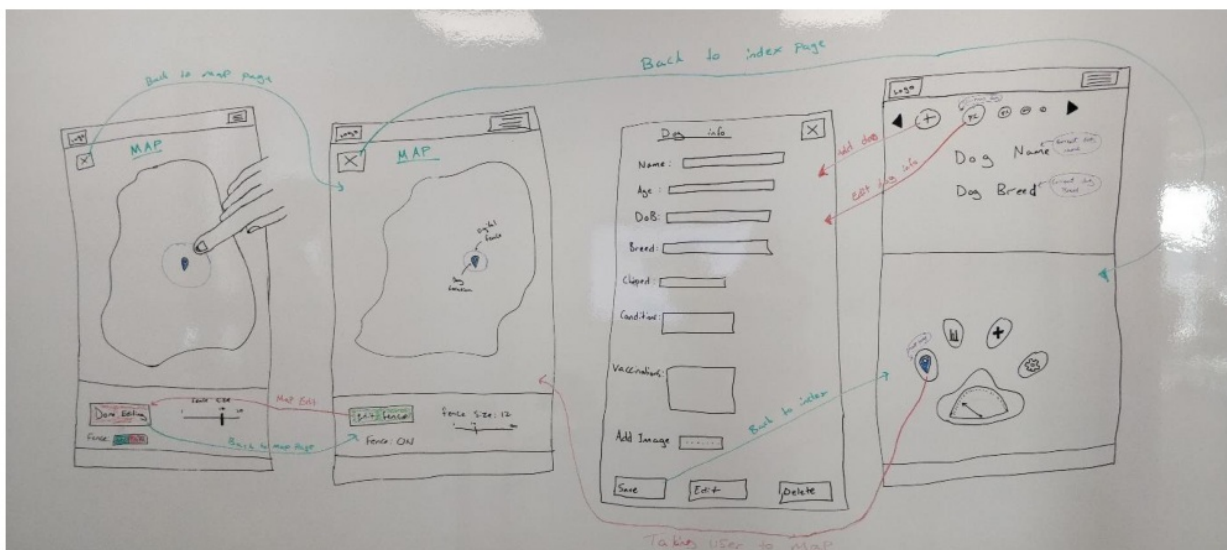


Figure 1 The pages of the Doggogo website how they link together, drawn on whiteboard.

4.2.1.2 Home/index page of application

Figure 2 represents the index page of the website it is the first page loaded each time the users use the application.

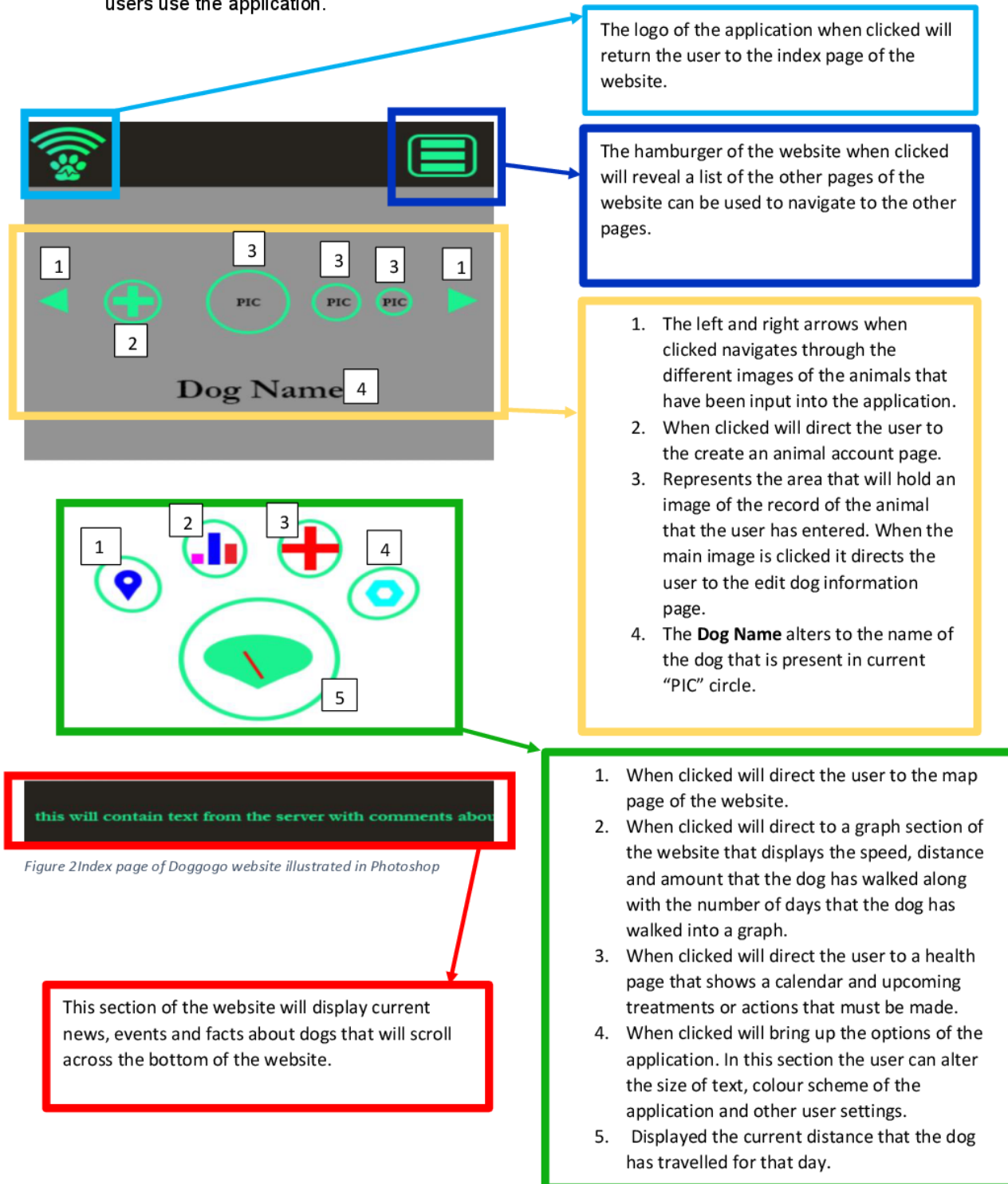


Figure 2 Index page of Doggogo website illustrated in Photoshop

4.2.1.3 Edit dog information page

Figure 3 represents the edit and create page of the website. When a user wishes to input a new animal record this page is loaded completely blank allowing the user to input new dog records. If the user clicks on an already existing account this page is loaded with the previously entered data that the user can edit or delete.

The logo of the application when clicked will return the user to the index page of the website.

The hamburger of the website when clicked will reveal a list of the other pages of the website can be used to navigate to the other pages.

Each section of the information page will have static text along with text boxes that allow the user to enter values in accordance with the text, the add image section at the far bottom will allow the user to upload an image that they have taken of their dog.

1. After a user enters data into the different text boxes they can click the Save button to save a record to the database. The new record will be accessible from the index page and the image of the newly entered dog will be present in a circle.
2. If a record already exists a user can click on the edit button and make changes to any information that exists, this will alter the previously saved data in the database.
3. The delete button can be used to permanently remove a record from the database, when clicked it will display a prompt asking the user if they are certain that they wish to permanently delete the record.

Figure 3 Information page illustrated in Photoshop

4.2.1.4 Map page of application

Figure 4 represents the map page of the website it displays the current location of the dog along with other features that the user can alter and set. The top image represents the page and its current settings, the bottom image represents the edit page of the map page.

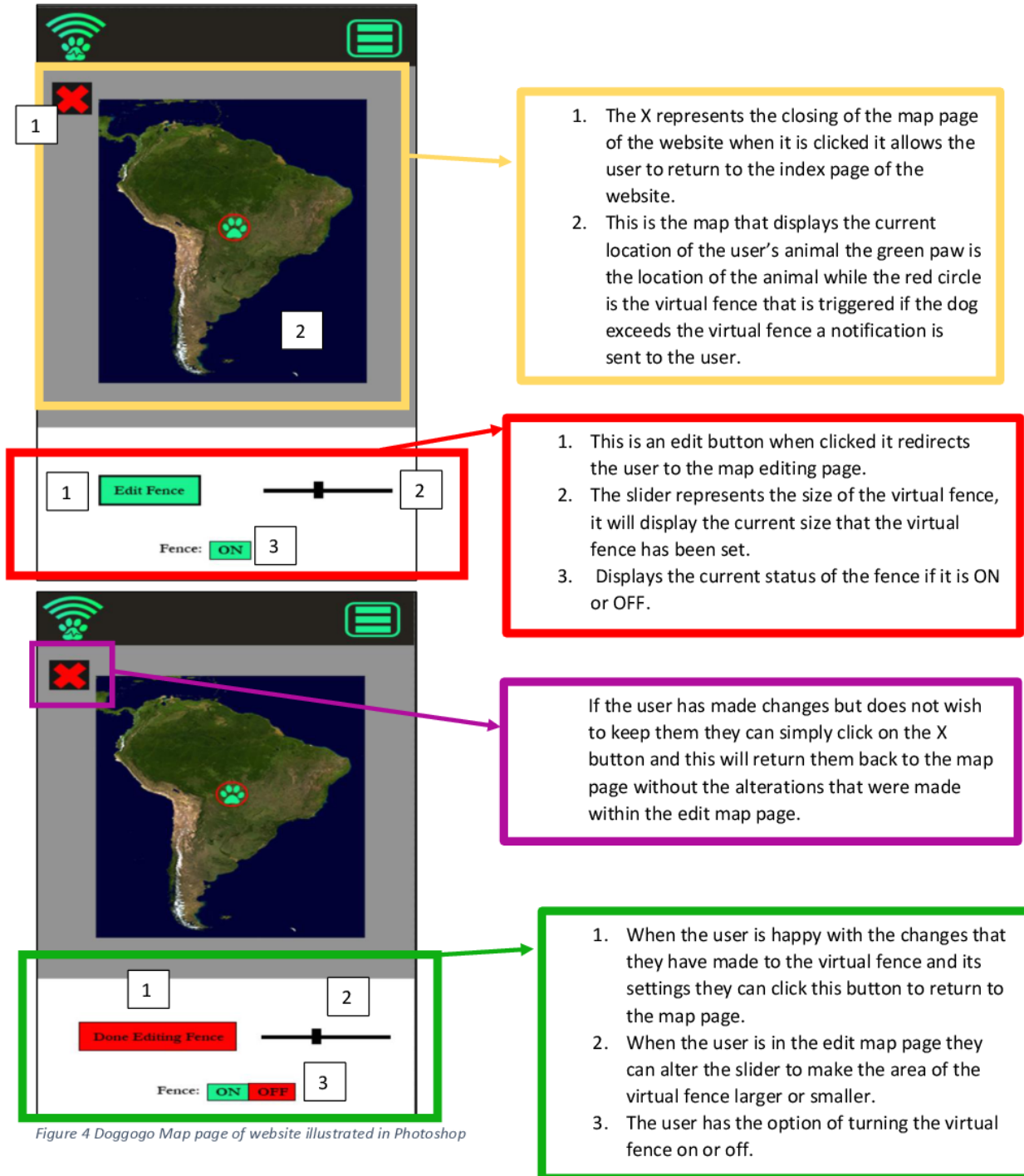


Figure 4 Doggogo Map page of website illustrated in Photoshop

5 Production

In accordance with the groups decision James Millns and Sarann Stange carried out work on the database that will be used to store and retrieve data that the application requires to function. When a new user creates an account with the Doggogo company and inputs details of their pets all of this information will be stored and kept for as long as it is required within this database. The database will be stored on secure servers that can be accessed via the web application at all times.

Before creating the database both Sarann Strange and James Millns established the required attributes, data types, various constraints, foreign and primary keys, this was achieved by brainstorming ideas on a whiteboard as seen in figure 5 more detailed images can be found within appendix 11.2 User table design.

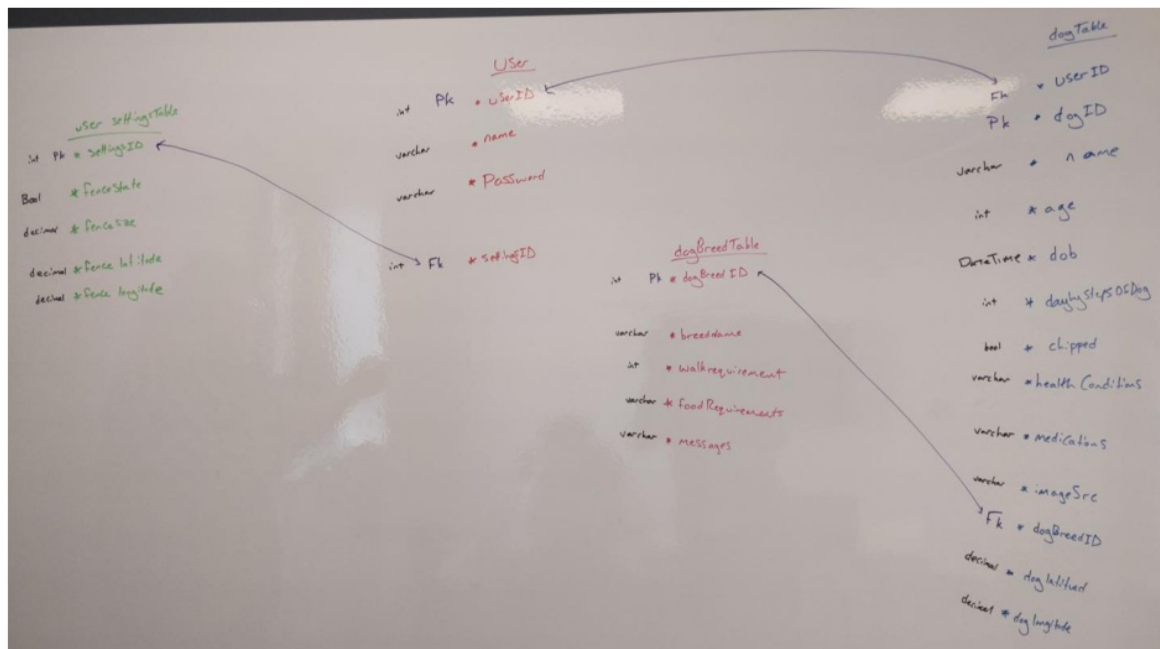


Figure 5 Database schema design

Figure 6 represents the entity relationship diagram (ERD) of the Doggogo application the database was developed within MySQL and the resulting code of the database can be seen within figure 7 once the database was completed and given to Austin Hooper design issues and bugs were discovered and appropriately altered and fixed to ensure the database was functioning and storing data correctly.

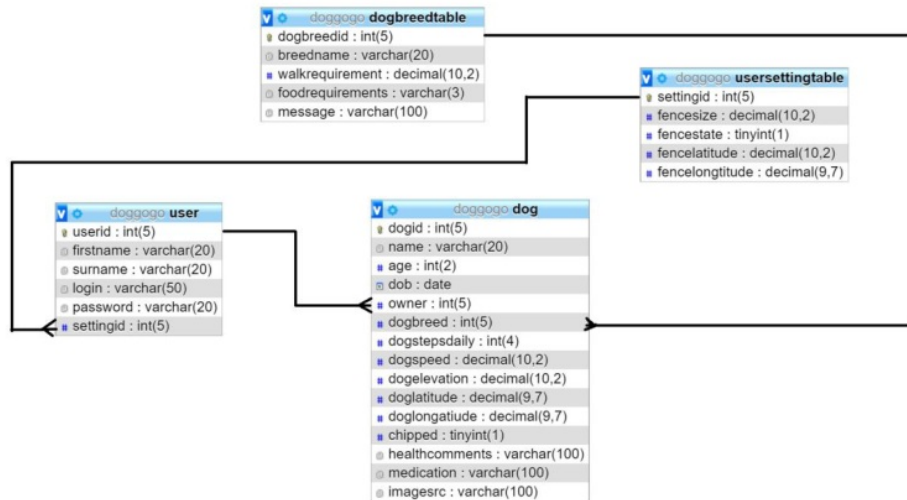


Figure 6 Entity relationship diagram (ERD) of Doggogo application

```

1  -- phpMyAdmin SQL Dump
2  -- version 4.8.4
3  -- https://www.phpmyadmin.net/
4  --
5  -- Host: 127.0.0.1:3306
6  -- Generation Time: Feb 26, 2019 at 02:54 PM
7  -- Server version: 5.7.24
8  -- PHP Version: 7.2.14
9
10 SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
11 SET AUTOCOMMIT = 0;
12 START TRANSACTION;
13 SET time_zone = "+00:00";
14
15
16 /*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
17 /*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
18 /*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
19 /*!40101 SET NAMES utf8mb4 */;
20
21 --
22 -- Database: `doggogo`
23 --
24 CREATE DATABASE IF NOT EXISTS `doggogo` DEFAULT CHARACTER SET latin1 COLLATE latin1_swedish_ci;
25 USE `doggogo`;
26
27
28
29 --
30 -- Table structure for table `dog`
31 --
32 DROP TABLE IF EXISTS `dog`;
33 CREATE TABLE IF NOT EXISTS `dog` (
34   `dogid` int(5) NOT NULL AUTO_INCREMENT,
35   `name` varchar(20) NOT NULL,
36   `age` int(2) NOT NULL,
37   `dob` date NOT NULL,
38   `owner` int(5) NOT NULL,
39   `dogbreed` int(5) NOT NULL,
40   `dogstepsdaily` int(4) NOT NULL,
41   `dogspeed` decimal(10,2) NOT NULL,
42   `dogelevation` decimal(10,2) NOT NULL,
43   `doglatitude` decimal(9,7) NOT NULL,
44   `doglongitude` decimal(9,7) NOT NULL,
45   `chipped` tinyint(1) NOT NULL,
46

```

```

47 `healthcomments` varchar(100) NOT NULL,
48 `medication` varchar(100) NOT NULL,
49 `imagesrc` varchar(100) NOT NULL,
50 PRIMARY KEY (`dogid`)
51 ) ENGINE=MyISAM DEFAULT CHARSET=latin1;
52
53 -----
54
55 --
56 -- Table structure for table `dogbreedtable`
57 --
58
59 DROP TABLE IF EXISTS `dogbreedtable`;
60 CREATE TABLE IF NOT EXISTS `dogbreedtable` (
61   `dogbreedid` int(5) NOT NULL AUTO INCREMENT,
62   `breedname` varchar(20) NOT NULL,
63   `walkrequirement` decimal(10,2) NOT NULL,
64   `foodrequirements` varchar(3) NOT NULL,
65   `message` varchar(100) NOT NULL,
66   PRIMARY KEY (`dogbreedid`)
67 ) ENGINE=MyISAM DEFAULT CHARSET=latin1;
68
69 -----
70
71 --
72 -- Table structure for table `user`
73 --
74
75 DROP TABLE IF EXISTS `user`;
76 CREATE TABLE IF NOT EXISTS `user` (
77   `userid` int(5) NOT NULL AUTO INCREMENT,
78   `firstname` varchar(20) NOT NULL,
79   `surname` varchar(20) NOT NULL,
80   `login` varchar(50) NOT NULL,
81   `password` varchar(20) NOT NULL,
82   `settingid` int(5) NOT NULL,
83   PRIMARY KEY (`userid`)
84 ) ENGINE=MyISAM DEFAULT CHARSET=latin1;
85
86 -----
87

```

```

88 -- Table structure for table `usersettingtable`
89 --
90
91 DROP TABLE IF EXISTS `usersettingtable`;
92 CREATE TABLE IF NOT EXISTS `usersettingtable` (
93   `settingid` int(5) NOT NULL AUTO INCREMENT,
94   `fencearea` decimal(10,2) NOT NULL,
95   `fencestate` tinyint(1) NOT NULL,
96   `fencelatitude` decimal(10,2) NOT NULL,
97   `fencelongitude` decimal(9,7) NOT NULL,
98   PRIMARY KEY (`settingid`)
99 ) ENGINE=MyISAM DEFAULT CHARSET=latin1;
100
101 --
102 -- Database: `saramserver`
103
104 CREATE DATABASE IF NOT EXISTS `saramserver` DEFAULT CHARACTER SET latin1 COLLATE latin1_swedish_ci;
105 USE `saramserver`;
106
107 -----

```

Figure 6 Doggogo database code

figure 8 is the dog table of the database in this table the information of the dog is stored and kept, everything from the name, age, owner breed and other personal details. The dogid is int as it will be using hole numbers, name is varchar as it will be using letters, age is int as it will hold integer values and doesn't require a decimal, the dob is date as it requires the date of birth of the animal, the dogbreed it int as it uses the dog breed number form the dog table and brings the information forward form that table into this one.

#	Name	Type	Collation	Attributes	Null	Default
1	dogid 🔑	int(5)			No	None
2	name	varchar(20)	latin1_swedish_ci		No	None
3	age	int(2)			No	None
4	dob	date			No	None
5	owner	int(5)			No	None
6	dogbreed	int(5)			No	None
7	dogstepsdaily	int(4)			No	None
8	dogspeed	decimal(12,8)			No	None
9	dogelevation	decimal(12,8)			No	None
10	doglatitude	decimal(12,8)			No	None
11	doglongitude	decimal(12,8)			No	None
12	chipped	tinyint(1)			No	None

Figure 7 dog table of database

14	medication	varchar(100)	latin1_swedish_ci		No	None
15	imagesrc	varchar(100)	latin1_swedish_ci		No	None

Figure 8 dog table from database

In figure 9 this is the dog breed table of the database it holds information on the different dog breeds, it has the walk requirements, food required for that specific dog breed. This is brought forward to the dog table after the user inputs their own personal details.

The dogbreed holds integer values as it will consist of numbers, the breedname is varchar as it can use both integers and letters, the walkrequiremnts use decimal as it will be using measurement distances, the message is a var char as it will be holding comments about the breed.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	dogbreedid 🗝️	int(5)			No	None		AUTO_INCREMENT
2	breedname	varchar(20)	latin1_swedish_ci		No	None		
3	walkrequirement	decimal(10,2)			No	None		
4	foodrequirements	varchar(3)	latin1_swedish_ci		No	None		
5	message	varchar(100)	latin1_swedish_ci		No	None		

Figure 9 dogbreed table

In figure 9 it shows the user table. The userid table is an int because it will hold the id of the user that will consist of numbers, the first name is varchar as it will be using letters that the user will use to spell their name, the sumame is varchar as it will be using letters that the user will use to spell their name, the login will use varchar as the user will be using letters as a login, the password will be using varchar because it will be using letters and numbers that the user choses for security it is best to have a password that contains letters and numbers.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	userid 🗝️	int(5)			No	None		AUTO_IN
2	firstname	varchar(20)	latin1_swedish_ci		No	None		
3	surname	varchar(20)	latin1_swedish_ci		No	None		
4	login	varchar(50)	latin1_swedish_ci		No	None		
5	password	varchar(20)	latin1_swedish_ci		No	None		
6	settingid	int(5)			No	None		

Figure 10 user table

in figure 11 it shows the setting table it holds all the information on the setting of the application, dencesize is int because it needs to have the size of the fence set using number this is the fence that shows were the dog can go and can walk around inside before the owner is warned that the dog has gone out of its area, fencestate is if the fence is turned on or off, fencelatitude is set to decimal because it shows on the location of the fence on a map and needs point numbers to work and the fence longitude is a decimal for the same reason as the fencelatitude.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
☐ 1	settingid 	int(5)			No	None		AUTO_INCREMENT
☐ 2	fencesize	int(3)			No	None		
☐ 3	fencestate	tinyint(1)			No	None		
☐ 4	fencelatitude	decimal(12,8)			No	None		
☐ 5	fencelongitude	decimal(12,8)			No	None		

Figure 11 setting table

6 The Market & Competitors

6.1 Analysis of the industry & Competitors

According to the RSPCA the population of pet dogs within the UK was 9.0 million in 2017 it is estimated that 12 million households have pets [11]. It is estimated that 1,670 dogs went missing in the UK in 2016 [12] this issue happens in America where an estimated 10 million cats and dogs go missing every year [13]. A variety of pet insurance companies not only cover the medical treatment of an animal but the loss of the pet if it runs away or is stolen, therefore it is recognised as a potential issue by companies as they provide this service [14].

There is a theory that links a dogs aggression and unruliness with it being untrained and not walked frequently, this can derive from the limited or incorrect understanding and knowledge that owners have in caring for and training their pets [15][16].

Many competitors exist that provide similar products to the one that Doggogo are pitching such as Dogo witch is free [6] and Puppr which is free but requires either £2.69 for specific advanced lessons or £10.99 for all advanced lessons [5] as shown in figure 8 Dogo & Puppr training application both are highly rated and downloaded thousands of times [6] [5].

Both applications provide examples and guidance for tricks and useful commands to train dogs, they include achievements and daily goals to encourage a well-trained dog which in turn encourages the mental health of the animal [17][18]. Dogo USP is its animation and achievements, while Puppr's has recruited a highly educated and award-winning dog trainer to sponsor their application.

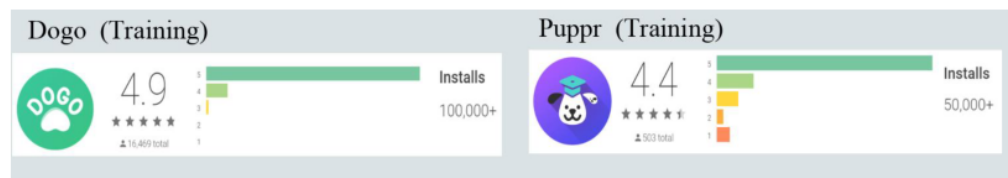


Figure 12 Dogo & Puppr training application

Findster (the costs of the application and GPS device are displayed within figure 10) [3] and Tractive (the costs of the application and GPS device are displayed within figure 9) [4] are both applications that track the exact location of a dog using GPS, they allow for the creation of a virtual fence which is a perimeter that the dog is permitted to venture within, if the dog goes beyond that perimeter the owner is notified through their mobile-phone. A map is displayed on the owner's mobile-phone displaying the location that the dog has travelled and details of the pet.

As seen in figure 11 both applications have been well received and have been downloaded by thousands of users. Findster's USP is its one-time payment rather than a monthly subscription [3], while Tractive USP is that it functions within 150 countries worldwide [4].

All-in-one GPS Pet Tracker and Pet Activity Monitor. Free of Monthly Fees

★★★★★ 427 Reviews

£139.99 VAT included **In Stock**

Track your Pets' Location and Activity on your Phone in Real-Time.

1 Pet Tracker £139.99	2 Pet Trackers £179.99	3 Pet Trackers £219.99
---------------------------------	----------------------------------	----------------------------------

Figure 14 Findster Cost

BASIC			PREMIUM	
starting at only £3.33 / month			starting at only £3.75 / month	
Monthly £4.49	Annual £44.99	2 Years £79.90	Annual £54.99	2 Years £89.90
£4.49 / month	£3.75 / month	£3.33 / month	£4.58 / month	£3.75 / month
✓ GPS Tracking (2-60 minutes intervals) ✓ Unlimited LIVE Tracking (2-3 second intervals) ✗ Worldwide Coverage ✗ Unlimited Location History ✗ Export Location History (gpx & kmz file) ✗ Share access with other accounts ✗ PREMIUM Customer Service			✓ GPS Tracking (2-60 minutes intervals) ✓ Unlimited LIVE Tracking (2-3 second intervals) ✓ Worldwide Coverage ✓ Unlimited Location History ✓ Export Location History (gpx & kmz file) ✓ Share access with other accounts ✓ PREMIUM Customer Service	

Figure 13 Tractive Cost



Figure 15 Findster & Tractive Application ratings

Walkmeter (this application is free but users can choose to pay £9.99 to have an advanced mode to access more settings) [19], Walk with Map My Walk (this application is free to download but requires payment from £3.51 - £27.99, to access more settings it also contains advertisements) [20]. Both are GPS tracking applications that display maps and the location of an individual using the application, logging the length of their walk and the amount of time they take to cover a walk.

As seen in figure 12 both applications have been downloaded thousands of times and have high ratings. The UPS of Walkmeter is its use of graphs and the level at which it displays the distance and time travelled, the UPS of Walk with Map My Walk is its usability and its friendly design and the ability to share and post images to its online community.

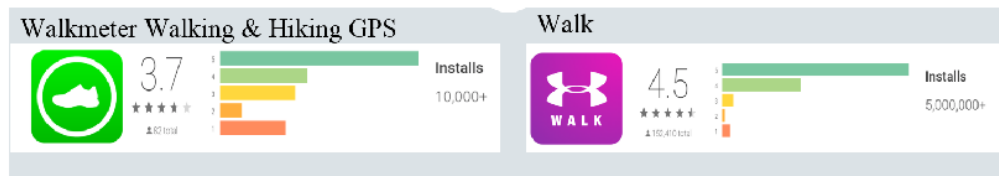


Figure 16 Walkmeter & Walk with Map My Walk Application ratings

After conducting the market research and analysing the pet industry, it highlighted that there is a place in the market for Doggogo's application as pet owners are willing to pay for pet insurance for the potential loss of their animal. A high number of animals go missing each year and millions of individuals within the UK are dog owners. The market research confirmed that individuals want applications that track their walking habits and to view the time and distance that they have travelled.

Once the specific dog applications were found it was identified that they were being downloaded by thousands of users. This indicates that pet owners want dog care applications that range from training to monitoring the location and the overall health of the animal and encourage the owners to continue correctly caring for the health of their pet using achievements, goals and online communities they can interact with.

The paw tracker is a GPS tracker [21] that's used to track the location of a pet, the price of the product is \$99.95 the unique selling point is the way it looks and that users can have different colours, after users have bought the product users pay month to keep it working as seen in figure 17. It was a positive product that people liked because they put up positive comments about the product as seen in figure 18.

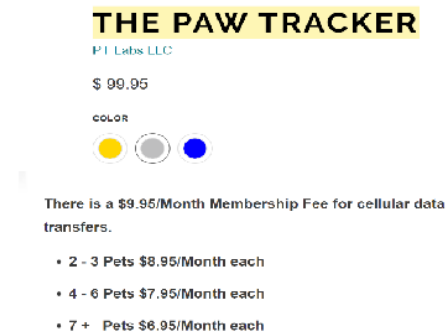


Figure 17 the paw tracker



Figure 18 paw tracker customer review

The link AKC smart dog collar with GPS tracker [22] is a dog tracking app the unique selling point is that it is the entire collar rather than something that fits onto the collar it also has a light that can be switched on if everything goes dark, it currently costs \$98.20 although it only has three stars it still has a lot of good reviews.



Figure 19 link AKC smart dog collar with GPS tracker [22]

Whistle [23] is a GPS monitoring device that is used on a users phone to track the location of a dog, as seen in figure 20 it was well received and was popular as 4022 people bought the device, it was rated four stars the application costs \$99.95. Its unique selling point is that it is a location and activity tracker.

Whistle 3 GPS Pet Tracker & Activity Monitor

★★★★☆ 4,022 customer reviews

- Meet Whistle 3—the best all-in-one GPS location and activity tracker for dogs and cats—Smarter pet care is here.
- NATIONWIDE LOCATION TRACKING: Whistle uses advanced GPS and cellular technology to pinpoint your pet's location anywhere in the U.S. on AT&T, America's largest network.
- SUBSCRIPTION PLAN: Whistle 3 is like a cell phone for your dog, so it requires a subscription plan for cellular connectivity. Plans start as low as \$6.95/mo and are selected at activation in the Whistle app (no separate cellular contract required). Works with iOS 10 or later and Android 5.0 or later.
- PROACTIVE ALERTS: Get text, app or email notifications when your pet leaves their safe place, before they get too far away. Wi-Fi network required to set up safe places.
- TRIPS: Follow your pet's location over the last 24 hours to see where they went and when.
- MONITOR ACTIVITY: Track your dog's daily activity and rest to keep your companion in great shape for their age, weight and breed.
- BATTERY LIFE: Whistle 3 has the longest-lasting battery of its kind and can last up to 7 days. Battery life is impacted by the strength of your Wi-Fi and cellular coverage. Depends on usage and environment. Get notifications when your battery needs to be charged. Full recharge only takes 2 hours.
- DURABLE & WATERPROOF: Attaches to any collar or harness up to 1" wide and designed to go anywhere with your pet, even swimming. Recommended for pets 8 lbs and above.
- Note: The notches on the top and bottom of the back of the device are part of manufacturing process.

[Show less](#)

\$99⁹⁵ ✓prime

Figure 20 whistle 3 GPS Pet Tracker & Activity Monitor [23]

6.2 PEST analysis

6.2.1 Political environment

Most governmentally run animal shelters have a minimum guideline of 72 hours before they can euthanise an animal [11] [24] with the use of the application owners could instantly locate their pet, giving them ease of mind as they can definitely retrieve their pets before the time expires.

The road traffic act 1988 [25] states, if a dog causes a road incident that results in injury, illness or death the owner of the animal is liable [26][27][28] with the use of the application and device the animal can be found faster limiting the chance of it causing accidents.

IP intellectual property is copy write and the trademark of the company the group would have to pay to get the business registered and setup correctly this includes the name of the business and product and logo intellectual property can also be owned by more than one person, so everyone in the group owns the right to the intellectual property of Doggogo its brand name and items because everyone had a hand in creating and working on it [29].

6.2.2 Economic

Economically the application has an impact on the councils as they would potentially spend less as animals would be found faster and even by their own owners using the online map. Animal-control officers might not be required to locate and trap the animal or take it to the animal shelter to be housed and fed which cuts into the governments finances (and subsequently the tax-payer) [30].

When dogs are taken to animal shelters the owners of the animal may be asked to pay a fee before their dog is returned to them [31]. economically the application can save the owners' costs on veterinary care if their dog suffers any injuries while they have escaped.

6.2.3 **Social**

The percentage of individuals who own pet dogs within the UK as seen in *figure 13 Share of households owning pets by type and region in the United Kingdom (UK) from 2015 to 2017* [32]. Northern Ireland is 38% and Wales is 31% socially individuals are choosing to own dogs at a higher percentage than other domestic animals other than in London proving that the application is more likely to resonate and produce higher returns for a dog driven application.

	Outdoor fish	Indoor fish	Cats	Dogs	Rabbits	Guinea Pigs	Indoor birds
Northern Ireland	1%	10%	15%	38%	0%	0%	2%
North East	4%	9%	13%	31%	3%	1%	2%
Wales	4%	11%	22%	31%	3%	1%	1%
East Midlands	7%	8%	19%	28%	3%	2%	2%
North West	4%	8%	16%	27%	2%	1%	2%
West Midlands	6%	9%	17%	26%	2%	1%	2%
South West	7%	7%	21%	25%	2%	1%	2%
Yorks&Humber	4%	7%	18%	23%	3%	1%	1%
South East	7%	9%	21%	23%	2%	1%	2%
Scotland	2%	7%	15%	21%	1%	1%	1%
East of England	5%	7%	19%	20%	2%	1%	1%
London	2%	5%	14%	9%	1%	0%	1%

Figure 21 Share of households owning pets by type and region in the United Kingdom (UK) from 2015 to 2017 [32]

6.2.4 **Technology**

As displayed in *Figure 14 Smartphone usage by age UK 2012-2017 | Survey* [33], mobile phone users within the UK of all ages have been increasing proving that mobile phones have become a staple within society. Alongside the number of downloads of each application within section 6.1, this indicates that a significant number of individuals living within the UK own dogs and they actively use applications to manage and care for their pets.

Enterprise & Innovation

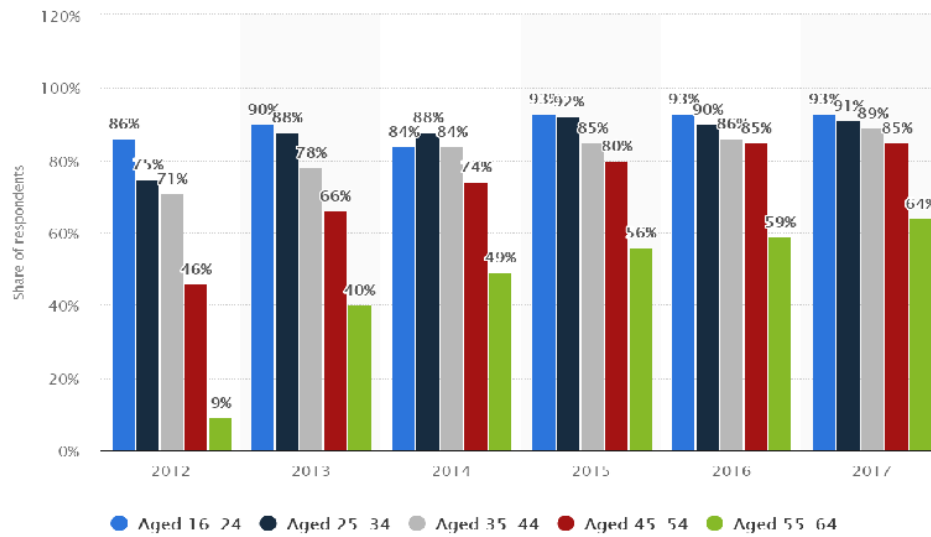


Figure 22 Smartphone usage by age UK 2012-2017 | Survey [22]

7 The Marketing Plan

7.1 Target market

The target market of the application includes individuals who:

- Have a limited understand on how to fully meet the needs of their dogs correctly whether it be them feeding their dog the wrong diet or not walking the dog the correct amount for its breed and size[34][35][36]. Figure 15 indicates that dog obesity in the UK 2017 40% of dogs are overweight.
- Forgetful Individuals who require a calendar application to remind them of upcoming health requirements of their canine or find themselves forgetting facts or details such as dates on vaccination's, worming, de-fleaing or information on the chip of the animal.
- First time dog owners or individuals who have been given a dog as a gift.
- Owners who have been advised by a veterinarian that their dog is unhealthy due to its weight and may suffer health issues [36].

Veterinarians are potentially a target market in future developments of the project; the application can be pitched and sold to veterinarians as a means of accessing information and data on an animal quickly and easily without always needing the owner to bring the dog to the place of business.

Veterinarians could potentially have a business version of the application that receives a code to access the data from the owner's device and view in-depth details on the dog and how the owner has been caring for the animal, allowing them to give well-grounded advice on changes that the owner can make to improve the livelihood of the animal.



Figure 23 Dog Obesity in the UK 2017 MedicAnimal.com

7.2 Poster / Flyer

To build brand recognition and raise awareness of the product the group recognised the necessity of creating posters and advertisements for the business. Members of the project pitched and sketched potential poster designs and created slogans see figure 16 that could be used to increase awareness of the product.

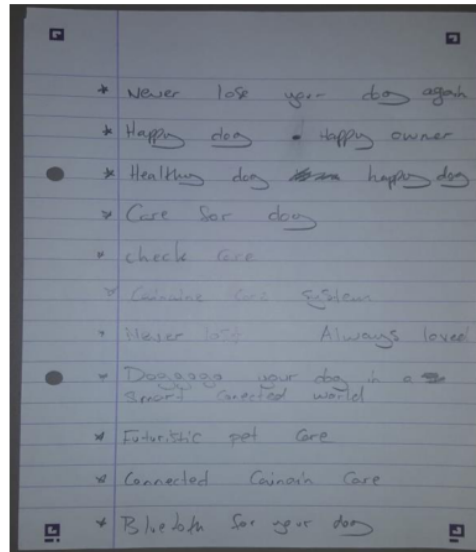


Figure 24 Slogans and messages for advertisements

Multiple group members using the sketches and slogans used Photoshop to create various versions of posters that the group could unanimously choose that best suited the message and theme of the overall Doggogo brand. The image within figure 17 represents one of the potential posters that had been created by Sarann Strange.

Photoshop was used and a lot of different tools were used like the lasso tool to crop and shape the leaf that was used from another image the logo was made smaller and a box was put around the image and given a hue of black to make it look less bright.

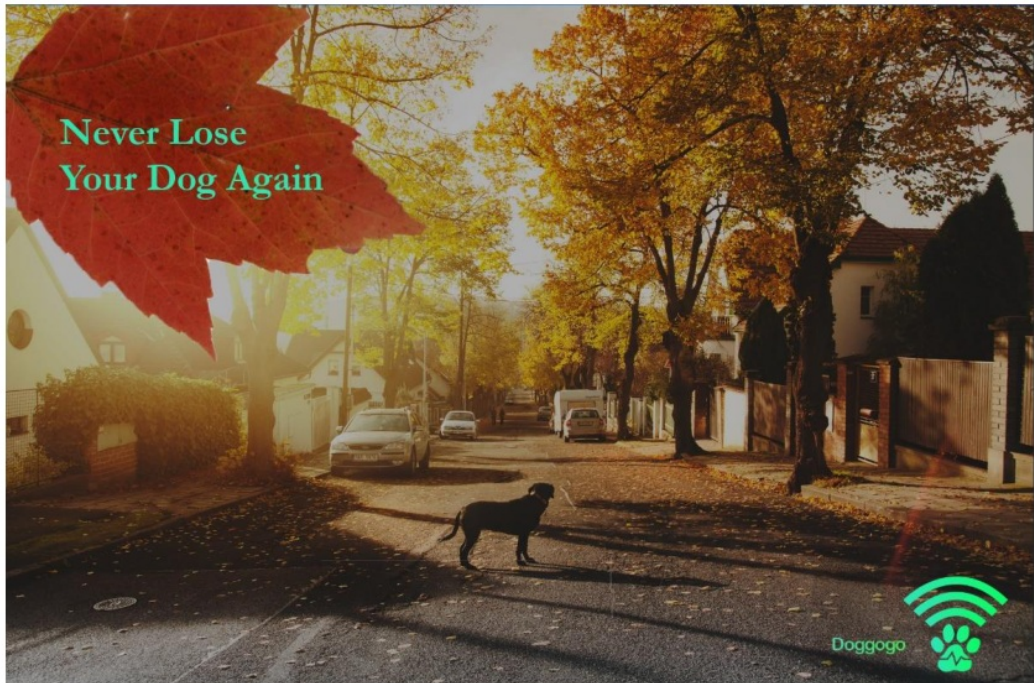


Figure 25 Never Lose Your Dog Again potential poster for Doggogo

8 Management & Operations

Due to the nature of the project being heavily group based, the interpersonal and employability skills of group members were developed and improved.

Communication, team working, collaboration and conflict resolution were skills required to create and design the web pages for the application and the posters [37]. Individuals needed to voice their ideas and opinions during team meetings, while coherently justifying them to the group and encourage the group that their idea was best suited to move the project forward [38].

Organisation, self-motivation and time management skills were used during the research stages of the project to identify other existing products and to identify the target market [37]. They were then put into a report, which needed to be finished for a specific date, so the group could use the information during their own developmental stages of the project [39].

Initiative, problem-solving and critical thinking were all used in the design and implementation of the database that would be used to store the data of the application. During the design phase of the database the potential fields and tables had to be broken down and identified while ensuring that the data-types and field-lengths were correct for the data being held within them. Several issues were presented during the implementation phase and each time a new issue was found they needed to be solved quickly so other group members could continue with their own progress of the project.

8.1 Team working & collaboration methods

Many collaboration methods were established and arranged for the group to contact one another and inform each other on progress and issues that were made during the creation of the project. A Facebook group was created where all members could upload images and their progress as seen in figure 17 messages from Sarann Strange to the group.

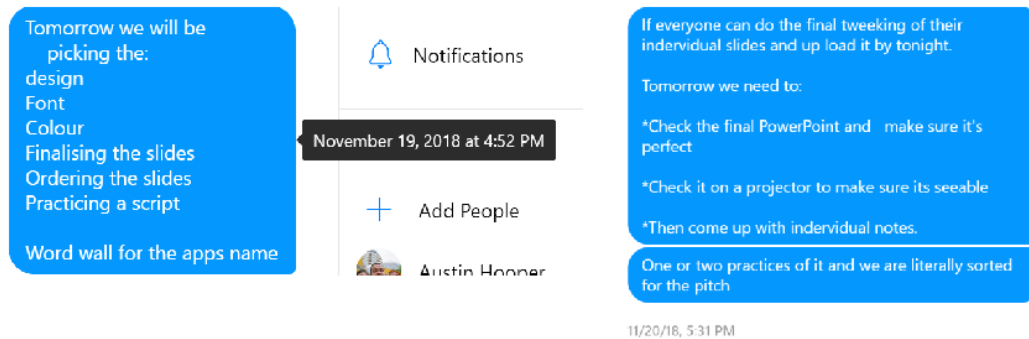


Figure 26 Facebook Communication messages from Sarann

In the early stages of the project group members collaborated exclusively on Facebook this medium was found to be ineffective at storing files or work, the group resorted to sharing files via one drive while continuing to use Facebook to discuss the project and meetings.

Progress reports and minutes of meeting were documented at each stage of the project, these can be seen in the appendices 9.1 minutes of meeting. It is the groups belief the documents were required to hold as much detail as possible to be referred to as the project progressed to recall the finished aspects of the project and things that were missing from the project in general.

The project was divided amongst the group in conjunction with their strengths and skills while ensuring a fair allocation. This division occurred as follows:

- **DE:** Dylan Evans - Backend development of application.
- **RD:** Richard Davies - Backend development of application & Public relations.
- **AH:** Austin Hooper - Frontend development of application & Business / design.
- **JM:** James Millns - Team manager & Backend development of application.
- **SS:** Sarann Strange - Frontend development of application & research.

9 Conclusion

In summary, monitoring and mobile technologies have been and continue to increase in popularity. In addition to this a PEST analysis was carried out to discover the political, economic, social and technology that would influence the project and the product. The market research indicated that there is a demand for animal care applications. With these factors in-mind the group was able to establish a place within the market for the proposed Doggogo application.

The target market was discussed along with the statistics on dog owners with limited knowledge on how to care from their pet. The creation and design of a promotional poster the groups discussions and ideas that influenced its designs. The skills acquired and improved through the different forms of collaborating such as discord, Facebook and team meetings.

The project can be deemed to be a success as it achieved its goals in accordance to the project plan and its aims and time-frame. The prototype was successfully built and tested, and the group are prepared and can carry out the final presentation pitch of the product.

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11 Appendices

11.1 Initial designs of the Doggogo website drawn on a whiteboard

11.1.1 Home/index page of application

The image within figure 22 is the initial design of the index page that was drawn on a whiteboard.

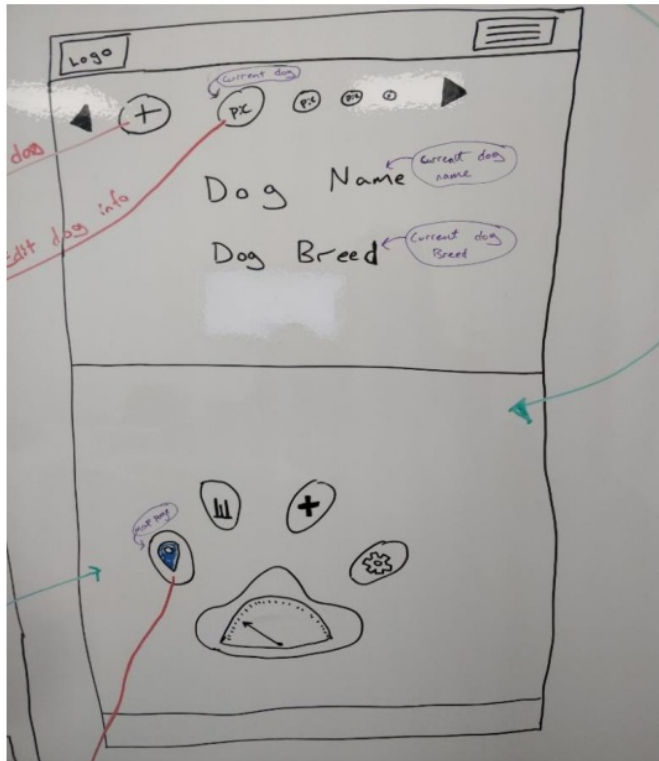


Figure 27 Index page of Doggogo website drawn on whiteboard

11.1.2 Edit dog information page

The image within figure 23 is the initial design of the dog information page that was drawn on a whiteboard.

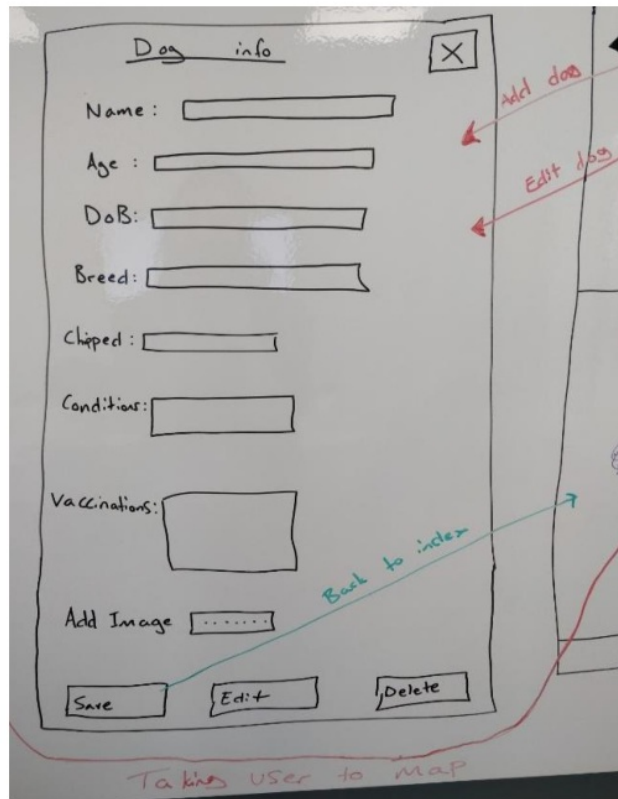


Figure 28 Information page drawn on whiteboard

11.1.3 Map page of application

The image within figure 24 is the initial design for both the map page when it is first navigated to and the editing page pf the map page that was drawn on a whiteboard.

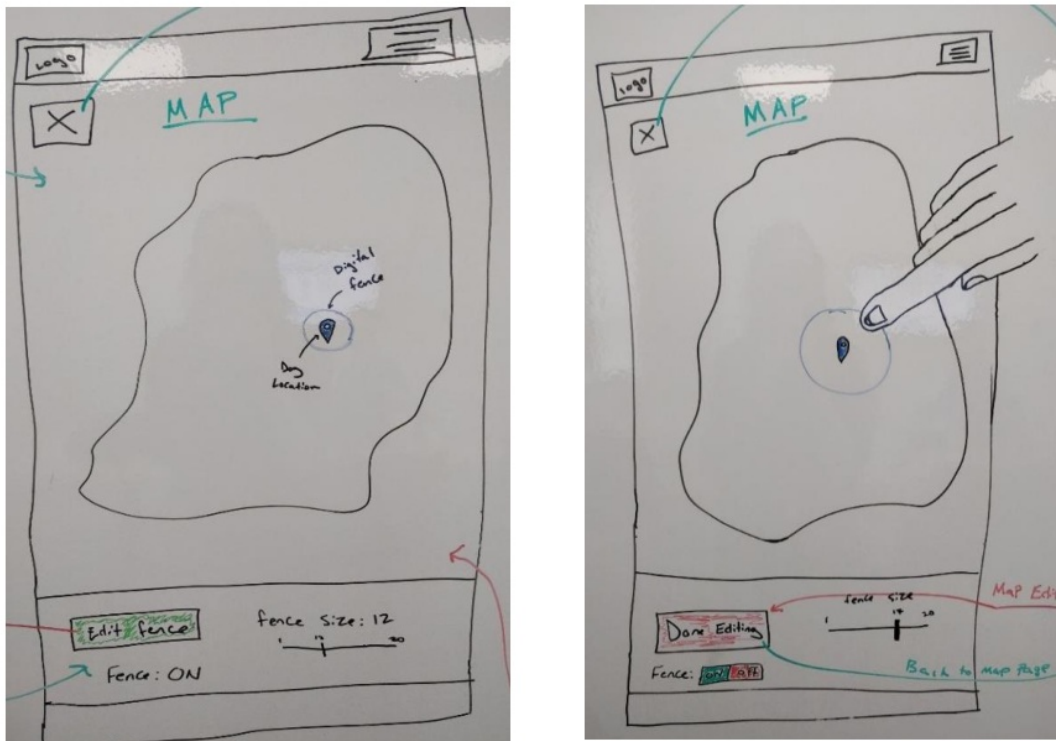


Figure 29 Doggogo Map page drawn on whiteboard

11.2 11 User table design

The images shown within figure 21 display the initial whiteboard drawing of the tables within the database the primary keys, foreign keys, constraints and the field types that will be stored.

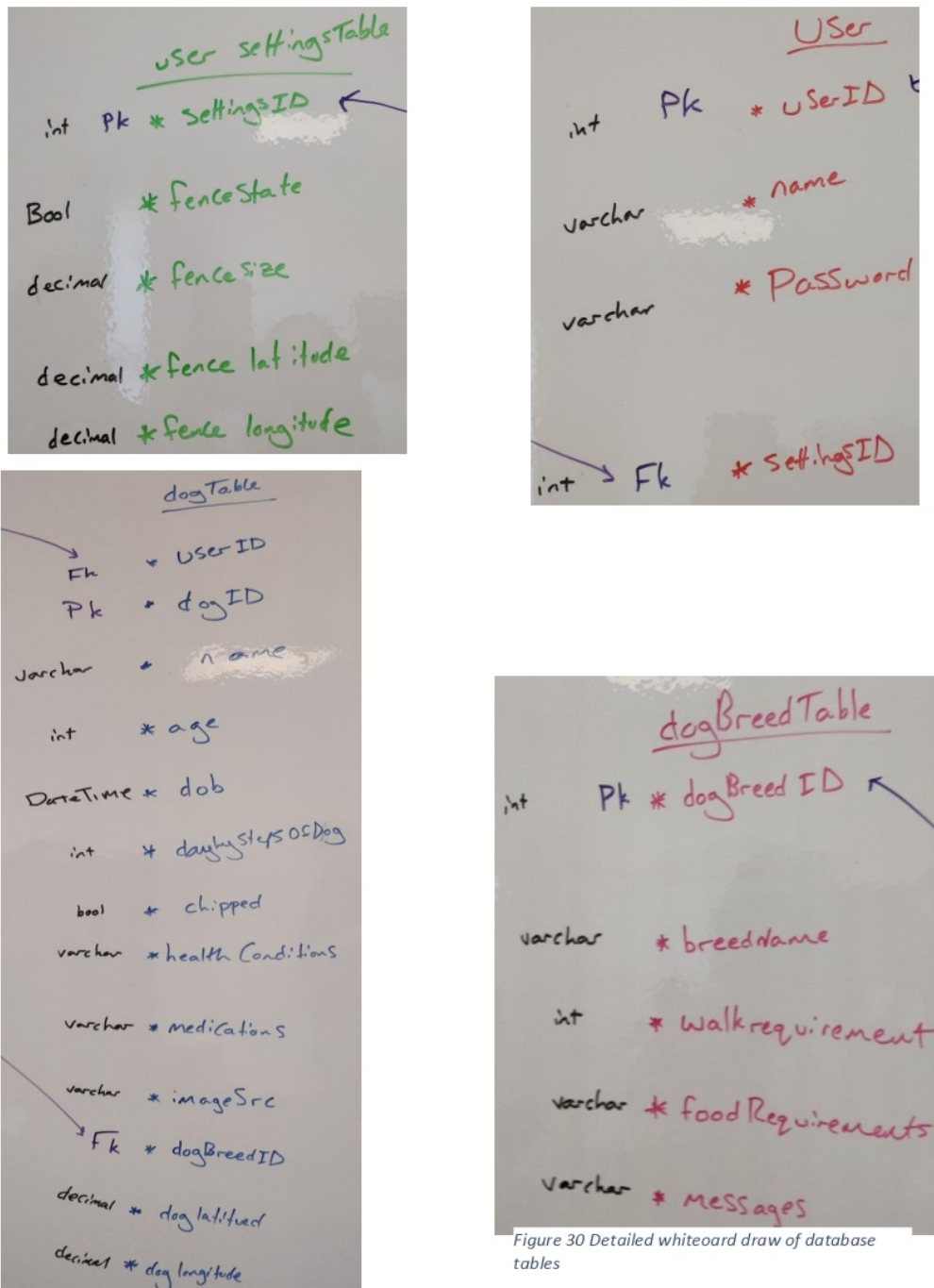


Figure 30 Detailed whiteboard draw of database tables

11.3 Minutes of meeting

11.3.1 Team Meeting Sheet 1 Idea Brain Storming

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 1:

Date: 17/10/2018

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

- To brainstorm ideas for potential products that the group can create and assess the viable options.
- To review possible methods the group can use for file sharing and effective communication.
- To generate possible names for the proposed product.

Individual Updates:

Due to this being the first meeting being carried out individual updates are unavailable at this time.

Team discussion:

Where you are now

The group discussed and developed basic concepts on the market area that they wish to address and recognised the need to discover more unexplored applications and technologies within the "animal care" area of the application marketplaces.

The group carried out an in-depth discussion and identification of the company and product identity and discussed the importance of developing a logo and name for both the company and the product, a word wall was carried out where all members of the group included words that related to animals (specifically dogs as the application's main focus is for the wellbeing of dogs) then the group chose the words they preferred and combined them to create the product's name.

Ideas were also discussed on potential logos and designs were drawn on a whiteboard and colours for the logo were discussed.

What you would like to do next

Allocate specific tasks to each member within the group identifying the strengths and weaknesses of each individual in depth to identify where they fit within the group and company as a whole. Discussion of market research identify potential existing products and how the group's product will thrive within an already established animal care market. To find the best form of data gathering available for the group to develop a better understanding on the application that potential customers would want to use and potentially purchase. Developing a number of designs for a potential logo for the project.

Priority tasks

To carry out market research and to discover a gap within the market for the group's product and identify a unique selling point. To discover the potential of the product and the ability of the members within the group. To organise a follow-up meeting for Sarann Strange, James Millns and Richard Davies to organise the creation of a questionnaire.

Individual Future Actions:

DE Actions: Exploring current technologies that are used to develop animal care applications.

RD Actions: Attending a follow-up meeting to discuss developing questionnaires and interviews of veterinarians to identify potential information that could be included within the technology. Setting up a google drive group account, researching into successful questionnaires to increase the success of useful data from the questionnaires the group create.

AH Actions: Investigating logo designs and successful logos and designing potential logos for the project.

SS Actions: Attending a follow-up meeting to discuss developing and exploring the market and identifying potential products that could provide an indication on the validity of continuing with the creation of the animal care application.

JM Actions: Exploring the market and identifying potential products, attending a follow-up meeting to discuss questionnaires and interviews of veterinarians to identify potential information that could be included within the technology. Setting up a google drive group account.

11.3.2 Team Meeting Sheet 1.1 Questionnaire

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 1.1:

Date: 24/10/2018

In-Attendance: RD, JM, SS

Apologies: DE, AH

Due to this being a meeting for specific members of the group all members of the group were **not** required to attend.

Start & End Time of Meeting

09:00 am - 10:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

- To discuss potential questions that would yield the best data for the animal care application.
- To discuss potential questions for an interview with vets to gain data on how the animal care application would benefit them and their practices.
- To draft email to RSPCA recovery centre.

Individual Updates:

Sarann Strange

DE Actions: Not required.

RD Actions: Provided research on successful questionnaires, their layout and wording to provide precise and necessary information to help design and develop the application.

AH Actions: Not required.

JM Actions: Provided research on successful interviews with professionals and the best questions and the way in which they are asked to professionals to obtain the most relevant and insightful information to help in the creation of the application. To draft an email to request a meeting with an RSPCA representative to discuss any recommendations.

SS Actions: Provided research on other applications that provide care to dogs and their setup and what is included within those applications to gain an understanding on what is currently available and how those business are successful and potential aspects to those applications that the group could include within their own application to improve and become successful.

Team discussion:

Where you are now

The individuals within the meeting identified all questions that will be included within the questionnaire and the vital questions that will be asked to veterinarians, this included the wording of question and the exclusion of unnecessary questions that would provide a weak yield of data. The layout of the questionnaire and how they will be distributed to individuals via each group member to individuals who own dogs.

What you would like to do next

Inform all members of the group of the new task of distributing questionnaires. To plan the next meeting for all members of the group to attend to discuss the findings of the questionnaire and the interviews and to discuss the information that all members of the group gather.

Priority tasks

Organising interviews with veterinarians that James Millnes and Richard Davies will both attend and the creation and distribution of questionnaires to potential customers who can provide data for the creation of the application.

Individual Future Actions:

DE Actions: The continuation of tasks from the previous minutes of meeting and to attend the following weeks meeting.

RD Actions: The development and creation of questionnaires, the creation of interview questions and the attendance of interviews with veterinarians.

AH Actions: The continuation of tasks from the previous minutes of meeting and to attend the following weeks meeting.

JM Actions: To update other members of the team on the new task of distributing questionnaires, the continuation of tasks from the previous minutes of meeting and the attendance of interviews with veterinarians.

SS Actions: The continuation of tasks from the previous minutes of meeting and to attend the following weeks meeting.

ALL: Handout questionnaire to individuals who own dogs.

11.3.3 Team Meeting Sheet 2 OSCAR

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 2:

Date: 31/10/2018

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:00 am - 12:00 pm

SS: Logging minutes of meeting.

Team Meeting Goals:

- To confirm the successful set up of communications via Facebook and google drive with all group members having access to both communication channels.
- Expressing ideas based on the research to do further analysis on the concept of an animal care application and specific concepts that could be included into the application.
- Discuss the findings of the research that members of the group had made on pre-existing applications and the feasibility of creating another animal care application and its potential success.
- To discuss the findings from the questionnaires and the interviews that were conducted.
- Discuss potential risks of creating the product and any ethical or moral issues regarding the creation of the application.
- Discussion on potential laws that could hinder the creation of the application.
- To choose a logo for the project that suits the company and the overall aims of the project that is inclusive to individuals who are disabled or at a disadvantage and follow the disability laws and legislation.

- To discuss Objectives, Scope, Constraints, Authority, Resources (OSCAR) within detail.

Individual Updates:

DE Actions: Research into applications that are currently available on android.

RD Actions: Setting up a google-drive account for the group to upload and include work and findings. Carrying out interviews with veterinarians and handing out questionnaires.

AH Actions: Created a number of logo designs to present to the group that follow the information of the researched laws and legislation to include individuals with potential disabilities.

JM Action: Setting-up a facebook group for instant communication between all members of the group. Carrying out interviews with veterinarians and handing out questionnaires.

SS Actions: Research into current animal care application and the similarities to the groups potential application.

Team discussion:

Where you are now

All members of the team are successfully connected to the online instant messenger of facebook and are able to send and receive updates on work and information involving the project and team meetings. All members of the group have access to the shared google drive account were they are able to upload research, images, minutes of meetings and other resources.

A discussion was carried out based on the findings of the questionnaire and the interviews that were conducted with veterinarians. Both the questionnaires and the interviews indicate that other specific dog applications do exist and are considered useful and of interest to both individuals with dogs and veterinarians, as it can provide information on the care and wellbeing of animals in an easily accessible format. The information gained from the questionnaires and the interviews indicated to the group that the concept of a dog care application is a feasible project with a high chance of success.

The logo designs were presented to the group and a discussion on how each logo was perceived by each member of the team then a vote was conducted to choose the final logo design for the project.

A discussion covering (PEST) and the allocation of the research tasks were given to both Austin Hooper and Sarann Strange to be completed by the following meeting.

The Objectives, Scope, Constraints, Authority and Resources (OSCAR) were all discussed in detail with the use of a white board and realistic objectives (using the S.M.A.R.T model) were set with the knowledge that as the project goes forward the objectives and scope are expected to be modified.

What you would like to do next

Find solutions to the potential risks and have strategies implemented in case the risks arrays in the future and for the group to be aware of the safeguards to the risks and to understand how to combat risks correctly.

To begin the creation of the presentation and the distribution of specific sections of the presentation and tasks to do with the presentation.

Priority tasks

For the Political, Economic, Social and Technological (PEST) to be carried out and identified and presented to the group within the upcoming meeting. For the group to identify a unique selling point for the application that is being designed.

Individual Future Actions:

DE Actions: Carryout out research on potential risks that businesses face and encounter. To attend an additional meeting to discuss the findings of the researched risks.

RD Actions: To do research into successful PowerPoint designs and how to conduct a professional pitch.

AH Actions: To complete the logo and create it within illustrator, to carry out further research on the technological and social implication of the potential application that the group will be creating.

JM Actions: Carryout out research on potential risks that businesses face and encounter. To attend an additional meeting to discuss the findings of the researched risks.

SS Actions: To carry out further research on the political and economic implications that the potential application may encounter.

ALL: To attend the next pitch meeting discussion.

11.3.4 Team Meeting Sheet 2.1 Risk Management Solutions to Risks

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 2.1:

Date: 04/11/2018

In-Attendance: DE, JM, SS

Apologies: RD, AH

Due to this being a meeting for specific members of the group all members of the group were **not** required to attend.

Start & End Time of Meeting

Sarann Strange

Enterprise & Innovation

09:00 am - 10:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

- To use the research gathered to identify the potential risks.
- To discuss the probability and impact of those risks.
- To devise solutions to mitigate those risks.

Individual Updates:

DE Actions: Researched the risks that can occur from internal factors.

JM Action: Researched the risks that are common to new companies and organisations.

SS Actions: Continuing with tasks from the previous minutes of meeting.

Team discussion:

Where you are now

A fully established risk management strategies that the group can follow to manage potential risks such as the risk of a group member becoming ill and unable to attend a meeting or be present within the university for a period of time. The established strategy is for the absent group member to inform the group at minimum an hour before the meeting is set to commence. If the absent group member has completed their tasks but is unable to attend a meeting or come to the university to upload their ideas and findings to the google drive for other members within the group to analyse.

For external risks such as breakdown of transportation and a number of members within the group are unable to attend university or meeting to also upload research and information to the OneDrive.

For risks that could potentially influence the project itself, the group will continually update the project and their work with the tutor of the course.

What you would like to do next

For all members of the group to be made aware of the potential solutions to risks that could occur

For all members of the group to attend the upcoming meeting to

Priority tasks

For the group to continue with the previous tasks established within the previous minutes of meeting. For James Millns to contact and update all members on the group on strategies.

Individual Future Actions:

DE Actions: To contact Richard Davies and provide help to research PowerPoint design and contribute towards his findings.

RD Actions: Continuing with tasks from previous minutes of meeting.

AH Actions: Continuing with tasks from previous minutes of meeting.

JM Actions: To inform all members of the group of the risk prevention strategies in place. To breakdown the strategies into a form that is easy to interpret and follow.

SS Actions: Continuing with tasks from previous minutes of meeting.

11.3.5 Team Meeting Sheet 3 Presentation Discussion

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 3:

Date: 07/11/2018

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:30 am - 12:00 am

SS: Logging minutes of meeting.

Team Goals:

- The expected topics that the group feel are vital and must be included within the presentation.
- A breakdown of each topic.
- To discuss each of the roles of the individual's within the presentation and the order that they will be presenting.
- Potential presentation layouts and designs that will be used.

Individual Updates:

DE Actions: Provide research on the issues that may arise from a badly presented presentation.

RD Actions: Provided PowerPoint designs and potential ideas on the PowerPoint presentation that will be created.

AH Actions: The final and completed design of the logo, the research on the technological and social implication of the potential application presented within a word document.

JM Action: Providing updates and information for all group members to be up-to-date on communication networks.

SS Actions: The research on the political and economic implications that the potential application may encounter presented within a word document.

Team discussion:

Where you are now

The group has successfully chosen a logo and the final logo has been created and saved within the google drive available for all members of the group. Each individual member within the group has been allocated specific topics to do with the presentation. The order in which the group members will be presenting was also discussed and arranged. Different designs for the presentation were displayed on the monitor and members of the group discussed colours, fonts, and the potential for confusion that may occur from a badly designed presentation.

Each group member has been allocated a topic that must be included within the presentation and researched, each group member must provide a potential script of the topics that they will be presenting.

What you would like to do next

For each of the group members to take the final presentation design and to use it to create three separate slides on the topics that they have been allocated.

Priority tasks

For each member within the group to create three individual slides based on the topics that they have been allocated, then for those slides to be uploaded to the google drive where Richard Davies will implement them into a single PowerPoint presentation in preparation for the next meeting.

Individual Future Actions:

DE Actions: To design the sections on the PowerPoint that covers Project planning resources, timescale and risks.

RD Actions: To design the sections on the PowerPoint that covers Team working, team relations, communication strengths and weaknesses.

AH Actions: To design the sections on the PowerPoint that covers Business identity, company names, logos slogan.

JM Actions: To design the sections on the PowerPoint that covers Product idea, concept, technologies, benefits of the potential application.

SS Actions: Market research, existing products and competitors, target audience, U.S.P

ALL: For all individuals once they have created their own slides to upload them to google drive.

11.3.6 Team Meeting Sheet 4 Presentation Creation

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 4:

Date: 19/11/2018

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

12:00 pm - 04:00 pm

SS: Logging minutes of meeting.

Team Goals for meeting:

- The purpose of the meeting is to confirm the layout of the presentation that Richard Davids had designed and created.
- To bring together the content of the presentation that each individual had created.
- To confirm the media that each individual had chosen.
- To decide on a consistent visual theme of the presentation.
- To begin the individual scripts that will be used within the presentation.

Individual Updates:

DE Actions: The successful creation of three separate slides that cover the topic that had been designated. Project planning resources, timescale and risks.

RD Actions: The successful creation of three separate slides that cover the topic that had been designated.

AH Actions: The successful creation of three separate slides that cover the topic that had been designated.

JM Action: The successful creation of three separate slides that cover the topic that had been designated.

SS Actions: The successful creation of three separate slides that cover the topic that had been designated. Market research, existing products and competitors, target audience, U.S.P

Team discussion:

Where you are now

Each member of the group presented the slides that they had created and provided a brief summary for their choice on the bullet points that they wished presented along with media such as images that they believed should be included on to their own slides, group members provided feedback on alterations that could improve each slide and amendments were made to the PowerPoint during the discussion. The arrangement of the slides were also covered and put into an order that best suited the rhythm and ease at which the presentation would be presented.

What you would like to do next

Confirm and finalise the PowerPoint present and the scripts. Practice as a group with the finalised PowerPoint and the scripts.

Priority tasks

For Richard Davies to create the final PowerPoint presentation using the notes provided by the group on the design and media that the group wished to include. For all members of the group to download the finalised version of the PowerPoint and finish their individual scripts for their section.

Individual Actions:

DE Actions: To combine all slides into one PowerPoint presentation using the themes, media and font chosen by the group and upload the final PowerPoint to the google drive for all members of the group to access it. See the **ALL** section below.

RD Actions: See the **ALL** section below.

AH Actions: See the **ALL** section below.

JM Actions: See the **ALL** section below.

SS Actions: See the **ALL** section below.

ALL: For each member of the group to analyse and make final amendments to their personal slides and to create a final script that can be presented to the group in the next meeting.

11.3.7 Team Meeting Sheet 5 Finalised Presentation

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Team manager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 5:

Date: 28/11/2018

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

9:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

- Making final amendments to the script.
- Finalising scripts.
- Practice the scripted PowerPoint
- Time each member of the group individually to ensure they consistently complete the slides in a limited time frame.

Individual Updates:

DE Actions: See **ALL** below.

RD Actions: See **ALL** below.

AH Actions: See **ALL** below.

JM Action: See **ALL** below.

SS Actions: See **ALL** below.

ALL: Each member of the group created a personal script for the PowerPoint, made amendments and uploaded them to the google drive.

Team discussion:

Where you are now

Each member within the group stood and presented their section of the presentation while the other members both provided critiques and suggestions to correct the wording and performance to create a stronger group dynamic and presentation overall.

What you would like to do next

For each member within the group to practice and perform their presentations individually to become fully confident to present the presentation with minimal notes. To test the final presentation within the environment and on the computer system and on the projectors to ensure that the presentation is satisfactory and visible.

Priority tasks

To test the finalised presentation on a projector to ensure it is visible and meets the potential needs of all individuals who will be in attendance of the presentation. To practice the presentation within the room that the presentation will be held to ensure that each member of the group is pitching the presentation at a volume that is satisfactory for all individuals in attendance.

Individual Actions:

DE Actions: See ALL below.

RD Actions: See ALL below.

AH Actions: See ALL below.

JM Actions: See ALL below.

SS Actions: See ALL below.

ALL: To practice pitching the presentation until fully accustomed to each slide and able to support each other during the pitch.

11.3.8 Team Meeting Sheet 6 - Research & Presentation discussion

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Team manager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 0:

Date: 5/12/2018

In-Attendance: DE, RD, AH, SS

Apologies: JM

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

To discuss the tasks that are required to proceed with the creation of the Application, to recap roles and skills to fully understand everyone's expected roles and what they feel comfortable with doing. To discuss finding of personal PowerPoint presentations and potential weaknesses that need to be improved for the next presentation.

Individual Updates:

DE Actions: To practice his vocals to be better understood by the audience.

RD Actions: To be more concise and time manage presenting to keep within the time limit.

AH Actions: To practice scripting presentation to improve eye contact with audience

JM Action: To find and include references.

SS Actions: Felt that she could improve on her vocals and presenting to a larger group.

Team discussion:

Where you are now

The team has successfully completed the presentation and have taken notes and advice from the lecturer to develop and improve on how they present information to an audience.

What you would like to do next

To split the tasks individual between each member within the group, to research materials and equipment required to build a working prototype.

Priority tasks

For each group member to carry out their own research into the equipment that will be required that they have been tasked with.

Individual Actions:

DE Actions: Research into how to post information to a database.

RD Actions: Research potential GPS module and step counter.

AH Actions: Research into map technologies and software that can be used to monitor the animal's location.

JM Actions: Research potential GPS module and step counter.

SS Actions: Research the best interface that users would find intuitive and easy to use presenting the image to user obtaining personal preferences and insight, the differences in dog breeds and sizes and how it corresponds to walking dogs.

11.3.9 Team Meeting Sheet 7 - Further research

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Team manager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 0:

Date: 12/12/2018

In-Attendance: RD, JM, SS, DE, AH

Apologies: N/A

Due to this being a meeting for specific members of the group all members of the group were **not** required to attend.

Start & End Time of Meeting

09:00 am - 11:00 am

JM: Logging minutes of meeting.

Team Goals for meeting:

Discuss current progress and discuss the findings of additional materials required to continue and complete the project that members researched after last meeting.

Individual Updates:

DE Actions: Researched how to interface and post information to a database.

RD Actions: Researched step counter and GPS technology .

AH Actions: Researched web based map location technology.

JM Action: Researched step counter and GPS technology.

SS Actions: Researched different dog breeds and found rough guide for walking recommendations.

Team discussion:

Where you are now

The group now has the research material and components that are required to make further progress on developing the product.

What you would like to do next

Do further in-depth research on specific components and materials to find the most optimal solution.

Priority tasks

Find a suitable logic board that will be able to perform the functions required and be of a small form factor.

Find functional code that the logic board can interpret to run the components required.

Individual Actions:

DE Actions: Do further research into database communication.

RD Actions: Do further research on specific modules and components required.

AH Actions: Do further research on GPS functionality

JM Actions: Do further research on specific modules and components required.

SS Actions: Develop user interface and present to focus group.

11.3.10 **Team Meeting Sheet 8 Gathering Hardware**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Weekly Progress report 8:

Date: 09/01/2019

In-Attendance: RD, JM, SS

Apologies: AH, DE

Start & End Time of Meeting

09:00 am - 11:00 am

RD: Logging minutes of meeting.

Team Goals for meeting:

From the discussion of last meeting discuss and purchase actual hardware prototypes.

Individual Updates:

DE Actions: see all

RD Actions: Discussion and purchasing of GPS Module for Arduino

AH Actions: see all

JM Action: Start

SS Actions: see all

ALL: Use existing hardware to begin development.

Team discussion:

Where you are now

The only hardware that is missing is a GPS module for Arduino (Node MCU) so this has to be purchased, one found (GT-U7) and purchased (9/1/2019) between 7 and 20 days postage. We recognised that the Arduino Uno is too large for purpose so it was decided to use the already available Node MCU v.1.

What you would like to do next

Wait for delivery of gps module and begin development of step counter using Arduino accelerometer and start development of step counter using accelerometer and Node MCU.

Individual Actions:

DE Actions: start development of step counter using Node MCU.

RD Actions: start development of tracking using GPS Module.

AH Action : start development of application.

JM Actions: start development of step counter using Node MCU.

SS Actions: start development of application database.

11.3.11 **Team Meeting Sheet 9 Discussion hardware**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Team meeting 9:

Date: 16/01/2019

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

Discuss the issues that were found with the GPS and the gyroscope that is being re-programmed into a step counter. Were we are currently with those. Progress of the website and the issues that came up while trying to program it.

Individual Updates:

DE Actions: Developing formula to calculate the steps and movement that will then be calibrated for dogs.

RD Actions: GPS module arrived and development has began to be made on it.

AH Actions: Began creation of the location page of the website.

JM Action: Developed potential designs for the GUI interface for the interface of the website.

SS Actions: Developed potential designs for the GUI interface for the interface of the website.

Team discussion:

The progress that was made with the gyroscope to convert it into a step counter and the GPS module and the issues that were found and fixed.

The areal that came with the step counter is not sensitive enough to be detect indoors, a standard step size for all animals so we are currently unable to specify different dog breeds.

Where you are now

A working step counter that requires further work, a working GPS that needs to be implemented into a website.

What you would like to do next

Continued designs for the potential GUI to be made by SS and JM that will be implemented by AH.

Priority tasks

To fix the issues with the step counter and begin developing the GPS to display on a map on the website.

11.3.12 **Team Meeting Sheet 10 discussing advertismant**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 10:

Date: 30/01/2019

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

Discuss marketing, branding and advertising methods for the company and the product. The types of advertising that the group wished to make and use.

Team discussion:

Where you are now

The team discussed the possibilities and limitations of the GUI design of the web application and the sections of the designs that will be used and the ones that will be discard, the group discussed what the emotions they wish to evoke within their advertising and potential designs for posters and a video advertisement.

What you would like to do next

For the group to inspect and analyze the market they wish to sell the product in depth and understand what advertisement will work on them and what won't and to gain further knowledge on the Analysis of the industry.

11.3.13 **Team Meeting Sheet 11 Advertisement**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Team meeting report 11:

Date: 07/02/2019

In-Attendance: DE, RD, AH, JM, SS

Apologies: N/A

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

To discuss the advertisement and the definite social media that the group wished to use to make the general public aware of the company and what they are selling.

Discussion of potential video advertisement of the product being created.

To create the social media of the business e.g facebook and twitter. The setup of the servermanagement tool Heliohost. Create the design for the poster advertising the business and its concepts

Team discussion:

Where you are now

The team created the social media platforms for advertising the product through facebook and twitter. A number of slogans and small sentences to capture the business and its product. Sketches of the potential poster that the group wants to create.

What you would like to do next

Create the poster for the business and continue with the development of the product and continuing to increase the brand and its identity.

Priority tasks

To continue with the poster and the video advertisement and begin recording and developing clips for the video. For the group to create prototypes posters and send them to austin to create the finalised poster.

11.3.14 **Team Meeting Sheet 12 Marketing meeting**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 12:

Date: 13/02/2019

In-Attendance: RD, JM, SS

Apologies: AH, DE

Due to this being a meeting for specific members of the group all members of the group were **not** required to attend.

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

We discussed product with marketing experts, showing the brand and logo to receive feedback and advice for the future.

Team discussion:

Where you are now

The team was told that the design of the logo was simple enough to not be confusing and has the ability to be altered from colour to monochrome. And that the overall design and company branding appeals to the target market.

What you would like to do next

To further the advertising and branding of the company and development of the product. And continue with the development of the prototype.

11.3.15 **Team Meeting Sheet 13 Testing device and database team meeting**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Teammanager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Team meeting 13:

Date: 21/20/2019

In-Attendance: RD, AH, JM, SS

Apologies: DE

Start & End Time of Meeting

12:00 pm - 14:00 pm

SS: Logging minutes of meeting.

Team Goals for meeting:

To develop and test the hardware and to organise the potential database and begin creating the database.

Team discussion:

Where you are now

The team has a working prototype and a database that has all the relevant tables and information and columns ready to insert information and data. Working website that documents the step counter, speed and elevation of the device.

What you would like to do next

To input relevant data into the databases that can be accessed and retrieved and updated by the device. To update the code of the node MCU and ensure that it all works correctly.

11.3.16 **Team Meeting Sheet 14 update on the website, code and database**

Team Member Names & Roles:

DE: Dylan Evans - Backend development of application.

RD: Richard Davies - Backend development of application & Public relations.

AH: Austin Hooper - Frontend development of application & Business / design.

JM: James Millns - Team manager & Backend development of application.

SS: Sarann Strange - Frontend development of application & research.

Team Name: V0

Specific Team meeting 0:

Date: 27/02/2019

In-Attendance: RD, AH, JM, SS

Apologies: DE

Start & End Time of Meeting

09:00 am - 11:00 am

SS: Logging minutes of meeting.

Team Goals for meeting:

To discuss the potential to sell branded merchandise of the company for instance t-shirts with the logo, to discuss the database and improvements that need to be made to get the database working correctly and any alteration that need to be made to the hardware and its code to fix issues and improve its accuracy.

Team discussion:

Where you are now

A copy of the completed database was exported and given to Austin Hooper to use in conjunction with the web application to check for errors or issues, Austin discussed the problems that were found with the database that Sarann and James were required to make.

What you would like to do next

To carry out further testing of the hardware to check if the hardware works correctly if the website is connecting and altering the database data as it should. To discuss potential improvements that could be made once the product is up and running that could make the product better.

Priority tasks

Alter the database to ensure it works correctly and is able to store decimal numbers correctly alter the database as and when is required.

Individual Actions:

RD Actions: To continue to make improvements on the code and hardware of the application to improve the step counters accuracy.

AH Actions: To check that the database is updating when changes are made using the web application.

JM Actions: To check through the database and carry out the alterations.

SS Actions: Make alterations to the database.

Enterprise and innovation

GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

Instructor

94/100

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GRADING FORM: UWTSD GRADING FORM

SARANN STRANGE**94****1. RESEARCH LITERATURE**

Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions.



+ Very good use of citations to support report content. + Excellent well-formatted reference list including a balance of relevant and professional sources.

18**2. KNOWLEDGE AND UNDERSTANDING**

Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.



+ Product description. + USP. + Requirements specification. – could be more formalised with a unique number for each one. + Db design. + Market research. + Target Market. + Marketing considerations. + Team working.

20

3. ANALYSIS

Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence.

 + Database analysis and design. + Competitor analysis. Very good. It would be useful to know here how the product's USP differentiates it from its competitors. + PEST analysis identifies some very useful considerations. – IP analysis could be more specific by identifying the IP that applies to each aspect of the business e.g. copyright (website, code), Trademark (Branding), Patent (innovation). + Good use of relevant statistics. + Target market analysis. Very good. + Management and Operations analysis. + Conclusion. Very good.

18

4. PRACTICAL APPLICATION

Deployment of methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems.

 + Application design. Good. + Excellent story board. + Database design and development. Excellent. + Slogans. + Poster design. Good.

20

5. PROFESSIONAL PRACTICE

Attributes in professional practice: individual and collaborative working; deployment of appropriate media; presentation and organisation.

 + Excellent report format presentation and

structure. - Be careful with the word count. +
Relevant appendices. + Team progress sheets: Very
good individual progress and team collaboration.