



Pawl

SMART SITTER

Personal Project 01:
Future Media & Communication
Emily Wilkinson



Table of Contents

Research	Tech Trends	4 - 7	App Development	Content Structure	55
	Initial Concepts	8 - 13		Crazy 8s	56
	Comparative Research	14 - 17		Wireframes	57
	Change of Direction	18		High Fidelity Mockups	58
	Background Research	19		Final Designs	59
	Target Market	20 - 21			
	Further Market Research	22 - 26			
	Key Insights	27	Brand Identity		60 - 64
	Primary Research	28 - 31	Animatics		65 - 70
			Video and Audio Development		71 - 78
			Video Feedback		80
Concept Development	Idea Generation	32 - 37	Future Development		81
	Unique Selling Point	39 - 41	Paw! Mockup		82
	User Personas	42 - 43	Evaluation and Resources		83
	Further Development	44			
	Storyboard	45 - 46			
	Technology Research	47 - 51			
	User Testing	52 - 53			

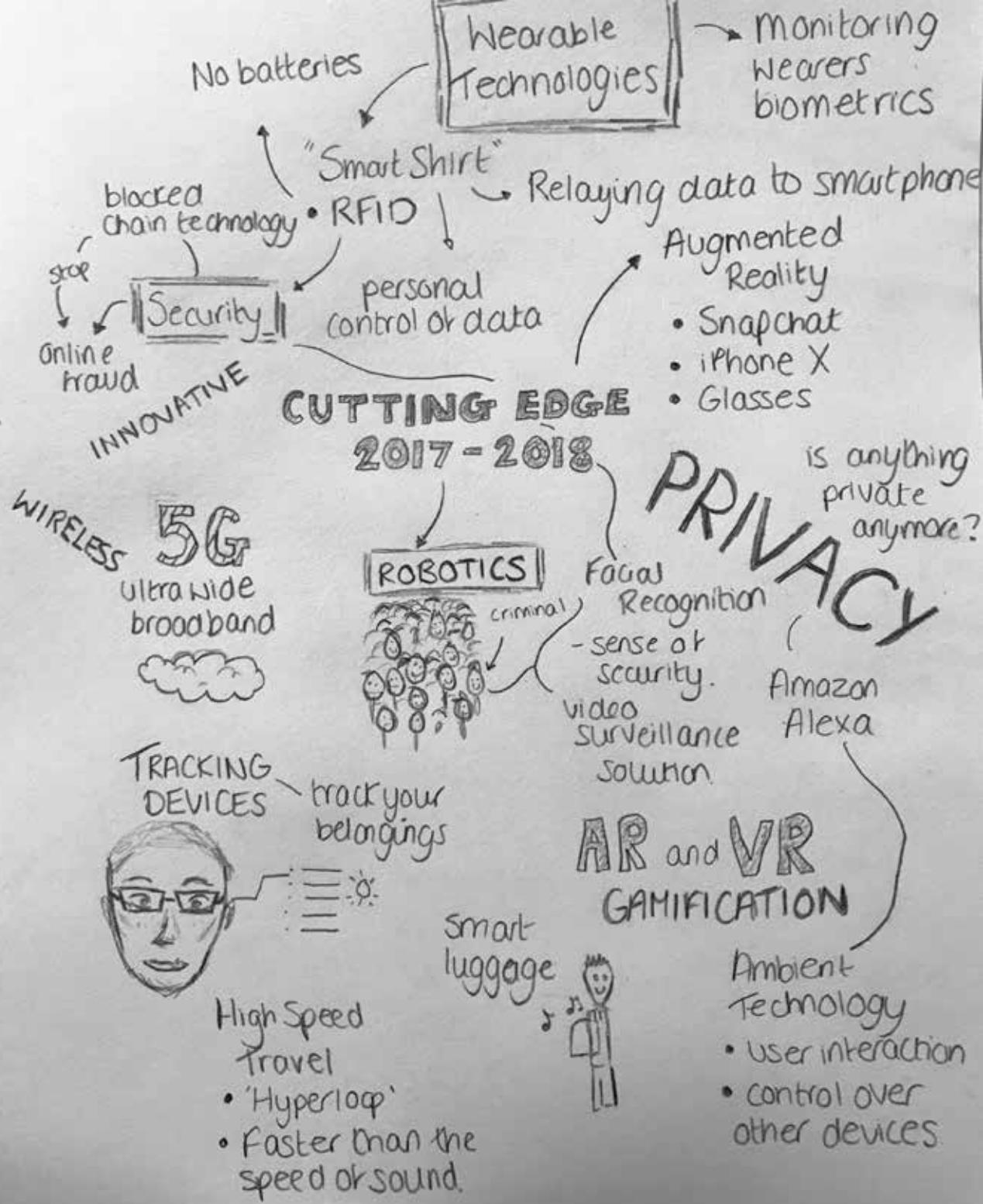
RESEARCH



WHAT IS CUTTING EDGE TECHNOLOGY?

"Technological devices, techniques or achievements that employ the most current and high-level IT developments; also known as state-of-the-art technology."

Techopedia.com



Augmented Reality

AR edits a real environment and populates it with other non-real virtual objects. Display options could be on a mobile device or other interface. In general, the interface of an AR application can utilise anything from finger swipe, like that on the Snapchat application, to the nod of a head or the blink of an eye.



Snapchat Augmented Reality

Virtual Reality

VR is a three-dimensional, computer generated environment. The user becomes part of a virtual world, usually through a headset. The headset will generate realistic sounds, images and other sensations.



Virtual Reality Headset

Facial Recognition

A computer application capable of identifying or verifying a person from a digital image or a video frame. Typically used in security systems as smart technology. It can be compared to other biometrics such as fingerprint or eye iris recognition systems.



Facial Recognition Technology

Wearable Technology

A smart device or clothing which is worn on the body. Wearable devices such as activity and fitness trackers are a good example of the **Internet of Things**, enabling objects to exchange data through the internet with an operator or other connected devices, without requiring human intervention.



Ambient Technology- Amazon Alexa



RFID

Uses electromagnetic fields to automatically identify and track tags attached to objects. This technology is currently being used for example in implanting RFID chips into pets and other animals to positively identify them. They are often also used as access control and security, for example using a card as a key to access a room. The most common and recent RFID example is the contactless pay that banks have brought into use. However this brought up an issue of security.

This is one form of cutting edge technology that is going to realistic to use in this project.

Proximity iBeacons

The iBeacon is a protocol developed by Apple. A class of bluetooth low energy devices that broadcast their identity to nearby portable electronic devices.

The iBeacon is based on bluetooth low energy proximity sensing by transmitting a universal unique identifier picked up by an operating system.

iBeacons are typically used to help smartphones determine their approximate location or context. With the help of an iBeacon, a smartphone's software can approximately find its relative location to an iBeacon in a store.

Doing research I have found that there are many innovative technologies I need to find the right technologies that are going to realistic to use.

CONCEPT 1 VIRTUAL FASHION



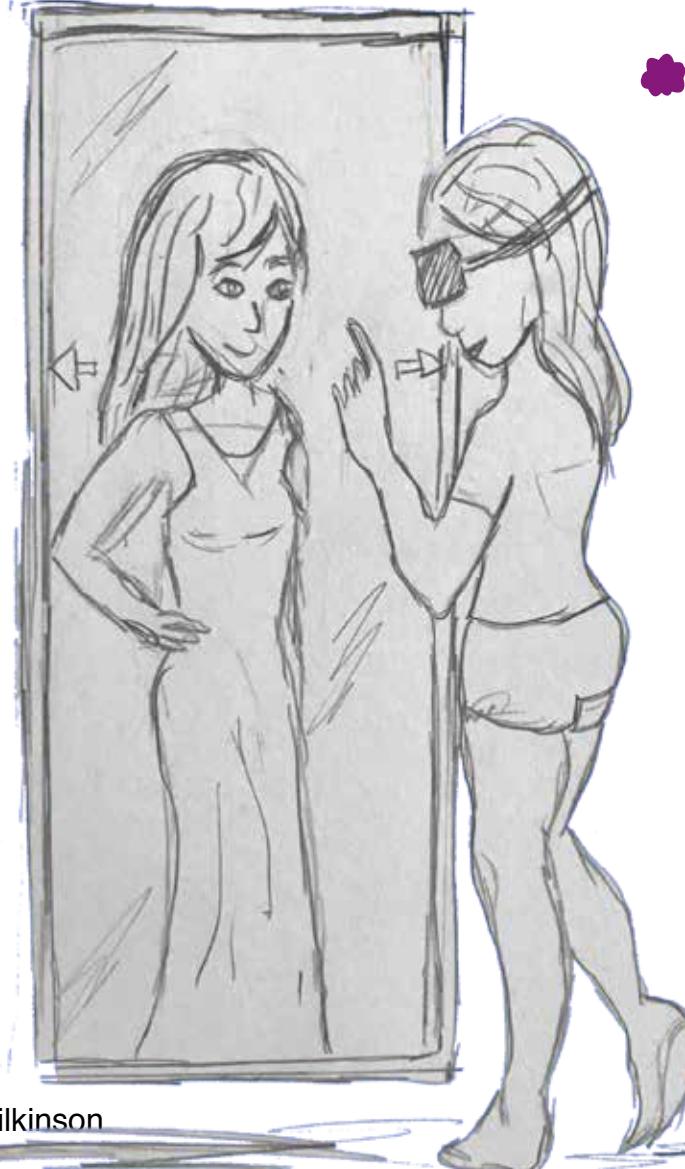
This initial idea came from a thought I had to make shopping and trying on clothes easier and more productive for those with disabilities.

Often handicapped and disabled people need a carer or someone to aid them when visiting the shops.

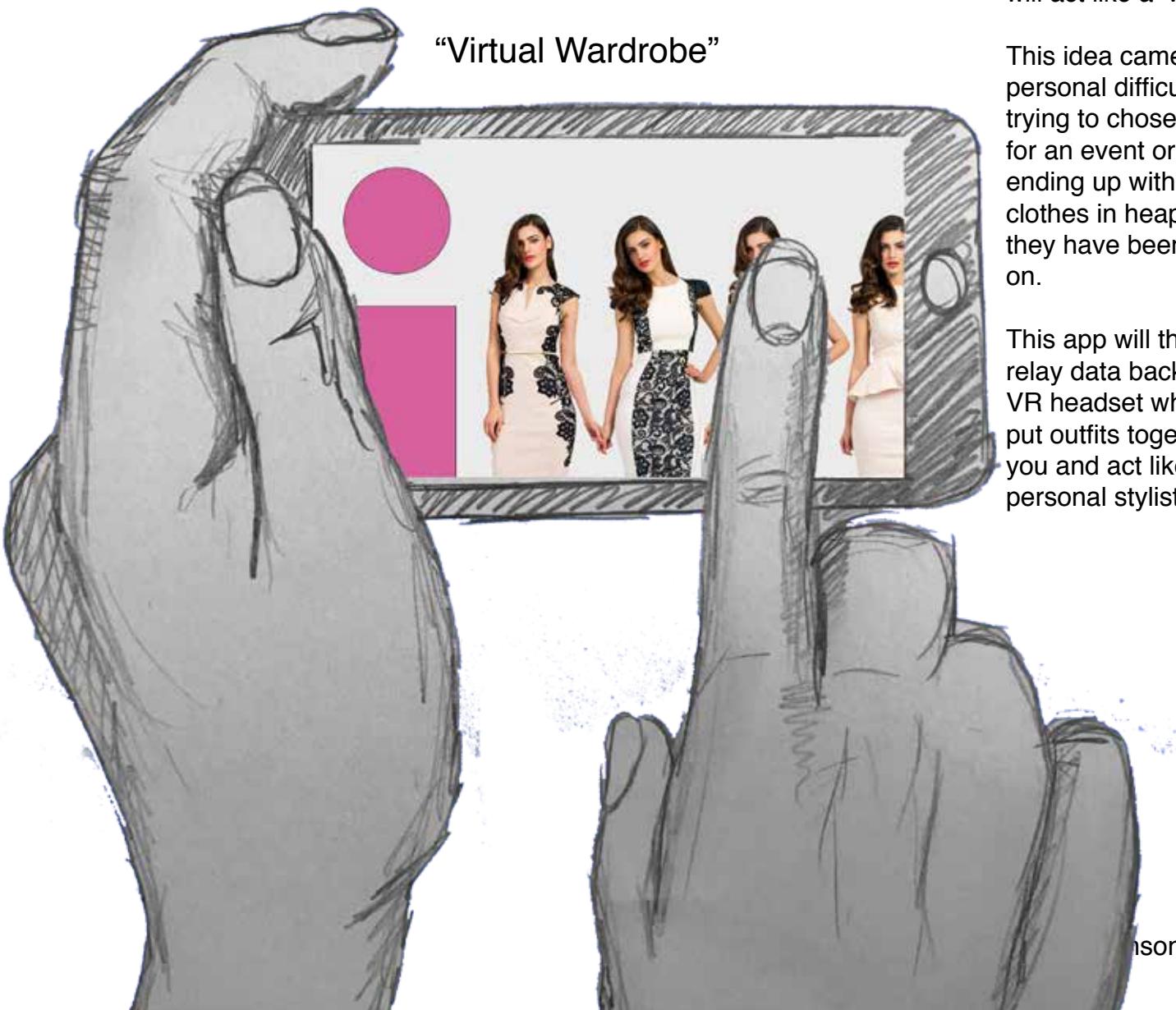
The idea, is a VR headset the user can scan through outfits at home to see how they look without actually having to physically try them on or even struggle leaving their home, especially when the shops are busy.

This device could be known as the new age of online shopping, as I know one of the few reasons people don't like to online shop is because they like to try the garments on. To aid this, the device will scan your body, retrieving measurements and then advising you on what size to try on or buy.

What to wear..



ACCOMPANYING MOBILE APPLICATION



“Virtual Wardrobe”

The headset will also acquire an accompanying mobile application.

This app will keep a catalogue of items the user has bought, this will act like a ‘virtual wardrobe’.

This idea came from a personal difficult task of trying to chose an outfit for an event or night out, ending up with endless clothes in heaps as they have been tried on.

This app will then relay data back to the VR headset which will put outfits together for you and act like your personal stylist.

USP

A device which will help the disabled and handicapped try on clothes. ‘The new era of online shopping’.



CONCEPT 2 - VR CURRENT AFFAIRS APPLICATION



For this idea I have tried to think about problems that we could be facing in the future, this lead me to look at our younger generation. Looking at the problem of them losing touch with the real world in the form of VR and AR devices, which are our future. Having done a little initial research I have noticed the general age children become involved in some shape or form in technology is very young.

Doing a little research and from my own past experience I know that technological devices can be a big distraction from a lot of important real life affairs, such as homework or even current affairs.

This is a new innovative way in which children and young adults read or listen to the news. Looking at current applications on the market they are very 'wordy' and not very appealing to children and young adults. This is where I have noticed a gap in the market.



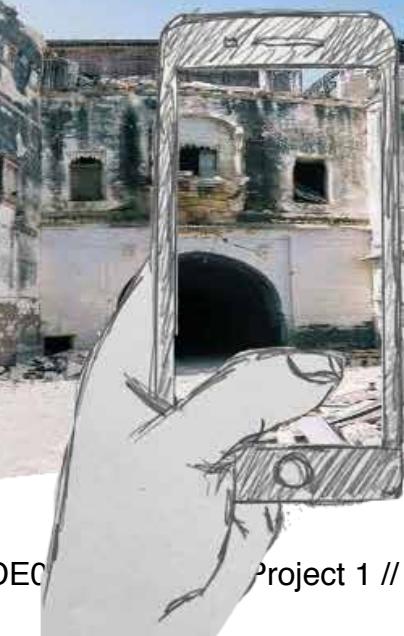
IMMERSION

The app would display articles appropriate for the users age and IQ. I really want to immerse the user into the situation or article, where they can really understand and get a feel for current affairs and what is going on in the world. I thought of doing this through a 360 camera in the app where the user can be placed in a situation or place. This could then be developed into a VR head set which you can place your phone inside and be really immersed in that situation.

USP

Keeping the next generation in touch with the real world and current affairs using cutting edge technology

360 CAMERA



CONCEPT 3 - PET AND LIVESTOCK FITNESS TRACKER



I have gathered inspiration from a programme, which I watched, on BBC called 'How to Stay Young'. This programme basically discovers that a large number of people are aging much quicker than they should be. However there are so many fitness applications out on the market that cover virtually everything, from diet to exercise plans, including the very popular FitBit. This is where I have developed the idea for pets/ animals/ livestock.

This concept will use cutting edge technology to track your pets, welfare, physical activity and it's whereabouts. Using a tracking device which will change in size and shape depending on the animal; relaying data back to your smartphone application.

The app will cover all your pets needs, receive vet reports, updated meal plans and dietary information from your vet. Find out if your pet is aging quicker than it should be and how to slow it down. Live daily tracker lets you know if your pet has done enough physical activity.



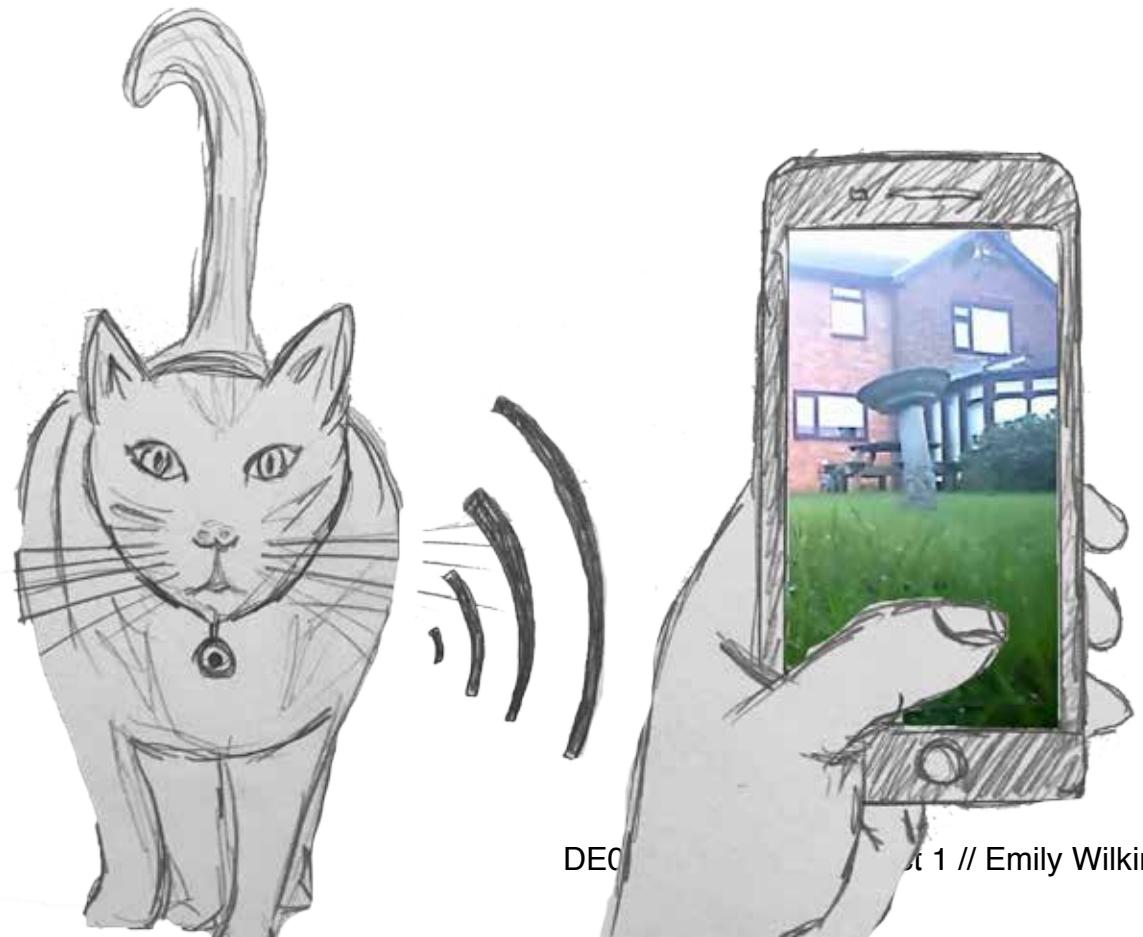
THE WEARABLE DEVICE

This device will be wearable for all animals monitoring heart-rate and even including a built in camera to see what your pets get up to when you're not at home. The USP for this product is that it is available for all animals, not just cats and dogs.

Farmers can track where there livestock is and whether they are healthy.

"Studies have found that animals have a significant impact on our stress levels (and too much stress makes us age earlier). Van Tulleken carried out a small test on employees who are allowed to bring their dogs to work and found the presence of a pooch lowered the participant's blood pressure and even made them better at the task at hand."

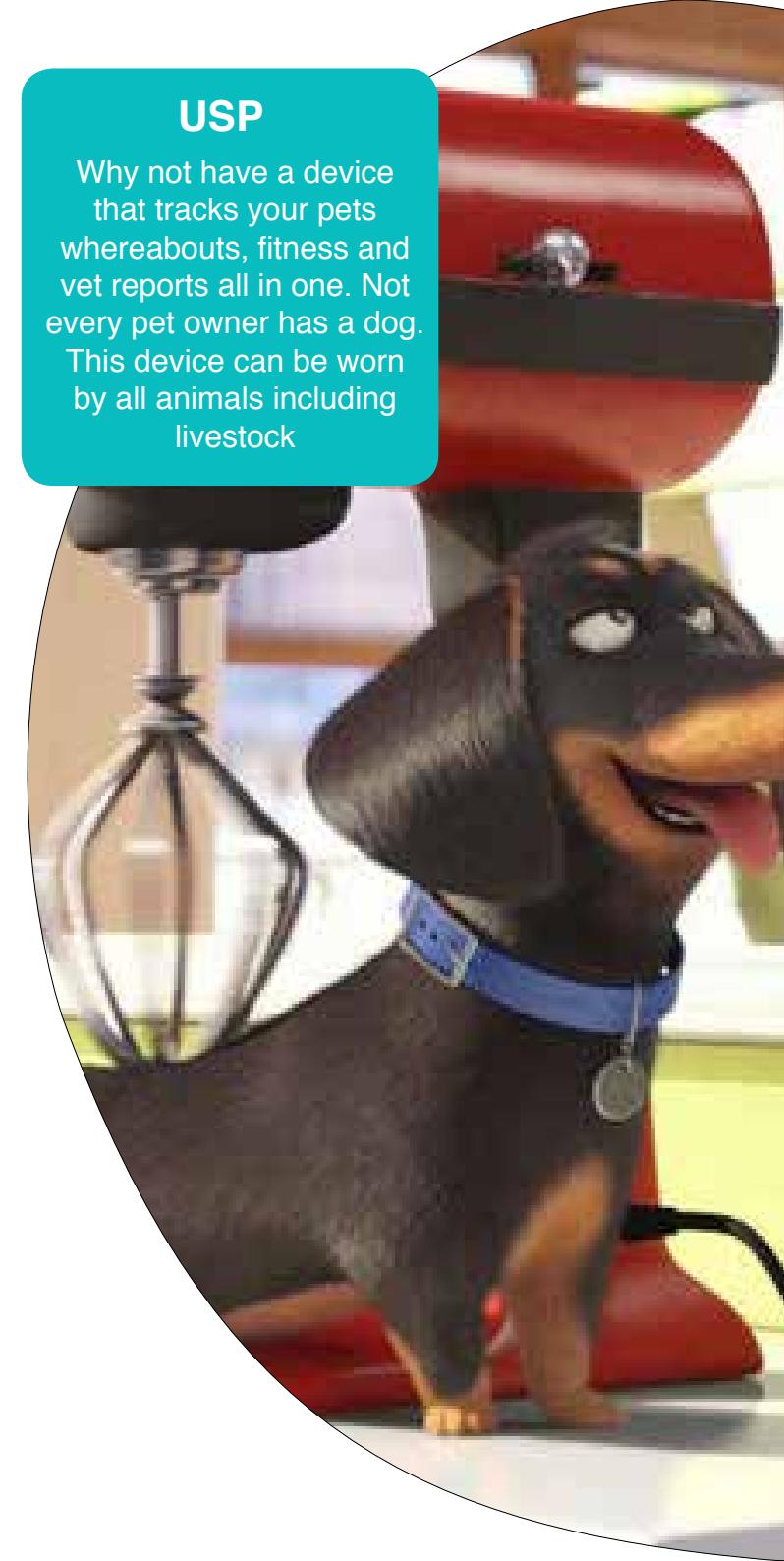
The device will be wearable for the top 10 pet statistics in the UK, including dogs, cats, guinea pigs, rabbits, as well as livestock including horses, pigs, sheep and chickens.



DE01 // Concept 1 // Emily Wilkinson

USP

Why not have a device that tracks your pets whereabouts, fitness and vet reports all in one. Not every pet owner has a dog. This device can be worn by all animals including livestock



COMPARATIVE RESEARCH

This section will look at the current pet healthcare applications and devices on the market and evaluating their benefits and drawbacks





"THE GPS PET TRACKER FOR DOGS AND CATS"

Concept

The Tractive GPS device allows you to locate your pet in real time. You can see the current position of your pet on the map via your smartphone app.

Technology Used

The device includes an integrated light source which helps you find your pets in the dark. The device also communicates with the app using cellular networks. The material it is made from is also 100% waterproof.

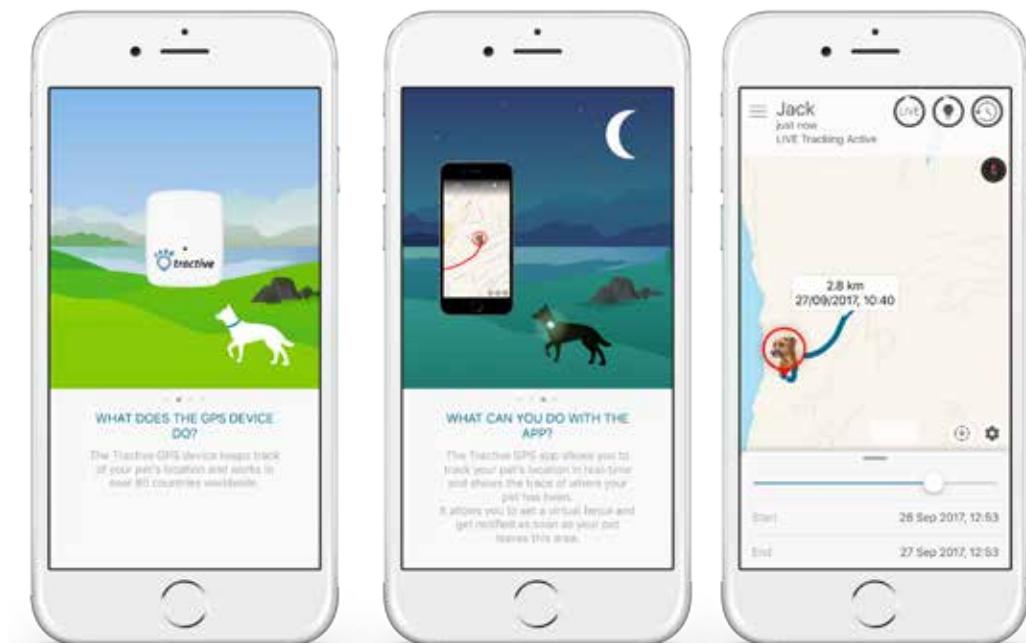
Benefits

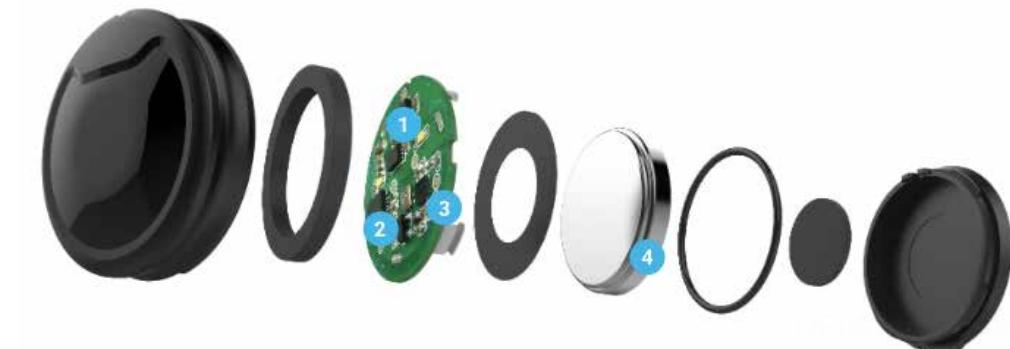
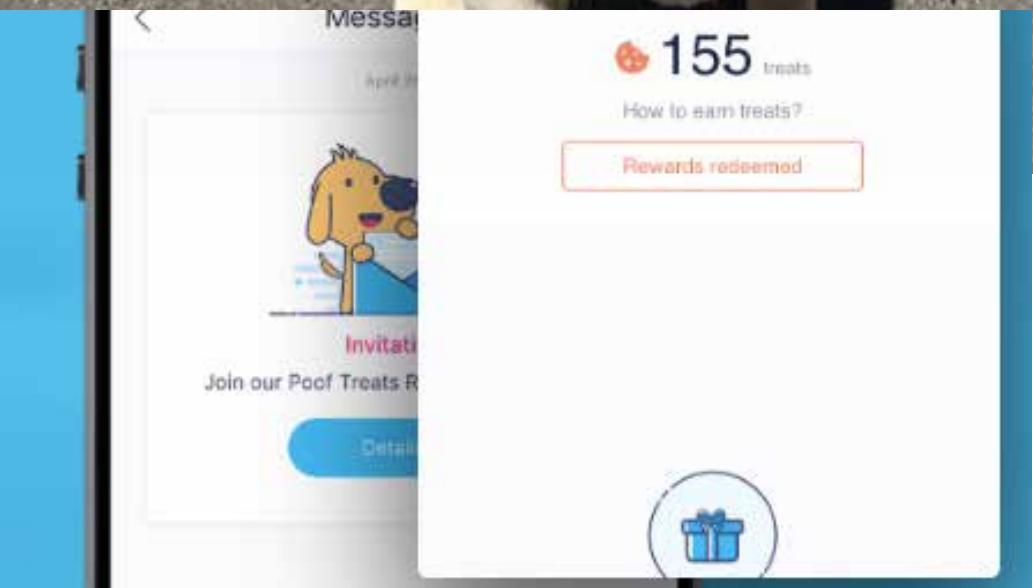
The device allows you to track your pets in live time with the Live tracking GPS. Setting a virtual fence and get notified once your pet has left the area is a great way to keep your pet safe, keep them from getting lost etc. Being able to see which location and distance your pet it located and the journey they took to get there is a good way to monitor how much physical activity your pet has done.

Drawbacks

Tractive is primarily aimed at cats and dogs. The description of the tracking device does say 'track dogs, cats or any other pet' but it is clear that from the reviews and general research the device is too big for a rabbit or a guinea pig, for example. Also not every pet has a collar this device can be attached to.

Reoccurring review - problems with low signal. This device could be particularly helpful in hilled areas, or national parks where dog owners often walk their dogs. However these areas often have low signal, this would be problematic. If you are walking your dog in a national park or on any long walk, a long battery life would be needed, however it again has been a recurring review from current users that the device needs a longer battery life.





Poof

“ THE APP FOR MAN’S BEST FRIEND”

Concept

“The Poof Pea provides pet parents a seamless and effective tool to improve their pet’s health and wellness.” Poof tracks your pets (dogs and cats) activity, sleep quality and calories in and out when synced when synced with the Poof Bean or Pea activity tracker.

Technology Used

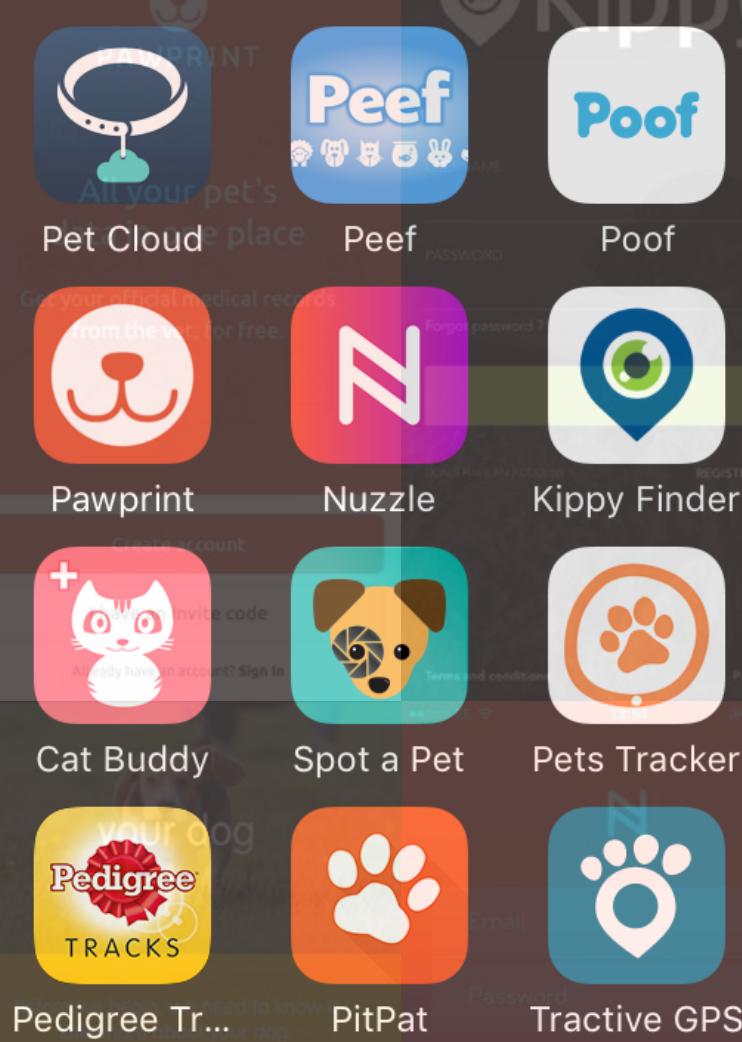
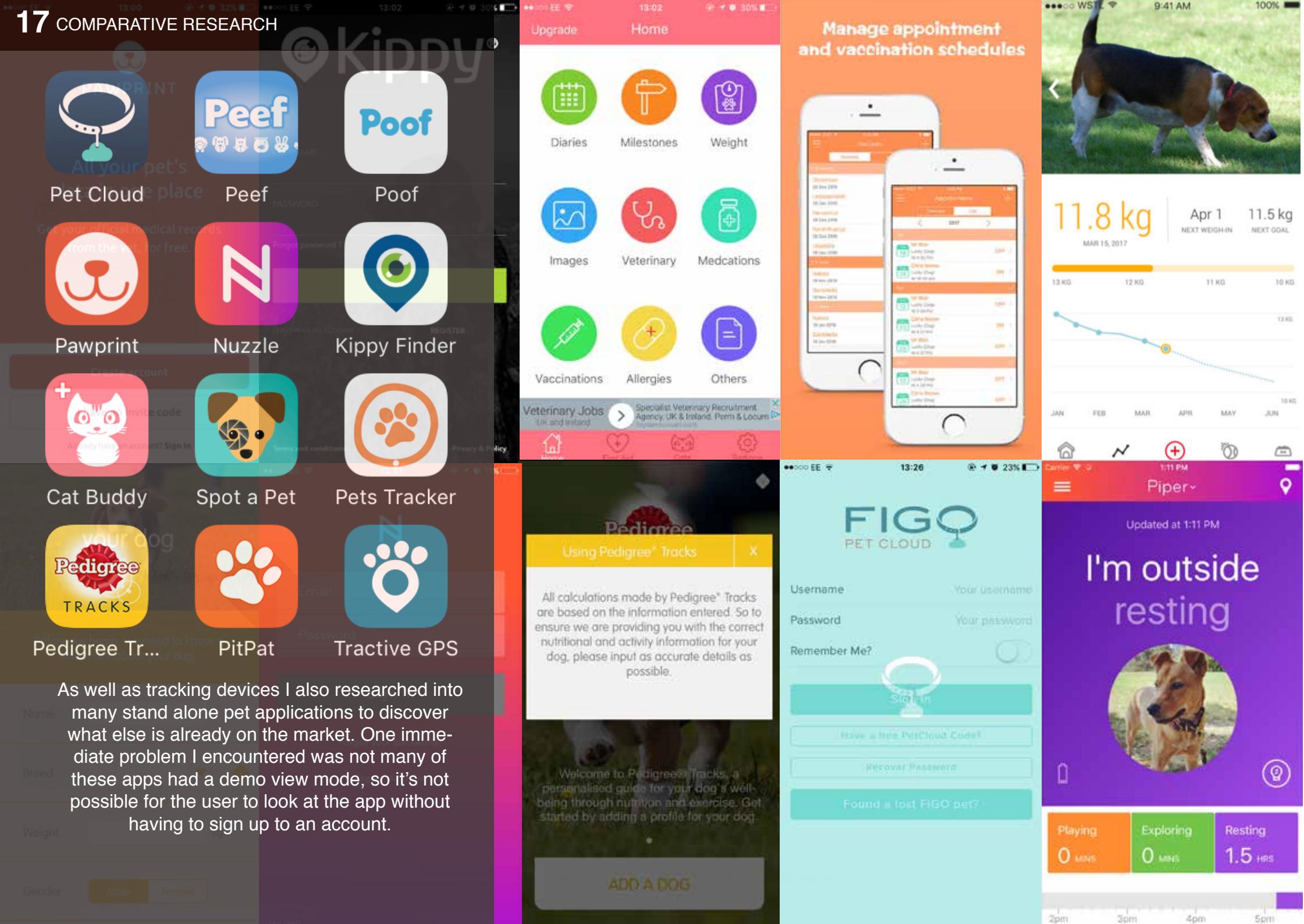
The Pea and Bean Devices both have a dual-core structure with proprietary algorithm for data analysing and power saving. The data can also sync to the application up to 30ft away. The device also has an operating temperature from -20°C to 55°C.

Benefits

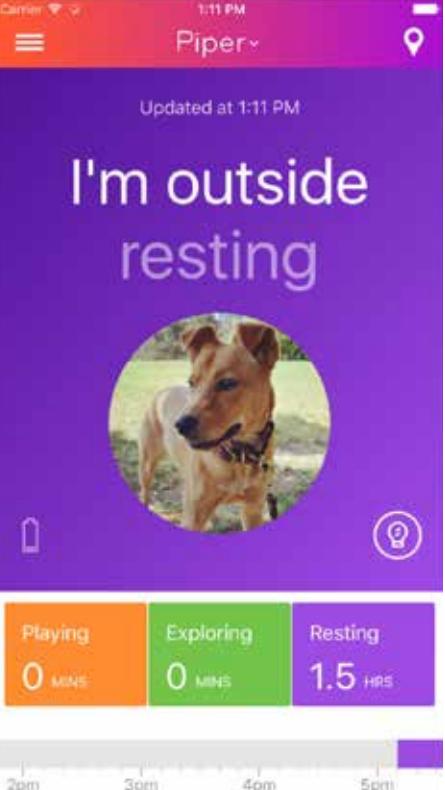
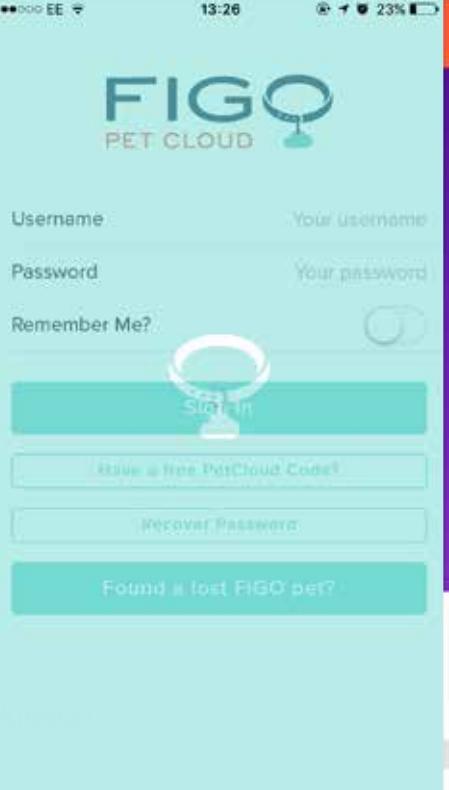
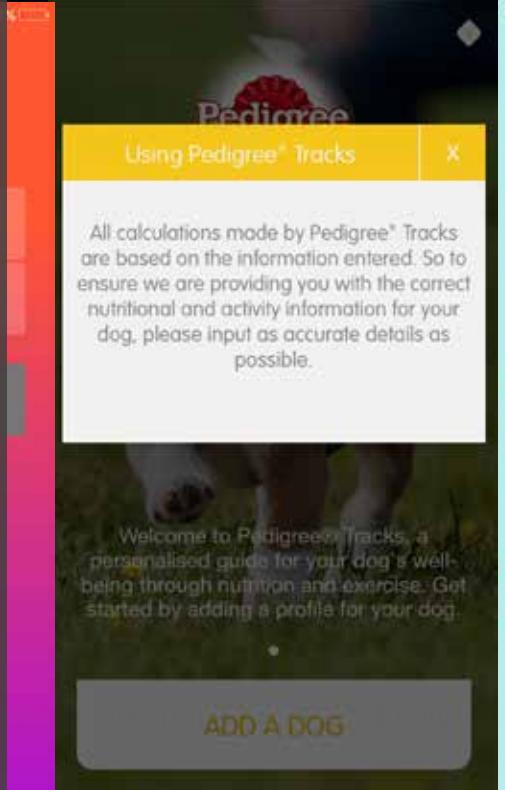
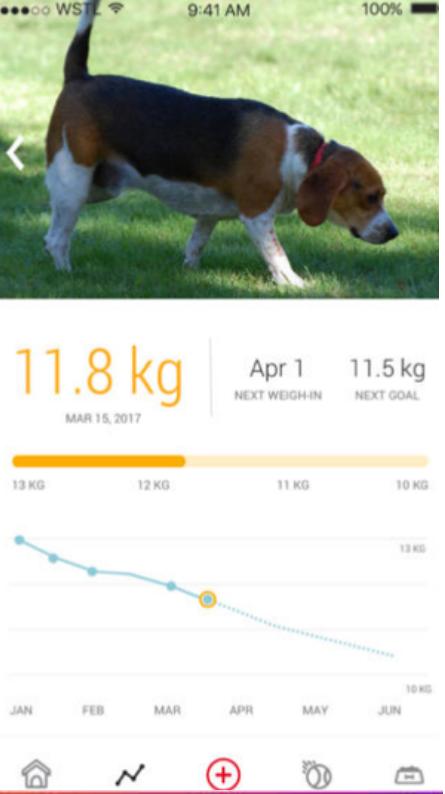
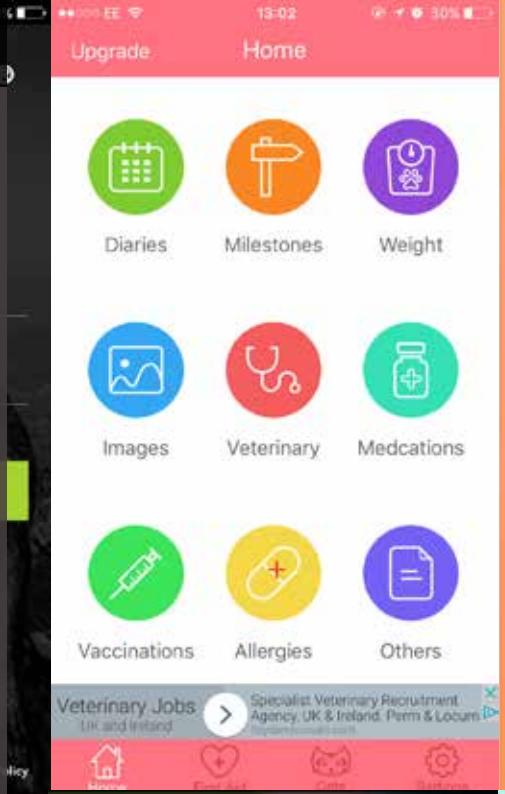
The waterproof devices have a battery life for up to 6 months. It tracks activity, calorie intake and sleep. The size of the device fits on any size collar as a tag. There is also a competitive aspect where your pet will be placed on a ranking system comparing your pet’s activity against other Poof Pets. The device also has up to 15 days of activity and sleep storage. By using the Poof App you can receive a ‘treat’ every time you sync your device to the app, comment or like a post, post of photo or rank with a top score. You can redeem your Treats Rewards for discount on selected pet merchandise on Amazon.

Drawbacks

The immediate downfall of the app is it allows you to view a demo mode, meaning that the user can’t test out the application before having to make an account. Another downfall is that the device is primarily aimed at cats and dogs.



As well as tracking devices I also researched into many stand alone pet applications to discover what else is already on the market. One immediate problem I encountered was not many of these apps had a demo view mode, so it's not possible for the user to look at the app without having to sign up to an account.



USP

Why not have a device that tracks your pets whereabouts, fitness and vet reports all in one. Not every pet owner has a dog. This device can be worn by all animals including livestock

CHANGE OF DIRECTION



After looking back at my USP and conducting competitor research I have realised that the pet healthcare market has already been covered. Tractive Pet Tracking and MyPoof devices and applications are both big competitors on the market and have already been very successful. However because I am very passionate about pets I want to challenge myself to look at what is already on the market and improve the concepts. Therefore I wants to come up with the innovation and next generation of pet training.

PET TRAINING BACKGROUND RESEARCH

Although discipline is an important part of the learning process, it needs to be done in the right way.

“The concept of discipline in dominance and punishment-based training is used to suppress the dog’s instincts and feelings through the use of force or fear – not to truly change the way the dog thinks and feels.”

CONSTRUCTIVE DISCIPLINE TECHNIQUES

TIME OUTS	TAKING SOMETHING OF VALUE AWAY	IGNORING BEHAVIOUR	VOCALLY
-----------	--------------------------------	--------------------	---------

DOG TRAINING SHOCK COLLARS

“Electric shock collars (ESCs) are worn around a dog’s neck and deliver an electric shock either via a remote control or an automatic trigger, for example, a dog’s bark. Electric shock collars train dogs through a fear of further punishment, having received the shock when it does not perform what is asked of it, rather than from a natural willingness to obey.”

thekennelclub.org.uk

It is important not to train your pets with fear, pets should be trained through rewards because of the good things they do, rather than punishment through the bad things they do. This will also help promote owner/pet bonds and relationships.

‘PET SAFE’ BARK CONTROL

This device emits a 2 second ultra-sound tone when the inbuilt microphone detects prolonged barking. This high-pitched noise frightens the dog and stops him barking. However again this device is frightening the dog.



“Good dragons under the control of bad people do bad things”

Stated by an animated character in,
How to Train Your Dragon Disney Film

TARGET MARKET



At this stage it is important to identify my target market. It will be difficult to make a device that will entertain/train all pets as they are all very different in terms of their needs and how much care and attention they require.

Whilst doing a bit of research on pet training devices I have noticed most are aimed at dogs and some others aimed at cats.

I have drawn up a table using statistics from pets4homes.com looking at the top pets in the UK and the average care and attention the animal needs. This will allow me to see which pet I will aim my device at looking at the amount of care and entertainment they need to keep them occupied when their owners are not around.

From looking at this research and products already on the market it is clear that dogs need the most attention and around the clock care, closely followed by cats. However having two cats myself I know that they are pretty independent animals and can fend for themselves and keep themselves entertained when needed, unlike dogs.

Therefore I am going to aim my product primarily at **dogs**.



Many dog owners only option for leaving their dog home alone is to lock them in one room or even in a cage or outside.

I want to make a device which will keep dogs occupied when owners are not at home, being able to communicate with the owner, as well as receiving treats when they have been good

Surge in number of pets prescribed antidepressants to 'reduce stress of being left home alone all day'

- 80 per cent of Britain's pet dogs suffer from behavioural conditions
- Long periods of separation from their owners can lead to hyperactivity
- Vets say is also leads to obsessive-compulsive behaviour and anxiety

By BEN SPENCER FOR THE DAILY MAIL

PUBLISHED: 16:59, 22 March 2015 | UPDATED: 17:20, 22 March 2015

Dogs are intelligent animals and some breeds more than others. Border collies, German shepherds and Golden retrievers were bred to complete a job. Nowadays, dogs are more like companions than workhorses. Some dogs just want a job to do.

If your dog is sitting around the house all day it is likely to get bored, signs your dog is bored include:

RESTLESS BEHAVIOUR

DESTRUCTIVE BEHAVIOUR/ DIGGING

PAWING FOR ATTENTION

JUMPING/ BARKING



FURTHER MARKET RESEARCH

Having changed my focus from pet healthcare to pet training/entertaining devices I need to do more focused competitor research on this market, focusing particularly on devices aimed at dogs.



AN INTERACTIVE PET CAMERA THAT LETS YOU SEE, TALK TO, AND PLAY WITH YOUR PET

Concept

An interactive pet camera that lets you see, talk to and play with your pet.

Technology Used

This product includes both a device that you leave at home with your pet which streams to your phone application in 1080p HD video with 138° wide angle view. Includes a built in laser toy. 2-way audio talk to hear your pets. 3x digital zoom to see your pets up close. Video cloud recording service with Petcube Care.

Benefits

The device includes a sound and motion notification feature to alert you of major events happening at home, to know when your pet is getting up to mischief.

Drawbacks

This device only acts like a Hi-Fi camera to see what your pet is up to when you're not at home; it there are no training advantages here. If it alerts you when your pet is causing trouble, what is going to stop the pet from doing this?

HD PET CAMERA THAT MONITORS AND FLINGS TREATS

SEE, TALK, PLAY, AND REWARD YOUR PET REMOTELY. PLAY FETCH FROM YOUR PHONE

Concept

Fling treats varying distances up to 6 feet

Technology Used

Low treat volume notification 138° wide angle view with 3x digital zoom. Includes 2-way audio to hear and speak to your pets. Also includes night vision with infrared LED sound and motion alerts.

Benefits

Treats can be flung in any direction by the user using a swipe motion on their mobile application screen. High capacity container holds up to 2 pounds of treats.

Drawbacks

It is quite pricey around £250 for the device. Also the camera and treats are just in one area, it doesn't give you the option to choose how many cameras you wish to install.



"DIGITAL DAYCARE FOR THE HOME ALONE DOG OR CAT

Concept

A full day of entertainment, connection, and interaction with two-way video chats, treats, games, aromatherapy, and DOGTV.

Technology Used

Low light HD camera for high-quality video experience. Includes a motion and sound detector to keep track of them and make sure they are safe. Includes a pet-safe microphone specially engineered to pick up dog sounds. Soothing scent release will help relieve your dog's anxiety

Benefits

Easily installed and can move the device from room to room or to different locations.

Drawbacks

This product sounded great until I looked at reviews on Amazon and found it had a lot of negative reviews with 30% of people giving it a 1 star. For reasons such as the device was scaring pets, they didn't quite understand it. Also the video quality and signal being poor therefore also confusing and scaring pets.

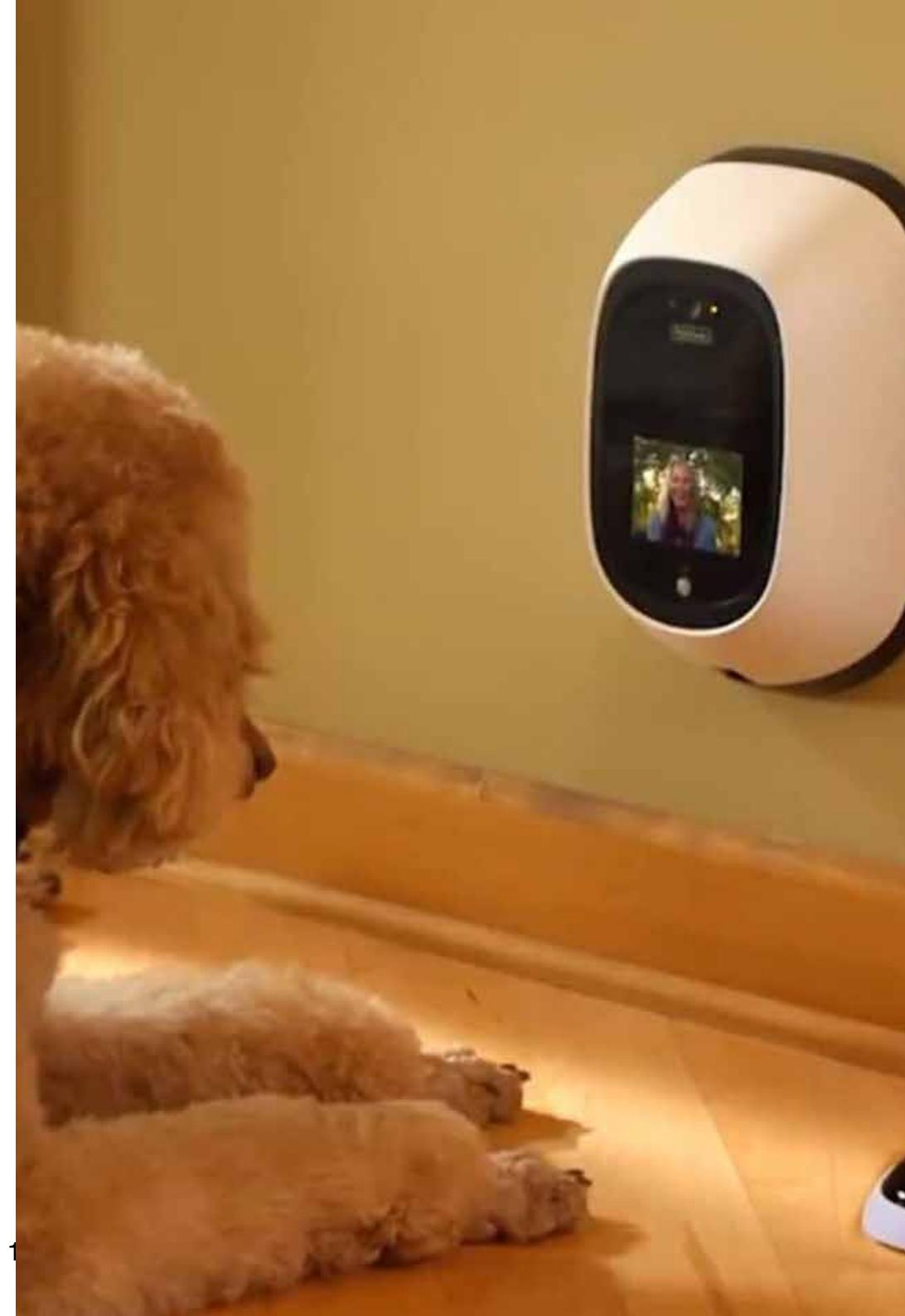
It is ironic that this product was built to calm pets but seems to be doing the opposite. Other reviews explained that it is poorly manufactured as their dog easily chewed it apart to get the treats inside which was dangerous.

Huge HUGE HUGE waste of money!
By [mary leprino](#) on February 25, 2015
Format: Misc.

Disappointed
By [Eric Veloso](#) on December 29, 2014
Format: Misc.

I wouldnt recommend this product
By [By:](#) on December 25, 2014
Format: Misc.

BEWARE!!!!!!
By [Kimberly R. Lawrence](#) on September 8, 2016
Format: Misc.





CleverPet: A Dog Game Console for Automatic All Day Play

Concept

The world's first game console for dogs. The games keep your dog busy and out of trouble for hours each day.

Technology Used

Includes touch-pads which lead to food by touching any one of them. Stainless steel bowl and sturdy, sensitive touch-pads. The non-slip base means the dog will not be able to push the device around or flip it over.

Benefits

Made with a durable material that the dog can't break the device to get to the treats. The statistics are then shown on the mobile app device which is compatible on both iPhone and Android.

Drawbacks

The device can only be used with one dog therefore if multiple dogs use the device tracking level progression and food intake won't be accurate. It is also considered unhealthy to give your pet a lot of treats, therefore if the dog is playing it constantly this could cause problems.

Customer reviews have also stated that the device sets off a loud noise when turning on which scares some dog breeds. It has also been stated in the reviews that once the dog doesn't receive a treat they become uninterested in the device.

Also the game only consists of tapping on lights in sequences, this could be improved by implementing more games.

Difficulty levels frustrate dogs and don't keep them engaged.

VR FOR DOGS?

The Only Virtual Reality Experience for Dogs

Concept

"Pawculus Rift is gonna revolutionize the VR industry, mainly because there isn't one. We are changing that!"

Technology Used

VR headset.

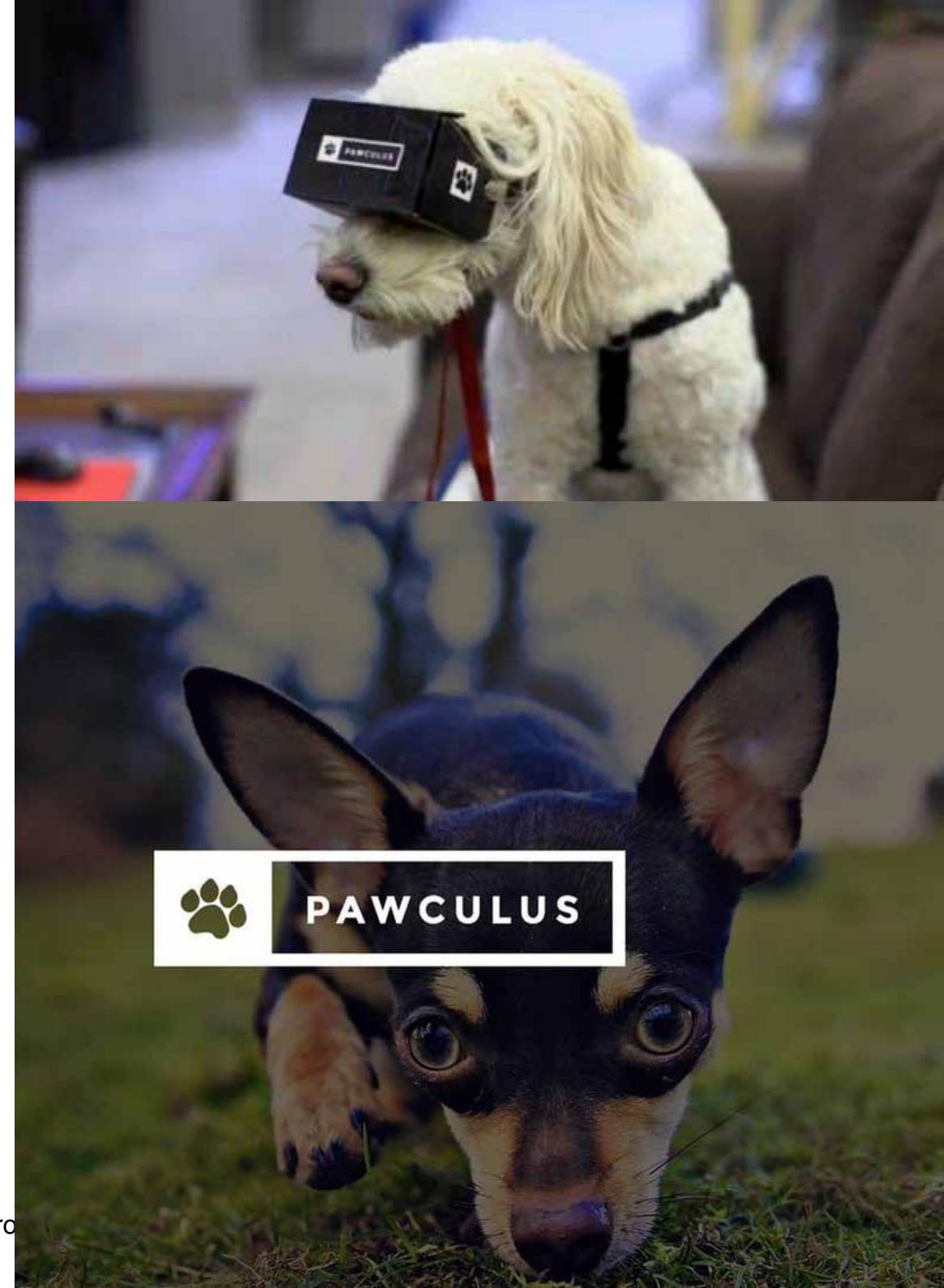
Benefits

Introduces a cone extension to keep your pets mind occupied when at the vets.

Drawbacks

The demo video shows dogs trying to shake the device off their head and it comes across dangerous if the dog starts moving around.

This device was found on Kickstarter and is not on the market yet. This device is one of a question mark, because it has not been released yet and has not been done before. Without thorough user testing on different dog breeds it is difficult to say whether this device would work or not.





KEY INSIGHTS

Carrying out competitor research has given me an insight into not only what's already on the market but also how my product will be different. Assessing the benefits and drawbacks has shown me how my product can stand out against its competitors. Some key insights I found were, firstly it is important to include a demo mode on the owner's application so that the user can see what the application is about, before they connect up their device, or buy the device.

I also need to make sure my device won't scare dogs; this will require thorough user testing. My device also needs to be made from a durable material that dogs can't get inside of to get the treats.



PRIMARY RESEARCH

Before doing my idea development I have done some primary research on one dog breed, dalmatians. I have prepared a questionnaire to see what their dogs get up to at home and other valuable information.



NAME Tilly **AGE** 14 **SEX**
Female

DESCRIBE YOUR DOGS PERSONALITY IN THREE WORDS.

Loving, human-like, soft

DO YOU LEAVE THEM HOME ALONE?

Yes

IF SO APPROXIMATELY HOW LONG FOR (HRS)?

Around 8 hrs a day

DO YOU OWN ANY OTHER DOGS?

No

IF SO DO YOU KEEP THEM IN A ROOM TOGETHER?

N/A

WHAT ACTIVITIES DOES YOUR DOG DO WHEN YOU'RE NOT AT HOME?

HOME?

Mostly sleeps now that she's older and eats her dinner. But when she was younger she would bite holes into blankets and clothes.

WHAT DO YOU DO TO KEEP YOUR DOG ENTERTAINED WHEN THEY'RE HOME ALONE?

Box of toys and bones that keep her occupied when she's not asleep. Loves this teddy bear dog that she has played with since she was a puppy.



NAME Lexi **AGE** 1 **SEX** Female

DESCRIBE YOUR DOGS PERSONALITY IN THREE WORDS.

Crazy, loving, fun

DO YOU LEAVE THEM HOME ALONE?

Yes

IF SO APPROXIMATELY HOW LONG FOR (HRS)?

3hrs a day

DO YOU OWN ANY OTHER DOGS?

Yes

IF SO DO YOU KEEP THEM IN A ROOM TOGETHER?

No

WHAT ACTIVITIES DOES YOUR DOG DO WHEN YOU'RE NOT AT HOME?

Tries to get into rooms she is not allowed in. She rips blankets and causes a huge mess.

WHAT DO YOU DO TO KEEP YOUR DOG ENTERTAINED WHEN THEY'RE HOME ALONE?

Leave the TV on. We also have a pet calming diffuser which acts like a sort of drug to calm the dogs nerves

From this research I have found that even though these dogs are the same breed the activities they carry out when they are home alone differ because of their age. Younger dogs are clearly more energetic and older dogs are more sensible and used to being left home alone. I want to make a device that is going to entertain all breeds and all ages of dogs which is why is important to find the common ground of dog entertainment for all dog breeds.

WHAT ALL DOG BREEDS HAVE IN COMMON

TENNIS BALLS

CATCH

PLAYFULNESS

all dogs will play fetch, love walks and exercise



LOVE

LONGEVITY

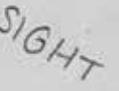
SOCIALITY

LOYAL

It has not yet been proven that a certain dog breed does not make a good house pet.



SMELL



SIGHT

CURIOSITY

all dogs have a strong sense of smell, even if some dog breeds are stronger than others.

BARKING



AGGRESSION

Studies prove a dog's aggression depends on how it is trained and brought up.

THE JOBS DOGS WERE BRED TO DO

It is important that my device will work for all dog breeds so I need to understand their backgrounds and the jobs they were bred to do.

HOUNDS

Hound breeds were originally used for hunting either by scent or sight. Many of them enjoy a significant amount of exercise and are trustworthy companions.

PASTORAL

Pastoral dog breeds are usually herding dogs associated with herding cattle and other livestock. Breeds such as Collies, Sheepdogs.

TERRIER

The Terrier breed were selectively bred to be extremely brave and tough, also known as hunting dogs.

TOY

Toy breeds are small companions or lap dogs. They generally have friendly personalities and love attention. They don't need a large amount of exercise.

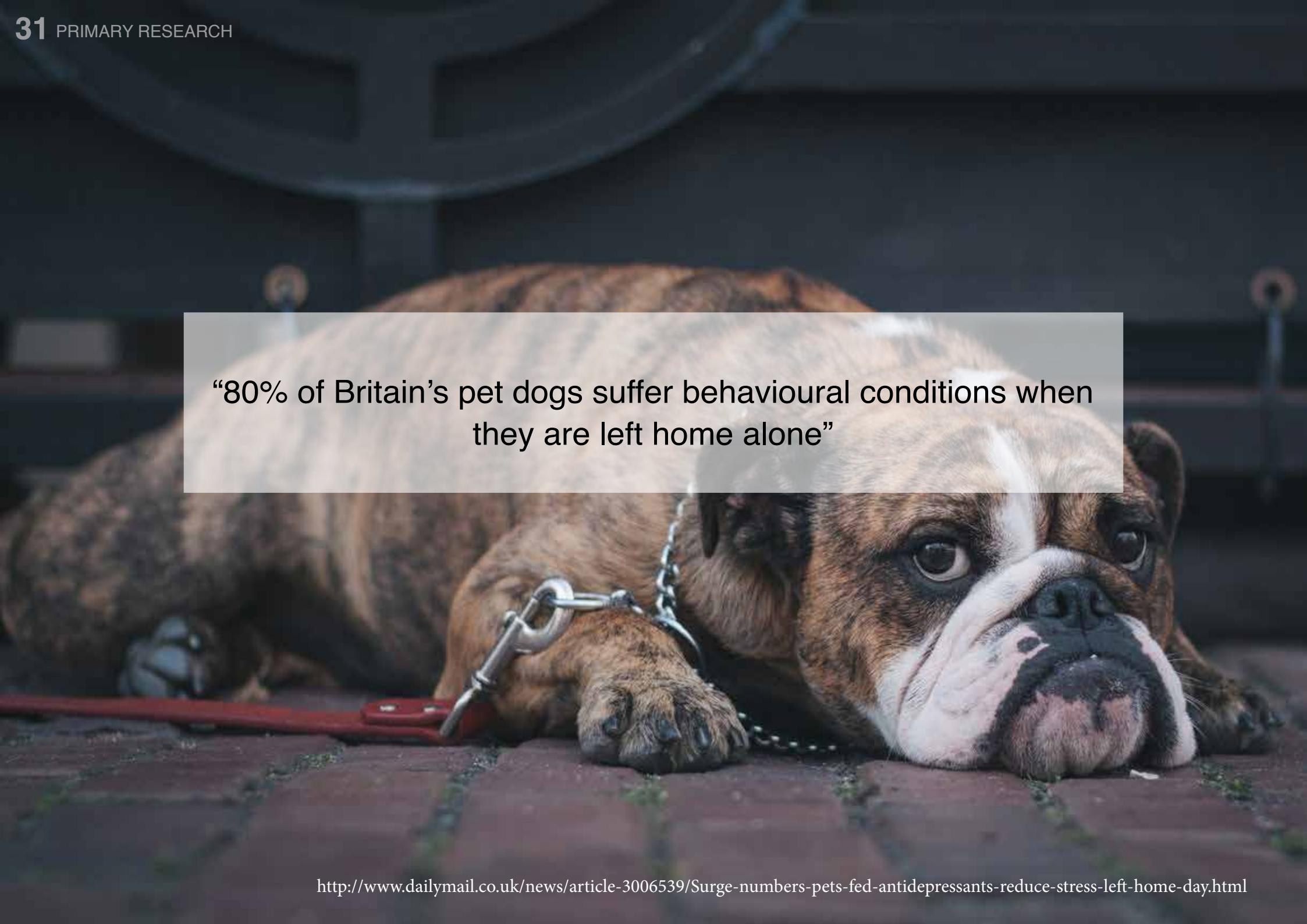
UTILITY

Most utility breeds have been bred to perform a specific function not included in the sporting and working categories. This could include jumping into ponds and bogs to retrieve birds shot by their masters (poodles) or as therapy dogs at hospitals and nursing homes (Airedale Terrier)

WORKING

These dogs were selectively bred to become guards and search and rescue dogs.

<https://www.thekennelclub.org.uk/activities/dog-showing/breed-stand->



“80% of Britain’s pet dogs suffer behavioural conditions when they are left home alone”

IDEA GENERATION

A close-up photograph of a person's hand holding a clear glass lightbulb. The bulb is illuminated from within, casting a warm glow. The background is softly blurred with a gradient from light blue at the top to light orange at the bottom, creating a dreamlike or creative atmosphere.

From my competitor research I have found a lot of devices are just a way to keep an eye on your pet and not focussing on keeping them entertained when they are left alone without their owner.

My goal is to create an at home training device which will keep your dog occupied when you're not home, distracting them from causing mischief.



IDEA 1 - TALKING DOG TEDDY

This idea came from my primary research questionnaire looking at what keeps dogs occupied when the owners are not at home. One of the answers I received was that the owner leaves a teddy bear which comforts the dog when they are not at home.

Looking back at my dog breed research it is a common ground that all dogs love affection and are very loveable.

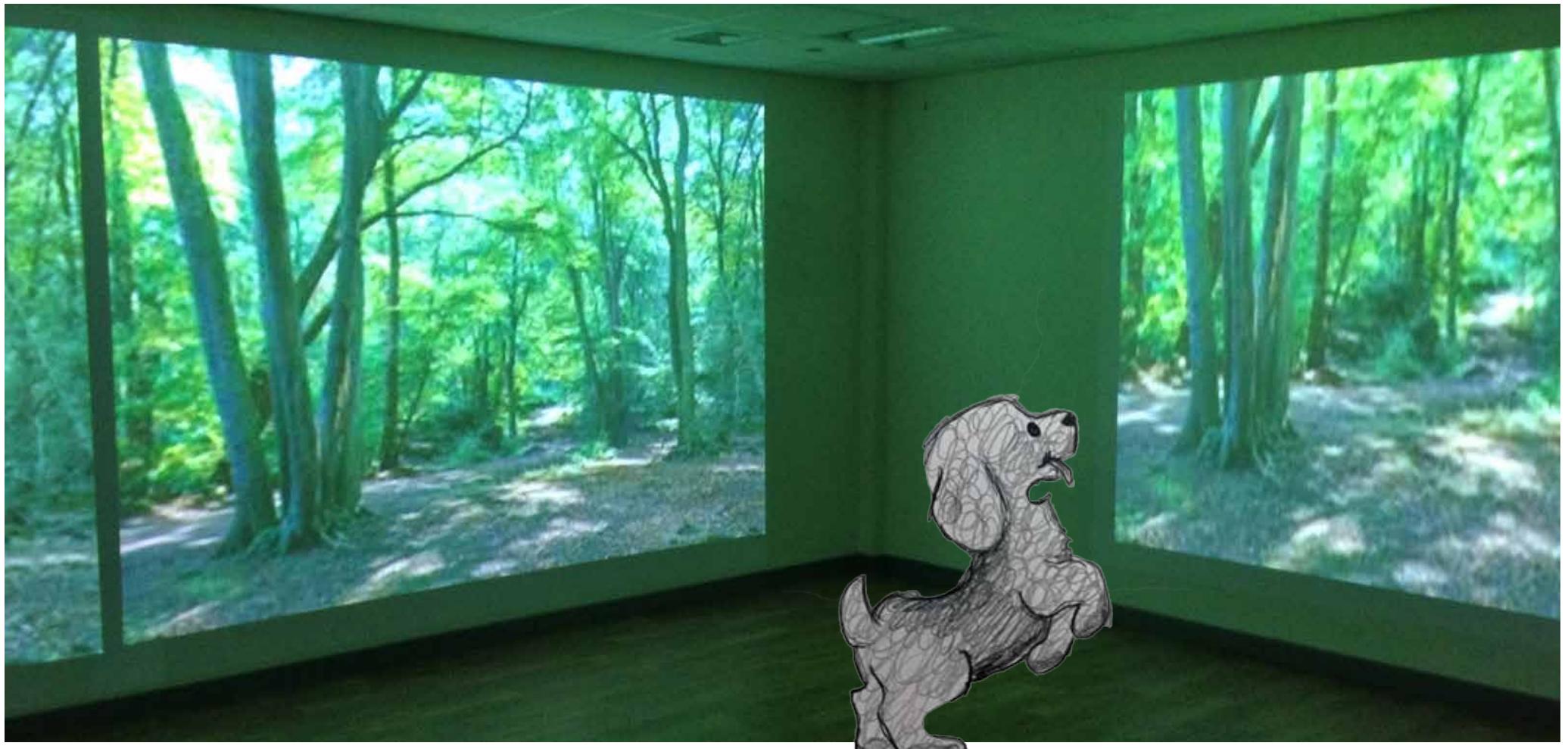
Therefore, the concept is to have a companion friend in the form of a teddy bear, to be able speak to your dog through the teddy bears collar, through a mobile application connected through bluetooth.

The teddy bear would also include a natural stress relieving herb on the inside to calm the nerves of the dog and relieve its stress when the owner is not around.

However from looking back at my competitor research I have decided against this idea. Purely for the reason that dogs like to chew toys and objects and will probably try to get to the treat or herb that is on the inside. Besides the fact that the dog could also easily break the technology and cause harm to itself.



IDEA 2 - DOG NATURE IMMERSION



This idea is looking at another route to keep dogs out of trouble and entertained through wall and floor projections.

Studies have proven that dogs love watching TV, especially viewing other animals and nature. Making the TV projections bigger and on all walls will entertain the dog and keep them occupied till the owner comes home.

The idea is that the projections change all the type so the dog does not get bored and stays entertained throughout the day. However I will not be pursuing this concept purely because man homes do not have the room for something this extravagant. This idea could maybe developed at a dog day care service where they would have the space to achieve something of this size.

IDEA 3 - SMART DOG SITTER

The virtual dog sitter is a wall device that looks at entertaining your dog through one of three ways, blowing bubbles, giving treats and a TV screen.

The idea is to record the owners whistle which will bring the dog to the attention of the device.

These whistles can be at set times during the day or can be controlled by the owner through the phone application.

The collar sensor will also let you know when your dog is asleep or if he's moving around a lot, in which case will also trigger a whistle.

The idea of this device is to keep your dog entertained, but also keep them out of trouble. The idea is to place small sensors in places your dog is not allowed to go, for example on your bed, or in a certain room. The device will then whistle the dog and start blowing bubbles to distract him from what he was about to do.

The automatic dog calming diffuser will also calm your dog down if he is stressed or nervous.

Dogs can get away with a lot more when they are home alone. This device will use a different type of training method to distract your dog from mischief rather than punishing him.

FEATURES



SMART DOG SITTER SKETCH



CONCEPT 3 DEVELOPMENT



IDENTIFYING THE PROBLEM AND THE GAP IN THE MARKET

Despite the pet market being one of the quickest growing I have noticed a gap in the market for something to stop your dog from causing a disruption once he has already started.

Many devices on the market currently entertain dogs, such as automatic ball throwers or treat dispensers. However once the dog is up to no good, there's nothing to stop them.

There are either entertainment devices or unpleasant deterrents such as anti-bark shock collars. This is where I found a gap to design a system that would distract dogs when they are up to no good.

Dogs are very social animals and many suffer separation anxiety when their owner leaves them home alone. This causes restless, destructive behaviour often barking and howling. My aim was to design a solution to this problem, something that acted like a real life dog sitter.



UNIQUE SELLING POINT

A close-up photograph of a golden retriever's face. The dog has long, wavy, light-colored hair. Its mouth is open, showing a pink tongue and white teeth. It is looking towards the right of the frame with a slightly tilted head. The background is a soft-focus green field.

**THE ENTERTAINMENT
SYSTEM THAT
DISTRACTS YOUR
HOME ALONE DOG
FROM CAUSING
MISCHIEF USING SMART
TECHNOLOGIES.**

PRODUCT SPECIFICATION

The Smart Dog Sitter Device

- Device must be durable, so no dog can get to the treats and technology inside.
- Will be suitable for both type A and type B dog personalities.
Type A personalities are usually extremely active and full of themselves. For these type of dogs the device will distract them from causing mischief, such as going into rooms they are not allowed in. **Type B** personalities are totally laid back and nap a lot and can suffer separation depression. For these type of dogs, the device will entertain them throughout the day when their owner is not at home, keeping them active. Depending on the dog breed and age depends on what type of personality the dog has.
- The device must be able to hold both treats and dog food incase the owner needs to feed their dog when they aren't at home.

The Owners Mobile Application

- Must include a default option so it doesn't have to be controlled by the owner when they are busy at work.
- Must have the option to turn off notifications when the owner is busy at work
- Gives the owner control over how often the device whistles, how many treats are given etc.
- Must be easy to navigate and user-friendly
- Give each user a personalised experience with pet profiles



USER PERSONA 1



Laura, 34
Part Time working mum with the 5 month old Siberian Husky, Alfie.

Alfie is used to a full busy house with 2 young school children, when the children leave for school and Laura leaves for work he is usually left home alone for around 4 hours.

When Alfie is home alone:

Causes mischief
Rips blankets
Goes into rooms he is not allowed in
Lies on his mums bed he knows he's not allowed on

How will the device help:

Used as a distraction to keep Alfie entertained when he is home alone, Laura can control the device through her phone and can see when Alfie is up to no good.



USER PERSONA 2



Michael, 29
The business man
with the 5 year old King Charles Spaniel, Lola



Lola is a laid back dog but suffers separation depression being left up to 8 hours a day by herself.

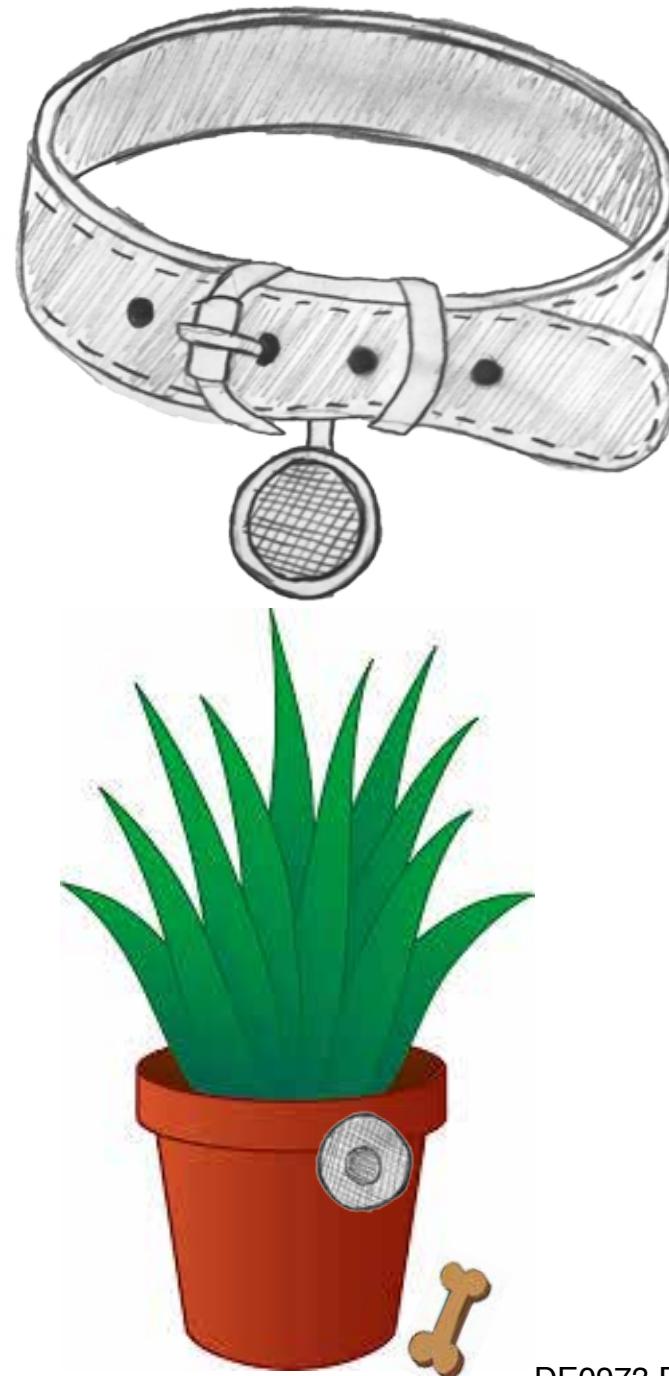
When Lola is home alone:

Lounges around
Waits at the door for Michael to come home
Howls at the door for 10 minutes after Michael leaves the house

How will the device help:

Used as an entertainment device to give Lola treats and keep her occupied till Michael comes home. Michael is too busy as work to control the device through his phone, so he sets it to default.





FURTHER DEVELOPMENT

At this stage looking back at my dog breeds research I noticed a problem in my design. The proximity ibeacons may work for a short period of time but dogs aren't as stupid as they may seem in fact some breeds are very smart.

If the pet dog thought that he was going to get a treat if he triggers the sensor he may continue to do this which is the complete opposite of the aim of the Smart Sitter.

I then thought of other assets and features that I could maybe add to my product. Rather than the Smart Sitter being the only distraction I thought of adding other portable speakers, that would whistle, for the owner to put where they please, possibly in an area that may calm the dog down. This could be on the dogs toy box for example or next to a hidden treat he has to find.

This adds the personal touch of allowing the owner to have the control over where these speakers could be placed, changing them daily so that their dog does not get bored of the Smart Sitter device.

I then thought of how these whistles could be triggered and looking back on my research dogs barking and howling is a big problem. Therefore if the dogs collar could pick up the barking and trigger the whistle alarm.



The owner activates his dogs collar for when hes home alone by an on/off switch



The owner leaves to go to work for the day.



The dog starts howling because his owner has left. His howling triggers a sound sensor in his collar.



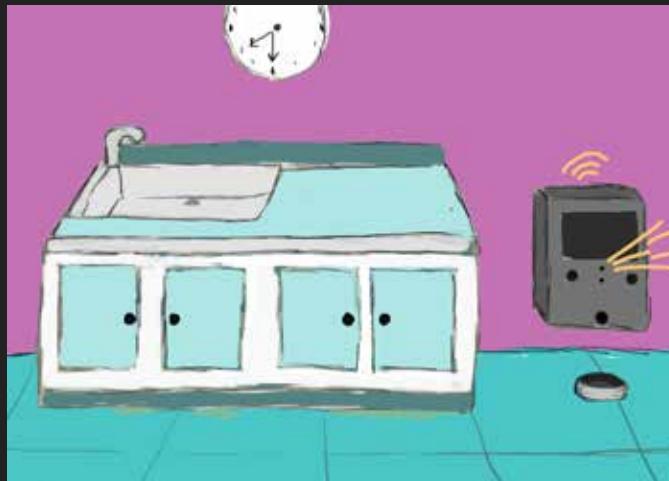
The sound sensor activates a speaker, letting off a whistle sound, attached to the dogs toy box to distract him.



The dog soon gets bored of playing with his toys.



So he enters his owners bedroom where he knows he is not allowed and starts causing a disruption. The proximity sensor in the dogs collar is detected by the sensor on the bed frame.



This activates the speaker on the Smart Sitter, letting off a doorbell noise.

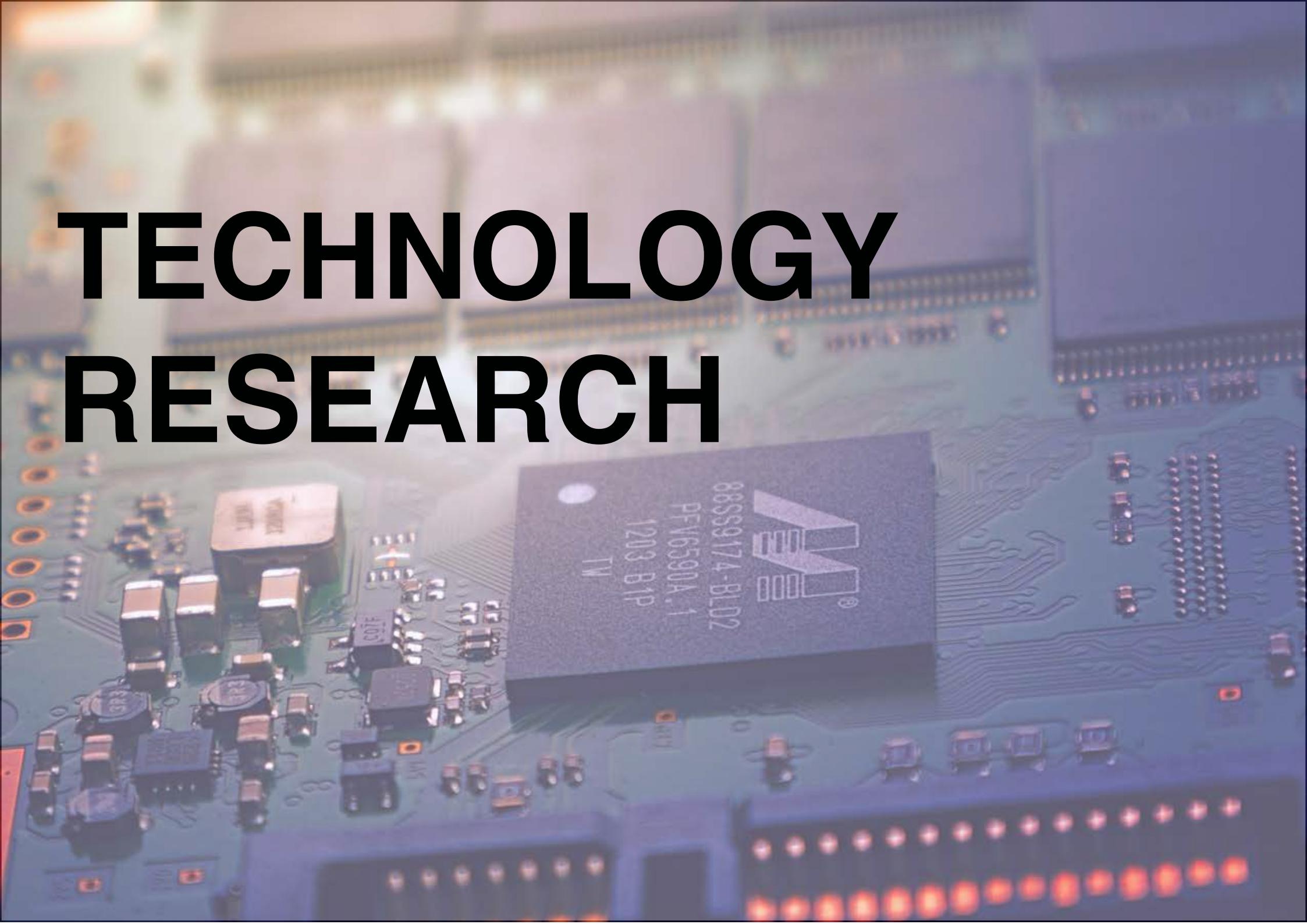


The notification is sent to the owners mobile application to allow him to control the devices functions, choosing from blowing bubbles, giving treats, watching TV or diffuser spray.



The information is relayed back to the Smart Sitter which begins to blow bubbles.

TECHNOLOGY RESEARCH



THE COLLAR

The collar will detect any barking and then wirelessly trigger the speaker. Also including an RFID tag, which will detect when too close to the RFID System, meant to be placed in places the dog is not allowed.



RFID Tag Chip

Identification code will be in the collar (meaning the sensors will work with more than one dog). Therefore the sensor will uniquely identify each different collar.

Portable Wireless Sound Sensor

A microphone with an amplifier unit that you can utilise for sound based detection, in this case the dogs barking.



THE RFID SYSTEM

The RFID System will be in the form of small devices which will be portable and can be moved where ever the owner pleases.



RFID System

The software which aggregates and transforms data from the collar, delivering real time information to other consumer applications, in this case, the SmartDogSitter device.

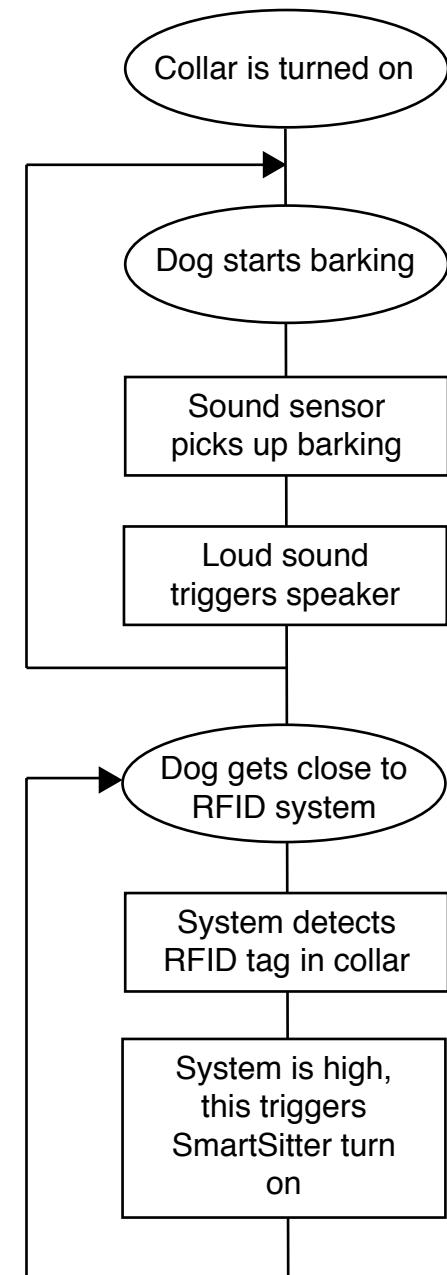
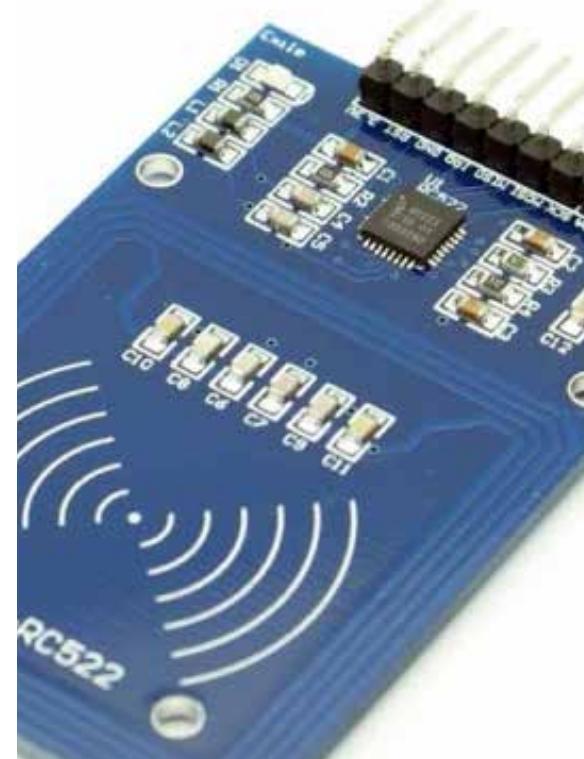


THE SPEAKERS



Portable Speakers

When the sound sensor detects the barking, the portable speaker will turn on. These are to be placed around the house to distract the dog from barking and howling.



SMART SIT-

Smart Sitter device will include:

- 8 inch LED TV
- Wifi to connect owners application to device.
- Storage space for treats
- Treat Dispenser
- Bubble dispenser
- Camera to see dog, shown through application
- Calming diffuser, sprays when activated, or if the dog barks
- Speaker to whistle to the dog
- Proximity Sensor to know when the dog collar is close the device



IF I WAS DEVELOPING THE DEVICE

If I was to make this product I would have to user test how many decibels the sound sensor would have to be set at in terms of how close the sensor is to the dogs barking. I would then need to collect the necessary code that will make the system high when the sensors are triggered, to blow bubbles, switch on the TV, give treats or spray the diffuser.

Without actually making the device I have had to come up with the best form of user testing.



USER TESTING



USER SOUND TESTING

At this stage I did some user testing to see what sounds dogs pay attention to and took note of other sounds that the owner said her dog pays attention to.

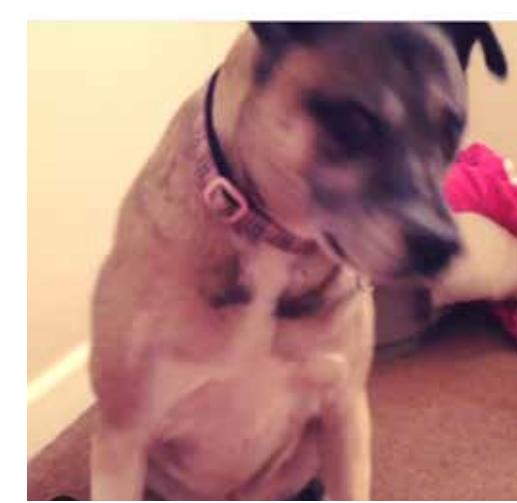
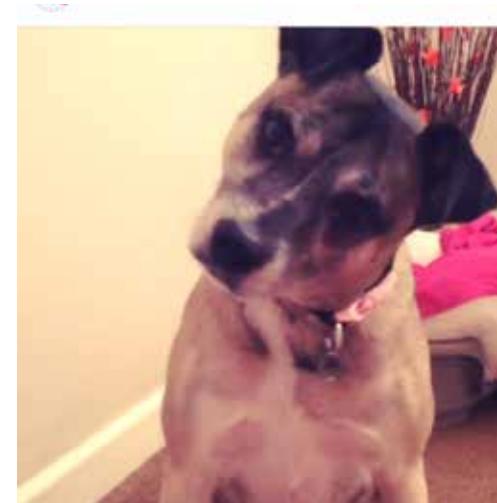
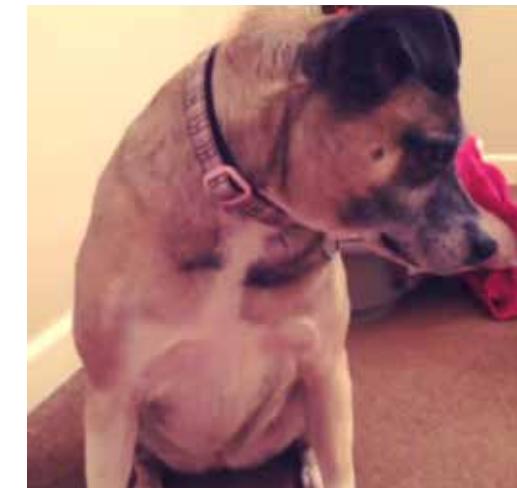
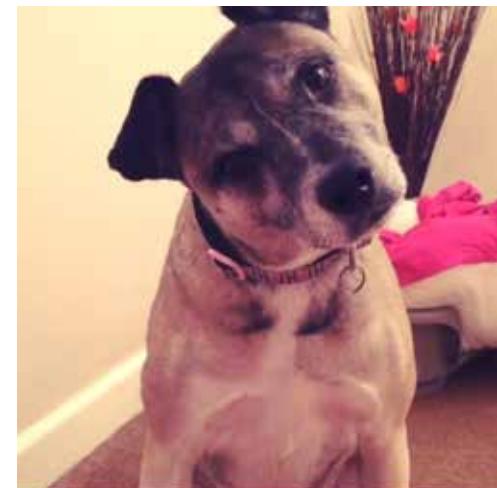
I used my friends dog Poppy, an 8 year old Staffy to see what sounds she would pay attention to. I downloaded sounds from freesound.com onto my phone and played them.

This turned out to be quite a successful user test as Poppy would tilt her head to the sounds which caught her attention. I played to her the following sounds were successful; whistling, door bell, letter box, and rustling treats. She also would only respond to the word 'walk' if her owner said it.

The sounds that weren't so successful or that made her bark was of a cats meow and another dogs bark.

For my device I need to find the right balance between getting the dogs attention and not confusing the dog. I thought that maybe the owner could record their own voice as a call this could work for a whistle however if the dog hears the owner shouting 'walkies' and the owner is not even home this could have the opposite effect in calming the dog down.

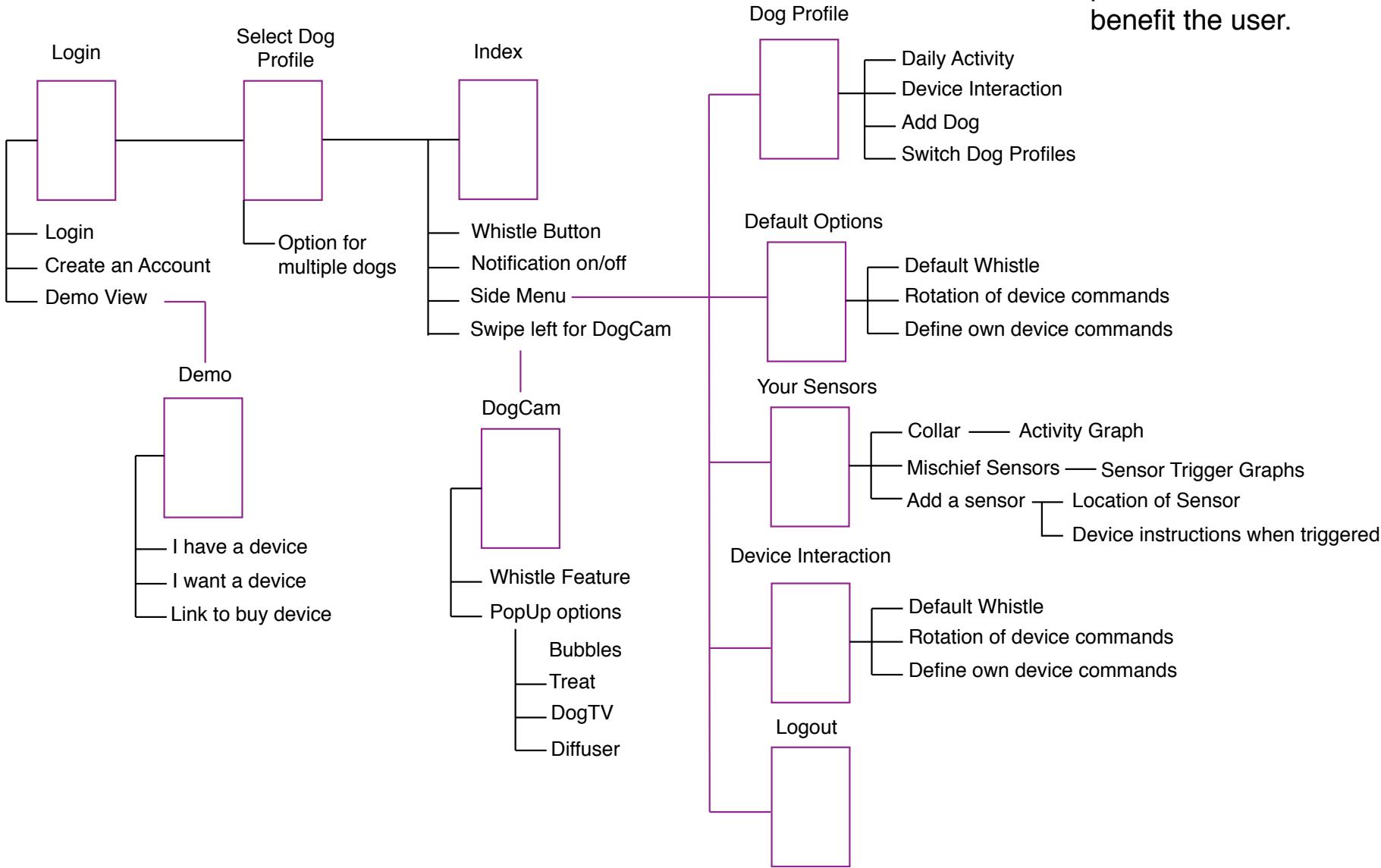
Poppy, Age 8, Breed: Staffy



APP DEVELOPMENT

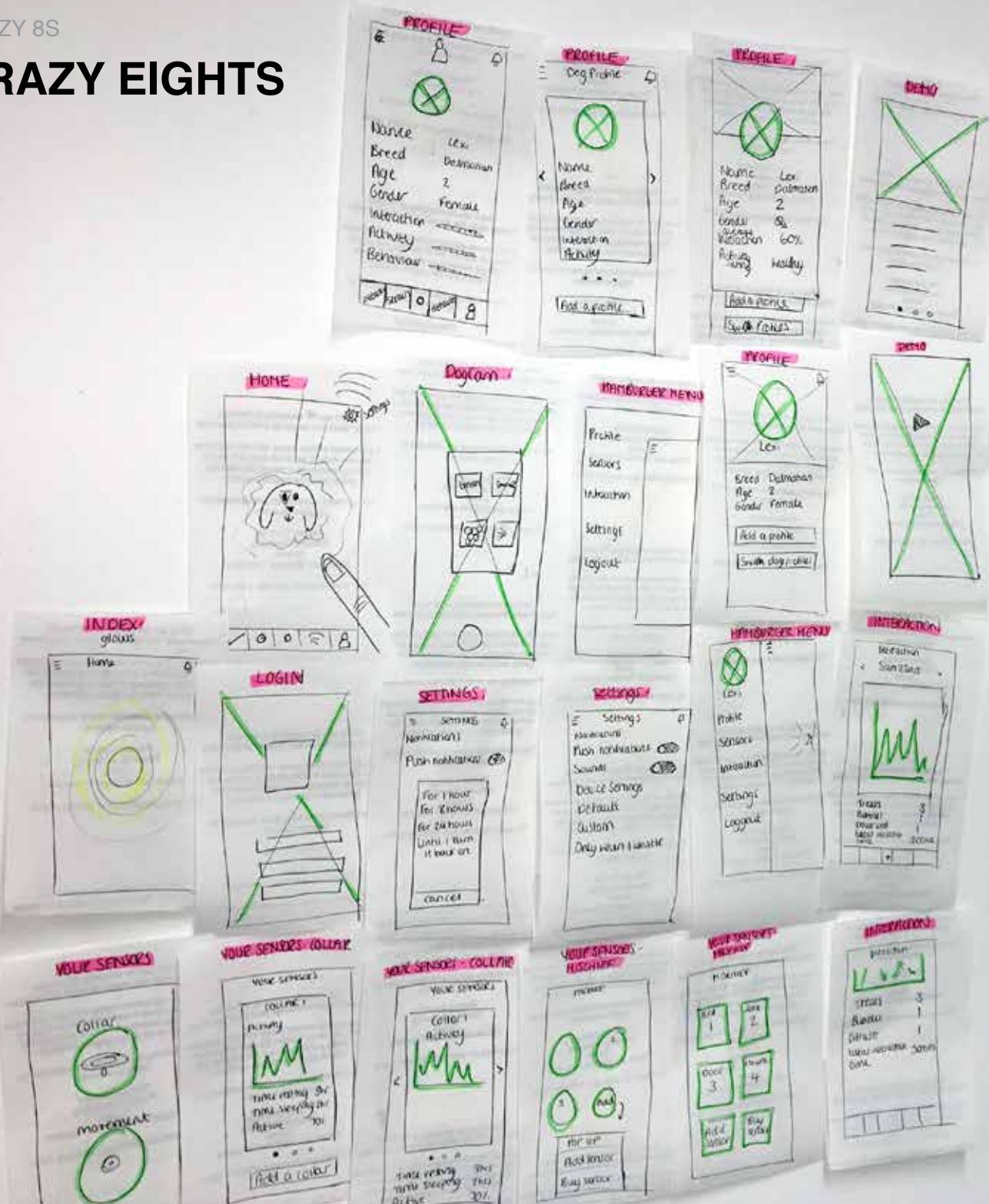


CONTENT STRUCTURE



The first stage of development I have looked at is the content structure. Although I will not be designing and developing the full application, this is a good way to get a feel of what is important to be included in each page to benefit the user.

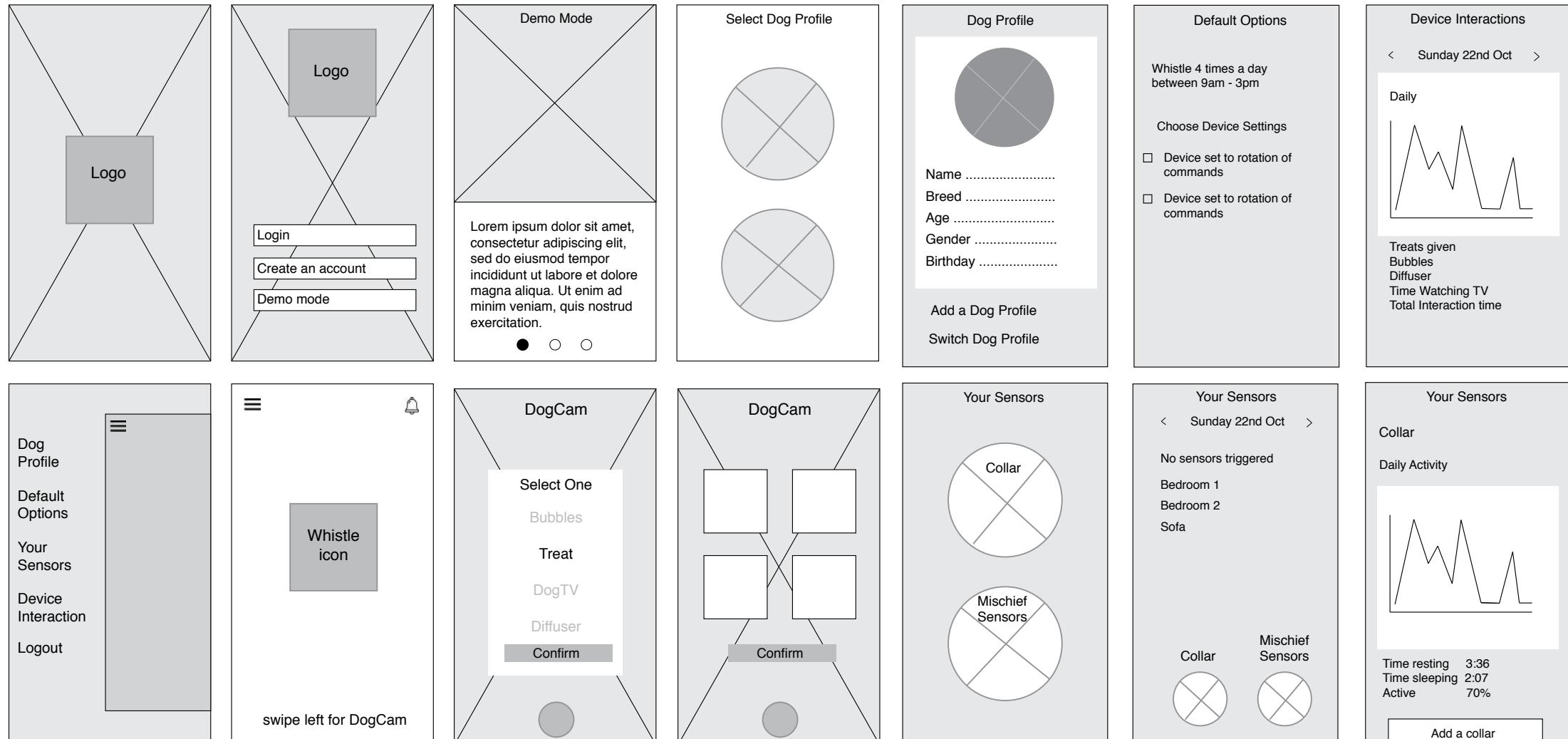
CRAZY EIGHTS



This task is a core sprint method allowing me to sketch out 8 quick design ideas in 8 minutes. It allowed me to get a feel of what each page of the owners application could look like. Out of the sketches I chose the ideas which I thought worked the best and developed them into digital wireframes, to get a better feel for the type face, type size and spacing.

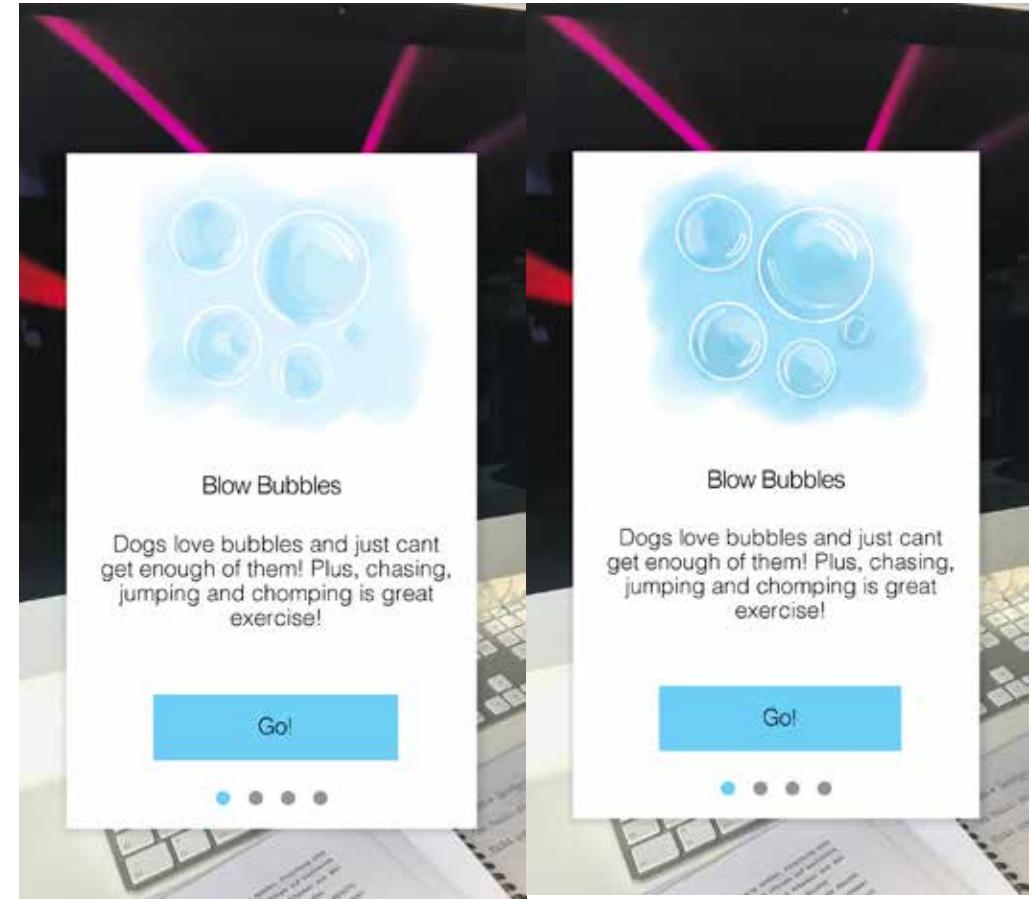
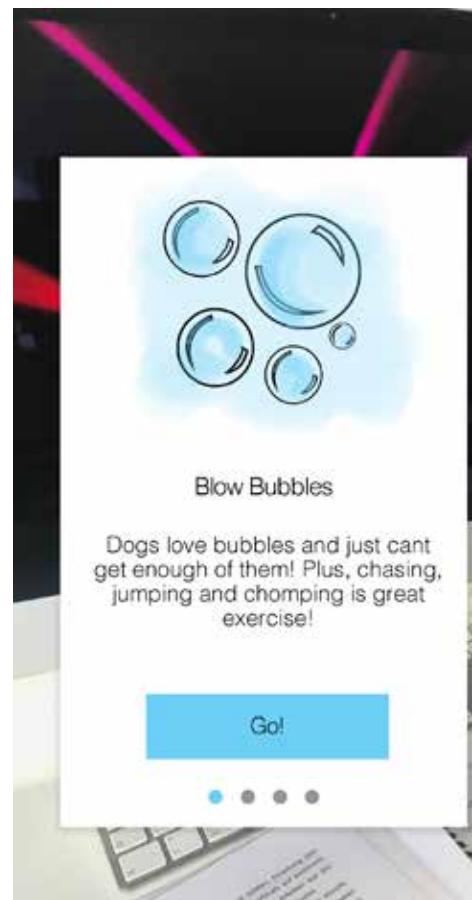
SOME INITIAL WIREFRAMING

Here I have developed the wireframes digitally to give a feel of what each page of the application could look like.

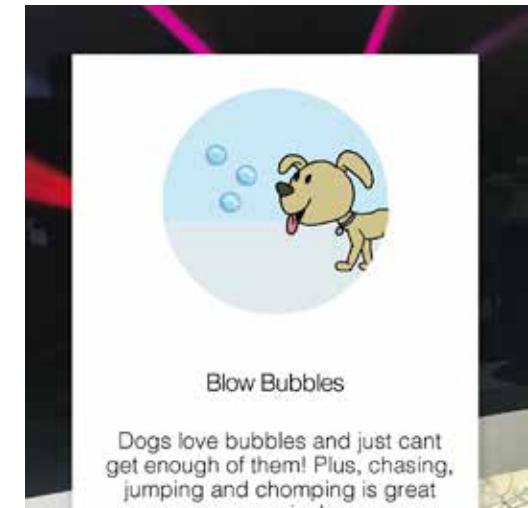


HI-FI MOCKUPS POPUP

Because of time I have decided to do high fidelity mockups for the pop up icons only which will be featured in my end promotional video. To get the font size and positioning correct I have done some user testing early on. This allowed me to see that I needed to make the 'Go' button larger to fit the size of a thumb. I also changed the size of the font and made it smaller making the overall mockup cleaner.

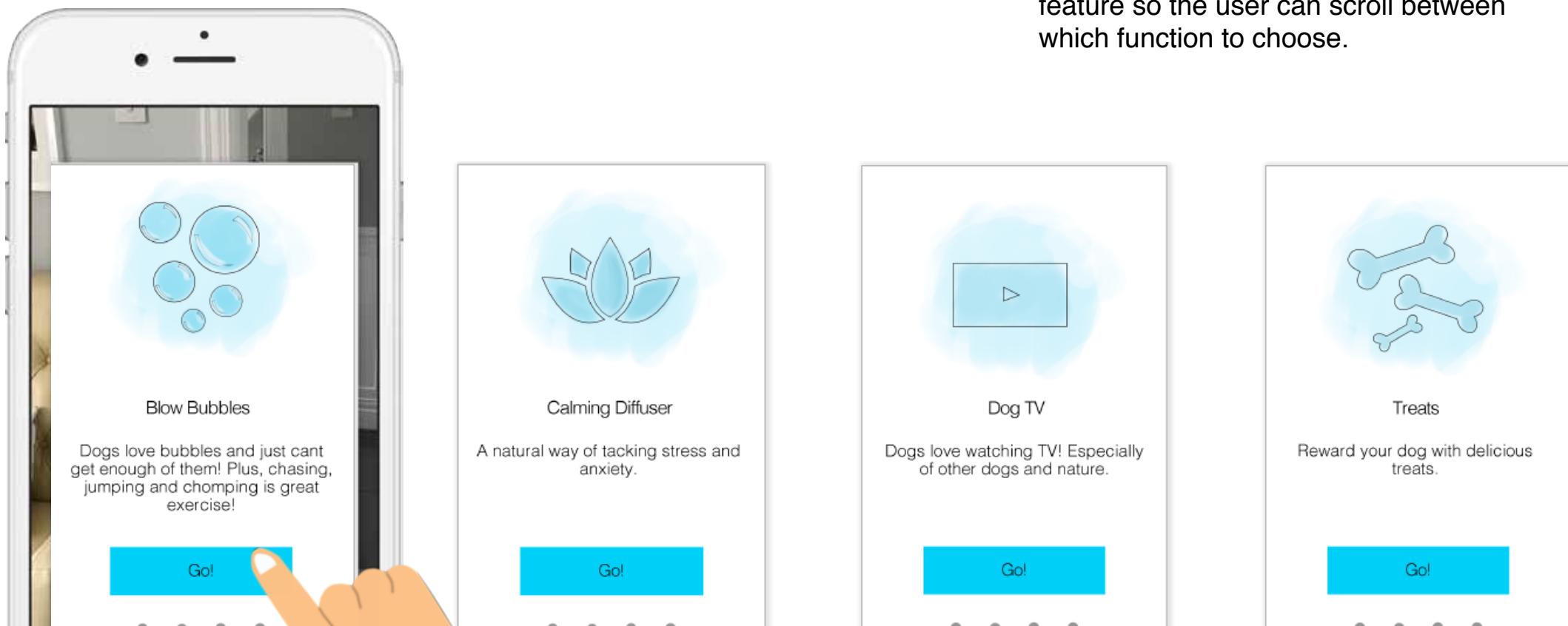


I went on to try different styles including a small animation. But decided to stick to a more simplistic feel with the basic feature sketches.



FINAL POP-UP DESIGN

The final Pop-up design uses a scroll feature so the user can scroll between which function to choose.



BRAND IDENTITY



NAME AND LOGO

Smart
Crafty
Genius
Clever
Professional
Expert
On the ball
Smart Dog
Smart Sit
Pupsit
Watch
Guard.
Peace
Buzz
Whistle
Collie
Furry
Play
Fetch
Coach
Train

Dog
Pup
Pooch
Tyke
Tail
Wag
Paw
Clever Pooch
Dogsit
Distract
Bark
Pawl
Tailer
Blitz
Pounce
Bizzy
Spike
Fetcher
Buddy
Walkies
Doug.



LOGO DEVELOPMENT



To begin my logo development I started sketching out possible app logos. Wanting to keep this as simplistic and professional looking as possible I started playing around with dogs paws and noses in Photoshop.

I then started looking at different font styles to use.



 **Pawl**

 **Pawl**

 **Pawl**



I really liked one font in particular called Comfortaa which I downloaded from dafont.com.



I began playing around with different gradients on the paw using a splash of blue.



LOGO GUIDELINES



Primary Logo



Secondary Logo



App Store Mockup



Colour Specification

gradient # 56c7eb #ffffff



blue # 5eb6df



black # 000000



white # ffffff



Font used in Logotype

Comfortaa Light

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o p q r s t u v w x y z

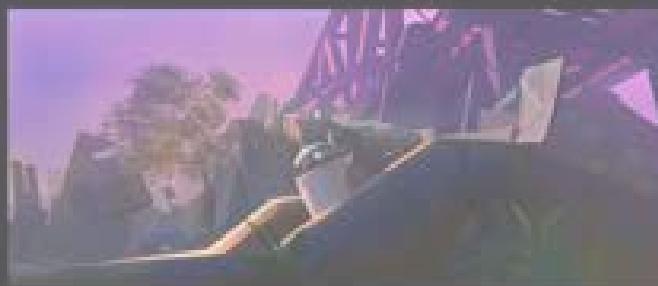
1 2 3 4 5 6 7 8 9 0

Comfortaa Bold

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

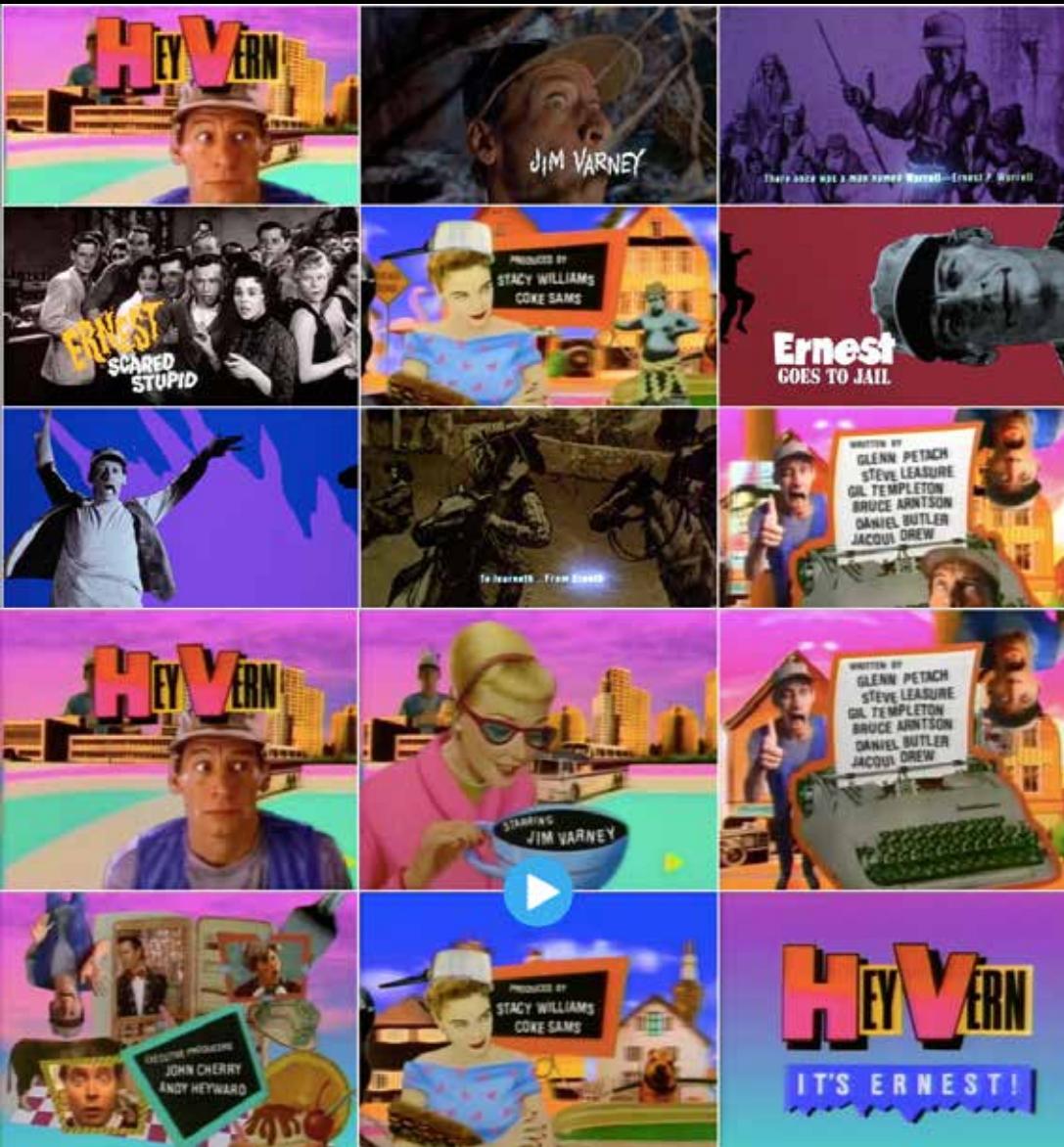
a b c d e f g h i j k l m n o p q r s t u v w x y z

1 2 3 4 5 6 7 8 9 0



ANIMATICS

Art OF THE TITLE



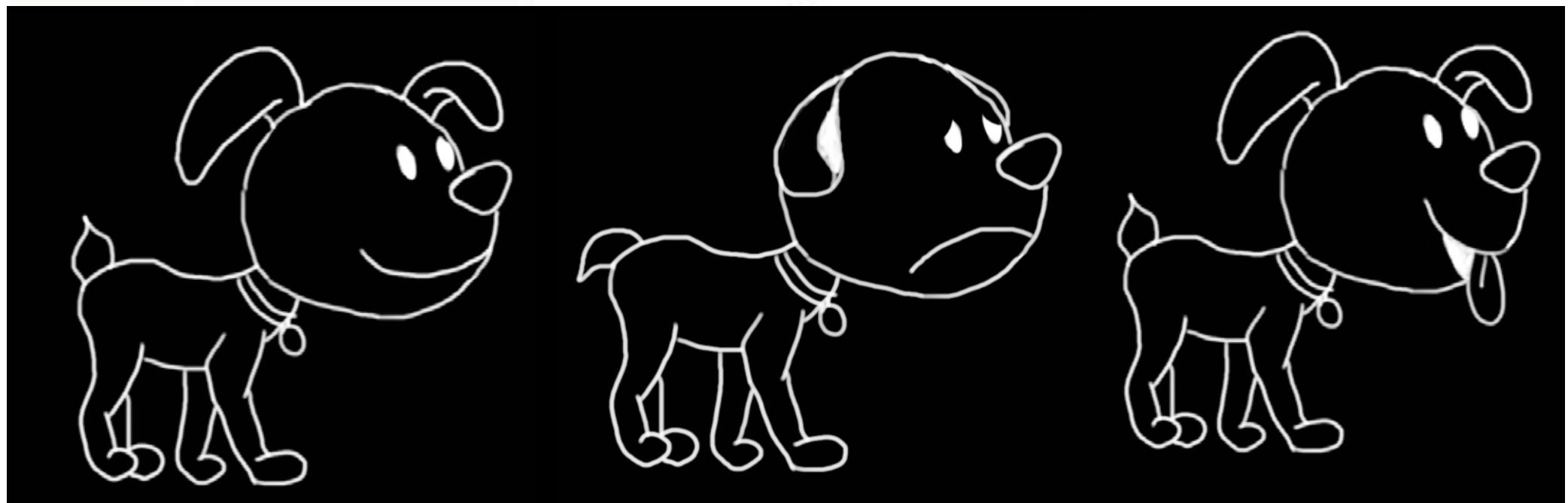
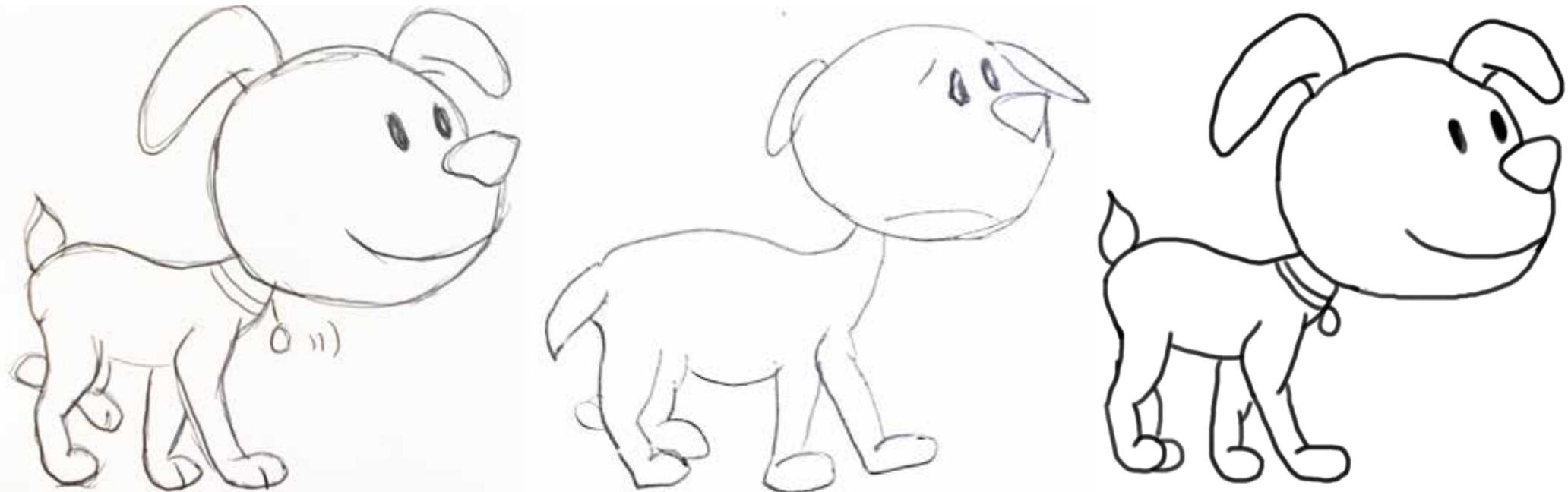
ANIMATICS

An animatic is an animated storyboard. Boards are brought into an editing program and are cut together with the correct timing and pace of the film. They include basic sound effects, dialogue recordings and scratch soundtrack.

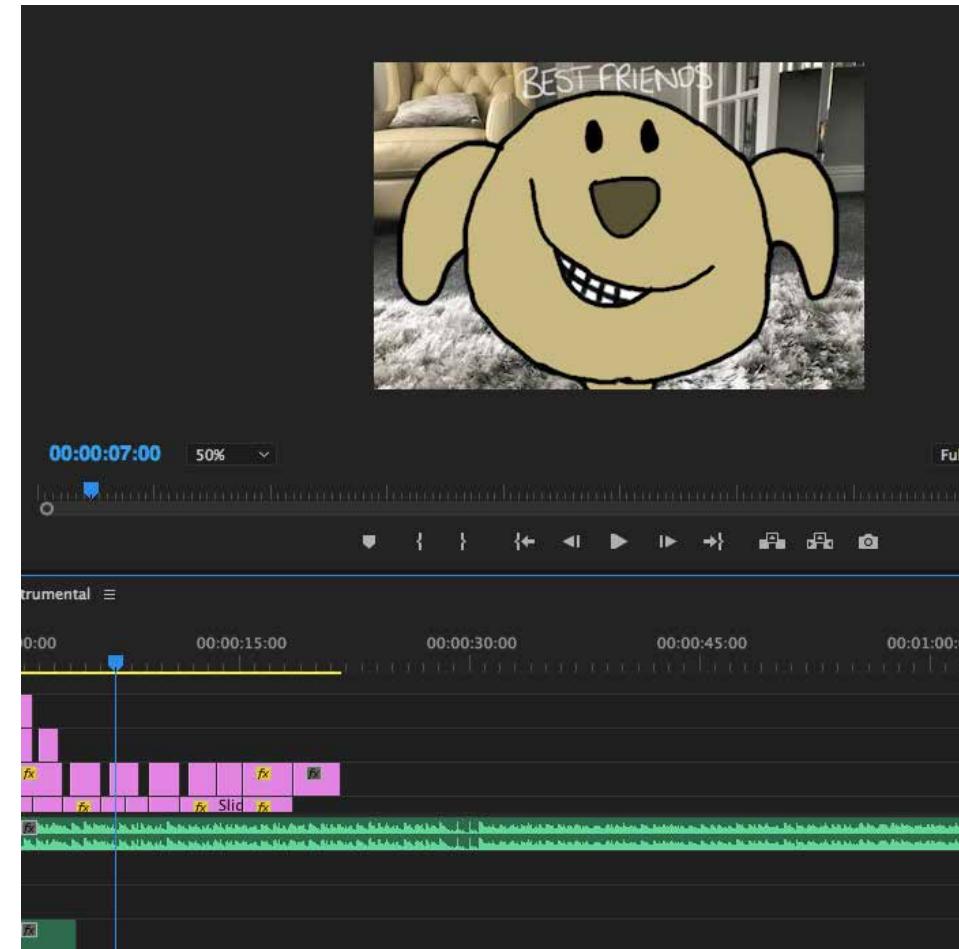
bloopenimation.com/animatic

Before creating my video I will produce an animatic to help with the timing of my video and get a feel for the different camera angles and positions. This strategy will allow me to save time when it comes to filming my video as I will have already discovered what will work and what not so.

STAGE 1- CHARACTER ANIMATION

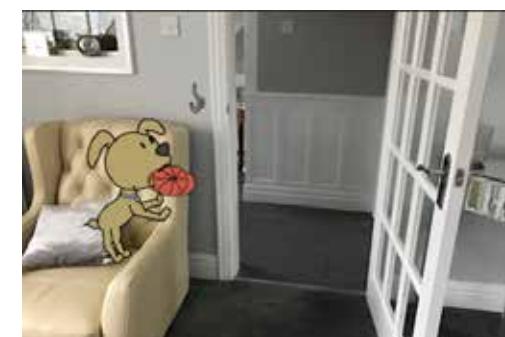


STAGE 2- PHOTOGRAPHING CAMERA ANGLES



I began photographing possible camera angles for my video looking bringing the camera to the dogs level on the floor and then looking at higher angles when he is sitting on the chair.

STAGE 3- BRINGING MY STORYBOARD TO LIFE



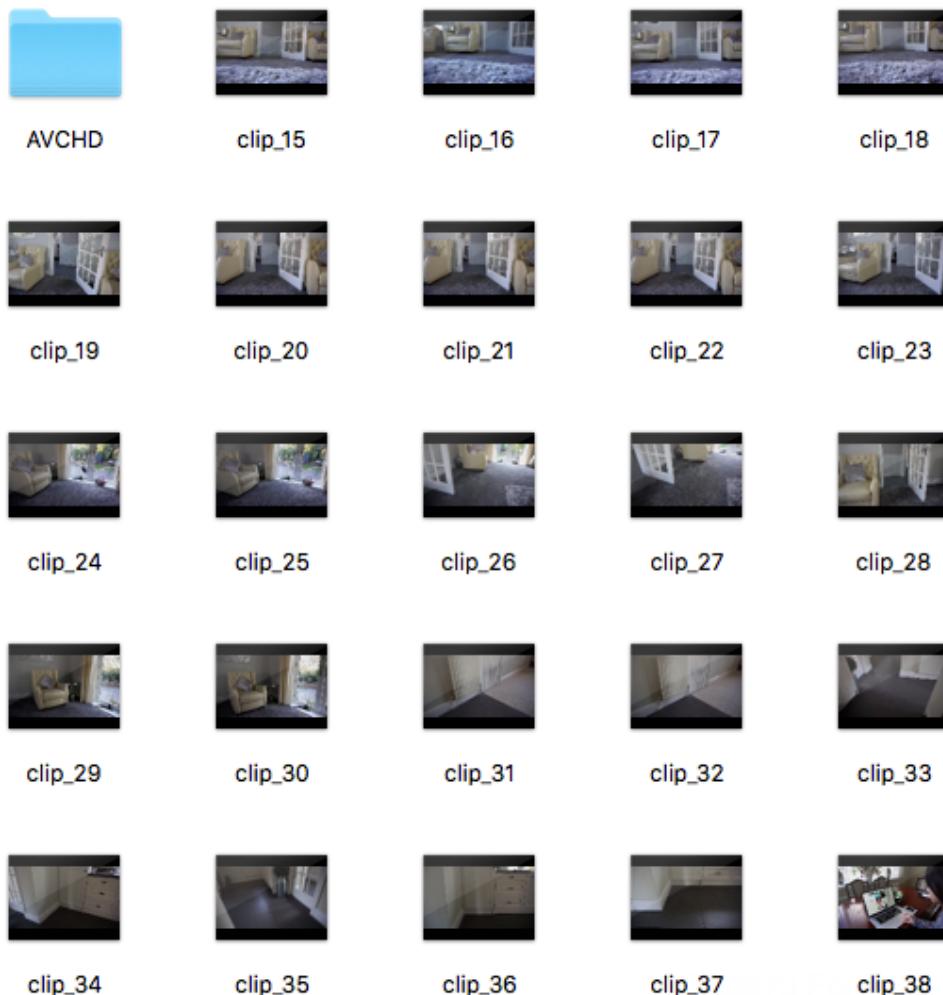


VIDEO DEVELOPMENT



RECORDING THE FOOTAGE

I firstly recorded my background footage using a Sony a6000 camera and a tripod. Because the dog is going to be animated on top of the footage, most of the footage I recorded was a still of different areas of my house.



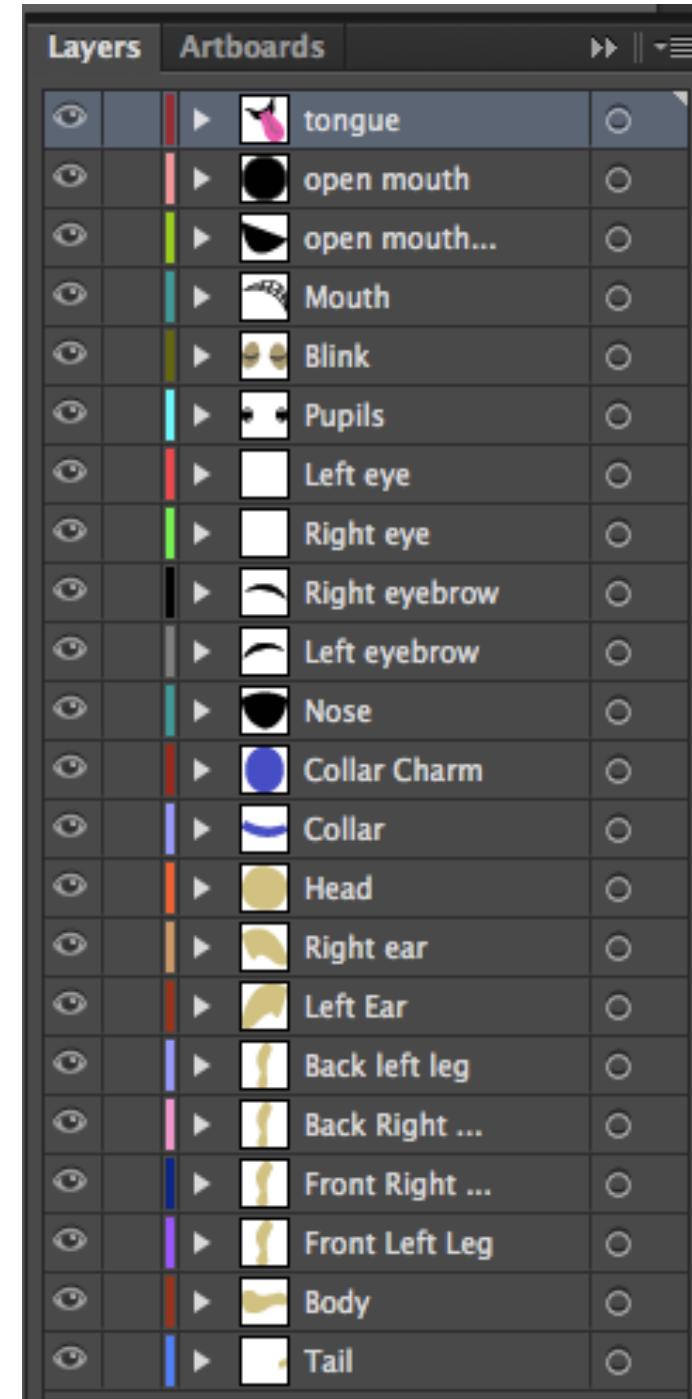
ILLUSTRATOR CHARACTER DEVELOPMENT

For my video I decided to make a character and use animation rather than real life footage. With my device being so specific I found it difficult to film a real dog without actually having a physical device. I therefore decided to animate a dog character and place it on top of a real life background as displayed in my animatics storyboard. I also thought this gave the product a little more light hearted feel, it allowed me to do certain things that gave the dog a personality such as facial expressions and sound effects.

Before creating my animation in After Effects I created my dog character in Illustrator. I have designed each asset in a separate layer in order to make it easier for myself when it comes to making the character move.



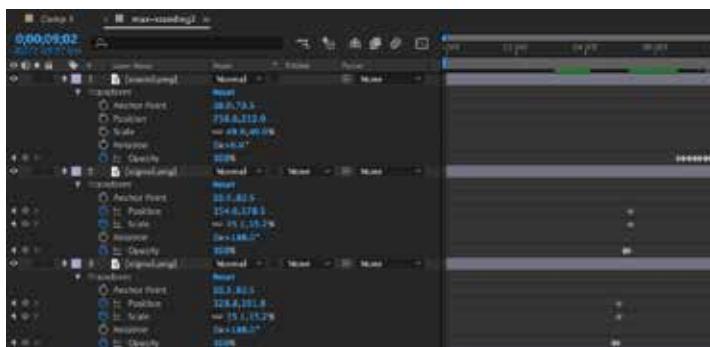
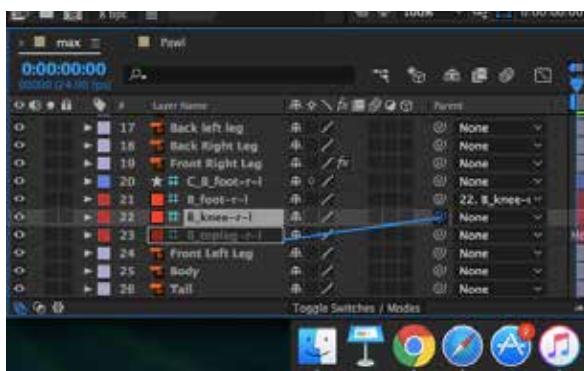
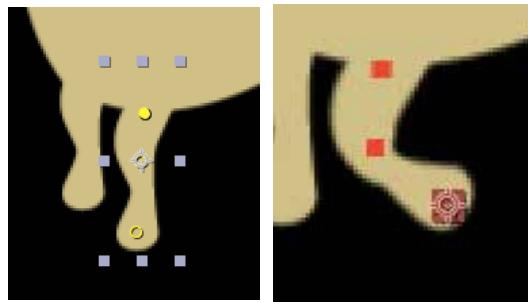
DE0973 Personal Project 1 // Emily Wilkinson



AFTER EFFECTS DUIK PLUGIN

After dropping the Illustrator file into After Effects. I selected one of the leg layers and placed ‘puppet pins’ on the dogs foot, knee and top of his leg.

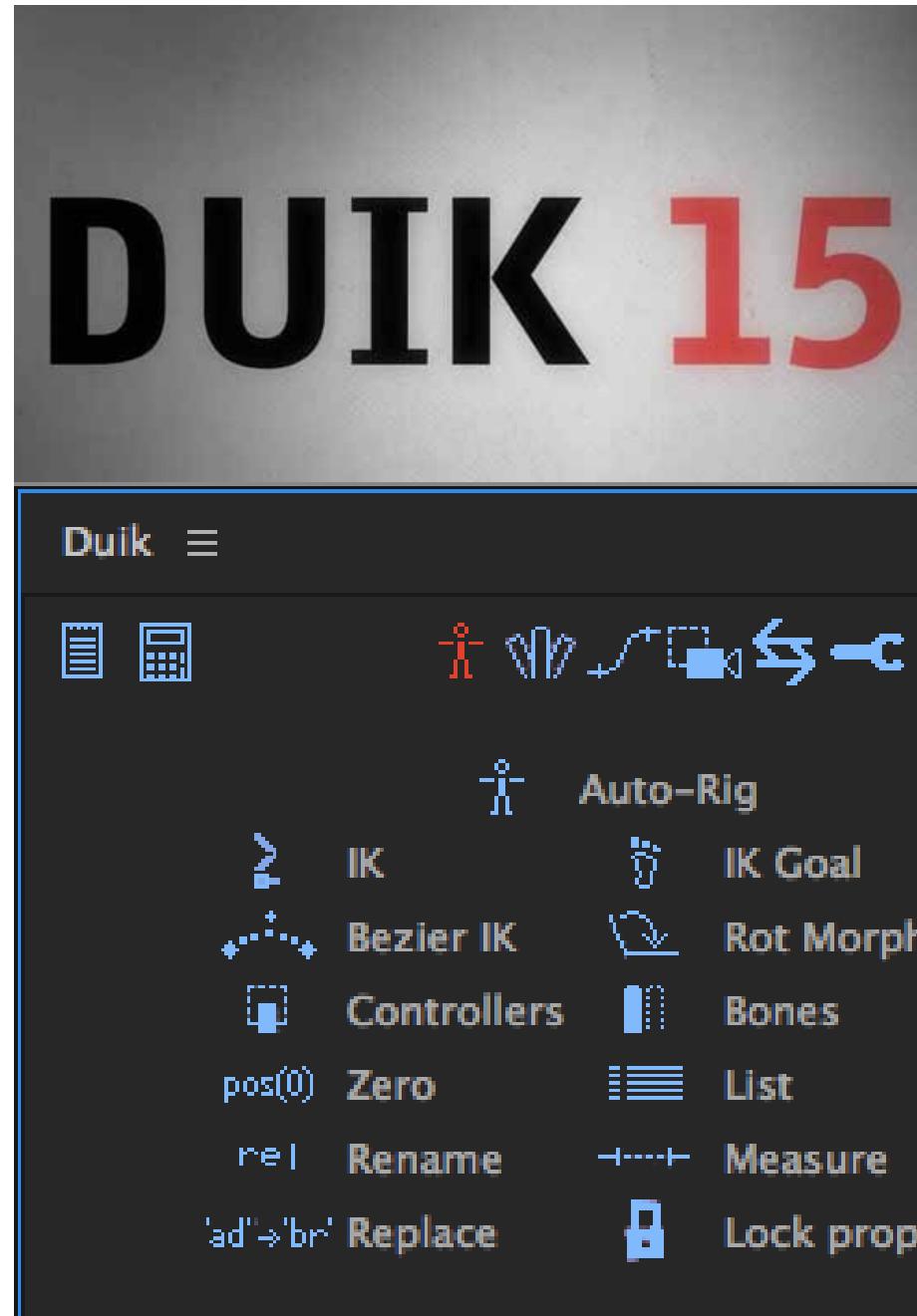
Then selecting them all and clicking the ‘bones’ tool will allow the leg to bend and the points where the puppet pins have been placed.



After doing this I then 'parented' one pin to another. In other words the foot pin is going to follow the knee and the knee is going to follow the top of the leg.

After this I set the foot as a ‘controller’, highlighted all 4 layers and selected the ‘Inverse Kinematics (IK)’ tool in the Duik plugin. I then did this to all four legs.

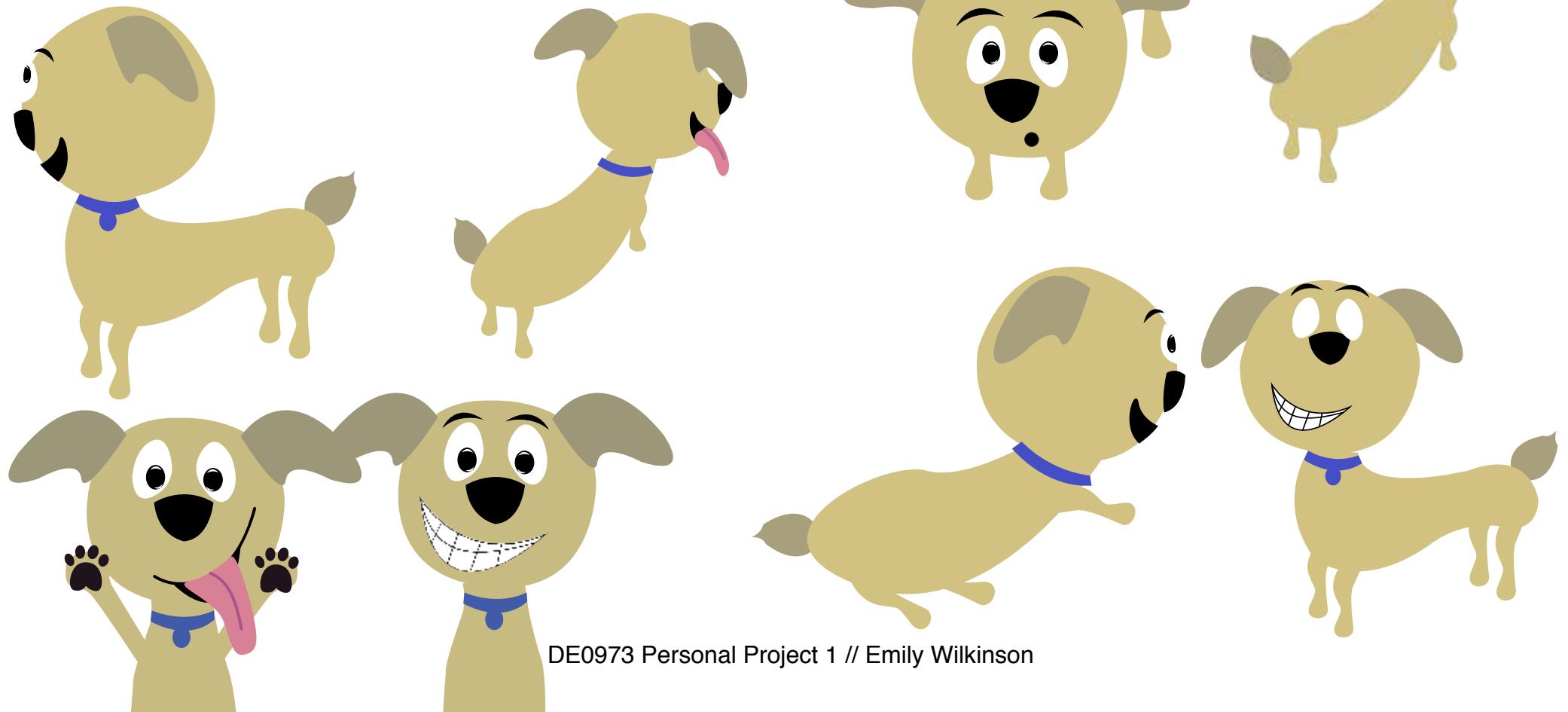
I went on to make each animation scene separately and then pieced these together in Premiere Pro.



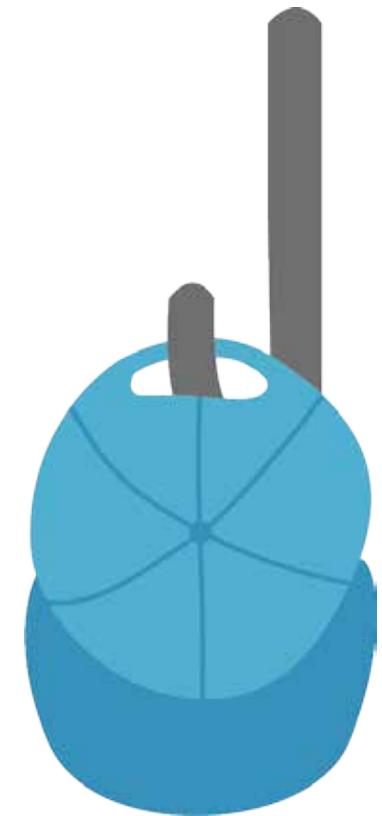
FURTHER CHARACTER DEVELOPMENT

I decided to created each character animation separately in Illustrator depending on the position the character was in, for example from behind, sitting down etc.

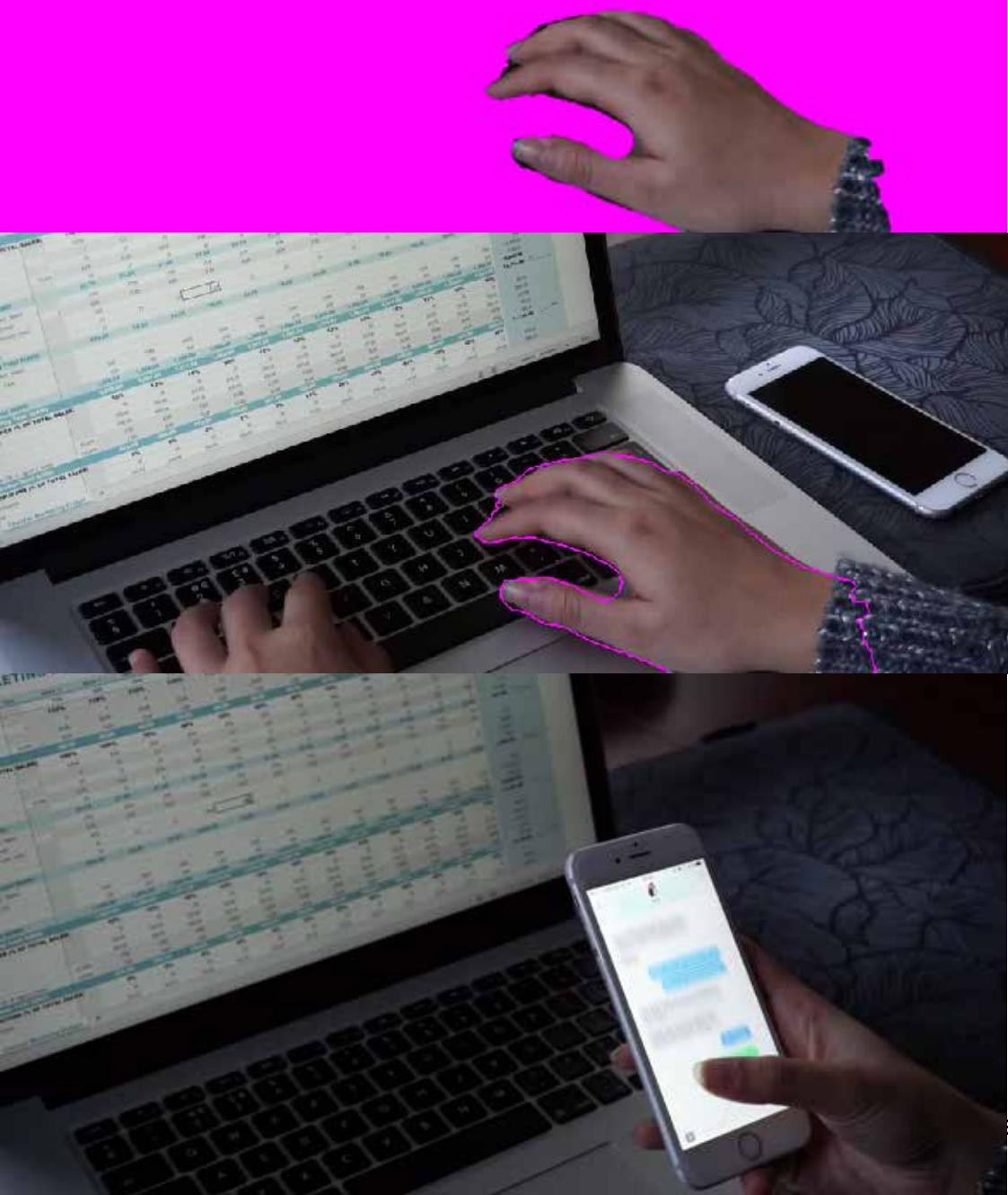
I did this for quickness and exported each little animation scene separately. I did this because of past experience when After Effects has a lot of layers and commands it tends to slow the software down a lot. I feel as though I saved a lot of time doing is this way.



OTHER ANIMATIONS



MASKING

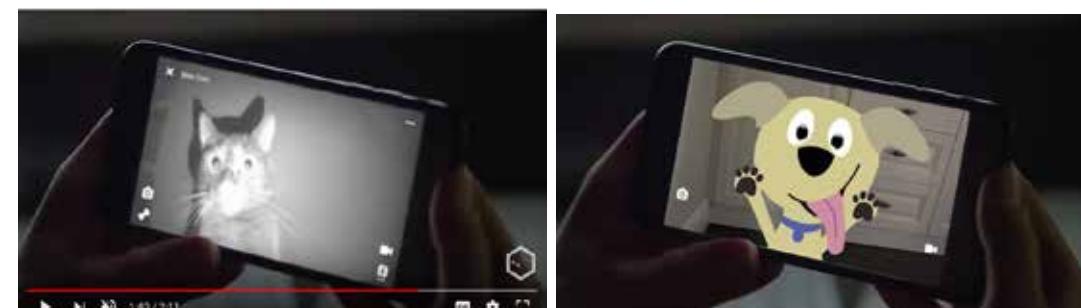


For the owners application part of my video I filmed a section of Sarah using her phone which I needed to mask another video onto the screen. However this turned out to be much more complicated than originally thought. This would have worked if I had made the prototype and actually filmed her using it however trying to mask it in afterwards was complicated due to the fact this is a moving video. Therefore I would have to mask the hand across the screen of the phone and after trying this out it was not as precise as I would of hoped.

At this stage I have decided to use found footage for the owners application part of my video. I have taken this footage from YouTube and cut it to suit my video.



However I went on to use masking later in the video with a more basic shape masking a phone screen rather than a hand.



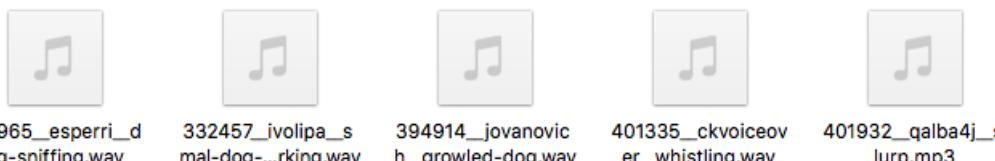
AUDIO DEVELOPMENT

In terms of the audio I decided to do a voiceover to really get my point across. Because my Smart Sitter has so many various parts and functions I thought this was necessary for the user to really understand all of the smart features.

I recorded my voiceover in the sound studio using Ableton after writing a script corresponding to my video.

For my backing track I wanted something light hearted with the idea of having some sort of trumpet instrumental. So I went on to look at possible ideas, looking at the backing instrumentals of famous songs. I then went with Nat King Cole's LOVE this gave that cheerful backing that I was after.

I then went on to look at different sound effects I could put in my video, for example the dog barking, sniffing, breathing and growling. I downloaded these off **freesound.com** and placed them in the correct positions using Premiere pro.



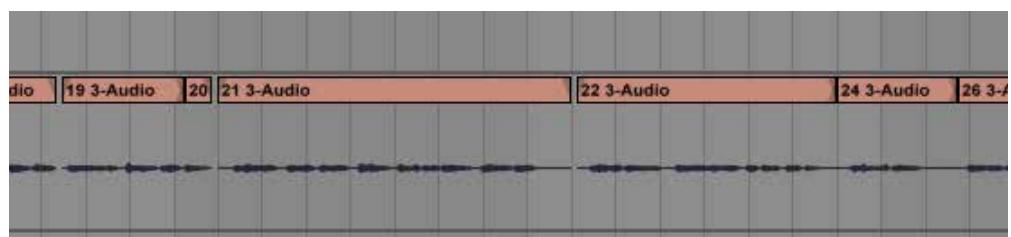
Nat King Cole - L-O-V-E - Karaoke - Instrumental

416,017 views

982

49

SHARE

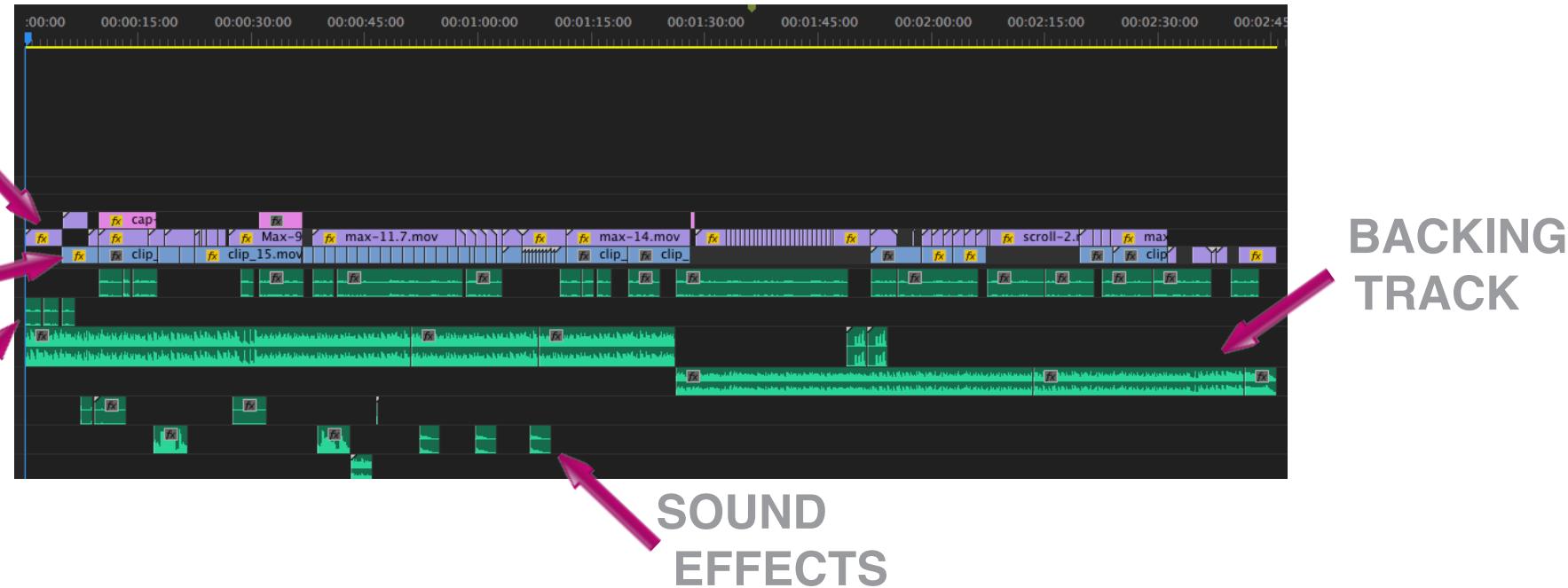


PUTTING IT ALL TOGETHER IN PREMIERE PRO

THE
ANIMATION

THE
FOOTAGE

THE
VOICEOVER



SOUND
EFFECTS

After putting the footage together in after effects I had to make some slight adjustments to make my video fit with my voice over. I also realised that with the foreground animation of the dog moving and the static positions my camera was in it probably would have been more time efficient just to take photos of different areas of the house to use as a background to the video, as all of the footage were just stills.

Also having to slightly adjust the audio of the sound effects, voice over and backing track so that it did not drown out my voice over.

I had to split the backing track up a bit as there were parts where I wanted the trumpet chorus to come in and parts that needed to be quieter.

USER VIDEO FEEDBACK

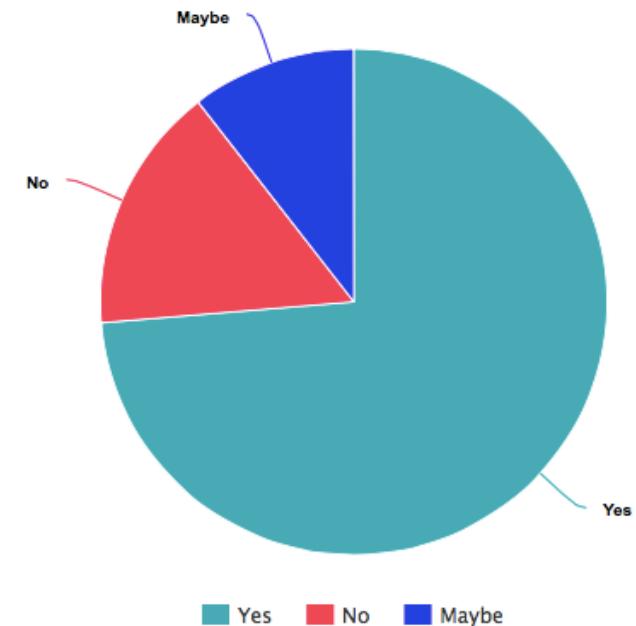
As another part of my user testing I sent my video to some dog owners to see what they thought of the Smart Sitter and whether they thought it would work on their dog or not.

Despite coming towards the end of this project this is some good information to take on board if I was to go on and develop this product.

In terms of the video presentation feedback, some of the words were readable as they were white on a white background which I then changed the position of because of this. Also when the chorus of the backing track kicked in it was drowning out my voiceover slightly which I then lowered the volume of.

I posted my video onto facebook with a corresponding poll to see how many people would buy this device, I have displayed the results in a pie chart to the right. I received positive feedback with 75% of dog owners say they would buy the device. For the participants that said no/maybe, I when asking them why most responses were their dog is older and no longer misbehaves when they leave the house.

An interesting bit of feedback I got was an owner who said her dog would likely chew the speakers if they are small enough and are making a loud noise, this would be an interesting point to take on board for future developments and iterations.

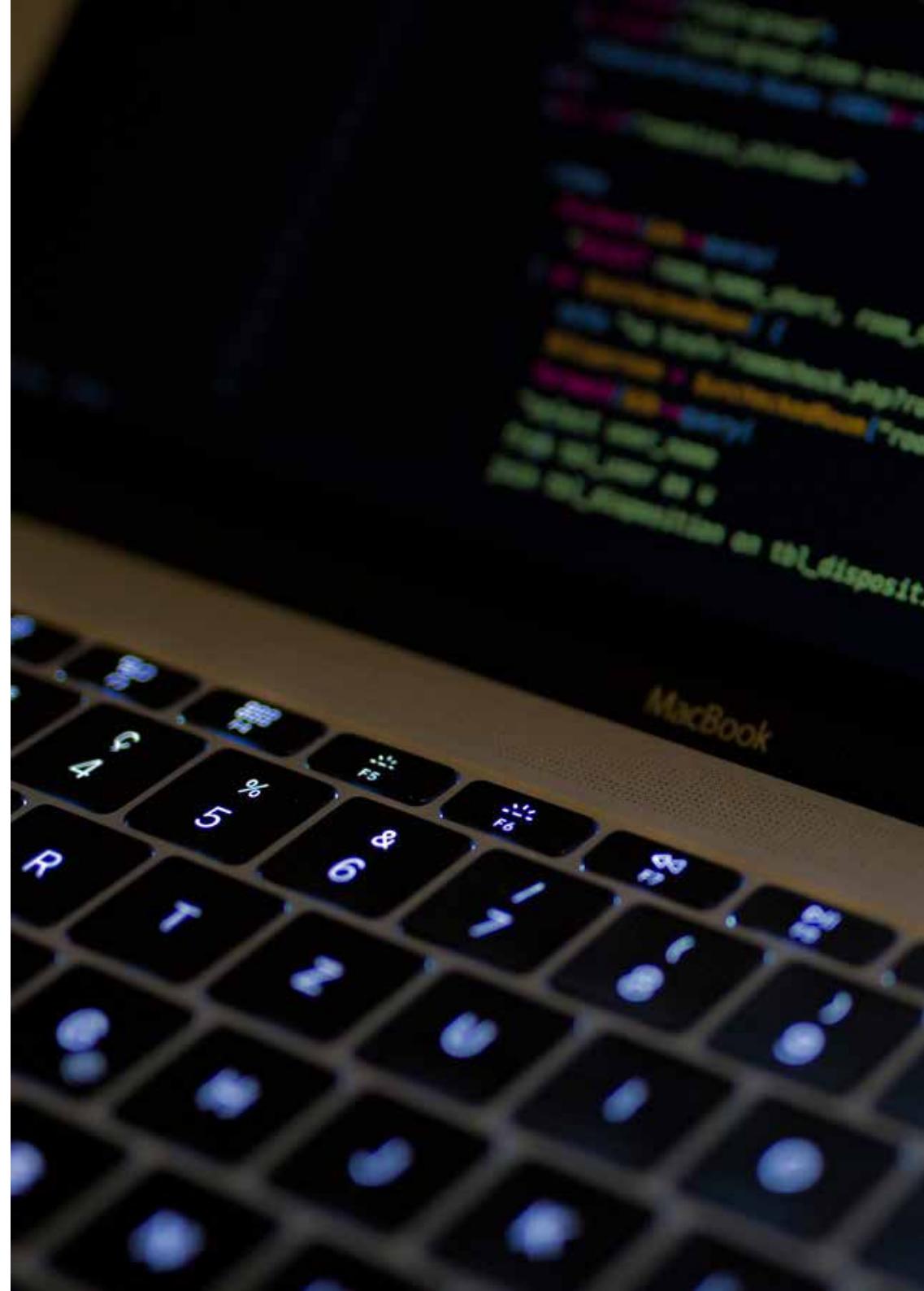


FUTURE DEVELOPMENT CONSIDERATIONS

For further development of my project I would develop the mobile application for the owner further. Because of the time frame I didn't spend a lot of time on this feature.

I would also make the physical device to test out on dogs and make iterations where necessary.

I would also discover how the device would work with multiple dogs, for example if one dog barks it may trigger the other dogs collar too.





EVALUATION

With advances in RFID and iBeacon technology I really wanted to make a product that aggregated these technologies. I feel as though I have successfully identified a problem and a gap in the market and aimed to make the owners job easier once they have left the house. The idea was to create a technological device that would act like a real life dog sitter. Without developing the device I did find it difficult to user test but I believe I did this to the best of my ability.

I really enjoyed working on this project and believe that I had good time management, allowing me to make all iterations I needed to at the end of the project, including receiving feedback on my video and making adjustments where necessary. Having good time management also allowed me to manage effective research techniques, and allowing me to realise the original idea I had chose had already been developed in a professional and successful way. This is one of the reasons I think doing thorough research early on in the semester is very important.

I particularly enjoyed making the video and the animation in After Effects. Another thing that I think really helped was to keep up to date reading articles on the latest technologies such as RFID and iBeacons, which I used in this project.

Resources

All Professional images from www.unsplash.com

Found Footage for Video www.youtube.com/watch?v=9tmJWyuq47w