Plans and Progress

What will our project do?

It is all fun and games until someone loses a pet. Well, in our case that’s what the motivation was behind the idea of developing pet finder. Pet finder helped us by reuniting us with our lost pet, that made us realise that nobody should ever go through the pain of losing their beloved pet. We wanted everyone to experience the benefits of Petfinder as to some, pets are more than just animals, they are family.

Pet finder will not only help people by re-uniting them with their lost or stolen pets but also monitor their health. For us humans we have all the latest gadgets to show us even a minor irregularity in our heart rate, body temperature etc so why not have something similar for our pets that we so dearly love, something that would keep a pet owner up to date with the latest information regarding their pet’s health. Pet Finder does exactly that, it not only helps owners to keep track of their pets but also keep an eye on their health status e.g., heart rate by simply logging into the pet finder application one could see the average heart rate over a period of time e.g., weekly or monthly. It can monitor it as well as notify the owner by sending out a notification every time it detects an irregularity. It also stores data for a period of 12 months so you can always refer back to it when you need it.

Pet finder has revolutionised the way how we keep track of our pets as well as their health and based on the information it would provide its users, we can potentially prevent or at least reduce the risk of any unforeseen situation that could affect or harm our pet’s health.

Another feature that we have included, is a safe zone monitor. The users would get to set a safe zone radius and if the pet goes out of that safe zone radius the app would immediately send out a notification and alert the owner with the GPS location of the pet at pinpoint accuracy. This would help many pet owners to act pro-actively and prevent any mishappening.

Pet finder can also be downloaded onto multiple devices so everyone in the family can keep track of the pet and stay updated with the latest data.

We also understanding that stress and fears associated with your pets while you are away either on a vacation or at work. That’s why we have included a live streaming option. The camera on your pet’s collar can show what your beloved pet is up to with just click of a button. It also gives you an option to record a video which can be easily accessed anytime on the app.

Ever felt like talking to your pet while you are away? well, now you can. You can now speak to your pet through the pet finder app installed on your phone and your pet can hear your voice through the per finder collar which has an inbuild speaker that communicates with the app.

The collar has been designed keeping in mind the comfort of your pet. The collar is not only durable for everyday wear but has been designed to last for a longer period of time. We understand pet’s everyday adventures and hence we made sure that these collars can stand up to their everyday adventures.

We have manufactured the collars with best quality padding to provide that extra bit of comfort to a pet. It has been designed to curb pulling without using a body harness or causing pain .

We have designed this collar keeping in mind our eco system. The material that we have used has been made from recycled material.

Pet finder collar and app has been equipped with the latest technology which lets users check and do multiple things. As explained above, it can help you check your pet’s heartbeat, notify if your pet leaves the safe zone, let’s you speak to your pet etc, track your pet’s location etc.

Let’s go over some of the technologies that we have incorporated in our product:

GPS tracker:

Using cell coverage, the Pet Tracker sends **GPS** coordinates to your smartphone and devices. This means you can pinpoint your pet’s current location from anywhere in the world.

GPS tracking system is capable of tracking the exact location of your pet in real time. our GPS tracker can easily be attached to the collar of your pet and it can generate real time data which can be viewed anytime by simply logging into the app on your phone or any other smart device. we use state of the art cutting edge technology and gsm module as well as sim card to track every single movement of your beloved pet. the gps system can also detect if your pets leave the set safe zone and can send a notification straight to your phone.

Wi-Fi/Bluetooth:

The Pet Findr comes with built-in Wi-Fi and Bluetooth connections and can be easily paired to your phone or other device.

**LED Light**

There is a built-in LED colour changing light to draw attention to your pet at night, the colour codes are as follows:

Red - when you pet is reported lost/stolen.

Blue - when pet goes outside allocated safe-zone.

Green – when camera is recording.

There is a built in Pet Health Tracker to monitor you pets hearts rate, exercise routines and food intake, we have a built-in barcode scanner so you can record nutrition information – and keep a pet food journal. Pet owners can check pet's hydration level and report on the overall health of the pet, as well as store information about vaccinations and next pet appointment reminders. The health tracking feature tells you if your pet is too thin, overweight or obese and can also work out how much food your dog would need each day.  

**ACTIVITY TRACKING**  Monitor your pet’s activity – see changing trends; set activity goals.

**TEMPERATURE**   Monitor your pet’s body temperature with Pet Tracker Collar – detect fever, heat stroke, hypothermia, etc.

**HEART RATE**  Monitor your pets (Heart Rate Variability) and for any changes or abnormalities that could indicate pain, stress or underlying disease.

**CALORIES** Track calories burned by your pet's, water intake and help them in weight loss programs and prevent obesity.

Heart rate monitor:

The LED lights installed on the collar are paired with light-sensitive photodiodes to detect the amount of blood flowing through the veins at any given moment. These LED lights can easily calculate the number of times the heart beats and based on the data stored on the app it can raise an alert in case if it detects any irregularities in the heartbeat and instantly notify the owner. This state-of-the-art technology can prove to be quite significant in preventing any medical emergencies and can ensure that the pet is provided the care it needs on time.

Safe zone tracker:

The app gives its users an option to set a pinpoint location that can either be your home or office and allow the user to set a desired radius around that location. If the pet goes out of this radius the app would send a notification with the exact pinpoint location. This is done with the help of global positioning system, the sim card installed pet’s collar and

google APIs. Google APIs are application programming interfaces (APIs) developed by Google which allow communication with Google Services and their integration to other services.

Map

Description automatically generated

Roadblocks are an unavoidable part of any new project. Every team that works on a new project at some point comes face to face to roadblocks or issues that in some way halt or effect the progress of the project. These roadblocks can come in different shapes and sizes, some common examples of roadblocks are - fear of failure, negativity, communication gap, no clear vision ,no clear plan ,poor time management etc .Every road block is different and unique in its way and hides an opportunity to learn as well as enhance your skills provided you know how to use these roadblocks to your advantage and not let them effect your determination and passion to succeed or complete your project on time in any way. What is required is an unique approach depending on the type of situation, the solution could be writing algorithms on how to resolve a type of problem. Some roadblocks can be easily solved, and some require an extra bit of effort.

When we started working on pet finders, we had a clear vision on exactly what we wanted it to look like however we are not really confident about resolving the risks that we might face along the way as this was our first project as a team and we had only known each other for a few weeks. During our journey we came across roadblocks at so many points and faced situations that we hadn’t anticipated. Situations that almost demotivated us and made us wonder if we would ever be able to finish the project on time.

Some of the roadblocks that we faced were:

1. Difficulty learning software: Most of us don’t have an IT background and had no previous experience of working on an I.T project. This was a major challenge as learning software and then using it build our product was as difficult as learning to drive in a day.
2. Trouble coordinating between different environments (android/apple) : We all know how different IOS and android are from each other. To a user its services the same purpose they might not notice significant differences however for a programmer to develop an application that would function well on both the environments was bit of a challenge.
3. COVID-19 – Due to lock-down and social distancing it is hard to collaborate with the team face to face.
4. Limited access to features and software without paying subscription fees. Most of the websites only offer limited access to unpaid access and to require payments to fully access all the features. This made it difficult for us to access all the resources that we wanted to access for our project as a result we had to turn to multiple websites to gather information and resources.
5. Not enough time to create a porotype of the collar and web application-Most of us work full time and have different work schedules. This made it difficult for us to spend the desired amount of time working on the project as we would like. Also, comparatively to a 24-week duration course, we only had a limited amount of time to work on the project.

How did we overcome challenges?

1. We had regular meetings using Microsoft Teams

Despite the fact that most of work full time and have different work schedules we were committed to have regular team meetings to discuss project development plans and strategies. Despite having work early, the next day we have had meetings at late at night. This helped us to stay on track and finish the project before the deadline. This also gave us enough time go through the challenges and come up with strategies to overcome them.

1. We used freeware and open-source applications

We used freeware and open-source applications for our project that helped us with our project development to a great extent. We were able to incorporate the options and features that we wanted include and design a protype of our project.

1. We prioritised and split up the work tasks evenly among the group.

Splitting and distributing work evenly between all team members proved to be a game changer. It increased the overall productivity and helped us to complete the project as per the deadlines set. We also assigned a project manager to the group responsible of overlooking the project and ensuring that all deadlines are met.

What stage is the design as of today?

We are currently designing and developing a prototype of the APP for smartphones and testing the user-interface. This would give us an overview of how our app would like and what other features we could add to the app in the future. This will also help us understand any shortfalls.

Future steps or plans?

To create a live prototype of the collar with built in sensors and other features. We also want to create an application and conduct debugging tests of the app .We would also like to get user feedback on the app before publishing it, one way do to it could be by conducting market research and getting feedback from a group users with different types of pets and getting feedback on the application and based on the feedback we would work on final changes if any and once tested and approved we would like to publish the application on app and play store so it can be accessed by the users.

We would also like to work on adding a new feature such as assistance for the elderly and blind.