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# C300 End-Term Evaluation

**Project ID:**

SOI-2020-2010-0025

**Team ID:**

SOI-2020-0105

**Project Title:**

PPET

**Team Members:**

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3. Cheong Jing Wen
4. Phay Mia Hao, Casey
5. Pow Jie Fong



# Project Specification

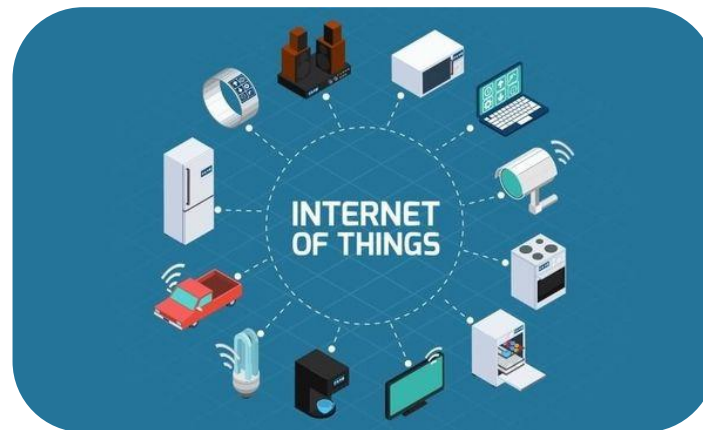
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Web Application



Mobile Application



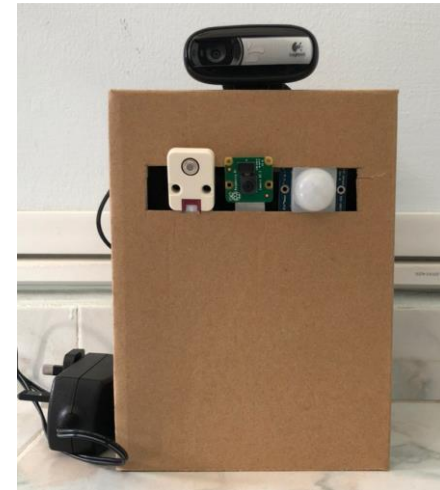
Internet of Things (IoT)



# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### PPET Prototype

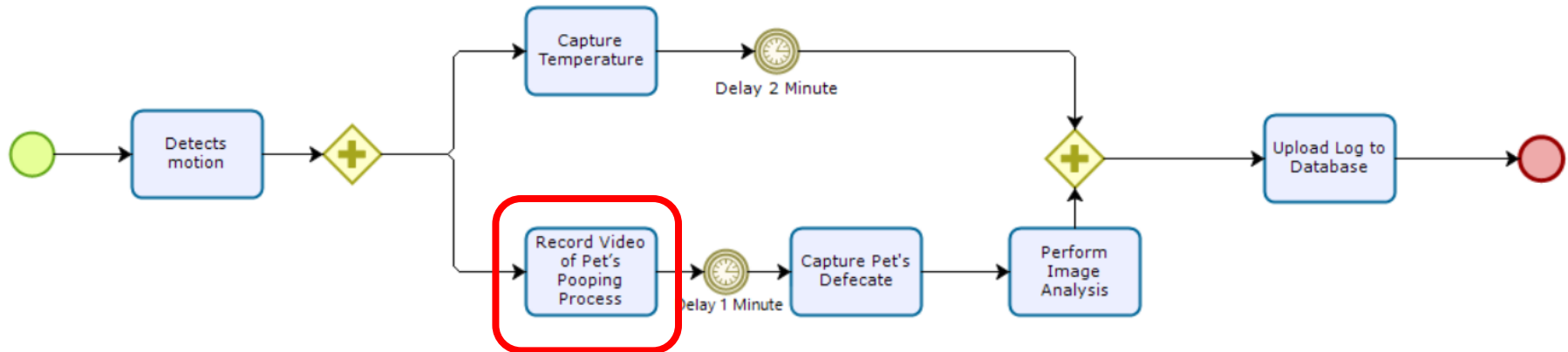




# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Internet of Things (IoT) Structure of Flow





# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Internet of Things (IoT) Components

#### Detects motion

PIR Motion Sensor - 3 to 5V.  
Detects motion by measuring changes in the infrared levels



PIR Motion Sensor would detect the presence of pet

#### Capture Temperature

NCIR Temperature Sensor Unit (MLX90614).  
This sensor measures infrared light bouncing off of remote objects



NCIR Temperature Sensor would capture pet's temperature

#### Video Recording of Pet Pooping Process

Pi Camera



Pi Camera would capture a video recording of the process of pet pooping



# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Internet of Things (IoT) Components

#### Capture Pet's Defecate

Pi Camera

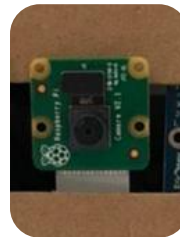


Pi Camera would capture an image which of object detected to be sent for image analysis

#### Perform Image Analysis

Using Cognitive Service-Custom Vision | Microsoft Azure

- To determine if defecate detected
- To determine health status of defecate



Custom Vision would be used to detect if defecate is detected and the health status \*Healthy /Unhealthy of defecate

#### Live Streaming

Logitech Webcam  
Using Real-Time Messaging Protocol (RTMP)



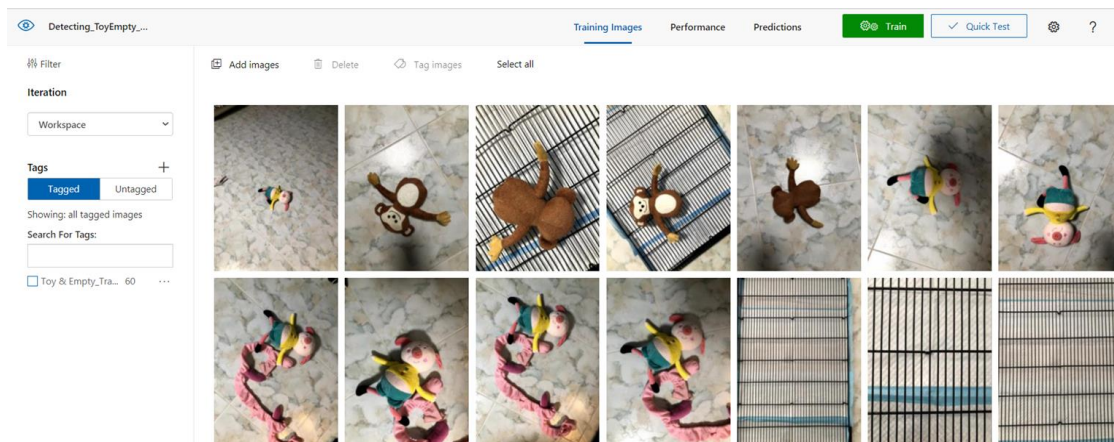
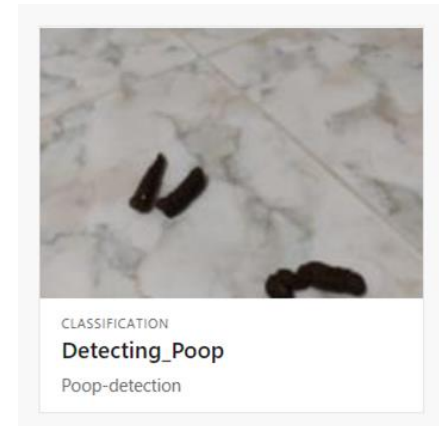
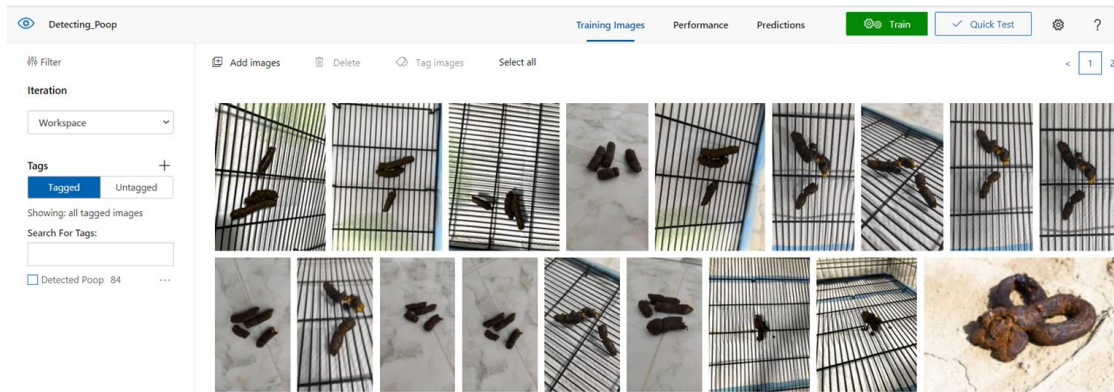
Make use of RTMP for streaming live video over the Internet. Live video could be viewed on Mobile and Web Application



# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Image Analysis -Using Cognitive Service-Custom Vision



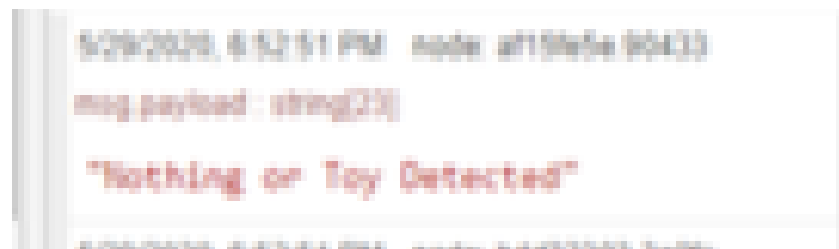
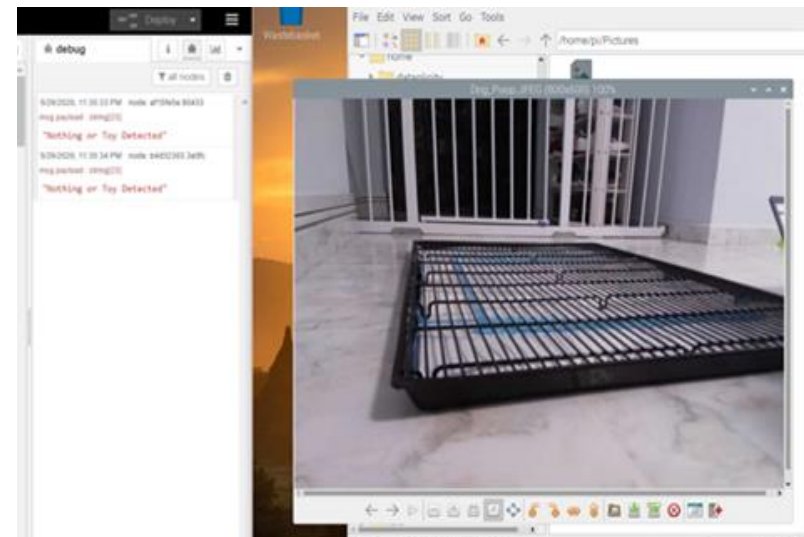
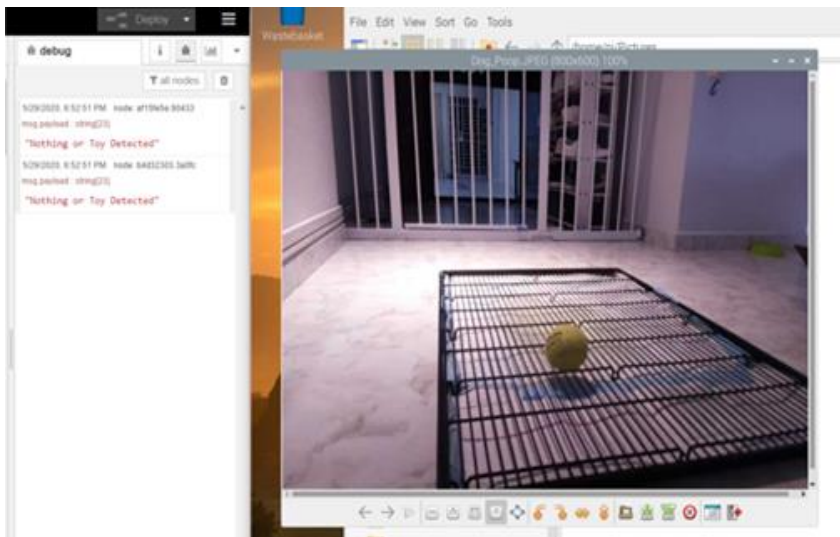




# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Image Analysis - If defecate detected







# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Image Analysis - Health status of defecate

The screenshot displays a Node-RED workflow for image analysis. The workflow starts with a 'Trigger' node, followed by a 'Take Photo' node. The output of 'Take Photo' is connected to a 'debug' node. The 'debug' node shows two log entries:

```
6/2/2020, 9:44:36 AM - node: a7f0b6fa-30403  
msg.payload: string(1)  
"Poop Detected"  
6/2/2020, 9:44:37 AM - node: 6d7ac463-67227c  
msg.payload: string(1)  
"Healthy"
```

To the right of the Node-RED interface is a window titled 'HomeIns Pictures' showing a photograph of a pet's defecation on a metal grate. Below the photograph is a 'debug' node showing the same log entries as the main 'debug' node:

```
6/2/2020, 9:44:36 AM - node: a7f0b6fa-30403  
msg.payload: string(1)  
"Poop Detected"  
6/2/2020, 9:44:37 AM - node: 6d7ac463-67227c  
msg.payload: string(1)  
"Healthy"
```



# Project Specification

## Breakdown of the requirements - Internet of Things (IoT)

### Internet of Things (IoT) Live Stream

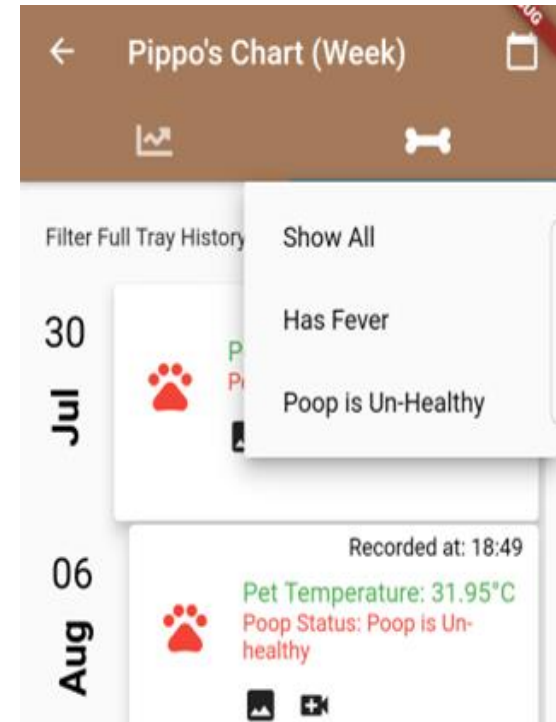
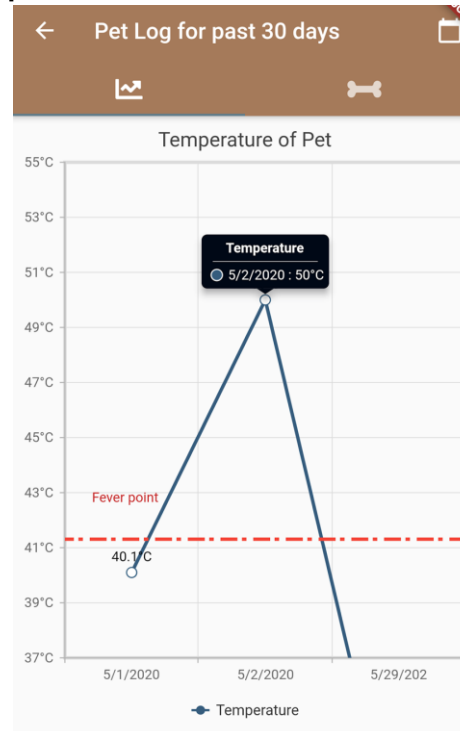
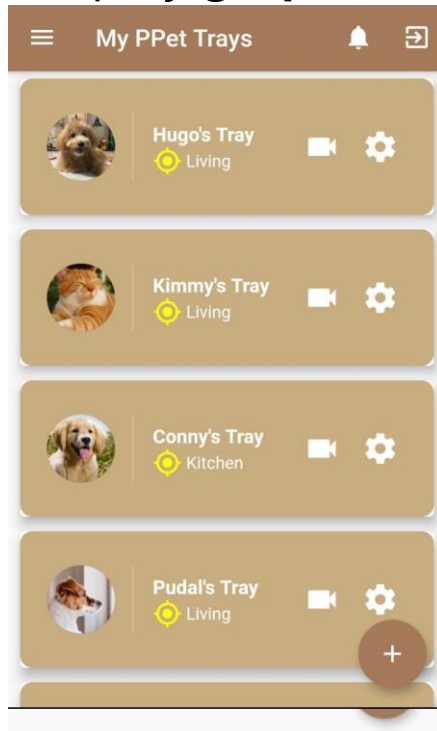




# Project Specification

## Breakdown of the requirements - Mobile Application

- Display the **timely log** of when their pet defecate including temperature, frequency of excretion and decreation health level. (inclusive of filter)
- Display **graph** of temperature over time

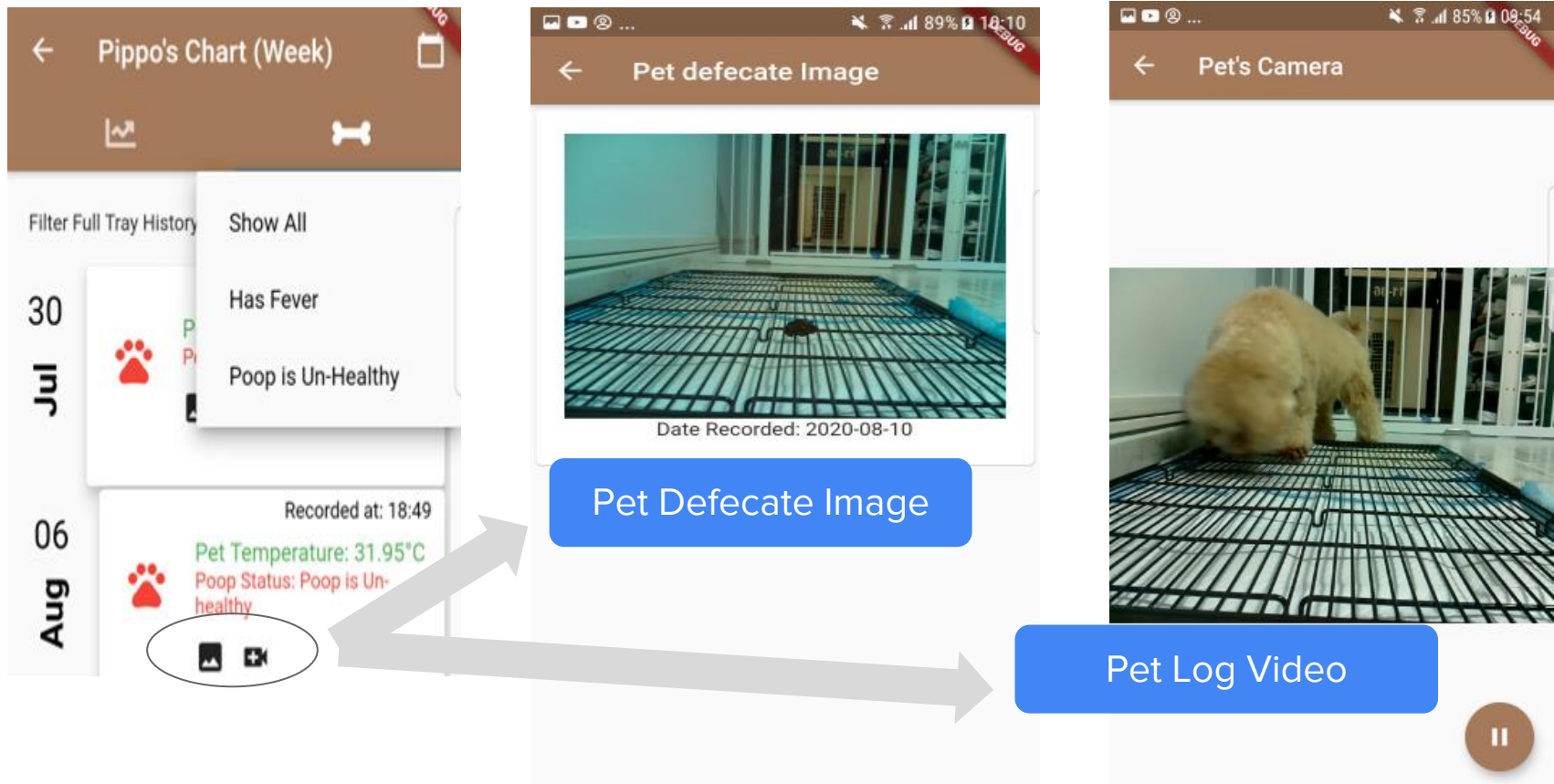




# Project Specification

## Breakdown of the requirements - Mobile Application

- Display **Image of Pet defecate** for each log recorded along with a **video captured when the log was recorded**





# Project Specification

## Breakdown of the requirements - Mobile Application

### Missing Pet Function (Mobile) Structure of Flow

1. **Report missing pets** by uploading location, coordinates, pet name, description and photo of pet
2. Select exact **location of where pet went Missing on a Map**
3. View your **own reports and all reports made** on both List View interface and Map interface

← Add Missing Pet

Picture of your Pet

Please Select An Image

Choose New Image

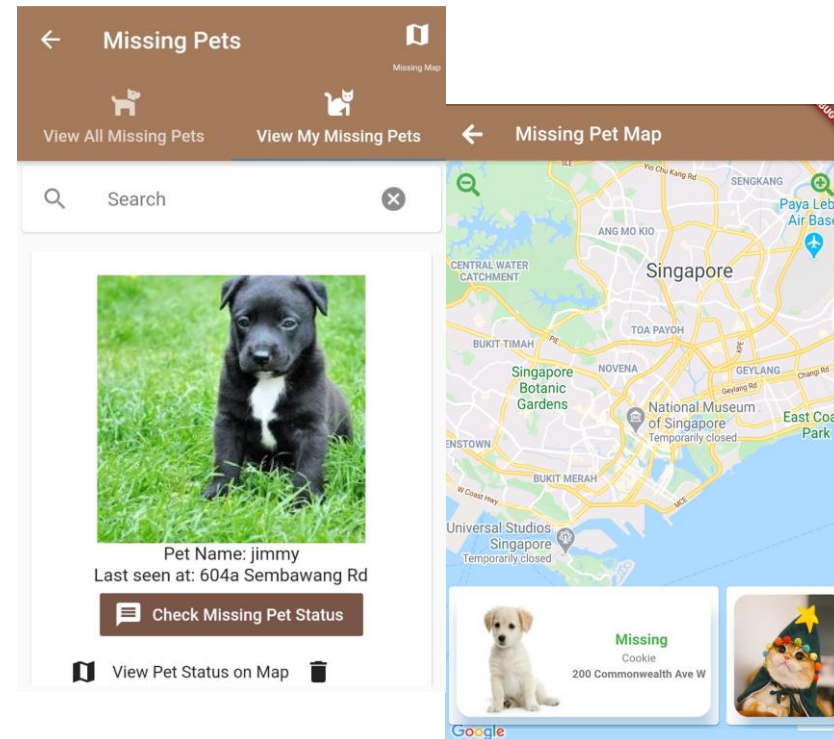
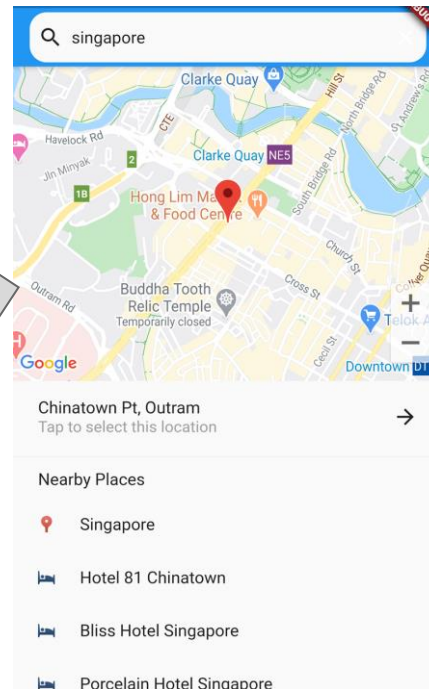
Location

Click to select last seen location

Pet Name:

Description:

Add Missing Pet







# Project Specification

## Breakdown of the requirements - Mobile Application

### Report Seen Pet Function (Mobile) Structure of Flow

1. **Report a Seen pets** by uploading location, coordinates, description, contact number and photo

Report Pet Seen

Picture of Seen Pet

Please Select An Image

Camera Gallery

Location

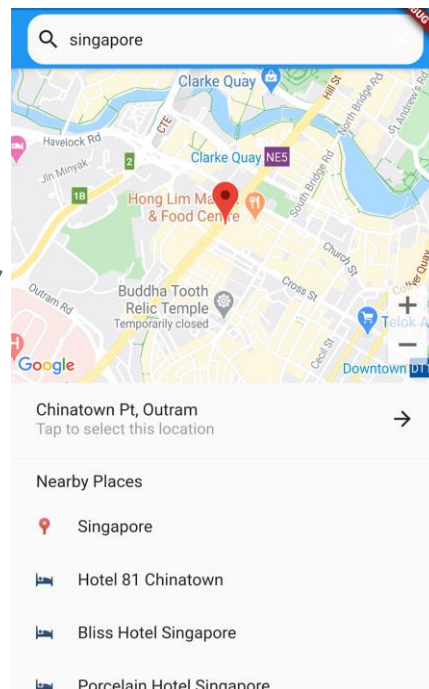
Click to select last seen location

Details:

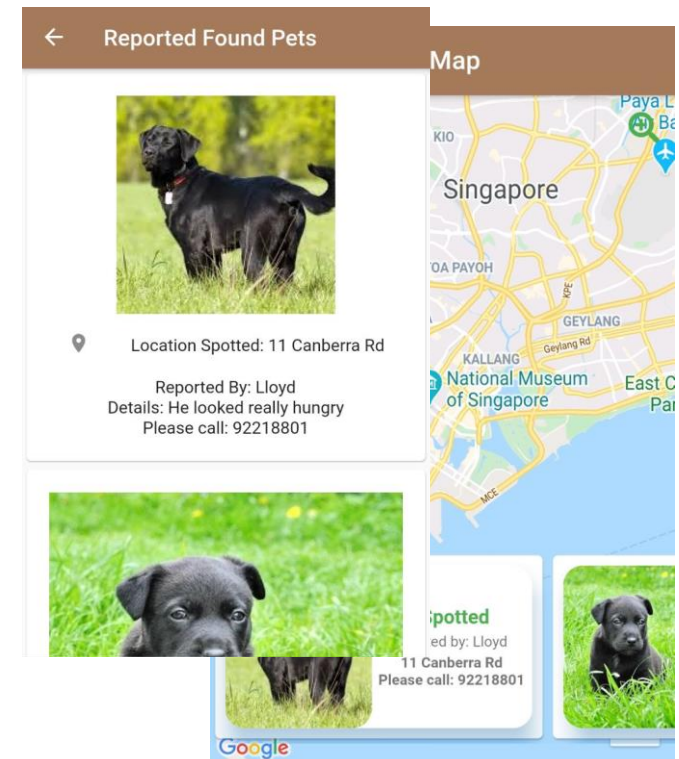
Contact Number:

Report Pet

2. Select exact **location of where pet was spotted on a Map**



3. Pet Owner receives **notification** on pet spotted and View the Location, Person who made the report, details and contact number



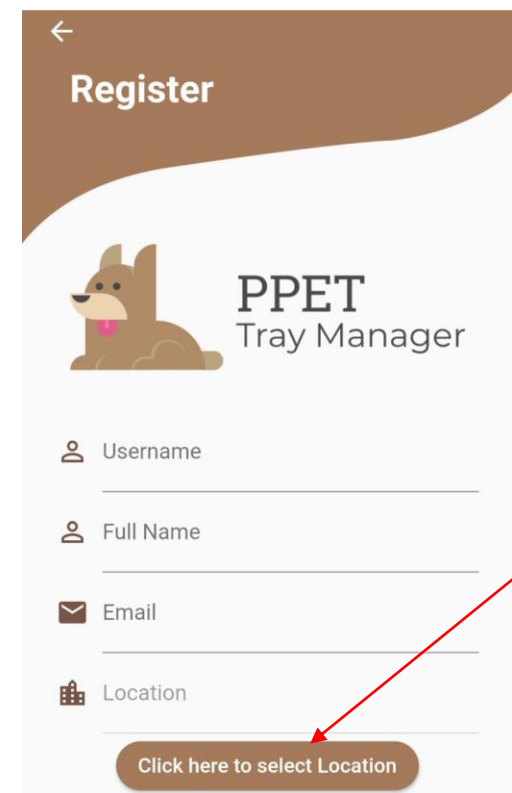
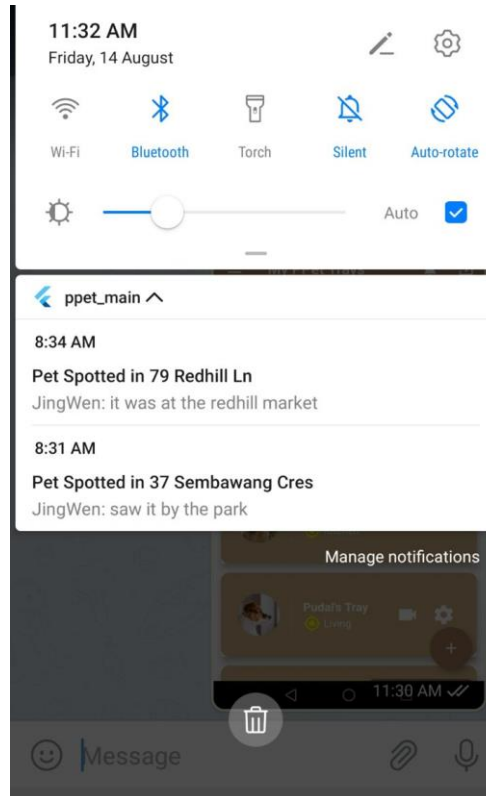
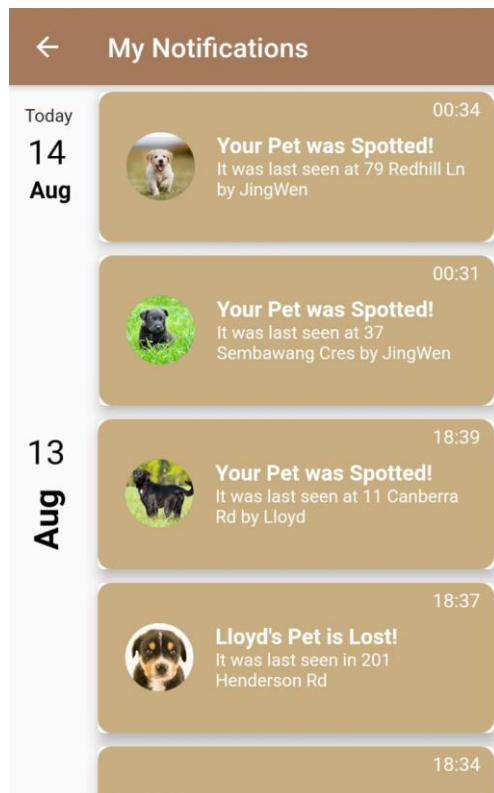




# Project Specification

## Breakdown of the requirements - Mobile Application

- Notification for when poop detected, pet fever, missing pet detected within 5KM of user and pet spotted by another user.
- User Sign up

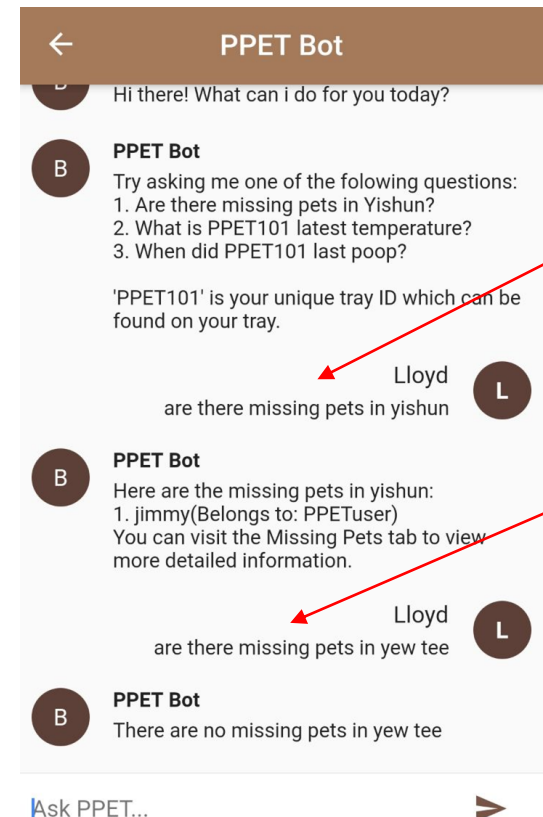
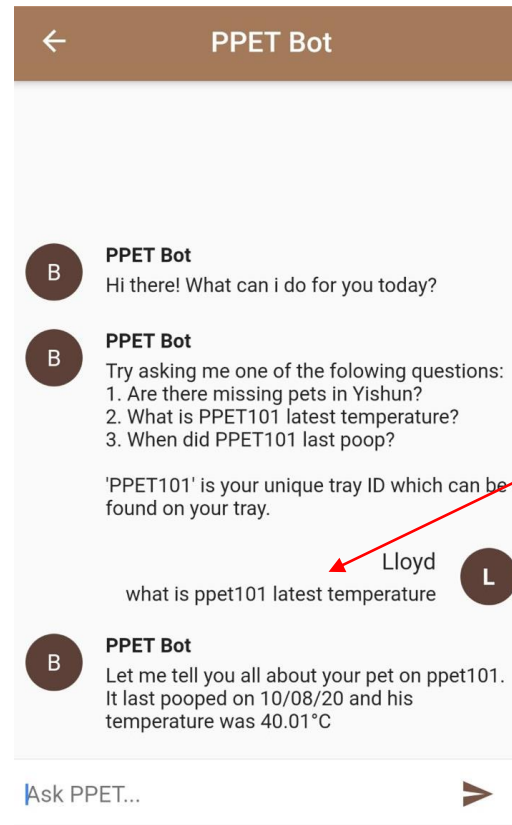
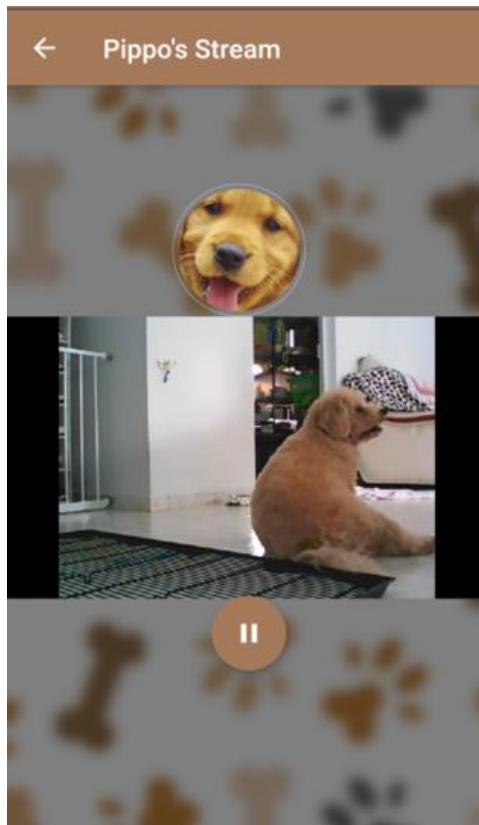




# Project Specification

## Breakdown of the requirements - Mobile Application

- Live Stream with pets from the IoT
- Chatbot function





# Project Specification

## Breakdown of the requirements - Mobile Application

- Forget Password Function

Reset Password

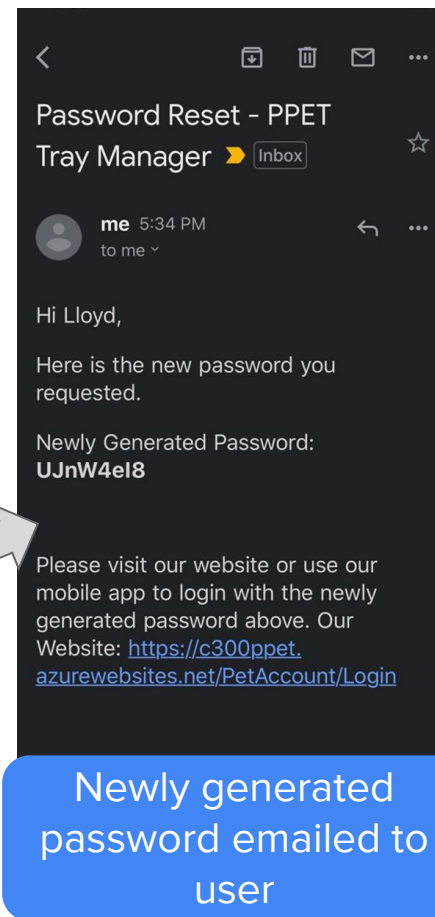
PPET Tray Manager

Enter Your Username

Security Question Answer

Reset My Password


Reset Password Page





# Additional Mobile App Features

Welcome Back  
**LOGIN**

 **PPET**  
Tray Manager

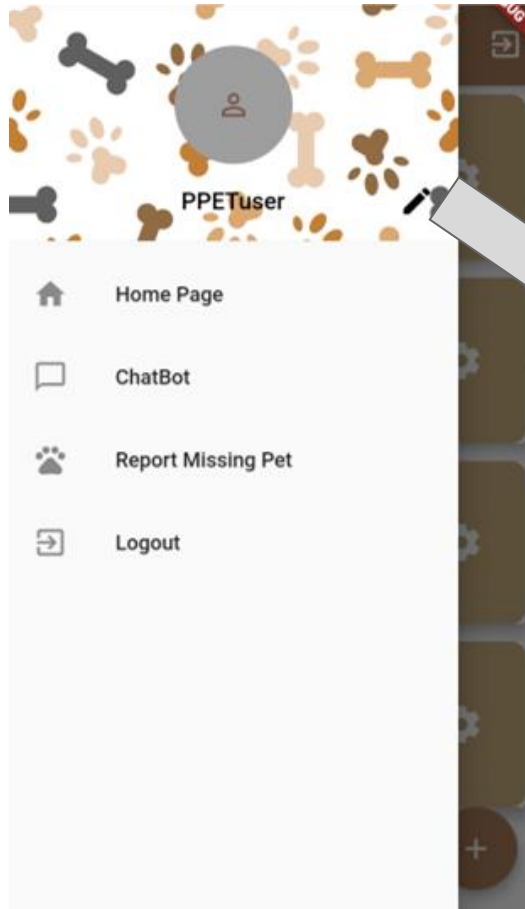
Username:

Password:



**LOGIN** **REGISTER**

[Forget Password?](#)


Login page





Side Menu

   
PPETuser


**My Account Details**


 Full Name  
Jie Fong

 Email  
2i6jiefong39@gmail.com

 Location  
405 Clementi Ave 1

[Click here to select Location](#)

 Current Password

 Current/New Password

Edit Account



# Project Specification

## Breakdown of the requirements - Web Application

- Display the time log of when their pet defecate including temperature, frequency of excretion and decreation health level.
- Manage, add and edit current pet tray

Tray ID	Date/Time	Poop/Health	Temperature
PRET001	10-09-2020 20:25	Poop is Healthy	30.11°C
PRET001	10-09-2020 19:12	Poop is Healthy	30.37°C
PRET001	06-09-2020 18:49	Poop is the healthy	40.95°C
PRET001	06-09-2020 18:49	Poop is the healthy	31.95°C
PRET001	06-09-2020 18:49	Poop is the healthy	31.95°C
PRET001	30-07-2020 08:31	Poop is Healthy	38.05°C

New Pet Tray

Tray ID:

Tray Name:


Location:

Photo:  No file selected.

Notification Settings:

Notify when pet is sick: ☐

Edit Pet Tray

Photo: 

Tray Name:

Location:

Notification Settings:

Notify when pet is sick: ☐



# Tray Logs

## My Tray Logs

Show  entries

Search:

Tray ID	Date/Time	PoopHealth	Temperature
PPET101	10-08-2020 20:25	Poop is Healthy 	30.11°C
PPET101	10-08-2020 19:12	Poop is Healthy 	30.37°C
PPET101 	06-08-2020 18:49	Poop is Un-healthy 	40.95°C
PPET101 	06-08-2020 18:49	Poop is Un-healthy 	31.95°C
PPET101 	06-08-2020 18:49	Poop is Un-healthy 	31.95°C
PPET101	30-07-2020 08:31	Poop is Healthy 	38.05°C

Showing 1 to 6 of 6 entries

Previous  Next






# Update Tray

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## Edit Pet Tray

Photo:



No file selected.

Tray Name:

Location:

Notification Settings:

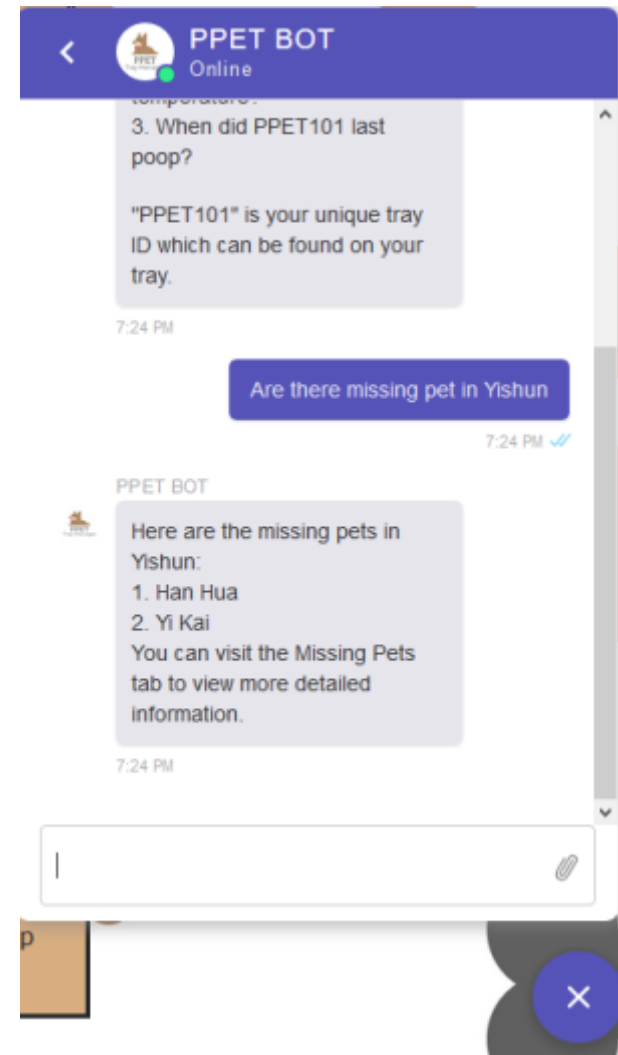
Notify when pet is sick: ☐



# Project Specification

## Breakdown of the requirements - Web Application

- Live Streaming of pet
- Chatbot to retrieve information





# Project Specification

## Breakdown of the requirements - Web Application

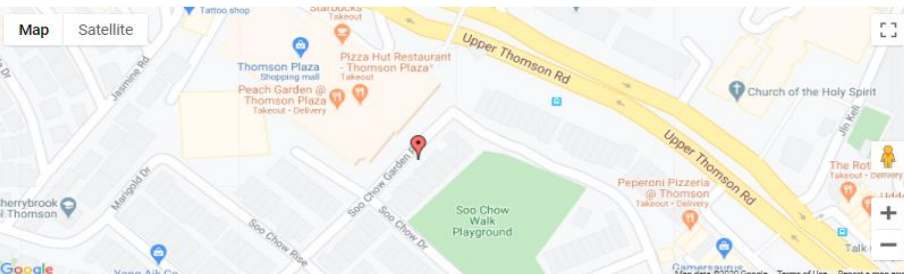
- Report missing pets by uploading location, coordinates, pet name and photo of pet
- Pinpoint missing pets on map

**Report Missing Pet**

Pet Name:

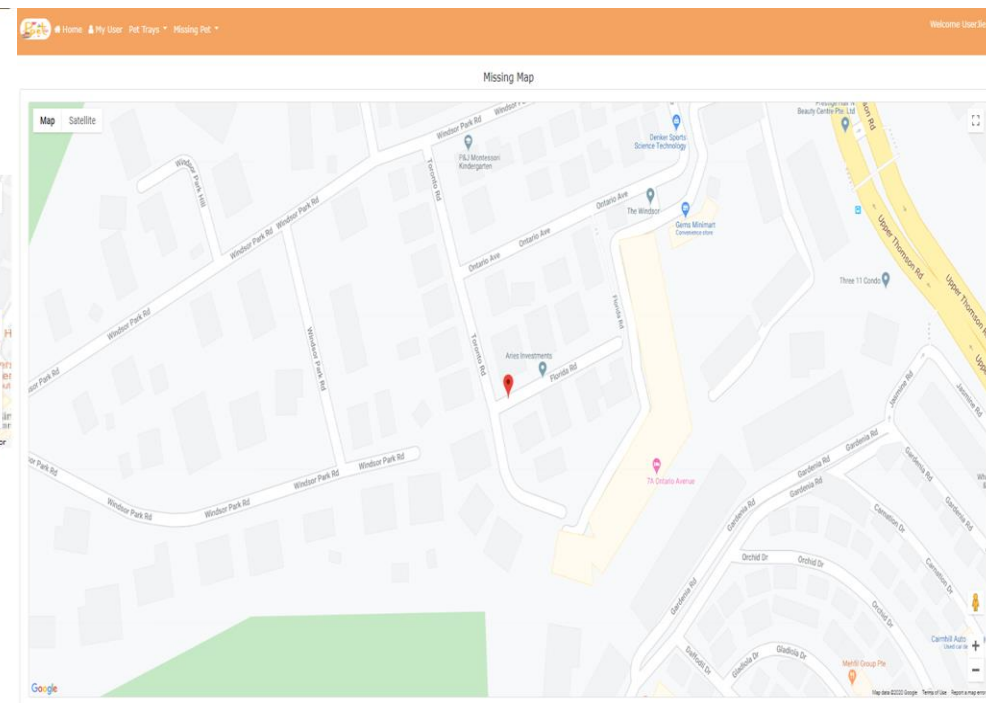
Address:

**Map** **Satellite**



**Details:**

Photo:  No file chosen





# Project Specification

## Breakdown of the requirements - Web Application

### List of Missing pets

Found A Missing Pet?




Show  entries Search:

Image	Pet Name	Description	Location Last Seen	Report Seen Pet
	Pet1	sdsf		

### My Missing pets

My Missing Pets

Show  entries Search:



Image	Pet Name	Last Seen	Location Last Seen	Found Pet
	Pet1	<a href="#">Last Seen Information</a>		

Showing 1 to 1 of 1 entries Previous  Next

### Last Seen Information

Last Seen Information

Show  entries Search:

Image	Seen By	Contact Number	Details	Location Seen
	PPETuser4	97896123	brown colour	28 Sin Ming Dr, Singapore 575702
	PPETuser4	67896123	running around	7 Ontario Ave, Singapore 576196

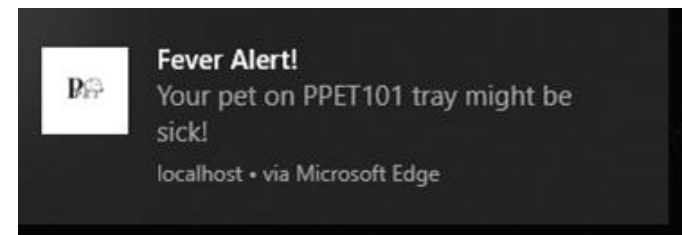
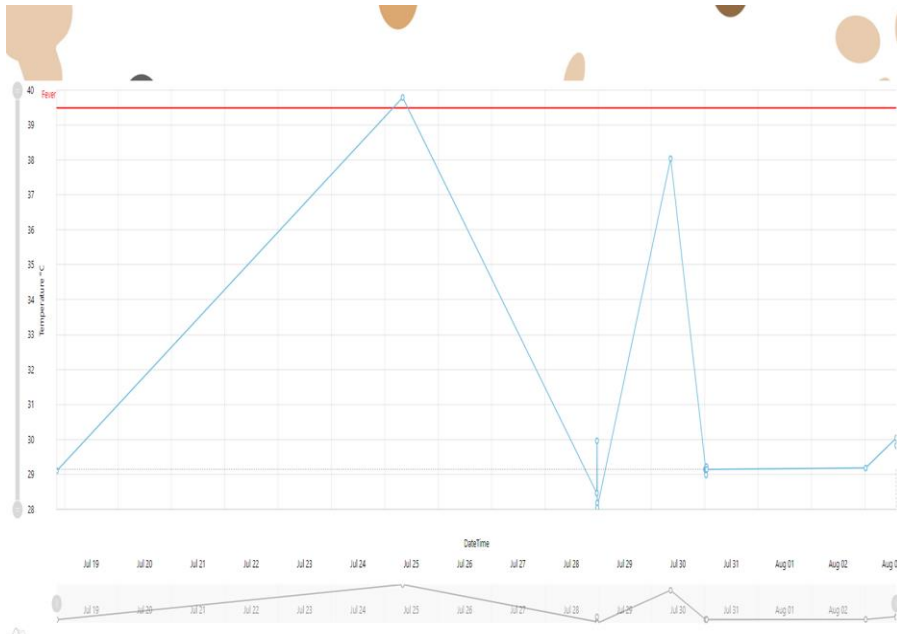
Showing 1 to 2 of 2 entries Previous  Next



# Project Specification

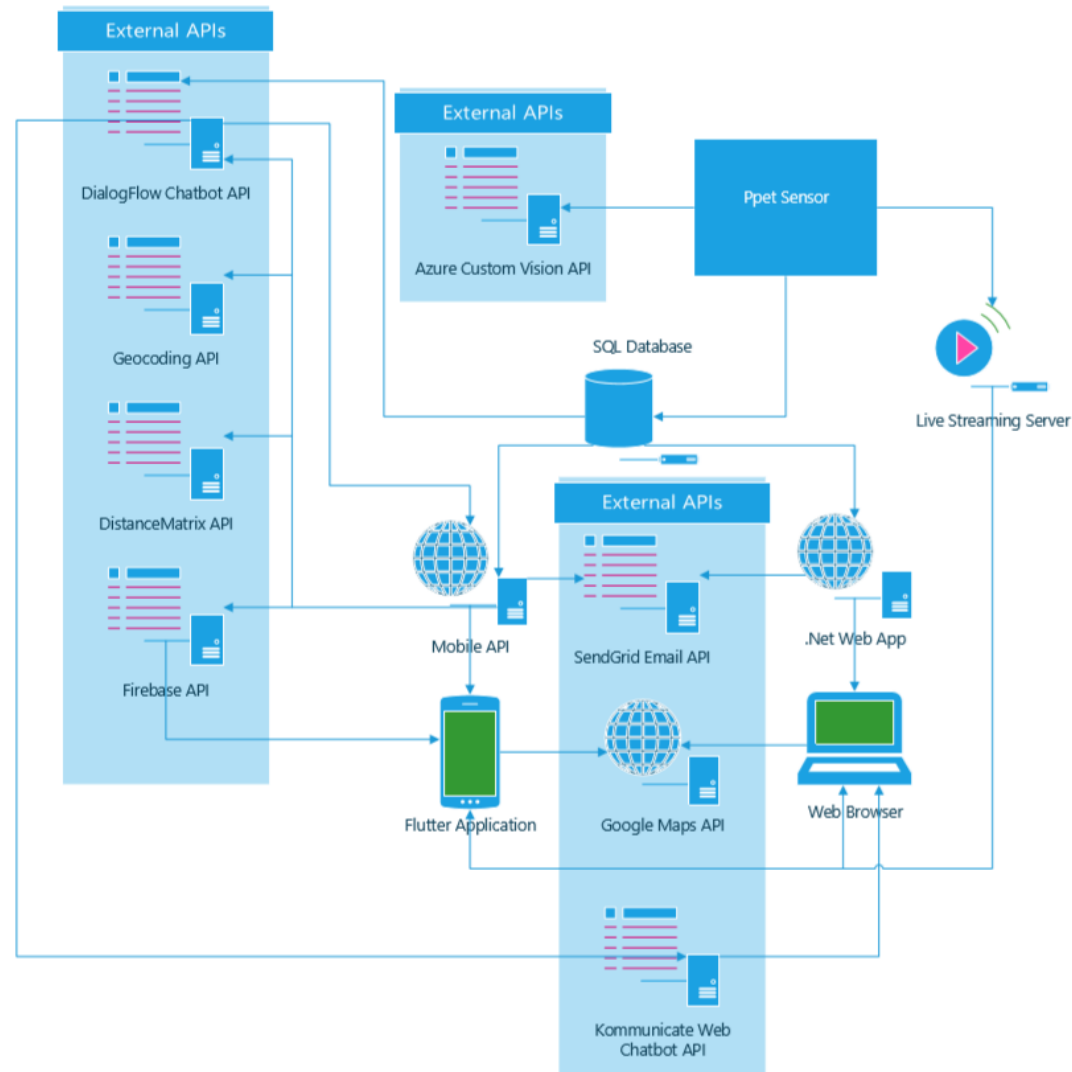
## Breakdown of the requirements - Web Application

- Notify when temperature is above fever point and unhealthy defecate.
- Display graph of temperature over time





# System Architecture



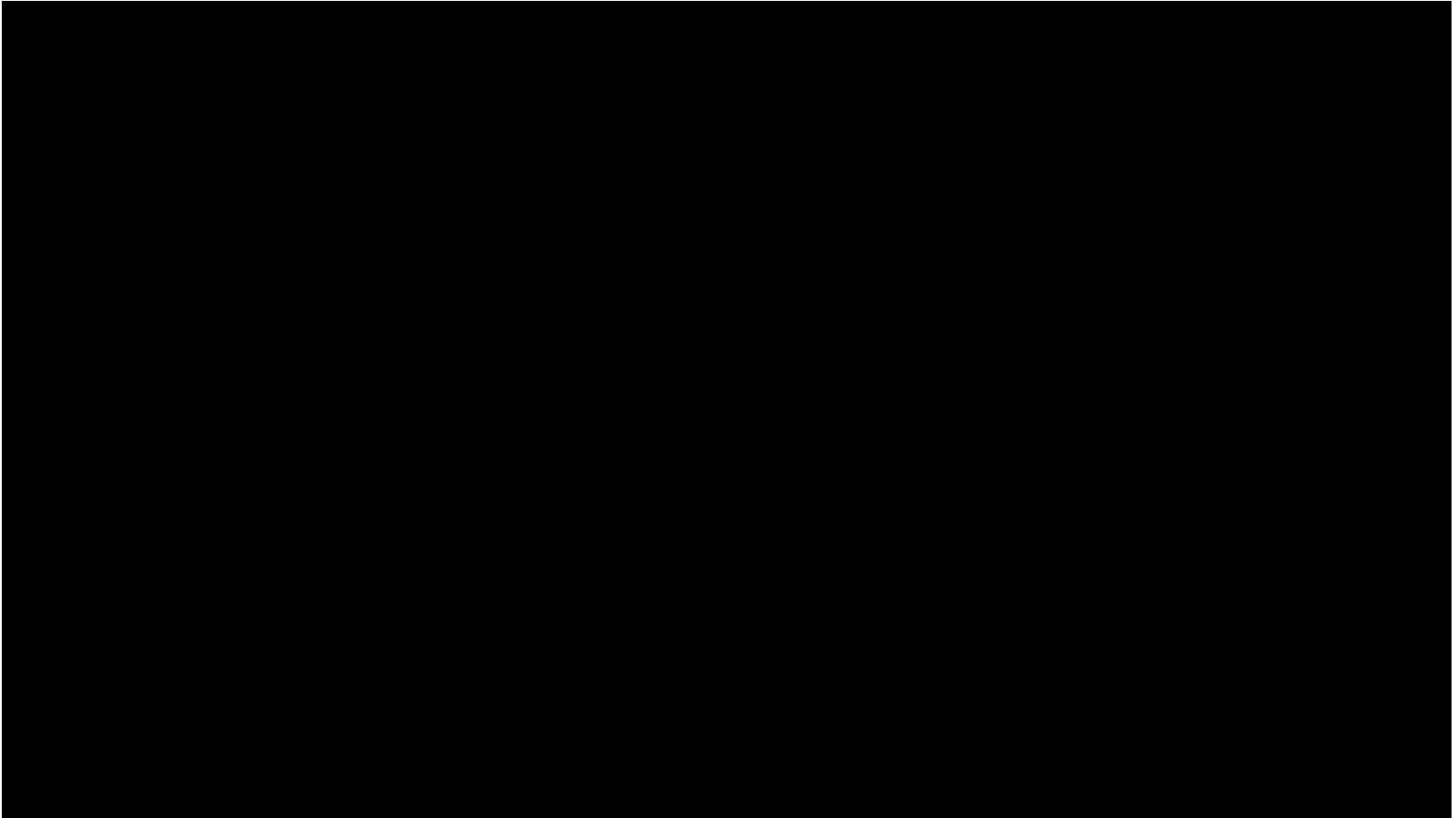




# Prototype Walk Through / Demonstration

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Mid-Semester Demonstration (How it works)





# Prototype Walk Through / Demonstration

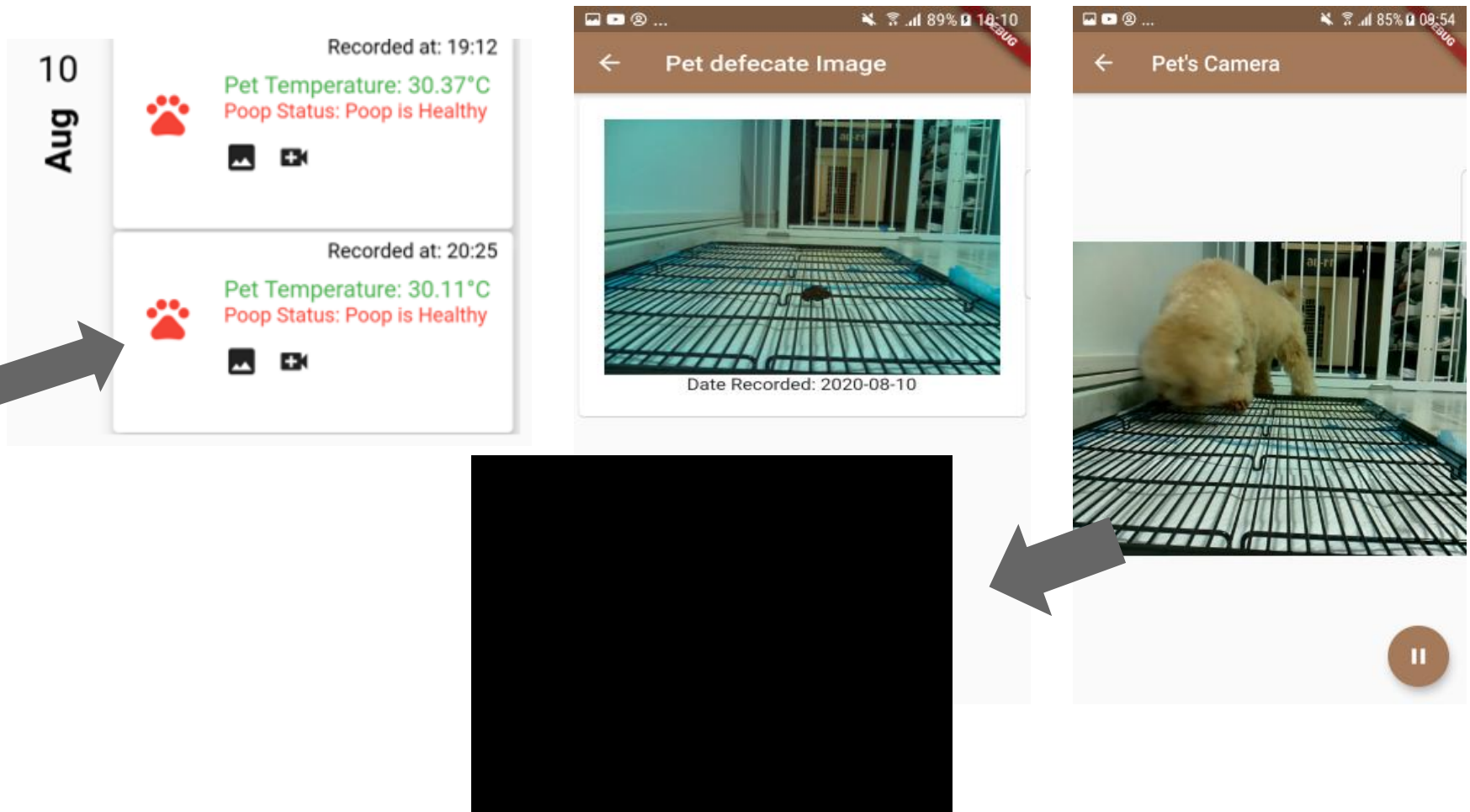
End-Semester Demonstration (How it works)





# Prototype Walk Through / Demonstration

End-Semester (Successful Log) -Mobile





# Prototype Walk Through / Demonstration

## End-Semester (Successful Log) -Web

### My Tray Logs

Show  entries

Search:

Tray ID	Date/Time	PoopHealth	Temperature
PPET101	10-08-2020 20:25	Poop is Healthy 📷🎥	30.11°C
PPET101	10-08-2020 19:12	Poop is Healthy 📷🎥	30.37°C
PPET101 ▲	06-08-2020 18:49	Poop is Un-healthy 📷🎥	40.95°C
PPET101 ▲	06-08-2020 18:49	Poop is Un-healthy 📷🎥	31.95°C
PPET101 ▲	06-08-2020 18:49	Poop is Un-healthy 📷🎥	31.95°C
PPET101	30-07-2020 08:31	Poop is Healthy 📷🎥	38.05°C

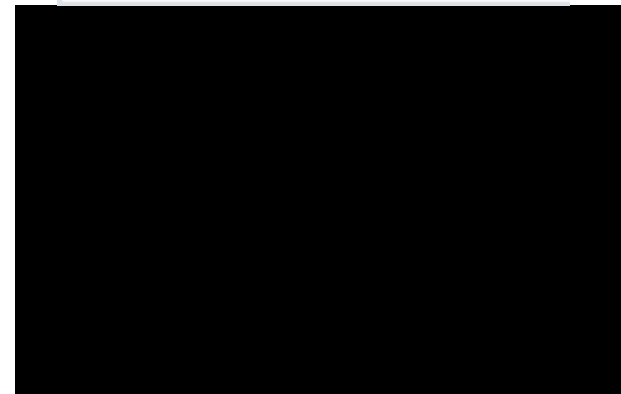
Showing 1 to 6 of 6 entries

Previous  Next

Poop is Healthy 📷🎥



Poop is Healthy 📷🎥



# **Thank You**

