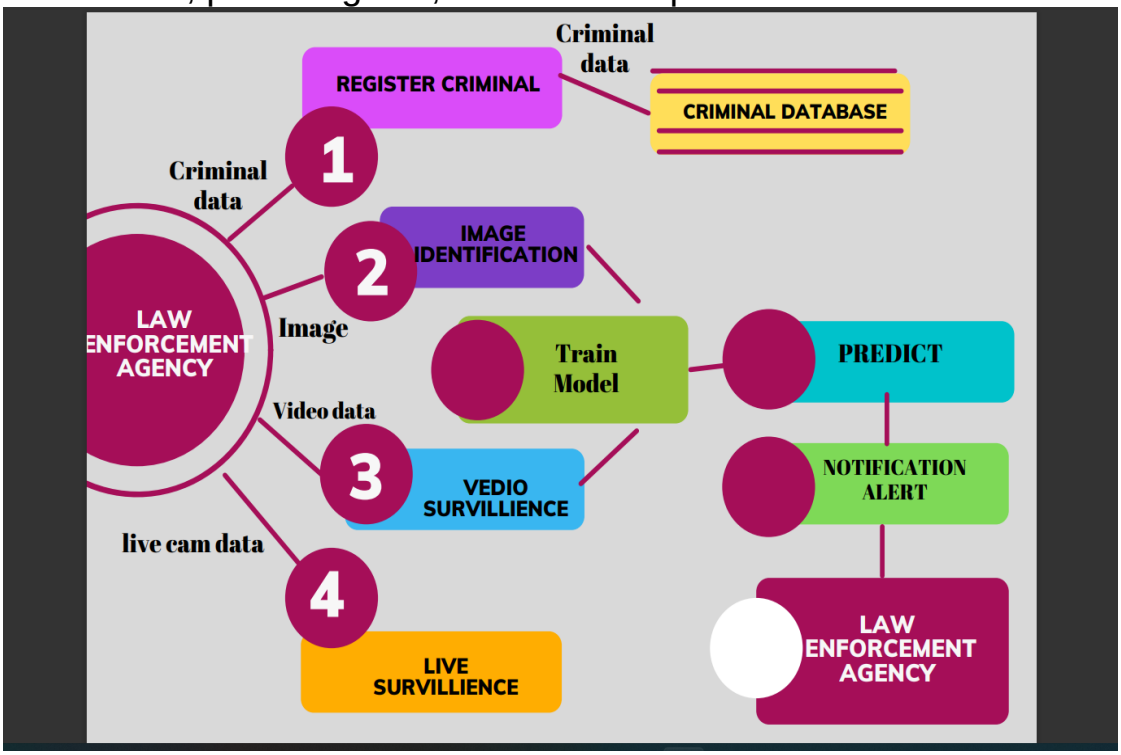
Face-Recognition challenge Roadmap

1. Sprint-1 (4th to 10th May):

a. Product ideation:

- Evaluating problem statement and research about the shortcomings of existing criminal-Identification and Finding missing people application.
- Draft a product one-pager to clearly enlist the problem statements, product goals, and success parameters:

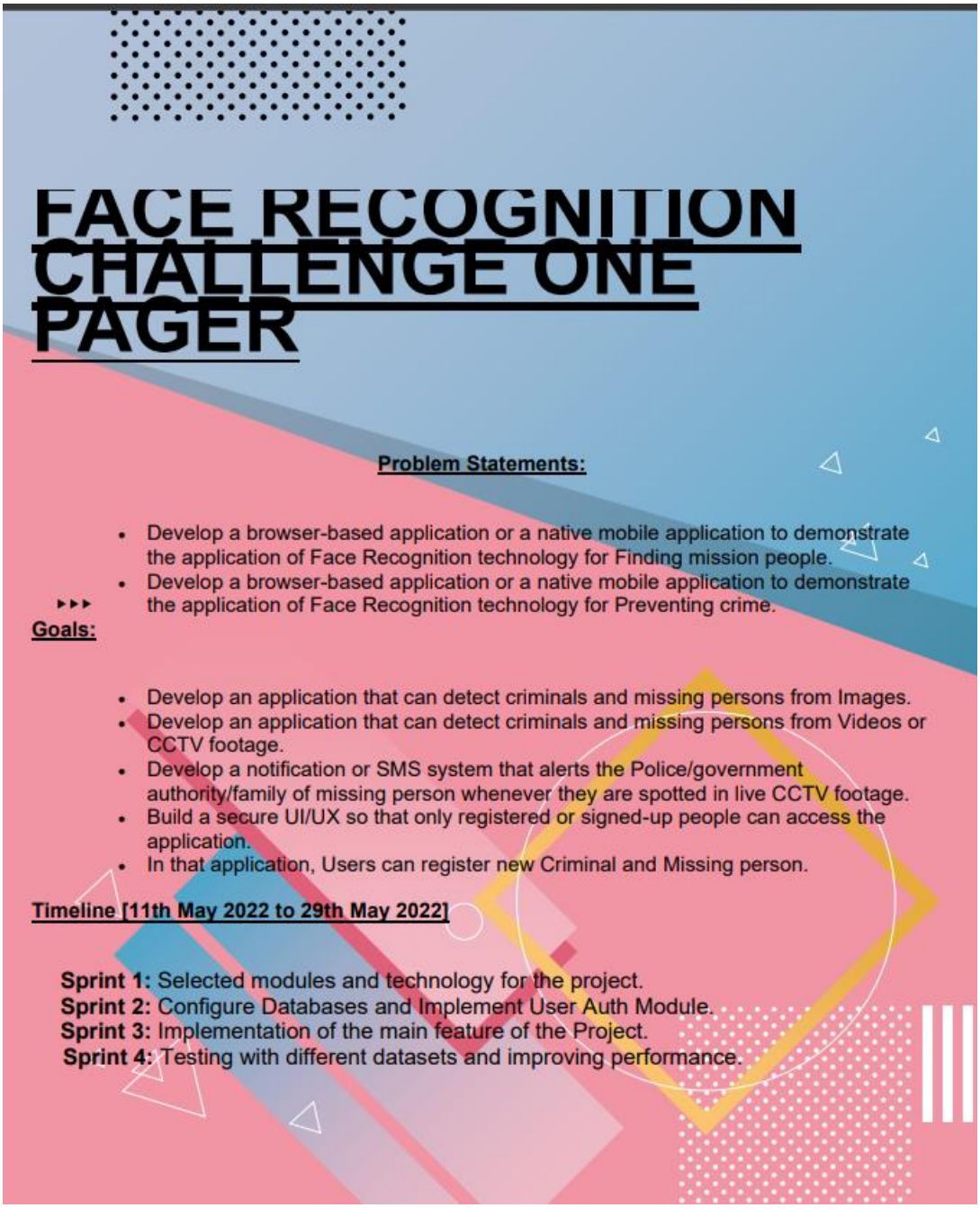


b. Requirement Gathering and Analysis

- Finalize clear and specific requirements based on the problem statements defined in the above document.
- Analyse product requirements, divide software into modules and define a clear data flow chart

c. UI design

- Finalize UI/UX flow and color scheme.
- Select the database to store all user's information and Data of criminals and missing people.

- 

d. Selected modules and technology for the project

- **Tkinter:** create Graphical User interfaces (GUIs) and is included in all standard Python Distributions**.**
- **MySQL:** For storing the information of users' login and signup and criminal's data and missing person's data.
- **OpenCV:** for image processing and performing computer vision tasks. It is an open-source library that can be used to perform tasks like face detection, objection tracking, etc.
- **Twilio:** for sms services

2. Sprint-2 (11th to 17th May):

a. Configure Databases

- Finalize user schemas and create the database on the MySQL server.
- Created various tables to store data of user's information, criminal information, and missing people information.

b. Implement User Auth Module

- Add signup-login functionality using Tkinter.
- Protect application routes from unauthorized users.

c. Started writing my logic in python

- I started working on writing functions for registering criminals and missing persons, connecting with the database, and insertion them into the table.
- I used the DBSCAN clustering algorithm. The algorithm dynamically creates a separate folder corresponding to every unique face. I provide this as training data for my model.

3. Sprint-3 (18th May to 24th May):

a. Integrated GUI of my application

- The application can help police to manage records of criminals and missing people in a single application.
- Implement GUI of application with Tkinter and creation of buttons for redirecting the user to the selected option.
- Added option for choosing any project and switching between them.

a. Implemented feature of Register criminal and Missing Person

- Create a function that takes records from the dashboard and stores them in the database and identifies the image and video based on that database.

a. Implemented feature of Image Observation

- This was the time when I have to face so many errors because I started writing the main code of my project which is face-detection.

- A function that detects faces from the image and compares them with the recorded faces and shows the result in output.

a. Implemented feature of Video Recognition

- Write the function that detects face from video and compare it with the recorded faces and show the result in output also print the timestamps in the terminal which can be noted in the file.

e. Created link between these windows into the dashboard

- Link each window into one dashboard(separately for Criminal-detection and Finding Missing people) and again link those windows into a single dashboard with the Login and Signup page.

4. Sprint-4 (25th to 29th May):

a. Testing with different datasets and improving performance

- Tested my application across various datasets and improved the efficiency of the application.
- Created different windows for different options so that users can switch accordingly.

a. Added various alert

- Added various alerts for incorrect details and credentials for register and login purposes.
- Added my code into the try-except block so that they can throw appropriate exceptions when needed.

a. Final improvements and Bug fixes

- Fix bugs based on alpha user feedback
- Finalize further UX improvements as per feedback.

a. Started preparing my project for submission

- Created a presentation to demonstrate my approach to solving problems.
- Uploaded my project into the GitHub repository and well-documented steps to run the project on the system.