SRS V2

Software Requirements Specification (SRS) Document Version 2

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Brief problem statement

The problem statement for the Campus Canine Tracker app is used to provide a solution for tracking dogs within a campus , and to allow users to vote on the behaviour of the dog and leave comments if desired. The app aims to help campus authorities / Residents to locate dogs , monitor their activities and alerts users about the presence of dogs in their vicinity., while also providing a platform for users to share feedback . The app will utilise tracking technology and a user-friendly interface to achieve these

objectives, ensuring that the campus environment remains safe for both humans and animals.

Users profile

The user profile for the Campus Canine Tracker app can be broken down into several categories:

1. Campus Authorities: These users are responsible for maintaining order and safety on the campus. They will use the app to locate dogs and monitor their activities. They may also use the feedback provided by users to improve their policies and procedures.
2. Campus Residents : The campus residents who are interested in dogs on the campus to feed them and want to play with dogs. They will use the app to locate the dogs and predict their behaviour from the app. They also can vote on the behaviour of dogs so that other people in the campus will know that whether the dog is Friendly or Docile or Aggressive and leave comments if desired and can Report a Dog if Required.

Project Modules

User Management

This module handles user accounts and information, such as user authentication, registration, and profile management. Aspects of our product that fall into this module include user login and registration, user profile management, and account settings..

Submodules:

1. User Registration
2. User Login
3. User Profile

Feature Requirements:

1. User Registration

    a. As a user, I want to be able to register for a new account by providing my email address and password so that I can create an account and access the application.

2. User Login
    a. As a user, I want to be able to log in to my account by providing my email address and password so that I can access my account.
3. User Profile
    a. As a user, I want to be able to view and edit my profile information, including my name, email, and password.

Location Tracking

This module handles the tracking and monitoring of canines, including their location, activity, and health. Aspects of our product that fall into this module include GPS tracking, activity monitoring, and health tracking.

Submodules:

1. GPS Tracking
2. Activity Monitoring

Feature Requirements:

1. GPS Tracking
    a. As a user, I want to be able to track my real time location on a User-Friendly Map.
    b. As a user, I want to be able to track the real time location of dogs near my area.
    c. As a user, I want to be able to identify safe zones and caution zones.
2. Behaviour Monitoring and Live Location
    a. As a user, I want to be able to view the Behaviour of a dog and the region where it is most likely to be found and its most recent locations.

Notification Management

This module handles the generation and delivery of notifications to users based on various events, such as when a dog approaches too close. Aspects of our product that fall into this module include push notifications, etc.

Submodules:

1. Push Notifications (Alert)

Feature Requirements:

1. Push Notifications (Alert)
    a. As a user, I want to receive a alert when an aggressive dog comes to close or when I enter its territory.

Dog Profile

This module handles the voting mechanism, users vote on the nature of the dog in their eyes (docile, friendly or aggressive). The results are then displayed on every dogs profile. Also the dog profile must show the basic information about the dog, how it looks, etc.

Submodules:

1. User Voting
2. Dog Profile Information

Feature Requirements:

1. User Voting
    a. As a user, I want to be able to vote on the nature of a dog so that other users know if its safe to approach it or not.
    b. As a user, I want to ensure that I get only one vote which I can change. There shouldn’t be duplicate votes of any user.
2. Dog Profile Display

a. As a user, I want to be able to see how other people have voted on the nature of the dog so I can take an informed decision on how to interact with it.

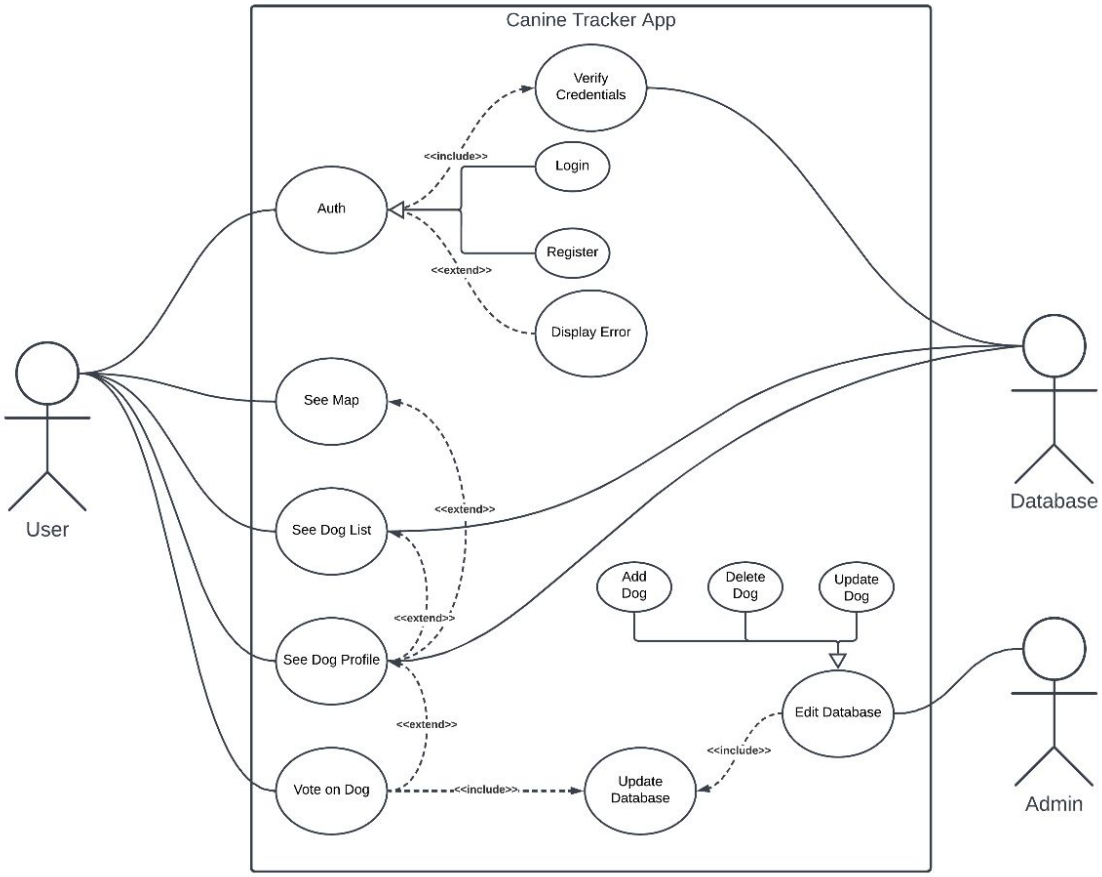
b. As a user, I want to be able to look whether the dog is safe for me to approach and interact with.

Feature requirements (described using use cases)

No.	User Case Name	Description	Release
1.	Frontend Design on Figma	This gives a Clear Overview as well as Clear Description of how the App would be Designed and how the App is made User-Friendly so that User can Interact with the System in a Hassle-Free Manner.	R1
2.	Make the App Supportive on both IoS and Android.	The App should work on both Mobile Platforms and the User should be able to Interact in the Same Way on both Platforms.	R1
3.	Design of Database Schema	The User’s Data has to be Stored in the Database so that Efficient Extraction of Data Fed up by User is Possible and The access is also Smooth to maintain User-Friendliness.	R1
4.	User Stories and General Requirements of Users	We, as Users using the App tried to Understand the Features any User would like to Use the App. So, this Design helped us in Analysing the App’s Features from Users’ Point of View.	R1
5.	Track Dog Location	Campus residents will be able to track the location of dogs on the campus using the app. This will allow them to locate dogs and monitor their movements.	R2

6.	Vote on Dog Behaviour	Users will be able to vote on the behaviour of dogs on the campus using the app. This will allow them to provide feedback about the behaviour to all the other users.	R2
7.	Post Comments	Users will be able to leave comments on the behaviour of dogs using the app. This will allow them to provide more detailed feedback on their experiences with individual dogs.	R2
8.	View Dog Information	Campus Residents will be able to view information on individual dogs, such as their age, nature and most visited places. This will help users identify dogs they encounter on the campus.	R2
9.	List of the dog	Users can see a list of all the dogs registered in this app and clicking the image of dog will open the profile page of that dog.	R2
10.	Track User Location	Campus residents would be able to Track their Location on the Same Map on which Dogs are being Tracked. This provides an Incentive for the User to Track the Dogs and Avoid Paths on which Ferocious Dogs are present, go near a Friendly Dog, be aware of the general Characteristics of the Dogs etc.	R2

Use Case Diagram



In the above diagram some definition of the terms we used :

Include : The use case is mandatory and part of the base use case. It is represented by a dashed arrow in the direction of the included use case with the notation <<include>>. Ex for verifying the password Login is the mandatory condition.

Places where Include Tag is Used are as Follows:

1) For Verification of Password Login is First Required from the User. Only then Input Validation can take place.

2) Only if the User Casts his/her Vote for a Particular Dog, Database is Accessed for Modification of Vote Value of the User, and hence a Necessity for Updating Database.

3) Database Modification only takes place when we make GET/POST Requests at that Particular Port Referencing the Backend and hence a Necessary Condition is First Access to the Database Via Requests and then consequent Updation of the Respective Fields.

Extend : The use case is optional and comes after the base use case. It is represented by a dashed arrow in the direction of the base use case with the notation <<extend>> . ex. view dog profile is optional for the user from the dog List whether he wants to go in that page or not.

Places where Extend Tag is Used are as Follows:

1) The User can click on the Dog Real-Time Location to View it's Profile Page and hence it's General Characteristics. So, it is an Optional Feature Implemented for Ease of Use for the User.

2) Again, the Dog's Profile Page can be Opened by clicking on it's Icon on the Dog list Page. For similar Reasons as the 1st Point, this is included in Extend Tag.

3) The User can Vote for a particular Dog on the Dog Profile Page and therefore is an added Feature Implemented by us, which was Optional in Nature. So, it is included under Extend Tag.

4) Showing an Appropriate Error Message in case of Failed Authentication Makes the User Aware of the Failed Login process, which is again Optional and is in our Hands. So, it should be Included under Extend Tag.