LABORATORY REPORT
Week 10: Phase 1 of Group Final Project

Pawfect Match
A Pet Matchmaking System

SUBMITTED BY:

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BS INFORMATION TECHNOLOGY 2B

SUBMITTED TO:

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I. FINAL PROJECT PROPOSAL

A. Project Title

Pawfect Match - A Pet Matchmaking System

B. Introduction

Pawfect Match is a web-based platform designed to connect pet owners searching for suitable mates, playmates, or friends for their pets. This system ensures ethical and responsible pet matchmaking by providing detailed pet profiles, a compatibility algorithm, and secure communication features. With an intuitive interface, Pawfect Match promotes pet welfare and responsible breeding within the pet-loving community.

C. System Purpose

The purpose of Pawfect Match is to facilitate seamless matchmaking for pets based on specific criteria such as breed, location, health, and user preferences. By integrating smart algorithms and location-based services, the system enhances pet socialization while ensuring responsible interactions among pet owners. Additionally, the platform aims to maintain security and privacy for all users.

D. Scope

1. Target Users

a) Pet owners looking for mates, playmates, or friends for their pets.

b) Pet shelters and breeders seeking responsible pet networking.

c) Veterinarians and pet care professionals who want to offer matchmaking guidance.

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2. **Key Features**

    a) User Authentication and Profile Management

- Secure sign-up and login using JWT or session-based authentication.
- User profile management with pet details and preferences.

    b) Pet Profile Management

- Create detailed pet profiles, including breed, age, health status, and preferences.
- Upload pet photos and vaccination records for verification.

    c) Smart Matchmaking Algorithm

- Suggest compatible matches based on breed, health, and user-defined criteria.
- Display compatibility scores to help users find the best match.

    d) Location and Meetup Integration

- Utilize Google Maps API to locate nearby pet profiles.
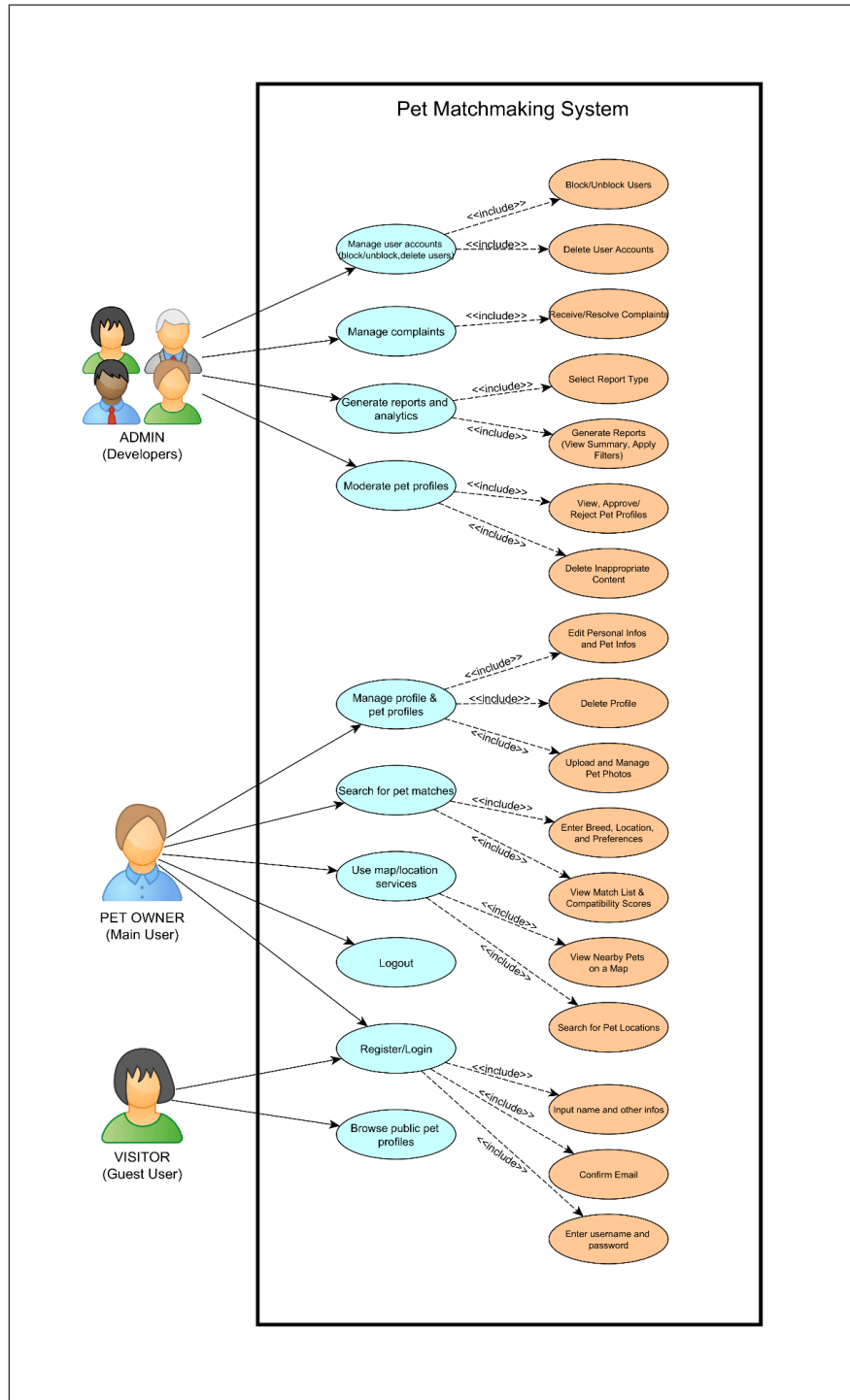
    e) Admin Dashboard

- Manage user and pet profiles, view reports, and handle user complaints.

E. Conclusion

Pawfect Match aims to provide a safe, ethical, and user-friendly platform for pet owners to find the best companionship for their pets. With advanced matchmaking features and location-based services, this system fosters responsible pet networking while ensuring data security and user satisfaction.

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II.   USE CASE DIAGRAM

The Use Case Diagram for the Pet Matchmaking System illustrates the major interactions between different types of users (actors) and the system's core functionalities.

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A. Actors

a. Admin (Developers)

Admin users are responsible for managing user accounts, handling complaints, moderating pet profiles, and generating system reports and analytics.

b. Pet Owner (Main User)

Pet Owners are the primary users who can register, create and manage their profiles and pet profiles, search for pet matches, use map/location services, and logout.

c. Visitor (Guest User)

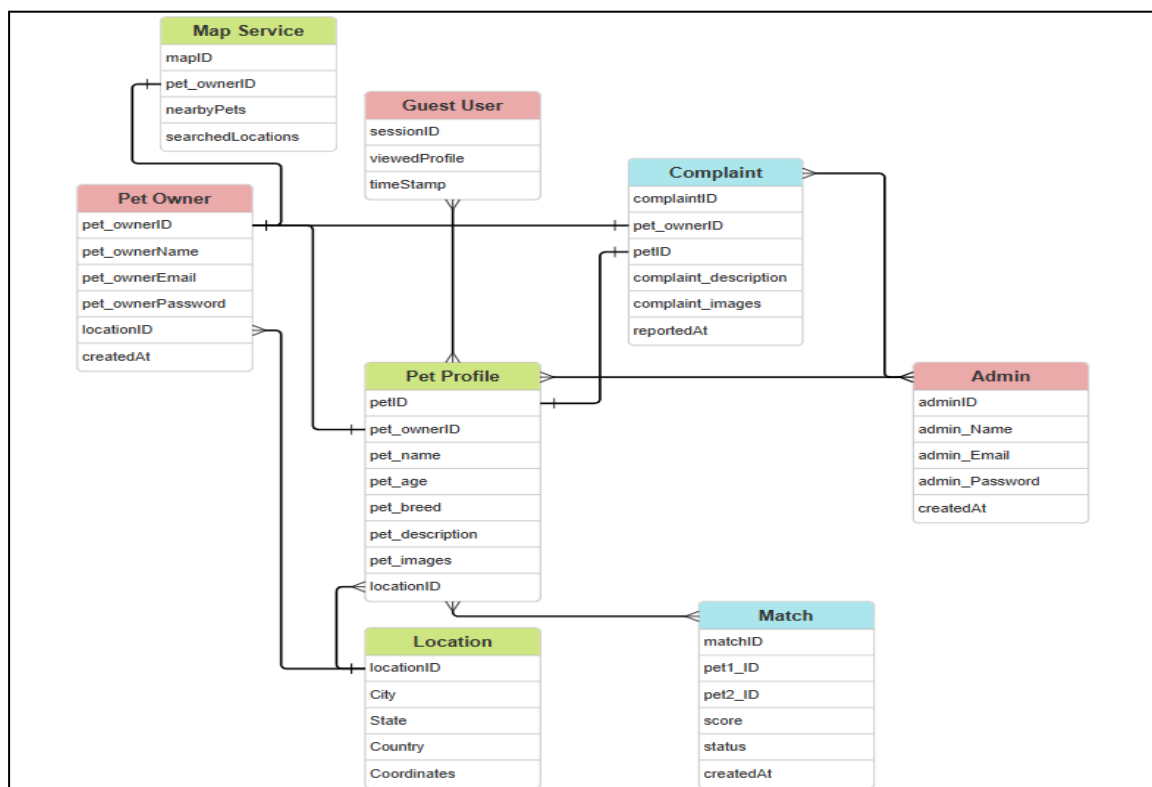Visitors are unregistered users who can browse public pet profiles but must register to access full features.
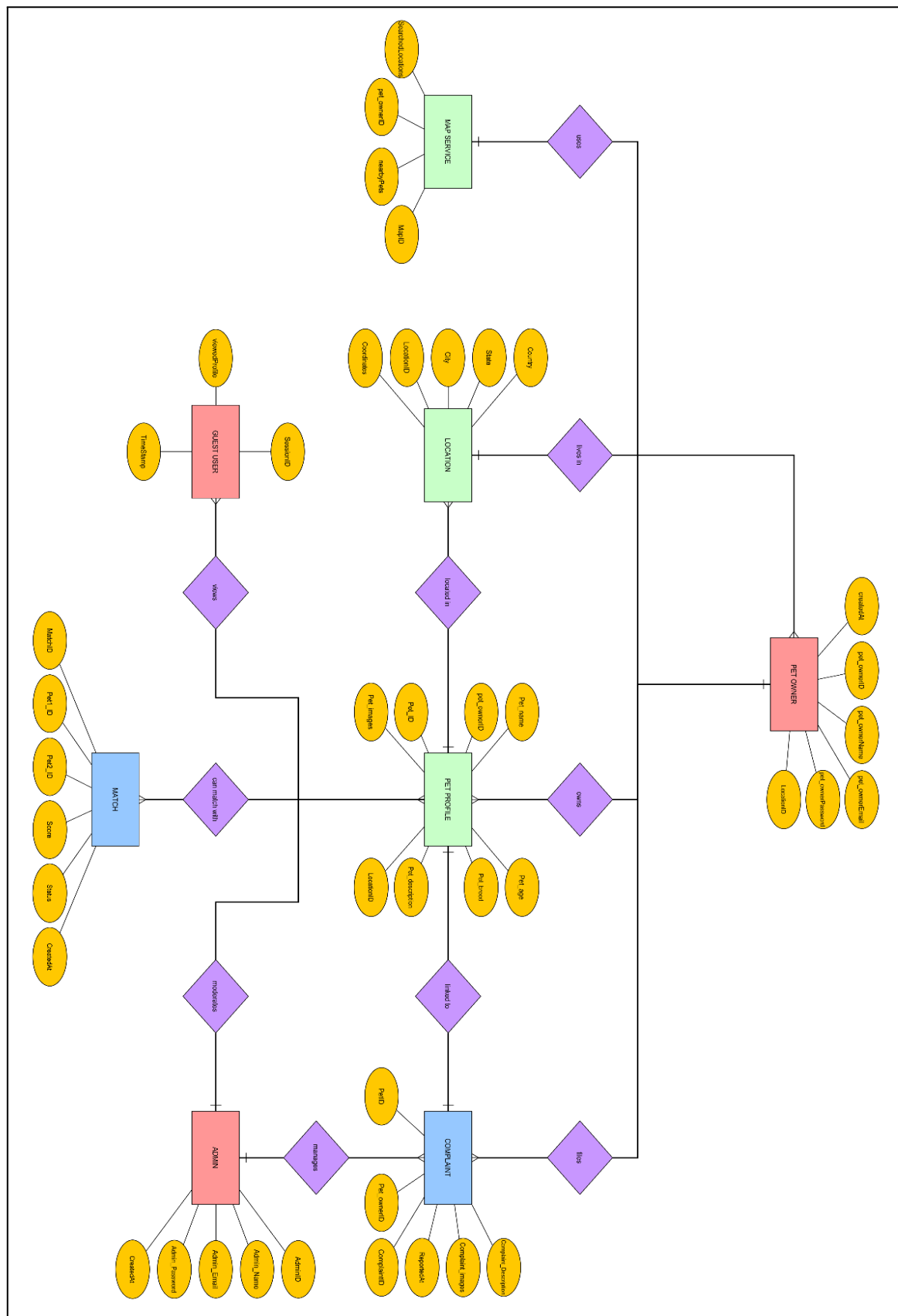
B. Main Use Cases

a. Manage User Accounts: Admins can block/unblock users and delete user accounts.

b. Manage Complaints: Admins receive and resolve user complaints by selecting the appropriate report type.

c. Generate Reports and Analytics: Admins can generate reports and apply filters to view summaries.

d. Moderate Pet Profiles: Admins approve, reject, or delete inappropriate pet profiles or content.

e. Manage Profile & Pet Profiles: Pet Owners can upload/manage pet photos, edit personal and pet information, and delete their profiles.

f. Search for Pet Matches: Pet Owners can search for pet matches by entering breed, location, and preferences, and view match lists with compatibility scores.

g. Use Map/Location Services: Pet Owners can view nearby pets and search pet locations on a map.

h. Register/Login: Visitors and Pet Owners can create an account by providing necessary information and confirming their email.

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    i.   Browse Public Pet Profiles: Visitors can browse publicly available pet profiles without creating an account.

    j.   Logout: Pet Owners can securely log out from the system.

III.   ENTITY-RELATIONSHIP DIAGRAM

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The ERD for the Pawfect Match system outlines the core entities and their relationships involved in a pet-matching platform.

A. Key Entities and Relationships

a. Pet Owner

Stores data about users who own pets, including their name, email, password, and location. Each owner is identified by a unique pet_ownerID. Pet Owners are associated with Map Services and can file complaints.

b. Pet Profile

Stores details of each pet, including pet_name, pet_age, pet_breed, pet_description, and pet_images. Each pet is linked to one Pet Owner (via pet_ownerID) and a Location (via locationID). Pets can also be part of a Match, allowing interaction with other pet profiles.

c. Location

Defines geographic data such as city, state, country, and coordinates. Both Pet Owners and Pet Profiles are associated with a location, providing a foundation for nearby pet searches and proximity-based matching.

d. Map Service

A functional entity that allows Pet Owners to search for nearby pets and locations. It stores search history (searchedLocations) and returned results (nearbyPets), aiding in interactive pet discovery.

e. Match

Captures pairings between two pets (pet1_ID and pet2_ID). It includes a score, status, and createdAt timestamp, indicating the

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strength and current state of the match (e.g., pending, approved). Matches form the core engagement mechanic of the system.

f. Guest User

Refers to unregistered users who can browse pet profiles. The system tracks which profiles were viewed (viewedProfile) and the session timestamp (timeStamp). Although not registered, their actions are monitored for analytical purposes.

g. Complaint

Allows Pet Owners to file reports regarding issues or disputes. Each complaint includes a description (complaint_description), supporting images (complaint_images), and links to both the Pet Owner and the Pet Profile involved. Complaints are recorded with a reportedAt timestamp.

h. Admin

Represents system administrators who manage user-reported complaints and overall system moderation. Each admin has credentials (admin_Name, admin_Email, admin_Password) and a creation date. Admins are responsible for reviewing and acting upon submitted complaints.

B. Relationship Overview

a. A Pet Owner *owns* one or more Pet Profiles.
b. A Pet Profile *is located in* a specific Location.
c. A Pet Owner *lives in* a Location.
d. A Pet Owner *uses* the Map Service.
e. A Pet Profile *can match with* another Pet Profile, resulting in a Match.
f. A Guest User *views* Pet Profiles.

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g. A Pet Owner *files a* Complaint *linked to* a Pet Profile.

h. An Admin *manages* Complaints.

IV. DATA FLOW DIAGRAM (DFD)
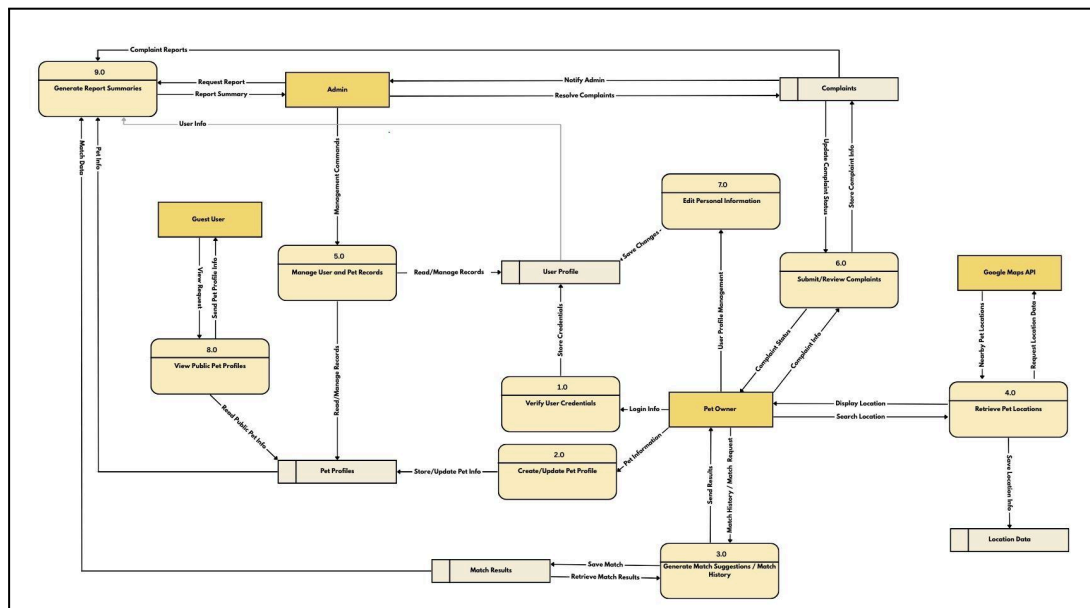
The Data Flow Diagram (DFD) for the Pet Matchmaking System illustrates how data moves between users, external systems, and internal processes.

A. External Entities

a. Admin

Manages user accounts, pet records, handles complaints, and requests reports.

b. Guest User

Views public pet profiles without needing to log in.

c. Pet Owner

Registers, manages profiles, submits complaints, searches for matches, and views pet locations.

d. Google Maps API

Provides location data for pet owners to search and view nearby pets.

B. Main Processes

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a. Verify User Credentials: Authenticates user login by verifying credentials against the user profile database.

b. Create/Update Pet Profile: Allows pet owners to add or edit pet profiles, saving information in the pet profiles storage.

c. Generate Match Suggestions/Match History: Processes pet profile data to generate match suggestions and stores match history for pet owners.

d. Retrieve Pet Locations: Integrates with Google Maps API to display pet locations based on user search or nearby location.

e. Manage User and Pet Records: Admin reads and manages user and pet data.

f. Submit/Review Complaints: Pet owners can submit complaints, and admins can review and resolve them.

g. Edit Personal Information: Allows pet owners to update their personal information.

h. View Public Pet Profiles: Guests can browse publicly available pet profiles.

i. Generate Report Summaries: Admins can request and generate summary reports based on complaint data and match statistics.

C. Data Stores

a. User Profile: Stores user credentials and personal details.

b. Pet Profiles: Stores pet-related data.

c. Match Results: Stores results of pet match searches and history.

d. Complaints: Stores user complaints and their statuses.

e. Location Data: Stores information about pet locations.

V. GITHUB REPOSITORY URL

A. https://github.com/cmta-05/PawfectMatch-FullStackWebApp.git

VI. SCREENSHOT OF REPOSITORY STRUCTURE