



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course: CSE489

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Project Title: Pet Care & Adoption Platform (PetHood)

Technology:

PetHood is an Android mobile application developed using **Kotlin** programming language and **Jetpack** Compose. The app follows the **MVVM** (Model-View-ViewModel) architectural pattern, which helps separate the UI logic from business logic and data management, making the app more modular, testable, and maintainable. The data layer uses a repository pattern to manage data sources, and the app leverages Android's Room database for local persistence. Navigation between screens is handled using Jetpack Navigation Compose, enabling smooth and type-safe transitions. State management is efficiently handled using Compose's reactive state APIs such as `mutableStateOf` and `remember`.

Project Features:

The following key features have been implemented:

Login system:

- Provides secure user authentication using email and password.
- Includes input validation and error handling to ensure data integrity.
- Manages user sessions and preferences through a centralized User Repository.
- Offers navigation to sign up and password recovery options.

Reporting system:

- Enables users to report abandoned animals, animal abuse, missing pets, and found pets.
- Integrates with the device's phone dialer to quickly contact emergency services.
- Provides a user-friendly interface with dialogs and buttons for reporting.
- Supports navigation to detailed reporting forms for missing and found pets.

Pet Adoption:

- Allows users to browse pets available for adoption categorized by type (Dogs, Cats, Birds).
- Features a reels-style vertical scrolling interface inspired by popular social media apps for an engaging browsing experience.
- Supports pet listing by users with image upload, detailed descriptions, and contact information.
- Includes real-time search and filtering capabilities to find pets by name or breed.

Lost & Found Pet Section:

- Provides a dedicated section for users to find lost pets or report found pets.
- Includes search and filter functionality to quickly locate relevant reports.
- Supports detailed reporting forms to submit information about missing or found pets.

Pet Care Management:

- Manages pet profiles with detailed information such as breed, age, gender, and care notes.
- Allows users to keep track of their pets' health and grooming needs.

Pet Adoption Community:

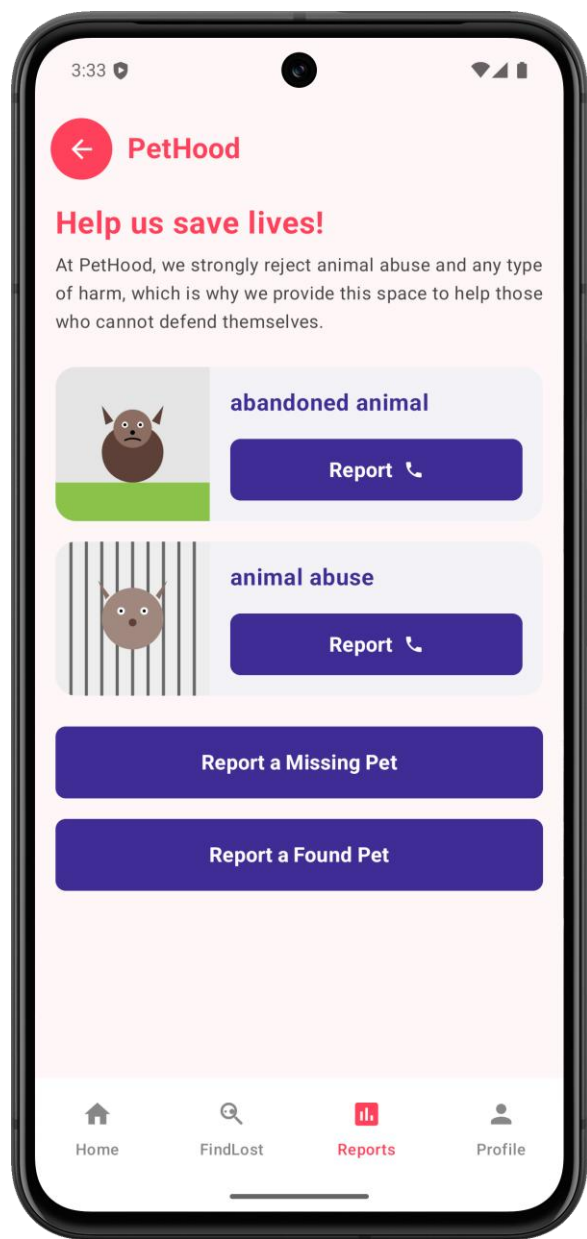
- Facilitates community engagement through user profiles.
- Enables users to connect, share pet stories, and support each other in pet adoption journeys.

Profile Management:

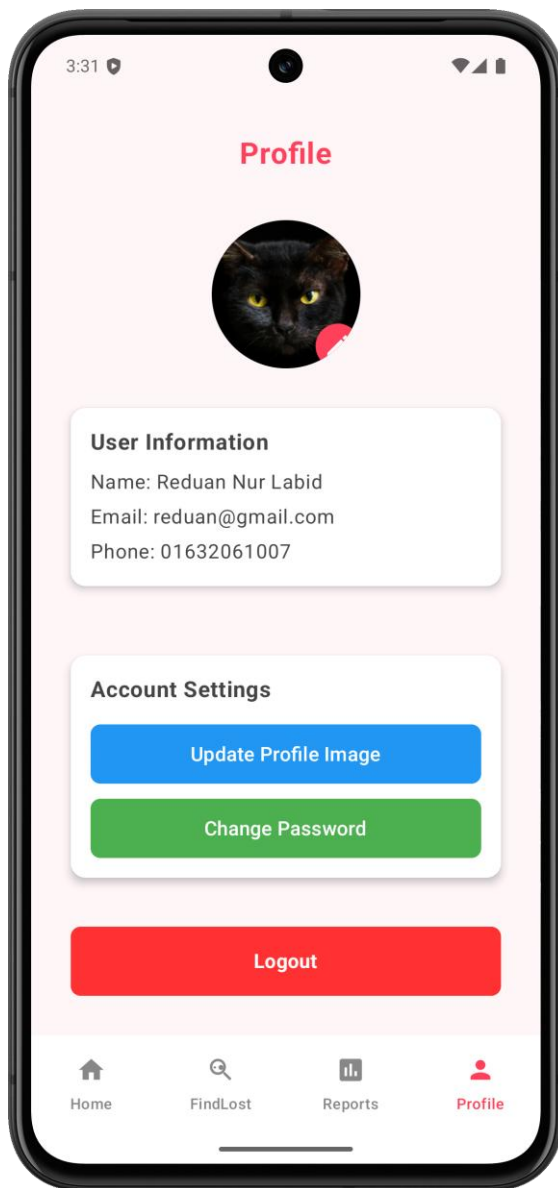
- Allows users to create and manage personal profiles.



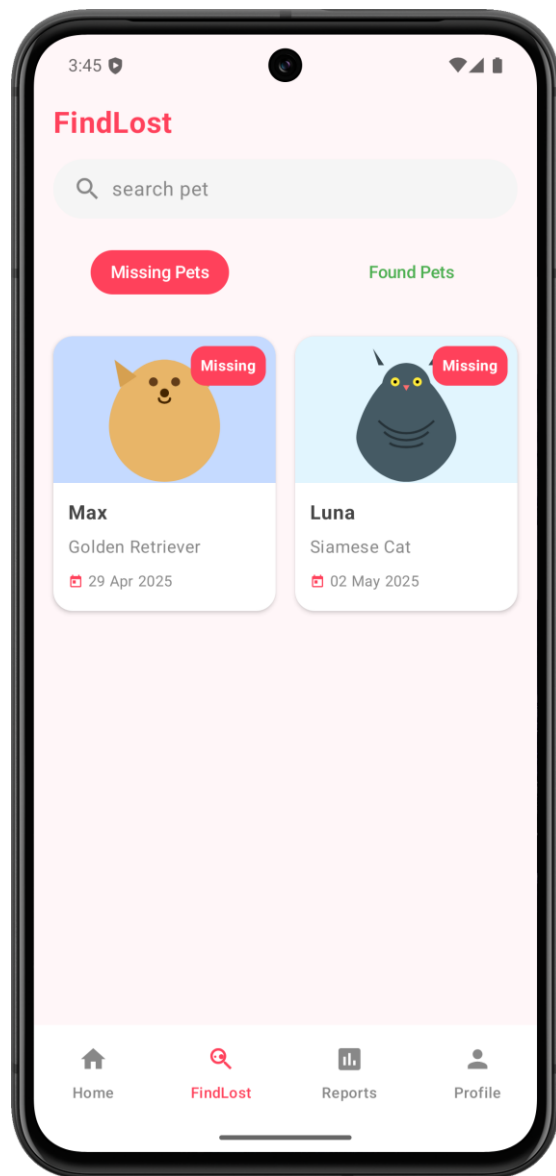
Home



Reports



Profile



Missing or Found

Future Enhancements:

Veterinarian & Grooming Service Directory:

- a curated list of local veterinarians and grooming services.
- Provides contact details and location information for easy appointment scheduling.

Backend API Integration:

- Transition from local data storage to a cloud-based backend API.
- Enables real-time data synchronization across devices and users.
- Supports scalability and multi-user collaboration.

User Authentication:

- Implement advanced authentication methods including social logins (Google, Facebook).
- Enhance security with multi-factor authentication and password recovery workflows.

Chat Functionality:

- Introduce in-app messaging to facilitate direct communication between users.
- Improves user engagement and support during the adoption process.

Location Services:

- Integrate maps and geolocation to find pets and services nearby.
- Enable location-based filtering and notifications for lost and found pets.

Favorites System:

- Allow users to save favorite pets and receive updates on their status.
- Enhances user experience by personalizing pet browsing.

Push Notifications:

- Notify users about new pet listings, messages, and important updates.
- Keeps users engaged and informed in real-time.

Social Sharing:

- Expand sharing capabilities to multiple social media platforms.
- Increase app visibility and community involvement.

Advanced Filtering:

- Provide more granular search options such as age, size, breed, and health status.
- Helps users find pets that best match their preferences.

Complete FindLost Implementation:

- Fully develop the lost and found pet reporting system with detailed forms and tracking.
- Improve success rates in reuniting pets with their owners.

Analytics and Insights:

- Implement analytics to monitor user behavior and app performance.
- Use data-driven insights to guide future development and marketing strategies.