Software Requirements Specification
Android Application for Pet Care System
(Dingo)

Project - ICT 3206

Bachelor of Information and Communication Technology (BICT)

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Details of the Research Project

Title : Android Application for Pet Care System

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Group Name : Fine Felines

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1. Project Problem Statement

Pet owners face challenges in managing comprehensive care for their pets, often juggling scattered information and responsibilities. A lack of centralized resources results in missed health appointments, inadequate nutrition, and difficulty connecting with the pet community. This project aims to address these issues by developing a user-friendly pet care app, integrating features such as health record storage, reminders, community interaction, and an adoption platform, providing an all-encompassing solution to streamline and enhance the pet care experience

2. Project Scope

The Android Application for Pet Care aims to develop a mobile application that is easy to use for owners of pets. Through the app, users will be able to purchase pet-related items, interact with the pet care community, maintain the profiles of their dogs, keep track of health records, and receive dietary information. Developing the Android app, connecting it with other systems, and making sure it complies with rules and industry standards are all part of the project.

2.1 Key Features:

- Pet owners' registration, login, and profile management.
- Establishing and maintaining accounts for several pets and monitoring their activity.
- Maintaining and organizing pet medical records, including scheduling check-ups and prescription reminders.
- Getting access to a database with food plan recommendations and information on pet nutrition.
- Discussion boards where pet owners can exchange stories and ideas.
- Displaying pets that are up for adoption and assisting with applications and questions.
- Working with suppliers of pet supplies to include their products in the app.
- Asking for veterinarian or pet care expert consultations online.
- Reporting lost animals and exchanging pertinent information.

2.2 Exclusions:

- Configuring and managing the infrastructure of backend servers.
- Developing the app for Android devises.

2.3 Constraints:

- Interoperability with different Android smartphones and OS iterations.
- Adherence to privacy and data protection regulations.
- Integration with external systems and APIs that are compatible and available.

2.4 Deliverables:

- Fully functioning Android pet care app with all the functions listed.
- System architecture, user manuals, and API integration specifics are all included in the documentation.
- Documentation related to quality assurance and testing.
- Frequent reports on progress and updates to stakeholders.

2.5 Assumptions:

- Availability of the necessary materials.
- The accessibility of external systems and APIs.
- Conducting user acceptability testing to get input and make adjustments.
- The scope of the project is to create an Android app that gives pet owners easy access to necessary resources and efficient administration of their pets' care.

3. Project Overview

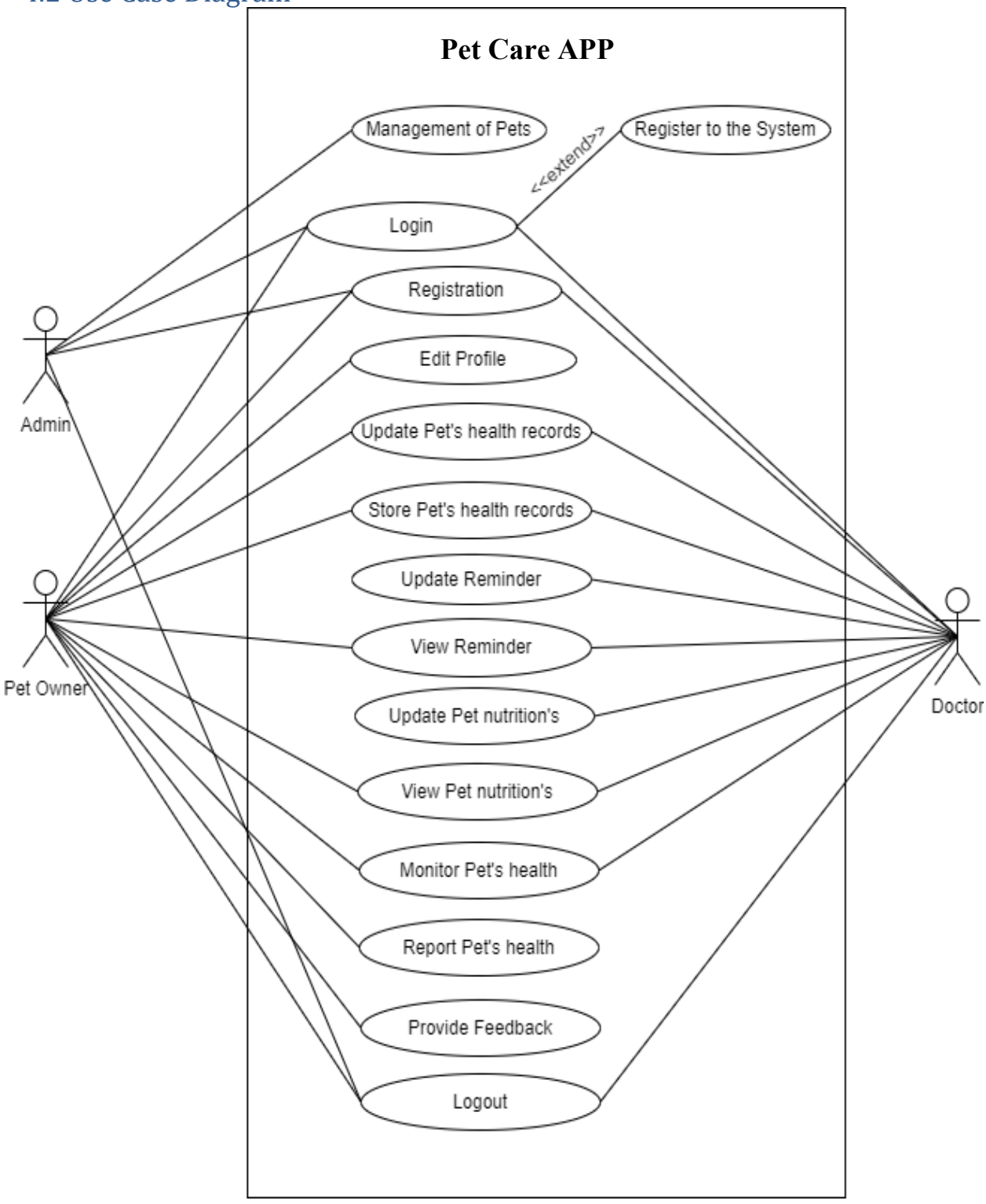
The Android Application for Pet Care System is an innovative solution aimed at simplifying and enhancing pet care management for owners in today's fast-paced world. With a user-friendly interface, the app integrates various features such as pet profile management, appointment scheduling, health monitoring, nutrition guidance, and behavior tips. It prioritizes user experience through personalized registration, accessibility features, and robust privacy measures. The project unfolds in meticulously planned phases, leveraging cutting-edge technologies and a diverse team of experts in software development, design, quality assurance, and project management. Ultimately, the application represents a significant advancement in pet care, empowering owners to provide optimal care for their beloved companions through the convenience of mobile technology.

4. Functional Requirements

4.1 Actors

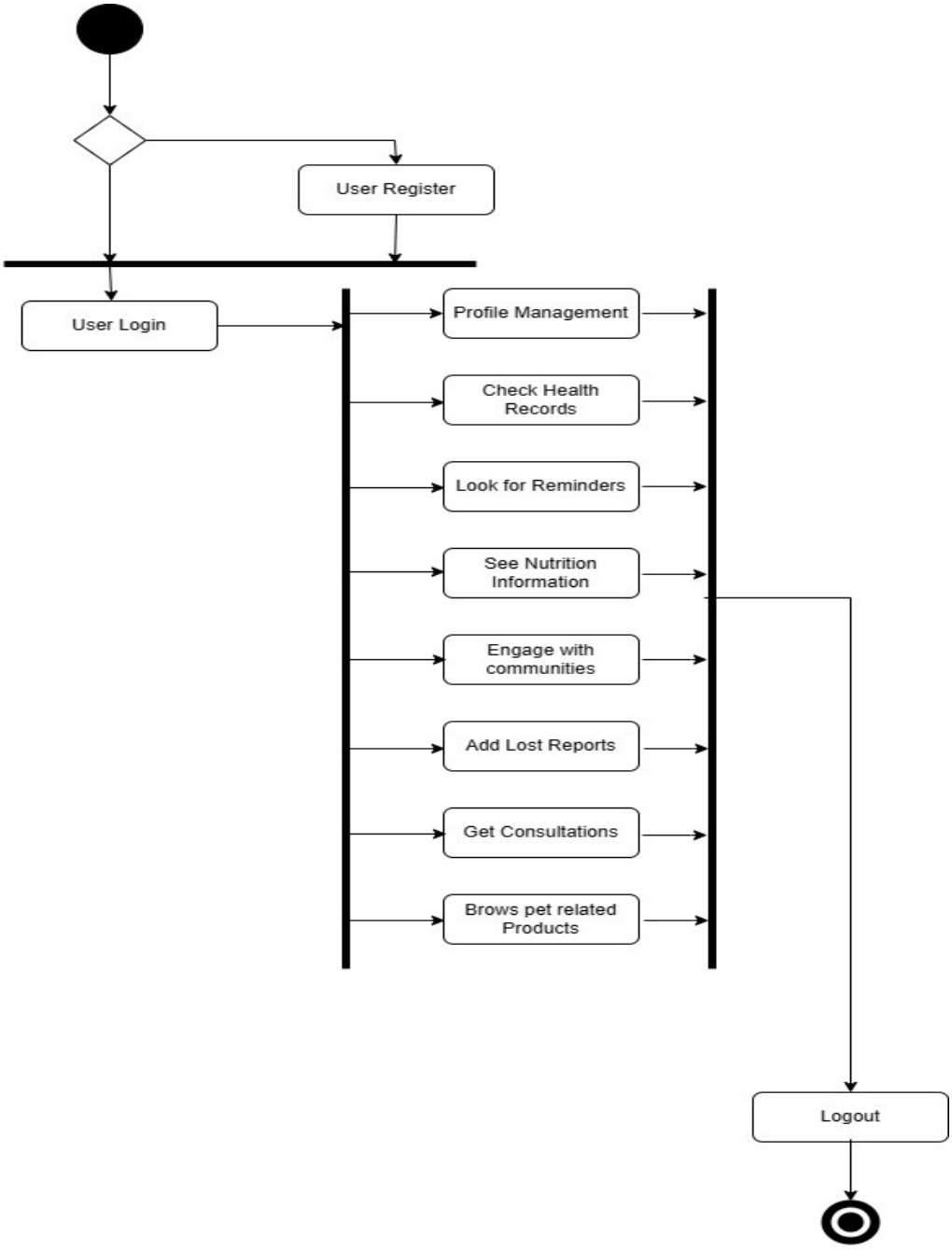
Admin: The person who Manages the pet care system.
Pet owner: users who own pets and will interact with the application for pet care system.
Doctors: Professionals who may interact with the system to provide advice or services.

4.2 Use Case Diagram



Use Case Diagram 4. 2

4.3 Activity Diagram



Activity Diagram 4.3

4.4 Use case scenarios

4.4.1 Register in to the system

Use Case	Register
Actor	Admin, Doctor
Description	This use case describes how to register in this system
Trigger	When the user confirms to sign up to the System
Flow of event	1. Go to register window 2. Click on register button 3. Enter details of doctor or admin 4. Click on sign up button 5. Display message “Successfully register to the system”

Table 4.4.1 - Register into the system

4.4.2 Register pet

Use Case	Register pet
Actor	Pet owner
Description	This use case describes how an owner register their pet.
Pre-Condition	The pet registration web page is displayed to the owner, the pet is not registered.
Post condition	Owner and pet registered.
Flow of event	1. Go to register interface 2. owner enter username and password 3. owner details are checked to determine that the username has not been used before, the new owner username is created. 4. An email is sent to the owner to confirm the registration
Alternative flows	1.If the username is invalid, the owner is asked to choose another username.

Table 4.4.2 - Register pet

4.4.3 Login to the system

Use Case	Login to the system
Actor	Admin, Doctor, Pet owner
Description	This use case describes how to login the application by entering email and password.
Pre-Condition	User must have registered to the system beforehand.
Post condition	User login to the system successfully.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system
Alternative flows	If user entered invalid username or password display “Your entered password or username incorrect please enter correct password or username”

Table 4.4.3 - Log into the system

4.4.4 Forget password

Use Case	Forget password
Actor	Admin, Doctor, Pet owner
Description	This use case describes how to login to the system entered the invalid using alternative path.
Trigger	When the user confirms to forget password to the system.
Pre-Condition	User must have registered email before the System.
Post condition	User password has bearing change.
Flow of event	1. Click on Forget Password button 2. View forget password window 3. Enter username and email 4. Press ok button 5. Send authentication code to email 6. Enter authentication code

	7. Enter new password 8. Press ok button 9. View login window
Alternative flows	If user entered invalid authentication code display "Please enter resend code button"

Table 4.4.4 - Forget Password

4.4.5 Edit profile of the pet

Use Case	Edit profile of the pet
Actor	Pet owner
Description	This use case describes how to edit the details of the pet.
Pre-Condition	User must have login to the system beforehand.
Post condition	Edited the details successfully.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to profile. 7.click edit profile 8.Update the details. 9. Click ok button.

Table 4.4.5 - Edit profile of the pet

4.4.6 Update pets' health records.

Use Case	Update pets' health records.
Actor	Pet owner, Doctor
Description	This use case describes how to update pets' health record.
Pre-Condition	User must have login to the system beforehand.
Post condition	Updated the health record successfully.
Flow of event	1. Click on Login button 2. Go to the Login window

	3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to health record. 7.click update record. 8.Update the health records. 9. Click ok button.

Table 4.4.6 - Update pets' health records

4.4.7 Store pets' health records

Use Case	Store pets' health records.
Actor	Pet owner, Doctor
Description	This use case describes how to store pets' health record.
Pre-Condition	User must have login to the system beforehand.
Post condition	Stored the health record successfully.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to health records. 7.click store health record. 8. Click ok button.

Table 4.4.7 - Store pets' health records

4.4.8 View reminders for appointments

Use Case	View reminders for appointments'
Actor	Pet owner, Doctor
Description	This use case describes how to view reminders.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system

	6. Go to reminders 7. View new reminders 8. Click ok button.

Table 4.4.8 - View reminders for appointments

4.4.9 Update reminders for appointment

Use Case	Update reminders for appointments
Actor	Doctor
Description	This use case describes how to update reminders.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to reminders 7.Click update reminder. 8. Update the new reminder. 9. Click ok button.
Post condition	Updated the reminder successfully.

Table 4.4.9 - Update reminders for appointments

4.4.10 View Nutrition's of the pet

Use Case	View nutrition's of the pet
Actor	Pet owner, Doctor
Description	This use case describes how to view pet nutrition's.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to nutrition's. 7. View nutrition's. 8. Click ok button.

Table 4.4.10 - View nutrition's of the pet

4.4.11 Update pet nutrition's

Use Case	Update pet nutrition's.
Actor	Doctor
Description	This use case describes how to update nutrition's.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to pet nutrition's. 7. Click update pet nutrition's. 8. Update the nutrition's. 9. Click ok button.

Table 4.4.11 - Update pet Nutrition's

4.4.12 Report pet health

Use Case	Report pet health
Actor	Pet owner
Description	This use case describes how report pet health.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to report pet health. 7. update the pet health. 8. Click ok button.
Post condition	Reported pet health successfully.

Table 4.4.12 - Report pet health

4.4.13 Provide feedback

Use Case	Provide feedback
Actor	Pet owner
Description	This use case describes how to provide feedback.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to feedback. 7. Type feedback. 8. Click send feedback.
Post condition	Feedback sent successfully.

Table 4.4.13 – Positive feedback

4.4.14 Logout from the system

Use Case	Logout from the system
Actor	Pet owner, Doctor, Admin
Description	This use case describes how to logout from the system.
Pre-Condition	User must have login to the system beforehand.
Flow of event	1. Click on Login button 2. Go to the Login window 3. Enter valid username and password 4. Click on Login button 5. Go to the Home screen of the system 6. Go to logout. 7. Click logout button.
Post condition	Logout successfully.

Table 4.4.14 - Logout from the system

5. Non Functional Requirements

5.1 Product Requirements

5.1.1 Usability Requirement:

The application must have an easy-to-use interface that makes it simple for users to explore and access functionalities. Clear instructions and feedback will be provided by an elegant user interface.

5.1.2 Efficiency Requirement:

5.1.2.1 Performance Requirements:

The program must react quickly to user input in order to provide a seamless user experience. It will load data quickly, reducing the amount of time that pet profiles, medical records, and other data take to load.

5.1.2.2 Space Requirements:

The program must handle the necessary data and functionality with efficiency while optimizing storage use and reducing the program's overall storage footprint.

5.1.3 Reliability Requirement:

The program must minimize freezes, crashes, and other software problems. It must also be dependable and stable. It must recover from failures without losing any data or functionality and handle faults with grace.

5.1.4 Portability Requirement:

The application will be created for the Android operating system, guaranteeing interoperability across various Android devices and versions. It will adjust to various screen dimensions and resolutions.

5.2 Organizational Requirements

5.2.1 Delivery Requirement:

The application must be submitted on schedule, according to all project deadlines and benchmarks. Stakeholders will get updates and progress reports on a regular basis.

5.2.2 Implementation Requirement:

The application will be implemented in accordance with coding standards and industry best practices. It must have thorough documentation, enabling upkeep and improvements in the future.

5.2.3 Standard Requirement:

The program must abide by industry norms and policies regarding software development, security, and privacy.

5.3 External Requirements

5.3.1 Interoperability Requirement:

The application must be able to communicate and integrate with third-party systems or APIs, such as databases used by veterinary clinics to schedule appointments or wearable technology for tracking pet activity.

5.3.2 Ethical Requirement:

The program will uphold moral behavior while protecting user privacy and security. It will not act or behave in an unethical manner.

5.3.3 Legislative Requirements:

5.3.3.1 Privacy Requirements:

The application must abide by all applicable privacy and data protection regulations. It must safeguard user data handling, get required consent, and offer choices for data anonymization or deletion.

5.3.3.2 Safety Requirements:

User and pet safety will be given top priority in this application. It must not offer advice or information that could endanger animals or promote risky behavior.

6. Software Requirements

6.1.Frontend Development

- React Native for cross-platform mobile app development.
- IDE: Visual Studio Code for code editing.
- Jira and Clickup for collaborative development.
- Git for Version controlling .

6.2.Backend Development

- Node.js for server-side JavaScript runtime.
- Axios for building APIs.

6.3.Database Integration

- MongoDB for secure and efficient storage of app data.
- Mongoose ODM (Object Data Modeling) library for Node.js to interact with MongoDB.

6.4.UI/UX Design

- Figma for creating wireframes, prototypes, and design mockups.

6.5.Testing & Quality Assurance

- Testing frameworks such as Jest for unit testing and Detox for end-to-end testing in React Native.

7. Other Specific Requirements

7.1 A steady internet connection.

Establishing strong error handling protocols to effectively handle and notify users of mistakes when using the app

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