
**UE22CS341A : Software Engineering**

**Software Requirements Specification (SRS)**

**Pet Authentication and Welfare System (PAWS)**

**Prepared by:**
K R Rakshith(PES1UG22CS265), Karthik H Kademani(PES1UG22CS277)
E section, Dept. of CSE, PES University.

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## 1. Introduction

### 1.1 Purpose

The purpose of the Pet Authentication and Welfare System (PAWS) is to create a centralized database that uniquely identifies each pet and manages all relevant data related to their welfare. This includes registration, medical history, vaccinations, owner details, and more. PAWS aims to streamline the processes involved in pet care, similar to how the Aadhar system manages human identity data.

### 1.2 Intended Audience and Reading Suggestions

This document is intended for:

- **Developers:** To guide the design and implementation of the system.
- **Project Managers:** To ensure that the system meets business and technical requirements.
- **End Users (e.g., Veterinarians, Pet Owners):** To understand the system's capabilities.
- **Testers:** To develop test cases based on the system’s requirements.

### 1.3 Product Scope

PAWS is designed to be a comprehensive system for pet management, ensuring that each pet's data is securely stored, easily accessible, and accurately maintained. The system will be used by veterinarians, pet owners, adoption agencies, and other stakeholders involved in pet care.

### 1.4 References

- IEEE Standard for Software Requirements Specifications (IEEE Std 830-1998)
- Aadhar UIDAI Guidelines
- Project Guidelines and Deliverables Document

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## 2. Overall Description

### 2.1 Product Perspective

PAWS is a standalone web-based application designed to manage pet-related data. It is connected to a central database and interacts with various user interfaces for data input and retrieval. PAWS serves as a new product designed to address the specific needs of pet identification and welfare management, filling a gap in the existing pet care ecosystem.

### 2.2 Product Functions

- **Pet Registration:** Assigns a unique Pet ID and stores essential details.
- **Owner Management:** Maintains records of pet owners and their pets.
- **Medical Records:** Tracks medical history and vaccination records.
- **Service Integration:** Connects with veterinarians and grooming services.
- **Adoption Management:** Facilitates the transfer of pet ownership.
- **Activity Logging:** Monitors and logs pet activities.
- **Insurance Management:** Manages pet insurance policies and claims.

### 2.3 User Classes and Characteristics

- **Pet Owners:** Manage pet data and access medical and vaccination records.
- **Veterinarians:** Update medical records, administer vaccinations, and provide treatments.
- **Adoption Agencies:** Manage the adoption and transfer of pet ownership.
- **Grooming Centers:** Log grooming sessions and related activities.

- **System Administrators:** Maintain the system, ensuring data integrity and security.

**2.4 Operating Environment**

- **Software:** Web-based application, compatible with modern browsers (e.g., Chrome, Firefox, Safari).
- **Hardware:** Accessible on any device with internet access (e.g., desktops, laptops, tablets).
- **Database:** Relational Database Management System (RDBMS) like MySQL or PostgreSQL.
- **Network:** Requires a stable internet connection for data access and synchronization.

**2.5 Design and Implementation Constraints**

- **Compliance with Data Protection Regulations:** Must adhere to laws governing data privacy and security.
- **Data Integrity:** Must ensure accurate and consistent data across all modules.
- **Scalability:** Should be designed to handle a growing number of users and data entries without performance degradation.
- **Usability:** Must provide an intuitive and user-friendly interface.

**2.6 Assumptions and Dependencies**

- **Stable Internet Connection:** Assumes consistent internet connectivity for all users.
- **Third-Party APIs:** May depend on third-party services for features like email notifications or payment processing.
- **User Training:** Assumes that end-users will be trained to use the system effectively.

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**3. External Interface Requirements**

**3.1 User Interfaces**

- **Web Interface:** Accessible through a web browser, with forms for data entry and dashboards for data visualization.
- **Mobile Interface (Optional):** A responsive design that works on mobile devices.

**3.2 Software Interfaces**

- **Database Interface:** Connects to the RDBMS to store and retrieve data.
- **API Interface:** Allows integration with external services like email or SMS notifications.

### 3.3 Communication Interfaces

- **Secure Protocols:** Data transmission between the client and server will be secured using HTTPS (SSL/TLS).
- **Email/SMS Notifications:** Integrated services to send notifications to pet owners or veterinarians.

## 4. System Features

### 4.1 System Feature 1: Pet Registration and Identification

- **Description and Priority:** High priority feature that assigns a unique Pet ID and stores all relevant pet details.
- **Stimulus/Response Sequences:**
    - User submits pet details via a form.
    - System generates a unique Pet ID and stores the data.
- **Functional Requirements:**
    - REQ-1: The system shall generate a unique Pet ID for each registered pet.
    - REQ-2: The system shall store pet details including name, species, breed, gender and colour.

### 4.2 System Feature 2: Owner Management

- **Description and Priority:** High priority feature that manages pet owner details and links them to their pets.
- **Stimulus/Response Sequences:**
    - User submits owner details via a form.
    - System links the owner to their registered pets.
- **Functional Requirements:**
    - REQ-3: The system shall allow users to register owner details including name, address, contact number, and Aadhar number.
    - REQ-4: The system shall link each owner to their registered pets.

### 4.3 System Feature 3: Medical Records and Vaccination Tracking

- **Description and Priority:** High priority feature that manages and tracks medical and vaccination records.
- **Stimulus/Response Sequences:**
    - Veterinarian updates medical records after a consultation.
    - System stores and updates vaccination schedules.

- **Functional Requirements:**
    - REQ-5: The system shall allow veterinarians to update medical records for each pet.
    - REQ-6: The system shall track and display vaccination schedules.

**4.4 System Feature 4: Veterinary and Grooming Services Integration**

- **Description and Priority:** Medium priority feature that integrates veterinary and grooming services.
- **Stimulus/Response Sequences:**
    - Service provider logs a grooming session.
    - System updates the pet's activity log.
- **Functional Requirements:**
    - REQ-7: The system shall update the pet's activity log based on the services provided.

**4.5 System Feature 5: Adoption and Transfer of Ownership**

- **Description and Priority:** Medium priority feature that manages the adoption process and ownership transfer.
- **Stimulus/Response Sequences:**
    - Adoption agency logs an adoption.
    - System transfers ownership to the new owner.
- **Functional Requirements:**
    - REQ-8: The system shall track the adoption process and update ownership details.
    - REQ-9: The system shall maintain a record of previous and current owners.

**4.6 System Feature 6: Pet Activity Logging**

- **Description and Priority:** Low priority feature that logs and tracks pet activities.
- **Stimulus/Response Sequences:**
    - User logs a pet activity such as a walk or playtime.
    - System records and stores the activity.
- **Functional Requirements:**
    - REQ-10: The system shall allow users to log various pet activities.
    - REQ-11: The system shall store and display the activity logs.

### 4.7 System Feature 7: Insurance Management

- **Description and Priority:** Low priority feature that manages pet insurance policies.
- **Stimulus/Response Sequences:**
    - User submits insurance policy details.
    - System tracks the policy status and claims history.
- **Functional Requirements:**
    - REQ-12: The system shall allow users to register and manage pet insurance policies.
    - REQ-13: The system shall track and display insurance policy status and claims.

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## 5. Other Non-Functional Requirements

### 5.1 Performance Requirements

- The system shall respond to user inputs within 2 seconds.
- The system shall process and store data entries within 5 seconds.

### 5.2 Safety Requirements

- The system shall ensure data integrity by preventing unauthorized access or accidental data loss.

### 5.3 Security Requirements

- The system shall encrypt all sensitive data during transmission.
- User authentication shall be required for accessing the system.

### 5.4 Software Quality Attributes

- **Usability:** The system shall provide an intuitive and user-friendly interface.
- **Reliability:** The system shall maintain an uptime of 99.9%.
- **Scalability:** The system shall support increasing numbers of users and data without performance degradation.

### 5.5 Business Rules

- Only authorized users (e.g., pet owners, veterinarians) can access or modify pet records.
- The system shall comply with data protection regulations.

## 6. Other Requirements

- **Internationalization:** The system shall support multiple languages.

- **Legal Requirements:** The system shall comply with local laws regarding pet ownership and welfare.

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## 7. Appendix A: Glossary

- **PAWS:** Pet Authentication and Welfare System
- **Pet ID:** Unique identifier assigned to each registered pet
- **RDBMS:** Relational Database Management System
- **Aadhar:** Unique Identification Authority of India

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## Requirement Traceability Matrix (RTM)

| REQUIREMENT ID | DESCRIPTION | DESIGN SPECIFICATION | IMPLEMENTATION MODULE | TEST CASE ID |
|---|---|---|---|---|
| **REQ-1** | Generation of Unique Pet ID's | DS1 | ID generator Module | TC-01 |
| **REQ-2** | Storing details of the pet | DS2 | Pet Details Module | TC-02 |
| **REQ-3** | Allows owners to register | DS3 | Owner details Module | TC-03 |
| **FR-4** | Connects the Pet and the Owner | DS4 | Link Pet_Owner Module | TC-04 |
| **FR-5** | Allows each Veterinary doctor to update medical records of each pet | DS5 | Update_records Module | TC-05 |
| **FR-6** | Tracks and displays vaccination details | DS6 | Vaccine Module | TC-06 |
| **FR-7** | Updating the Pet Activity Log | DS7 | Activity Module | TC-07 |
| **FR-8** | Tracks adoption process and updates new owner details | DS8 | Adoption_Details Module | TC-08 |
| **FR-9** | Keeping the records of Previous and Current Owners | DS9 | Update_Owner Module | TC-09 |
| **FR-10** | Allowing users to Log new activites | DS10 | Log_activities Module | TC-10 |
| **FR-11** | Store and Display activities | DS11 | Display_Activity Module | TC-11 |
| **FR-12** | Allow owners to register and manage Pet insurance | DS12 | Pet_Insurance Module | TC-12 |
| **FR-13** | Tracks and display insurance policies | DS13 | Display_Insurance Module | TC-13 |