**SOFTWARE ENGINEERING LAB REPORT**

**Software Requirements Specification (SRS)**

**PAWFECT MATCH 🐾 🐶: Where Every Paw Finds a Loving Home**

**Version:** 1.0 Approved  
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**1. Introduction**

**1.1 Purpose**

The purpose of this project is to develop a web-based platform for pet adoption and selling. The system will provide an easy-to-use interface for users to browse, adopt, and sell pets while ensuring secure user authentication and efficient management of pet listings.

**1.2 Document Conventions**

* Functional Requirements are prefixed with **FR**.
* Non-functional Requirements are prefixed with **NFR**.
* This document follows the IEEE SRS format.

**1.3 Intended Audience and Reading Suggestions**

This document is intended for developers, project stakeholders, evaluators, and students working on similar projects. It outlines the technical and functional requirements necessary for successful implementation.

**1.4 Product Scope**

The system will allow users to:

* Register and log in securely.
* Browse pets available for adoption.
* List pets for sale with necessary details.
* Manage their adopted and listed pets.
* Enable admin functionalities for user and pet listing management.

**1.5 References**

* IEEE Software Requirements Specification (SRS) template.
* Web development best practices.
* IEEE 830-1998 standard for SRS

**2. Overall Description**

**2.1 Product Perspective**

This web application aims to bridge the gap between pet adopters and sellers, ensuring a smooth process of adoption and sale. It is an independent system with user authentication and admin functionalities.

**2.2 Product Functions**

* **User Authentication:** Secure sign-up, login, and logout.
* **Pet Browsing:** Users can view pets available for adoption.
* **Pet Listing:** Sellers can list pets with details.
* **User Dashboard:** Users can track their adopted and listed pets.
* **Admin Dashboard:** Admin can manage users and pet listings.

**2.3 User Classes and Characteristics**

* **General Users:** People looking to adopt or sell pets.
* **Admin:** Responsible for maintaining the system integrity.

**2.4 Operating Environment**

* Web-based platform accessible via desktop and mobile browsers.
* Requires an active internet connection.

**2.5 Design and Implementation Constraints**

* The system must be deployed online.
* Secure authentication using encryption.
* The website should be responsive for mobile and desktop users.

**2.6 User Documentation**

* User Manual.
* Developer Documentation.

**2.7 Assumptions and Dependencies**

* Users have internet access.
* The system will be built using HTML, CSS, JavaScript for the frontend, and a simplified backend.

**3. External Interface Requirements**

**3.1 User Interfaces**

* Login and Registration Page
* Pet Browsing Page
* Pet Listing Form
* User Dashboard
* Admin Dashboard

**3.2 Hardware Interfaces**

* Web Server hosting the application.
* Database server for storing user and pet data.

**3.3 Software Interfaces**

* Frontend: HTML, CSS, JavaScript
* Authentication: Basic authentication with JWT for simplicity

**3.4 Communications Interfaces**

* HTTPS protocol for secure communication.
* REST API for backend communication.

**4. System Features**

**4.1 User Authentication**

* **FR1**: Users must be able to register and log in securely.
* **FR2**: Passwords must be encrypted.
* **FR3**: Admin should be able to manage user accounts.

**4.2 Pet Adoption & Selling**

* **FR4**: Users should be able to browse available pets.
* **FR5**: Sellers should be able to list pets with details.
* **FR6**: Users should be able to adopt pets and update their dashboard.

**4.3 Dashboard & Admin Features**

* **FR7**: Users should have a dashboard showing their adopted and listed pets.
* **FR8**: Admin should be able to delete inappropriate listings.
* **FR9**: Admin should be able to block/unblock users.

**5. Other Nonfunctional Requirements**

**5.1 Performance Requirements**

* The system should have a response time of less than 2 seconds.

**5.2 Safety Requirements**

* Ensure protection against data breaches and unauthorized access.

**5.3 Security Requirements**

* Use secure authentication protocols.

**5.4 Software Quality Attributes**

* The system should be scalable, reliable, and user-friendly.

**5.5 Business Rules**

* Only verified users can list pets for sale.

**6. Other Requirements**

* The system should be deployed on a cloud platform.
* A feedback mechanism should be included.

**7. Appendices**

**A. Glossary**

* + **Adopter: A user looking to adopt a pet.**
  + **Owner: A user posting a pet for adoption.**

**B. Analysis Models**

* + **Use case diagrams for user interactions.**
  + **Entity-Relationship (ER) diagram for database structure.**
  + **Data flow diagrams (DFD) illustrating system processes.**
  + **Wireframes for user interface design.**
* **C. To Be Determined List**
  + **Final selection of cloud hosting provider.**
  + **Decision on third-party payment integration for pet purchases.**
  + **Confirmation of additional security measures.**
  + **Finalization of mobile app support post web deployment.**