

# DIVISION OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

SCHOOL OF COMPUTER SCIENCE AND TECHNOLOGY

Academic Year 2024-2025  
ODD SEMESTER

## Skill-based Evaluation Report (III Internal Assessment)

for  
20CS2056  
WEB TECHNOLOGY

*in partial fulfillment for the award of the degree of*  
BACHELOR OF TECHNOLOGY  
in  
COMPUTER SCIENCE AND ENGINEERING  
(ARTIFICIAL INTELLIGENCE)

Submitted by  
JENOLIN JEBA J (URK22CS5026)



**Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES**

(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)

MoE, UGC & AICTE Approved

**NAAC A++ Accredited**

October 2024



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**SCHOOL OF COMPUTER SCIENCE AND TECHNOLOGY**

**BONAFIDE CERTIFICATE**

This is to certify that the skill-based evaluation report for the course **20CS2056 WEB TECHNOLOGY** is a bonafide work done during the odd semester of the academic year 2024-2025 by

**JENOLIN JEBA J (Reg.No: URK22CS5026)**

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering (Artificial Intelligence) of Karunya Institute of Technology and Sciences.

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Submitted for the assessment held on \_\_\_\_\_

**Signature of the Class Teacher**

Ms. Sophia - 2537

Assistant Professor

Division of Artificial Intelligence and Machine Learning

## DECLARATION

We hereby declare that the skill-based evaluation report for the course **20CS2056 WEB TECHNOLOGY** submitted by us to Karunya Institute of Technology and Sciences is an authentic work carried out by us under the guidance of **Ms. Sophia - 2537**. All the information presented in this report is original and has not been submitted for any other academic purpose.

We acknowledge that the sources of information used in this report have been appropriately cited and referenced. Any contributions from other individuals or organizations have been duly acknowledged.

We understand that any act of plagiarism or academic dishonesty is strictly prohibited and may result in disciplinary action as per the university's regulations.

We take full responsibility for the content and integrity of this report, and we are willing to provide further clarification or information if required.

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**Signature of student(s)**

JENOLIN JEBA J

# DIVISION OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

## SCHOOL OF COMPUTER SCIENCE AND TECHNOLOGY

### TYPE OF SKILLS AND THEIR REQUIREMENT

(The student team may select multiple skills and proceed accordingly with their work)

Select your choice	Type of Generic Skills	Requirement
<input type="checkbox"/>	Programming Skills	Assessing proficiency in programming languages commonly used in engineering, such as Python, C, C++, Java, etc.,
<input type="checkbox"/>	Laboratory Proficiency	Assessing the ability to conduct experiments accurately and efficiently in laboratory settings.
<input type="checkbox"/>	Prototyping and Fabrication	Evaluating skills in building prototypes and fabricating engineering components using various tools and materials.
<input type="checkbox"/>	Computer-Aided Design (CAD)	Measuring proficiency in using CAD software to design and model engineering components and systems.
<input type="checkbox"/>	Software KitrTool Operation	Assessing competency in operating specialized engineering software effectively.
<input type="checkbox"/>	Data Analysis	Measuring proficiency in collecting, analyzing, and interpreting data using statistical methods and software.
<input type="checkbox"/>	Troubleshooting	Evaluating the ability to diagnose and solve technical issues and failures in engineering systems.
<input type="checkbox"/>	Fieldwork and Industry visits	Assessing skills in conducting fieldwork, surveys, and site visits to gather data and assess real-world engineering challenges.
<input type="checkbox"/>	Integration of Theory and Practice	Evaluating the ability to apply theoretical knowledge to practical engineering problems and projects effectively.
<input type="checkbox"/>	ConferencerJournalrPatent publication	Writing high-quality articles and submitting them for publication in Scopus-indexed conferences or journals involves careful preparation and rigorous review processes.

**Signature of the Student(s)**

JENOLIN JEBA J

# DIVISION OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

## SCHOOL OF COMPUTER SCIENCE AND TECHNOLOGY

### EVALUATION REPORT

(The class teacher is responsible for assessing the student team during the designated evaluation period based on the following criteria.)

S.No	Evaluation Parameter	Max. Marks	Marks Secured
1	Technical Proficiency	10	
2	Problem-solving Ability	5	
3	Creativity and Innovation	5	
4	Communication Skills	5	
5	Collaboration and Teamwork	5	
6	Quality of Implementation	5	
7	Demonstration and Presentation	5	

**Signature of the Class Teacher**

Ms. Sophia - 2537  
Assistant Professor  
Division of Artificial Intelligence and Machine Learning

## TABLE OF CONTENTS

S.No	Content Title	Page No
1	Introduction	2
2	Planning and preparation	3
3	Key components of the identified skill sets	7
4	Poofs of outcome and feedback	9
5	Powerpoint Presentation	15

# CERTIFICATES



## Statement of Achievement

J Jenolin Jeba

has successfully achieved student level credential for completing the JavaScript Essentials 1 course, provided by Cisco Networking Academy in collaboration with OpenEDG JS Institute.

The graduate is able to proficiently:

- Understand the syntax of the core JavaScript language that allows for working with variables, operators, flow control, and functions.
- Understand the basics of the JavaScript data types system, distinguishing between primitive and complex types.
- Think algorithmically and can analyze a problem using a programmatic conceptual apparatus.
- Choose a data type adequate to the problem being solved and use suitable flow control means.
- Design, develop, and improve very simple JavaScript programs.
- Interpret and handle basic exceptions related to errors in program execution.
- Understand a programmer's work in the software development process and the role of fundamental development tools.
- Understand how a program is interpreted and executed in an actual computer environment, local or remote.



September 07, 2024

*Laura Quintana*

Laura Quintana  
Vice President and General Manager  
Cisco Networking Academy



## Statement of Achievement

J Jenolin Jeba

has successfully achieved student level credential for completing the JavaScript Essentials 2 course, provided by Cisco Networking Academy in collaboration with OpenEDG JS Institute.

The graduate has studied:

- Techniques for constructing and modifying objects, including the use of prototypes and inheritance.
- Methods for defining and encapsulating class properties and managing array data, including JSON conversion.
- Utilization of the Math object and regular expressions for mathematical and string operations.
- Advanced function techniques and asynchronous programming, including callbacks and iterators.
- Problem analysis and program development using algorithmic thinking and object-oriented principles.



October 02, 2024

*Laura Quintana*

Laura Quintana  
Vice President and General Manager  
Cisco Networking Academy

# **PETS REGISTRATION AND MANAGEMENT SYSTEM**

## **INTRODUCTION**

In today's fast-paced world, pets have become an integral part of many families, offering companionship, love, and emotional support. As the number of pet owners continues to grow, so does the need for an efficient system to manage various pet-related tasks, such as tracking pet details, scheduling vaccinations, and selecting healthcare services. Traditional methods, such as manual paperwork or fragmented digital solutions, can be time-consuming, prone to errors, and inefficient. To address these challenges, a comprehensive Pets Registration and Management System offers a unified digital platform that allows pet owners to effortlessly manage their pets' essential information, including registration details, health records, and preferred veterinary hospitals.

The Pets Registration and Management System is designed to simplify the way pet owners interact with their pets' data, ensuring a seamless experience from registration to healthcare management. This system is a full-stack web application built using HTML, CSS, JavaScript, Node.js, and MongoDB, allowing for centralized management of pet information in a user-friendly and accessible manner. The platform enables pet owners to easily sign up, log in, register their pets, and keep track of vaccination appointments and healthcare preferences, all with just a few clicks.

At its core, the Pets Registration and Management System provides a digital platform that simplifies the process of registering and managing pets for individuals, veterinary clinics, shelters, and pet-related organizations. By offering a centralized database, pet owners can input crucial details about their pets, such as the pet's name, species, breed, age, and identification information like microchip numbers. This feature not only helps maintain a clear and organized record of the pet's information but also serves as a valuable tool for tracking pets in the event they go missing.

Additionally, the system manages each pet's health records, including vaccination history, medical treatments, and vet visits. This helps owners stay informed about their pets' medical needs, ensuring timely vaccinations and treatments, which are often a legal requirement in many regions. By keeping all this information in one place, the system allows owners to avoid missed appointments or treatments, providing peace of mind and contributing to their pets' overall health and well-being.



## Planning and Preparation

Effective planning and preparation are key to successfully developing the Pets Registration and Management System. Below is a detailed breakdown of the planning process, including the various stages involved, from conceptualization to implementation.

### 1. Project Conceptualization

The first step in planning involves defining the core concept of the project. The primary goal of the Pets Registration and Management System is to create a digital platform that simplifies the management of pet-related tasks for pet owners. The system will offer features such as user registration, pet data management, health record tracking, and the selection of preferred veterinary hospitals. To ensure clarity, the following key objectives were identified:

- **Centralized Pet Management:** Allow users to register pets and manage their details (e.g., name, species, breed, vaccination history).
- **Health Records:** Enable users to store and view their pets' medical records and vaccination schedules.
- **Veterinary Hospital Selection:** Allow users to choose preferred veterinary hospitals based on their location.
- **User Authentication:** Implement secure sign-up and login processes for pet owners.
- **User-friendly Dashboard:** Provide a simple, intuitive dashboard for managing pet information and appointments.

### 2. Defining System Requirements

The next step is identifying the technical requirements and functionalities needed to achieve the project's objectives. This includes both functional and non-functional requirements.

- **Functional Requirements:**
  - User registration and login functionality.
  - Ability to add and manage multiple pets.
  - Display pet details such as name, species, breed, age, and identification (e.g., microchip number).
  - Vaccination schedule tracking, including next vaccination date notifications.
  - A feature to select preferred veterinary hospitals from specified regions.
  - Display selected hospitals and other related pet information on the dashboard.
  - Logout functionality for secure session management.

- **Non-functional Requirements:**

- User-friendly interface for easy navigation and interaction.
- Secure handling of user data and authentication.
- Fast performance to handle multiple users and pets efficiently.

### 3. Technology Stack Selection

Choosing the right tools and technologies is crucial for the smooth development of the system. Based on the requirements, the following technology stack was selected:

- **Frontend Technologies:**

- **HTML:** For structuring web pages and content.
- **CSS:** For styling the website and ensuring responsive design.
- **JavaScript:** For client-side interactivity and dynamic content display.

- **Backend Technologies:**

- **Node.js:** As the server-side runtime environment to handle client requests.
- **Express.js:** A web framework for Node.js to build the backend logic and routes.

- **Database:**

- **MongoDB:** A NoSQL database to store pet and user details in collections (e.g., Login\_Signup, Pet\_Details, and Hospitals).

### 4. Database Design

The database structure is designed to handle different types of data, including user information, pet details, and hospital preferences. MongoDB, a NoSQL database, was chosen because of its flexibility and scalability.

- **Collections:**

- **Login\_Signup:** Stores user information such as the owner's name, email, and password.
- **Pet\_Details:** Stores pet-related information including the pet's name, species, breed, and medical details.
- **Hospitals:** Stores hospital information selected by the pet owner, including region and preferred clinic.

## 5. System Architecture Design

The system follows a Model-View-Controller (MVC) architecture for a clear separation of concerns:

- **Model:** Defines the data structure (i.e., MongoDB collections).
- **View:** Represents the user interface, built using HTML, CSS, and JavaScript.
- **Controller:** Handles logic, request processing, and data manipulation using Node.js and Express.js.

## 6. Wireframing and UI Design

Before development begins, wireframes were created to visualize the layout and user flow. This helps in understanding how users will interact with the system and what features will be present on each page. Key screens include:

- **Home Page:** Features title, images, about us, and contact information.
- **Sign-Up and Login Pages:** For user registration and authentication.
- **Dashboard:** The central hub displaying the user's name, a list of registered pets, and options to view vaccination records or select preferred hospitals.
- **Pet Registration Form:** A form for adding pet details.
- **Vaccination and Hospital Selection Pages:** For managing pet health records and selecting hospitals.

## 7. Development Phases

The project is broken down into phases for better management:

- **Phase 1: User Authentication**
  - Develop the sign-up and login features.
  - Implement MongoDB collections to store user data.
- **Phase 2: Pet Registration**
  - Build the pet registration form.
  - Add functionality to store and display pet details in the dashboard.
- **Phase 3: Vaccination and Health Record Management**
  - Implement vaccination tracking and display details in the pet's section on the dashboard.

- **Phase 4: Hospital Selection**

- Develop the hospital selection feature, allowing users to choose preferred clinics.

- **Phase 5: Testing and Debugging**

- Conduct thorough testing of all functionalities, ensuring data is correctly stored and displayed.
- Perform UI/UX testing to confirm the platform is user-friendly.

## **8. Testing and Debugging**

After development, a comprehensive testing plan is created to ensure all features work correctly. Both unit testing and integration testing will be conducted. Tools like Postman will be used to test API requests, while manual testing will verify the system's UI and functionalities.

## **Key components of the identified skill set**

For the Pets Registration and Management System, which is a digital web-based platform, the key components of Prototyping and Fabrication involve creating an effective representation of the system before the actual development and implementation. While traditional Prototyping and Fabrication in engineering often involve physical tools and materials, in the context of this software project, prototyping refers to the creation of early digital models or representations of the system to evaluate and test ideas before full-scale development. Here are the key components related to prototyping and skills required:

In the Functionality Prototyping (Frontend Development) phase, the primary goal is to build a basic, non-dynamic version of the platform using HTML, CSS, and JavaScript. This low-fidelity prototype focuses on implementing essential features such as sign-up, login, and navigation. At this stage, there is no linkage to the database or back-end functionality, as the goal is to ensure the user interface (UI) is functional and responsive. Tools like Bootstrap or Materialize CSS frameworks can be used to accelerate the prototyping process, helping create a responsive interface that adapts well across devices such as desktops, tablets, and mobile screens. The purpose of this phase is to ensure that users can smoothly navigate through key components, including adding a pet or selecting hospitals, making the UI intuitive and user-friendly.

In the Database Schema and Backend API Prototyping stage, the focus shifts to defining the database schema in MongoDB, ensuring it can handle diverse data like user login credentials, pet details, and vaccination records. Using tools like Postman, API prototypes are created and tested with Node.js and Express.js to simulate the system's back-end logic, which handles requests and stores data. Mock data is incorporated to test how the system will behave in real-world scenarios, verifying that the database structure is efficient and scalable. The purpose here is to ensure that user data, pet details, and hospital information are well-structured and ready for integration.

The next phase, Interactive Prototype Testing (Frontend and Backend Integration), involves connecting the frontend UI components with backend services through RESTful APIs. This ensures that when users submit forms, such as registering pets or updating vaccination details, the data is properly sent to the database and displayed in the dashboard. Functional tests are conducted to confirm that all parts of the system work together seamlessly, ensuring the platform's scalability, responsiveness, and error handling. This phase bridges the gap between static design and dynamic functionality, allowing the prototype to behave more like the final product.

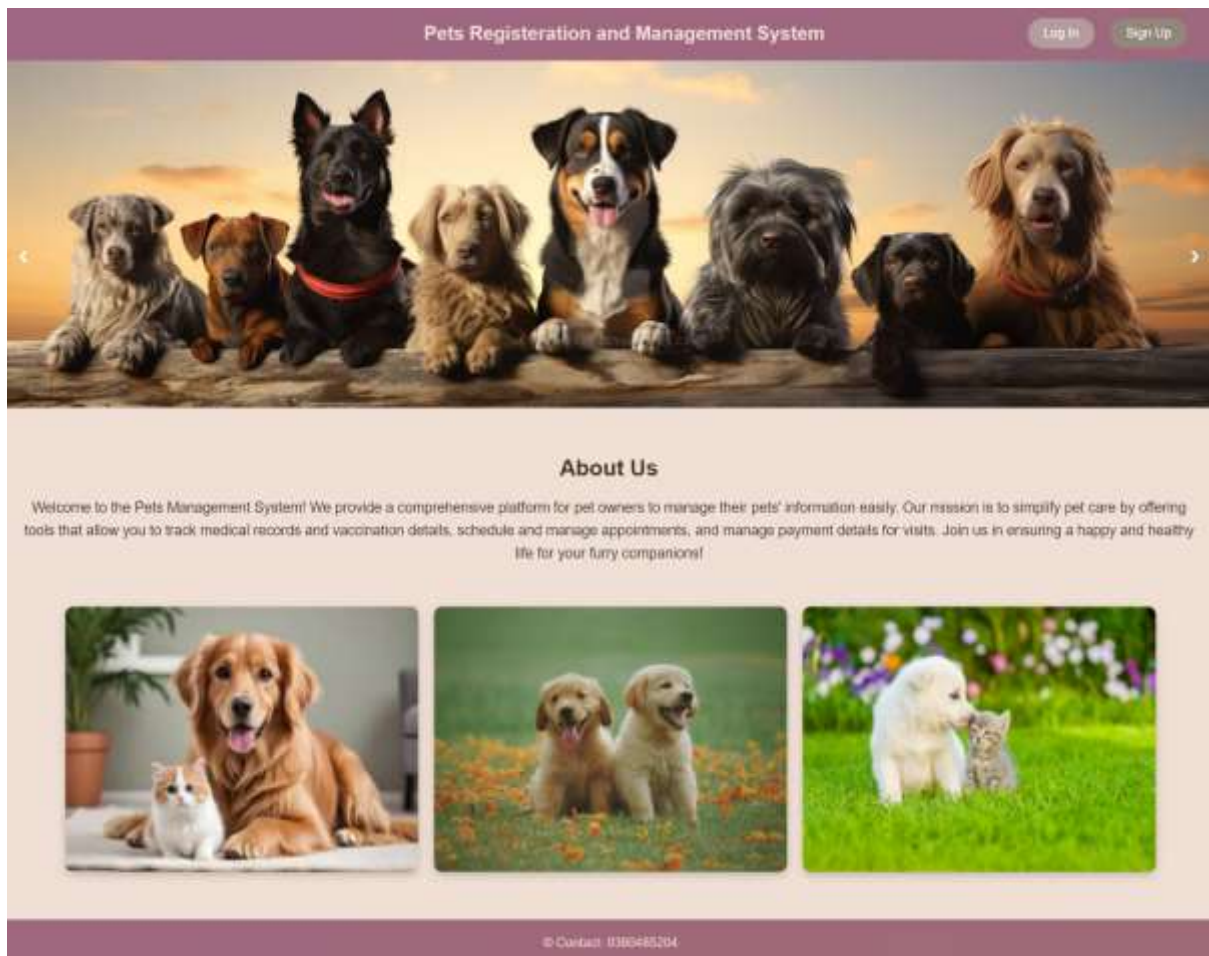
Once the prototype is functional, the Feedback Collection and Iteration phase begins. Usability tests are conducted with early users or team members to gather feedback on the prototype. Based on this feedback, the design and functionality are refined to improve the user experience (UX) and technical performance. Iterations may involve adjusting the frontend design, enhancing backend logic, or adding new features to make the system more

intuitive and efficient. Prototyping is an iterative process, and this phase is crucial for enhancing the overall system based on real-world feedback.

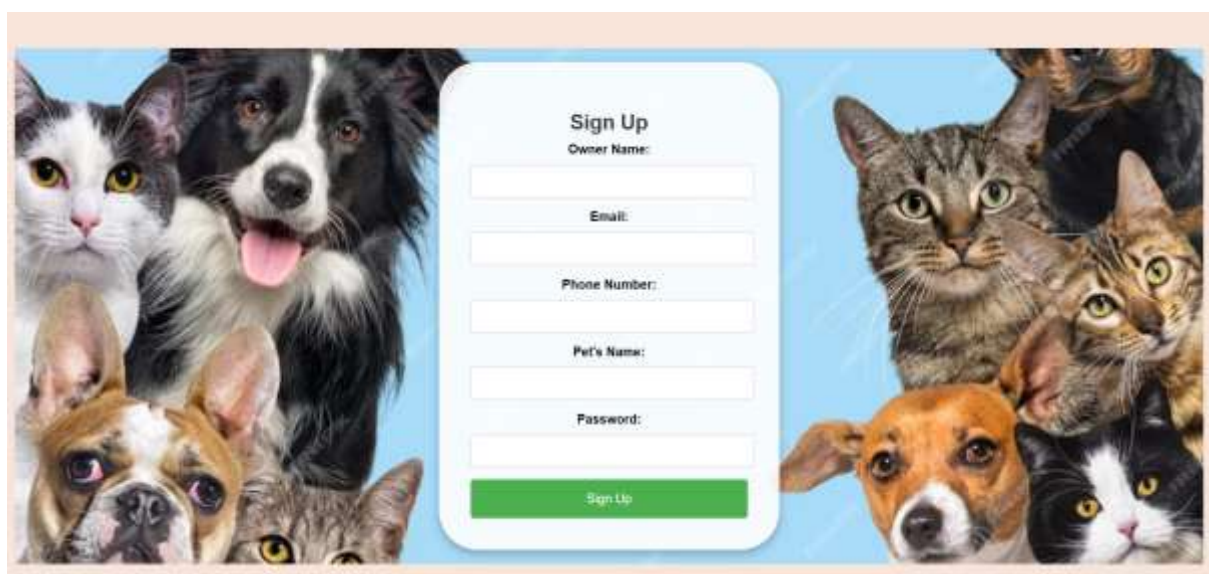
Finally, in the Final Prototyping and Pre-Deployment Testing phase, a near-final version of the system is created, with all components fully connected and functioning. Stress testing and scalability testing are performed to ensure that the system can handle multiple users and large datasets, such as extensive pet records or hospital lists. Tools like Selenium may be used for automated UI testing, while manual tests are also conducted to confirm that the platform works smoothly across different browsers and devices. This phase ensures that everything functions seamlessly before full-scale deployment, reducing the risk of post-deployment issues and ensuring a smooth launch of the system.

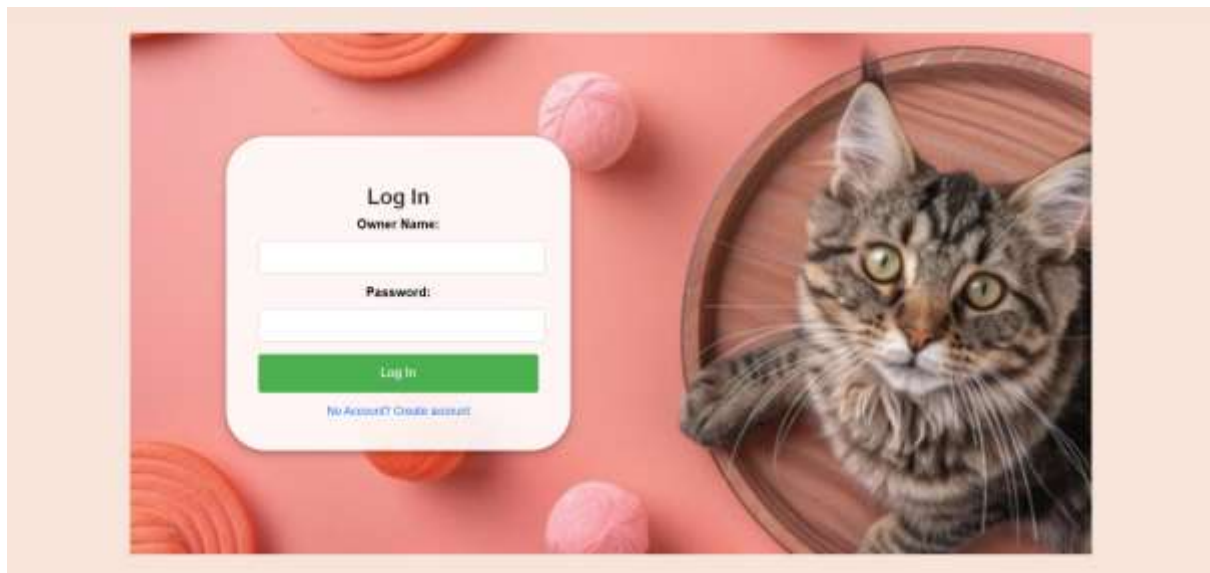
## Proofs of outcome and feedback

### Home page

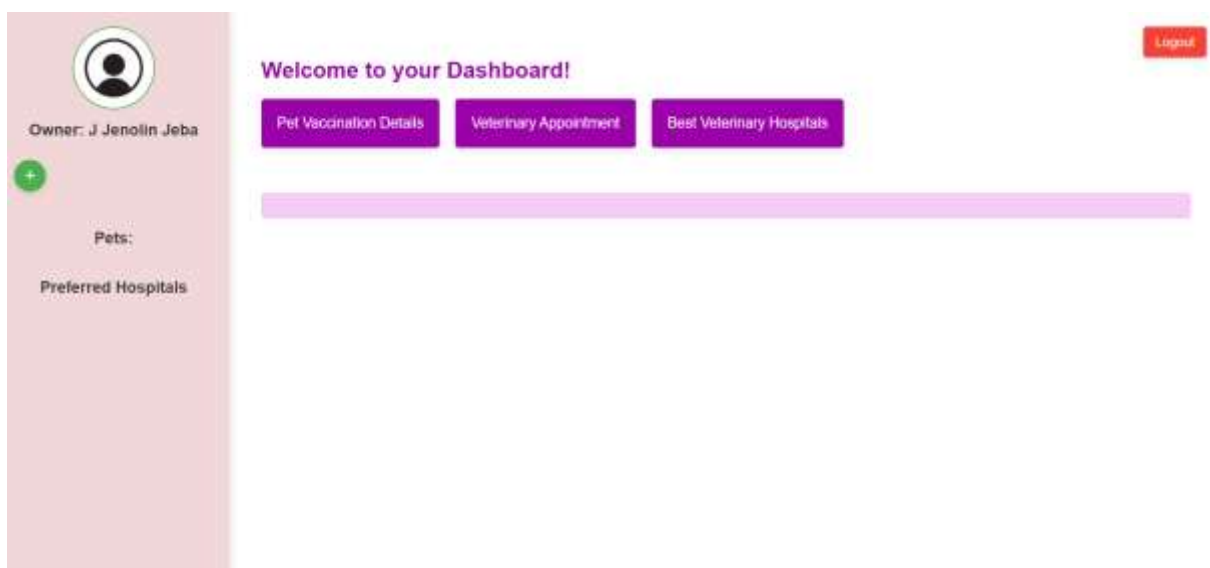


### Sign-Up and Login Functionality:





## Dashboard:





## Pet Registration:



Owner: J Jenolin Jeba

### Register New Pet


**Pet Name:**  
Max

**Species:**  
Dog


**Breed:**  
Pomeranian

**Last Date of Vaccination:**  
04-10-2024

Register Pet



Owner: J Jenolin Jeba



**Pets:**

Max


**Preferred Hospitals:**

### Welcome to your Dashboard!


[Pet Vaccination Details](#) [Veterinary Appointment](#) [Best Veterinary Hospitals](#)

[Logout](#)

## Pet Vaccination Details:



Owner: J Jenolin Jeba



**Pets:**

Max

**Preferred Hospitals:**


### Welcome to your Dashboard!

[Pet Vaccination Details](#) [Veterinary Appointment](#) [Best Veterinary Hospitals](#)

**Pet:** Max  
**Last Vaccination Date:** 2024-10-04

[Logout](#)

## Veterinary Appointment



Owner: J Jenolin Jeba

+

Pets:

Max

Preferred Hospitals

Welcome to your Dashboard!

Pet Vaccination Details

Veterinary Appointment


Best Veterinary Hospitals

Pet: Max

Next Appointment Date: Fri Apr 04 2025

Logout

## Preferred hospital:



Owner: J Jenolin Jeba

+


Pets:

Max


Preferred Hospitals

Choose Your Preferred Hospitals


Submit




SKS VETERINARY HOSPITAL  
Coimbatore-641004




LYKA MULTI SPECIALITY PET CLINIC  
MADURAI




SM PET CLINIC  
Trichy



SANCHU ANIMAL HOSPITAL




SS PET CARE HOSPITAL



PAWS AND HOOVES ROYAL ANIMAL HOSPITAL

Logout



Owner: J Jenolin Jeba

+

Pets:

Max

Preferred Hospitals  
LYKA MULTI SPECIALITY PET CLINIC

Welcome to your Dashboard!

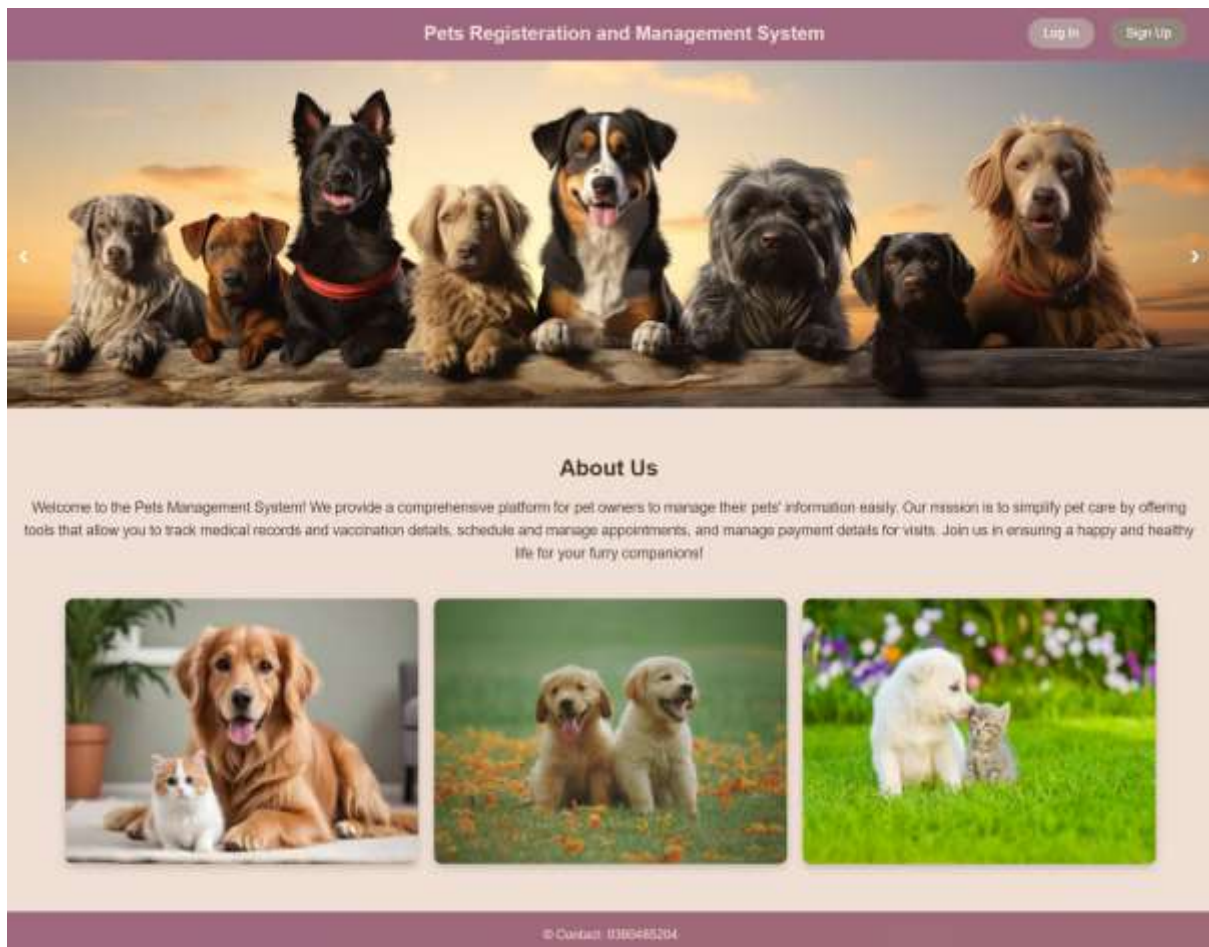
Pet Vaccination Details

Veterinary Appointment

Best Veterinary Hospitals

Logout

## Logout

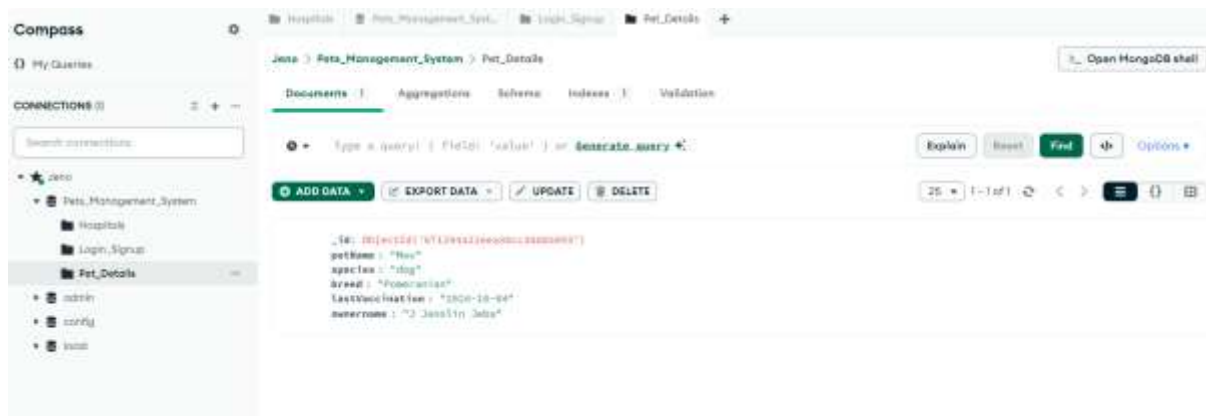


## Pets\_Management\_System Database

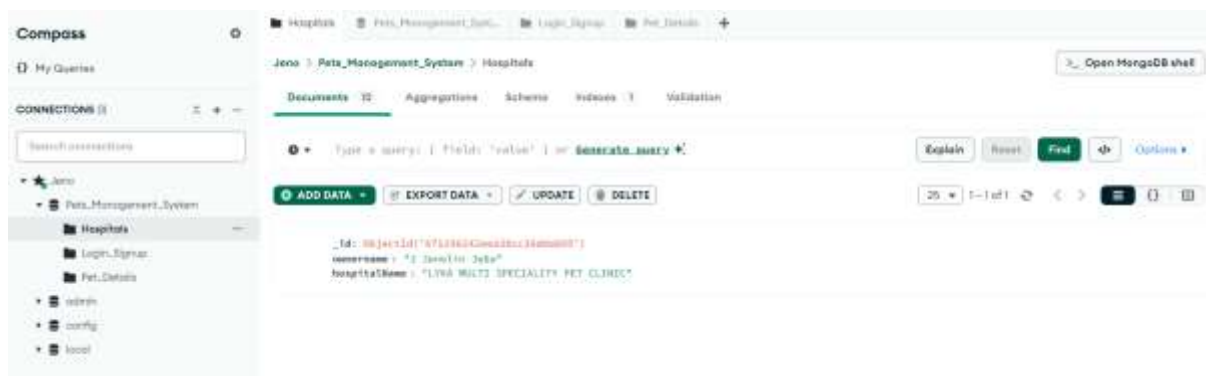
### Login\_Signup Collection:



## Pet\_Details Collection



## Hospitals Collection



The Pets Registration and Management System is an exemplary solution that significantly enhances the experience of pet owners by streamlining the management of pet-related information. This system stands out for its user-friendly interface, which simplifies processes such as pet registration, vaccination tracking, and hospital selection.

Users have praised the system for its intuitive design, making it easy for individuals to navigate through various functionalities without encountering obstacles. The responsive design ensures that the platform performs well across different devices, providing accessibility and convenience to users on the go.

The ability to manage multiple pets and keep detailed health records has been particularly well-received, as it alleviates the stress of tracking vaccinations and medical appointments. Furthermore, the feature that allows users to select preferred veterinary hospitals based on their geographical location adds an extra layer of convenience, ensuring that pet owners can easily find suitable care for their pets.

Feedback highlights the system's reliability, with users appreciating the swift response times during interactions. The implementation of robust data storage using MongoDB ensures that all information is securely stored and easily retrievable, fostering trust among users regarding the management of their pets' sensitive information.

## CONCLUSION

The Pets Registration and Management System represents a significant advancement in how pet owners can efficiently manage their pets' health and welfare. By integrating essential features such as user-friendly sign-up and login processes, comprehensive pet registration, vaccination tracking, and the selection of preferred veterinary hospitals, the system provides a holistic solution to the challenges faced by pet owners.

The project successfully combines modern web technologies, including HTML, CSS, JavaScript, Node.js, and MongoDB, to create a robust and scalable platform that meets the needs of its users. The emphasis on usability and functionality ensures that pet owners can navigate the system with ease, effectively keeping track of their pets' health records and appointments while simplifying their interactions with veterinary services.

Through thorough testing and feedback collection, the system has been refined to deliver a reliable user experience that prioritizes the well-being of pets. As the number of pet owners continues to grow, such innovative solutions are essential for fostering responsible pet ownership and ensuring that pets receive the care they deserve. Overall, the Pets Registration and Management System not only enhances the management of pet-related tasks but also contributes to a healthier, happier life for pets and their owners alike.





# PETS REGISTRATION AND MANAGEMENT SYSTEM

J Jenolin Jeba  
(URK22CS5026)



## ABOUT US

Pets Registration and Management System provide a comprehensive platform for pet owners to manage their pets' information easily. Our mission is to simplify pet care by offering tools that allow you to track medical records and vaccination details, schedule and manage appointments,

# TECHNOLOGY STACK

## Frontend

HTML  
CSS  
JavaScript

## Backend

Node JS  
Express JS

## Database

MongoDB



# MODULES

1. **Signup and Login**
2. **Pet Registration**
3. **Vaccination Details**
4. **Vaccination Appointment Details**
5. **Choosing Preferred Vet Hospital**
6. **Logout**



# MODULES

## Sign-Up and Login

This feature allows users to create a secure account by entering their personal information, enabling them to access their dashboard. Once registered, users can log in with their credentials to manage their pets' details and healthcare information efficiently.

## Pet Registration

Pet registration enables users to input essential details about their pets, such as name, species, and breed. This organized approach helps maintain comprehensive records of each pet, facilitating easy tracking and management.



# MODULES

## Vaccination Details

The vaccination details section provides users with a complete history of their pets' vaccinations, ensuring that they stay informed about their pets' health needs. This feature helps owners keep track of completed vaccinations, necessary boosters, and any medical treatments.

## Vaccination Appointment Details

This feature allows users to schedule and view upcoming vaccination appointments for their pets, ensuring timely vaccinations.





# MODULES

## Choosing Preferred Vet Hospital

Users can select their preferred veterinary hospitals from a list based on their location, ensuring they have easy access to quality care.

## Logout

The logout option securely ends the user's session, protecting their personal information and ensuring privacy. This feature is essential for maintaining security, especially on shared devices, allowing users to safely exit the system when not in use.



## KEY COMPONENTS OF THE IDENTIFIED SKILL SET

### Prototyping and Fabrication

the Functionality Prototyping (Frontend Development)

-Bootstrap, HTML, CSS, JavaScript

### Database Schema and Backend API

#### Prototyping

-MongoDB

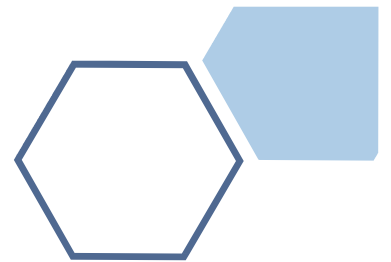
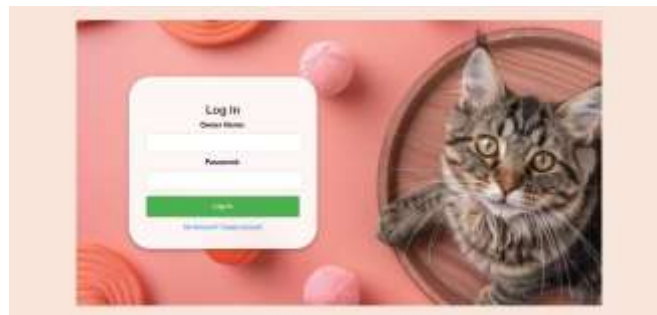
-Node.js and Express.js

**Interactive Prototype Testing**  
(Frontend and Backend Integration),





# OUTPUT



**THANK YOU**

