JAWAHARLAL NEHRU ENGINEERING COLLEGE

Department of Computer Science and Engineering

(Mahatma Gandhi Mission University, Chhatrapati Sambhaji Nagar)

WEB TECHNOLOGY-II PROJECT REPORT

ON

“PETGRAM”

Submitted by:

Ankita Pawar (202201103007)
Saniya Sheldarkar (202201103021)
Adeeba Azam (202201103022)
Shashank Bhat (202201103032)

Subject in-charge/Guide:

Mrs. K.M.Vaishnav

Department of Computer Science and Engineering

MGM UNIVERSITY

Academic Year 2024-2025

CERTIFICATE

This is to certify that the project report

"……PETGRAM……"

Submitted by

Ankita Pawar (202201103007)
Saniya Sheldarkar (202201103021)
Adeeba Azam (202201103022)
Shashank Bhat (202201103032)

is a bonafide work carried out by them under the supervision of Mrs. K.M.Vaishnav and it is approved for the subject WT-II Lab in academic year 2024-2025 Part-II Semester V at JNEC, MGM University, Ch. Sambhajinagar.

Date:

Mrs. K.M.Vaishnav
Guide
Dept. of Computer Sci. & Engineering

Dr. Deepa Deshpande
Head of Department
Dept. of Computer Sci. & Engineering

Dr. H. H. Shinde
Principal

MGM's Jawaharlal Nehru Engineering College, Ch. Sambhajinagar

TABLE OF CONTENTS

Abstract:

Petgram is an innovative social media platform exclusively designed for pet owners and pet enthusiasts, offering a vibrant community where users can share, engage, and celebrate the lives of their pets. Petgram aims to provide a central hub for pet lovers to connect, showcase their pets' unique personalities, and access a wide array of resources that enhance pet care and ownership experiences. The platform’s intuitive design allows users to create individual profiles for their pets, complete with bios, photos, and stories. These profiles act as digital spaces for sharing milestones, fun facts, and updates on their pets' daily activities, making it an engaging way to immortalize memories.

Built using cutting-edge web technologies like Node.js, Express.js, and React.js, Petgram is designed for both usability and scalability. The backend, powered by MySQL, ensures robust data management, enabling the platform to seamlessly handle a growing user base and dynamic content. Users can post photos, share updates in real-time, and engage with the community through likes, comments, and follow/unfollow features. The platform supports interaction-driven functionalities that foster meaningful connections between users, including sharing tips, advice, and stories related to pet care, grooming, health, and training.

Petgram goes beyond traditional social media by offering curated content on pet health, behavior, and care, making it not only a social networking space but also a knowledge-sharing platform. Moreover, Petgram incorporates interactive elements like milestones and stories, providing pet owners with a fun and engaging way to document their pets' journey, from puppyhood to adulthood. With its unique focus on pets and their wellbeing, Petgram aspires to create a dedicated space where pet lovers can come together to celebrate, learn, and share the joys of being a pet parent.

INTRODUCTION AND KEY FEATURES

Introduction:

Petgram is a specialized social media platform created to bring together pet owners, pet lovers, and pet care professionals in a single, vibrant community. Recognizing the growing global trend of pet ownership and the desire for pet-related content, Petgram aims to provide a dedicated space where users can share stories, photos, and experiences about their pets. The platform allows users to create unique profiles for their pets, transforming pets into social media stars with personalized bios, posts, and engaging content. Whether users want to celebrate their pet's milestones, discover pet care tips, or connect with like-minded pet enthusiasts, Petgram offers an engaging, fun, and informative environment tailored to pets.

Built using modern web technologies, including Node.js for the backend and React.js for the frontend, Petgram ensures seamless user experiences, scalable performance, and dynamic content delivery. It offers a variety of features, such as user profiles, news feeds, and interactive story sharing, all centered around pets. Petgram is designed not only to be a social platform but also a place where users can find valuable pet care information, recommendations for pet products, and services like veterinarians or groomers.

Key Features:

1. **Pet Profiles:** Users can create individual profiles for their pets, allowing them to share photos, milestones, and fun facts. Each profile can include personalized bios, making pets the stars of their own social media space.
2. **News Feed:** A dynamic feed where users can post photos, videos, and updates about their pets. It also showcases pet care articles, fun facts, and milestones, keeping the content lively and relevant.
3. **Story Sharing:** Pet owners can share stories about their pets' activities, quirky behaviors, and milestones. These stories provide a more engaging way to document pets' journeys and share them with the community.
4. **Social Interactions:** Users can like, comment, and follow/unfollow other pet profiles. This encourages interaction and community building among users who share similar interests, creating a pet-focused social network.
5. **Seamless Frontend and Backend Integration:** Petgram's robust backend, built using Node.js and MySQL, ensures scalability and smooth data handling, while the React.js-based frontend offers a user-friendly, responsive design. This integration delivers a cohesive, efficient user experience.
6. **Real-Time Content Updates:** Petgram ensures that user-generated content such as photos, stories, and interactions are updated in real-time, providing a fresh and engaging experience every time users log in.
7. **Comprehensive Pet Care Information:** In addition to social interaction, Petgram offers a wealth of pet care information, including grooming tips, training advice, health resources, and articles on pet behavior. This provides an educational aspect that enhances the platform's utility.

Objective:

The primary objective of **Petgram** is to create a vibrant, user-friendly, and comprehensive social media platform that connects pet owners and enthusiasts, offering a space to celebrate, share, and engage with pet-related content. Petgram seeks to bridge the gap between pet lovers and a dedicated online community, providing a fun and informative environment where users can share experiences, access pet care resources, and discover products and services tailored to their pets. By leveraging modern technologies and a user-centric approach, Petgram aims to:

1. **Simplify Pet Social Networking:** Offer an intuitive platform where pet owners can easily create profiles for their pets, share updates, and engage with other pet lovers, fostering a strong, interactive community dedicated to pets.
2. **Celebrate Pet Ownership:** Provide a unique space where users can showcase their pets' personalities, milestones, and activities, creating a dedicated platform that celebrates the bond between pets and their owners.
3. **Promote Pet Care and Wellbeing:** Share valuable resources on pet care, grooming, health, and behavior, ensuring that users have access to credible information and expert advice to support their pets' overall wellbeing.
4. **Foster Community and Connections:** Encourage interactions through likes, comments, and follow/unfollow features, allowing users to connect with others who share similar interests and build meaningful relationships within the pet-loving community.

5. **Provide Personalized Pet Solutions:** Empower users with personalized recommendations, from pet products and services to relevant pet care content, making it easier for pet owners to find resources that meet their pets' specific needs.
6. **Support Pet-Related Businesses:** Create opportunities for pet-related brands, services, and professionals (such as veterinarians and groomers) to connect with pet owners, offering a marketplace where users can access trusted pet care products and services.

By achieving these objectives, Petgram aspires to become a trusted, go-to platform for pet owners and enthusiasts, offering a space that fosters community, supports pet care, and celebrates the joy of being a pet parent, while also contributing to the growth of the pet care industry.

HARDWARE AND SOFTWARE REQUIREMENTS`

Hardware Requirement:

1. For Server Hosting:

- **Processor:** Intel Xeon or AMD Ryzen, 2.4 GHz or higher (multi-core recommended for handling concurrent user requests and scalability).
- **RAM:** 16 GB or higher (suitable for managing database queries, real-time updates, and high traffic volumes).
- **Storage:** 500 GB SSD (or higher) for fast data access, storing user data, posts, images, and real-time content updates.
- **Network:** High-speed internet connectivity with at least 1 Gbps bandwidth to ensure quick data transmission and reduce latency.
- **Operating System:** Linux-based server (e.g., Ubuntu Server, CentOS) for improved security, stability, and performance.
- **Backup System:** Cloud-based or local backup solution with redundant storage to ensure data security and recovery in case of data loss.

2. For Development and Testing Machines:

- **Processor:** Intel i5/i7 or AMD Ryzen equivalent (to support local development and testing environments).
- **RAM:** 8 GB or higher (sufficient for running development tools, local servers, and testing environments).
- **Display:** Full HD monitor for detailed UI/UX design and testing.
- **Operating System:** Windows, macOS, or Linux, depending on developer preference.

- **Storage:** 256 GB SSD or higher for quick access to development resources and project files.

Software Requirements:

Frontend Development:

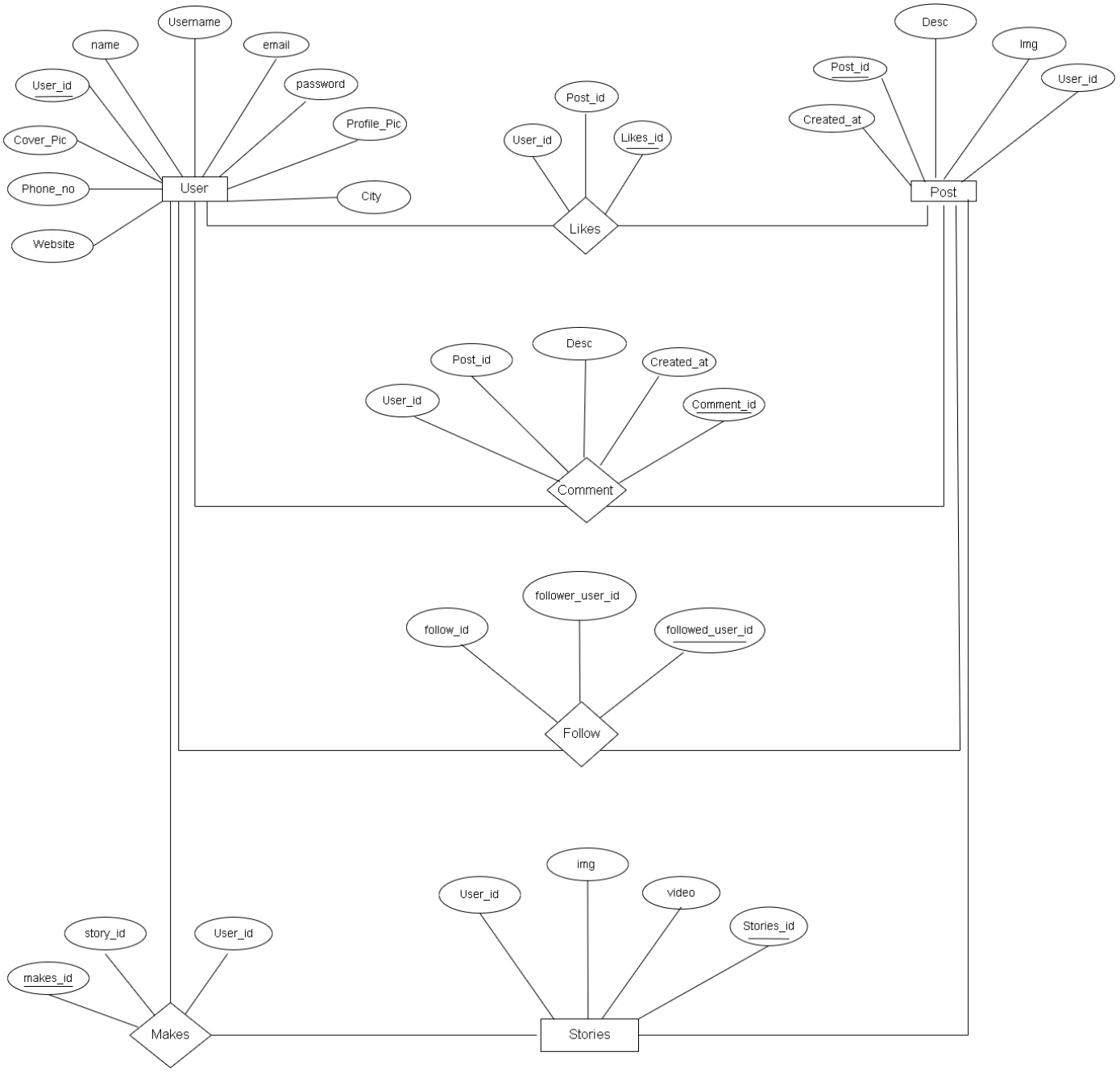
- **Framework:** React JS & NODE JS (for building the interactive user interface)
- **Languages:** HTML5, CSS3, JavaScript (for responsive design and dynamic content rendering)
- **Version Control:** Git (for source code management and collaboration among developers)
- **Package Manager:** npm or Yarn (for managing project dependencies and libraries)

Backend Development:

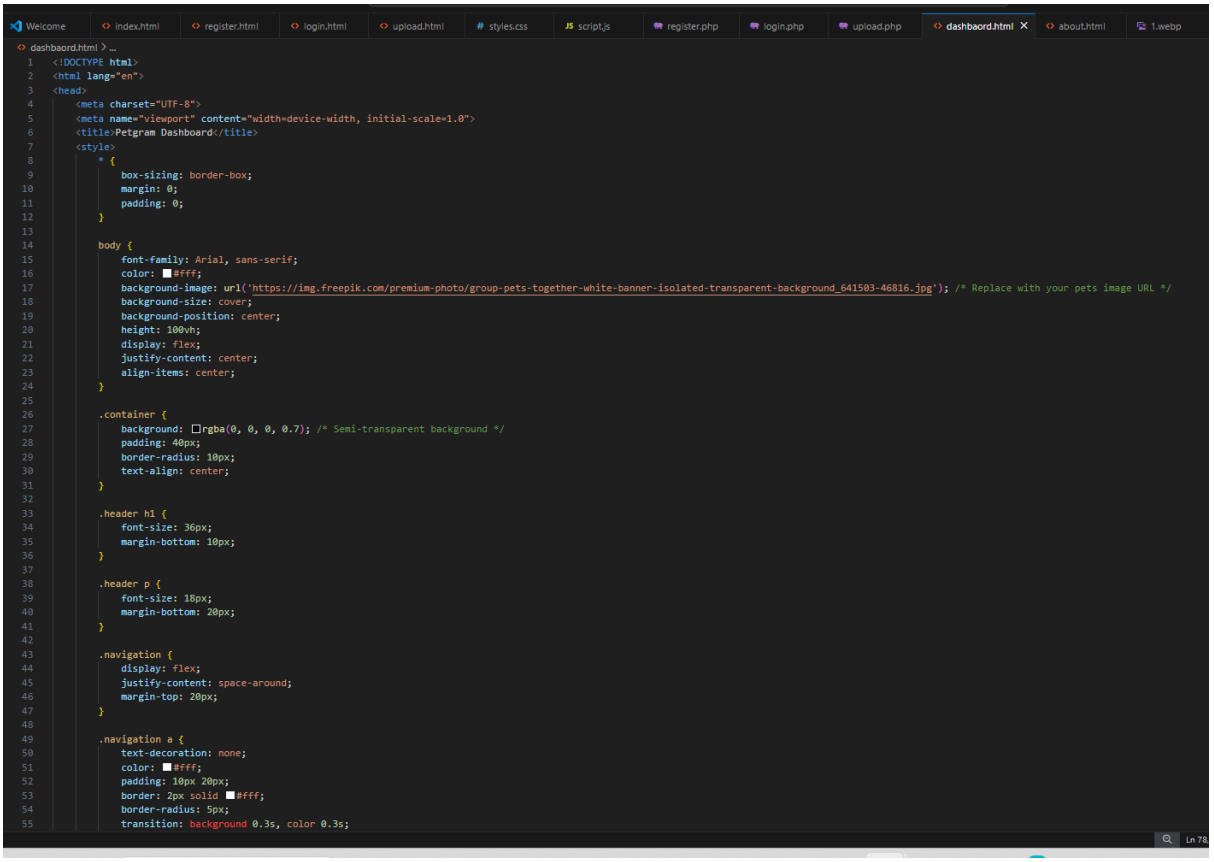
- **Database:** MySQL (for handling user data, pet profiles, posts, and interactions such as likes, comments, and follows)
- **Server Environment:** Node.js (for running the backend services and managing server-side logic)
- **API Framework:** Express.js (for building RESTful APIs to handle user requests, profile management, and social interactions)
- **Authentication:** JSON Web Tokens (JWT) for secure user authentication, allowing login, session management, and secure access to personalized profiles.
- **Cloud Services:** AWS or Google Cloud (for hosting the application, managing user data storage, and scaling services as the user base grows)

- **Real-Time Content Management:** WebSocket (for handling real-time updates on posts, likes, comments, and notifications)

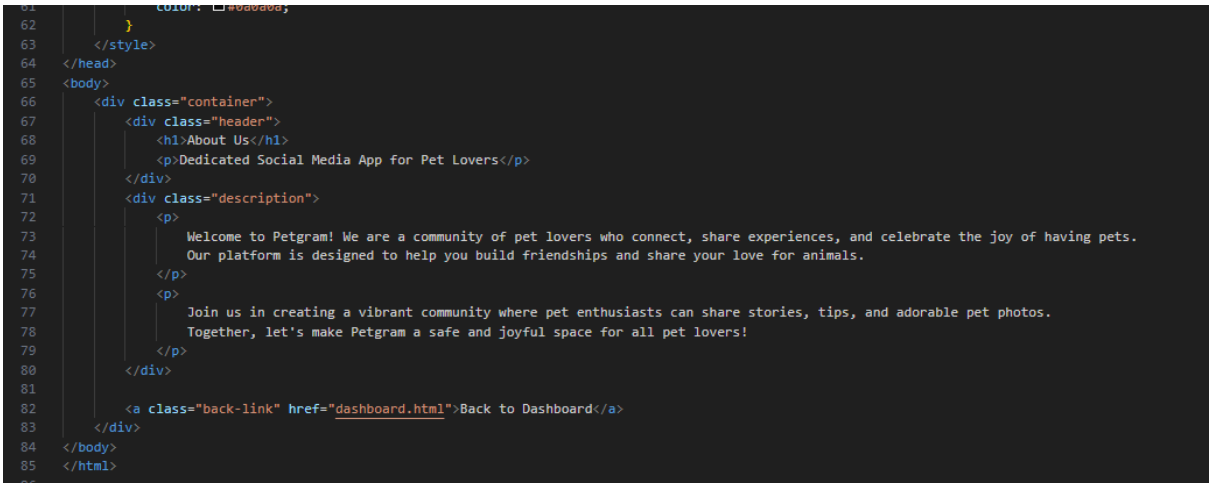
E-R DIAGRAM:



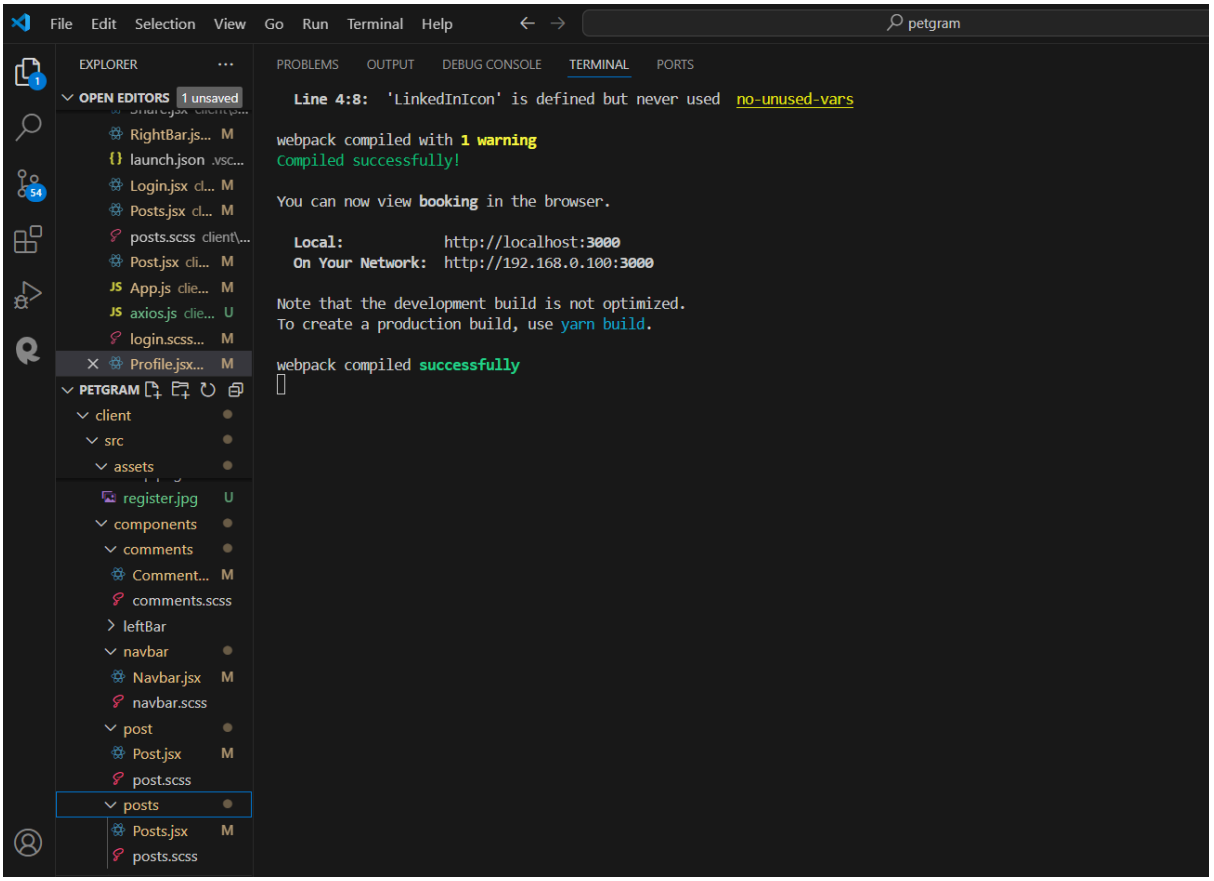
Screenshot of Code



```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Petgram Dashboard</title>
    <style>
        * {
            box-sizing: border-box;
            margin: 0;
            padding: 0;
        }

        body {
            font-family: Arial, sans-serif;
            color: #fff;
            background-image: url('https://img.freepik.com/premium-photo/group-pets-together-white-banner-isolated-transparent-background_641503-46816.jpg'); /* Replace with your pets image URL */
            background-size: cover;
            background-position: center;
            height: 100vh;
            display: flex;
            justify-content: center;
            align-items: center;
        }

        .container {
            background: rgba(0, 0, 0, 0.7); /* Semi-transparent background */
            padding: 40px;
            border-radius: 10px;
            text-align: center;
        }

        .header h1 {
            font-size: 36px;
            margin-bottom: 10px;
        }

        .header p {
            font-size: 18px;
            margin-bottom: 20px;
        }

        .navigation {
            display: flex;
            justify-content: space-around;
            margin-top: 20px;
        }

        .navigation a {
            text-decoration: none;
            color: #fff;
            padding: 10px 20px;
            border: 2px solid #fff;
            border-radius: 5px;
            transition: background 0.3s, color 0.3s;
```



```
        }
    </style>
</head>
<body>
    <div class="container">
        <div class="header">
            <h1>About Us</h1>
            <p>Dedicated Social Media App for Pet Lovers</p>
        </div>
        <div class="description">
            <p>
                Welcome to Petgram! We are a community of pet lovers who connect, share experiences, and celebrate the joy of having pets.
                Our platform is designed to help you build friendships and share your love for animals.
            </p>
            <p>
                Join us in creating a vibrant community where pet enthusiasts can share stories, tips, and adorable pet photos.
                Together, let's make Petgram a safe and joyful space for all pet lovers!
            </p>
        </div>

        <a class="back-link" href="dashboard.html">Back to Dashboard</a>
    </div>
</body>
</html>
```


File Edit Selection View Go Run Terminal Help
petgram
EXPLORER
OPEN EDITORS 1 unsaved
RightBar.js... M
launch.json .vsc...
Login.jsx cl... M
Posts.jsx cl... M
posts.scss client\...
Post.jsx cli... M
App.js clie... M
axios.js clie... U
login.scss... M
Profile.jsx... M
PETGRAM
client
src
assets
register.jpg U
components
comments
Comment... M
comments.scss
leftBar
navbar
Navbar.jsx M
navbar.scss
post
Post.jsx M
post.scss
posts
Posts.jsx M
posts.scss
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
Line 4:8: 'LinkedInIcon' is defined but never used no-unused-vars
webpack compiled with 1 warning
Compiled successfully!
You can now view booking in the browser.
Local: http://localhost:3000
On Your Network: http://192.168.0.100:3000
Note that the development build is not optimized.
To create a production build, use yarn build.
webpack compiled successfully


client > src > pages > register > Register.jsx > default
import { useState } from "react";
import { Link, useNavigate } from "react-router-dom";
import "./register.scss";
import axios from "axios";
const Register = () => {
const [inputs, setInputs] = useState({
username: "",
email: "",
password: "",
name: "",
});
const [err, setErr] = useState(null);
const navigate = useNavigate();
const handleChange = (e) => {
setInputs((prev) => ({ ...prev, [e.target.name]: e.target.value }));
};
const handleClick = async (e) => {
e.preventDefault();
try {
const response = await axios.post("http://localhost:8800/api/auth/register", inputs);
console.log("Registration successful:", response.data);
navigate("/login");
alert("Registered successfully!");
} catch (err) {
setErr(err.response.data);
console.error("Registration failed:", err);
}
};
return (

<h1>Petgram</h1>

client > src > pages > login > Login.jsx > Login

```jsx
import { useContext, useState } from "react";
import { Link, useNavigate } from "react-router-dom";
import { AuthContext } from "../../context/authContext";
import "./login.scss";

const Login = () => {
  const [inputs, setInputs] = useState({
    username: "",
    password: "",
  });
  const [err, setErr] = useState(null);

  const navigate = useNavigate()

  const handleChange = (e) => {
    setInputs((prev) => ({ ...prev, [e.target.name]: e.target.value }));
  };
  const { login } = useContext(AuthContext);

  const handleLogin = async (e) => {
    e.preventDefault();
    try {
      await login(inputs);
      navigate("/")
    } catch (err) {
      setErr(err.response.data);
    }
  };

  return (
    <div className="login">
      <div className="card">
        <div className="left">
          <h1>welcome to petgram</h1>
          |
          <span>Don't you have an account?</span>
          <Link to="/register">
```

0 0 Launch Chrome against localhost (petgram) Ln 35, Col 11

Posts.jsx M | posts.scss | Post.jsx M | App.js M | axios.js U | login.scss M | Profile.jsx

client > src > components > posts > Posts.jsx > ...

```jsx
import { useQuery } from "@tanstack/react-query";

const Posts = () => {
  const { isLoading, error, data } = useQuery({
    queryKey: ["posts"],
    queryFn: async () => {
      const response = await fetch('/api/posts'); // Replace with your actual API endpoint
      if (!response.ok) {
        throw new Error('Network response was not ok');
      }
      return response.json(); // Parse and return the JSON data
    },
  });

  if (isLoading) return <div>Loading...</div>;
  if (error) return <div>Error occurred: {error.message}</div>;

  return (
    <div>
      {data.map(post => (
        <div key={post.id}>{post.title}</div>
      ))}
    </div>
  );
};

export default Posts;
```

Posts.jsx M | posts.scss | Post.jsx M | App.js M | axios.js U | login.scss M | Profile.jsx M | 3.png

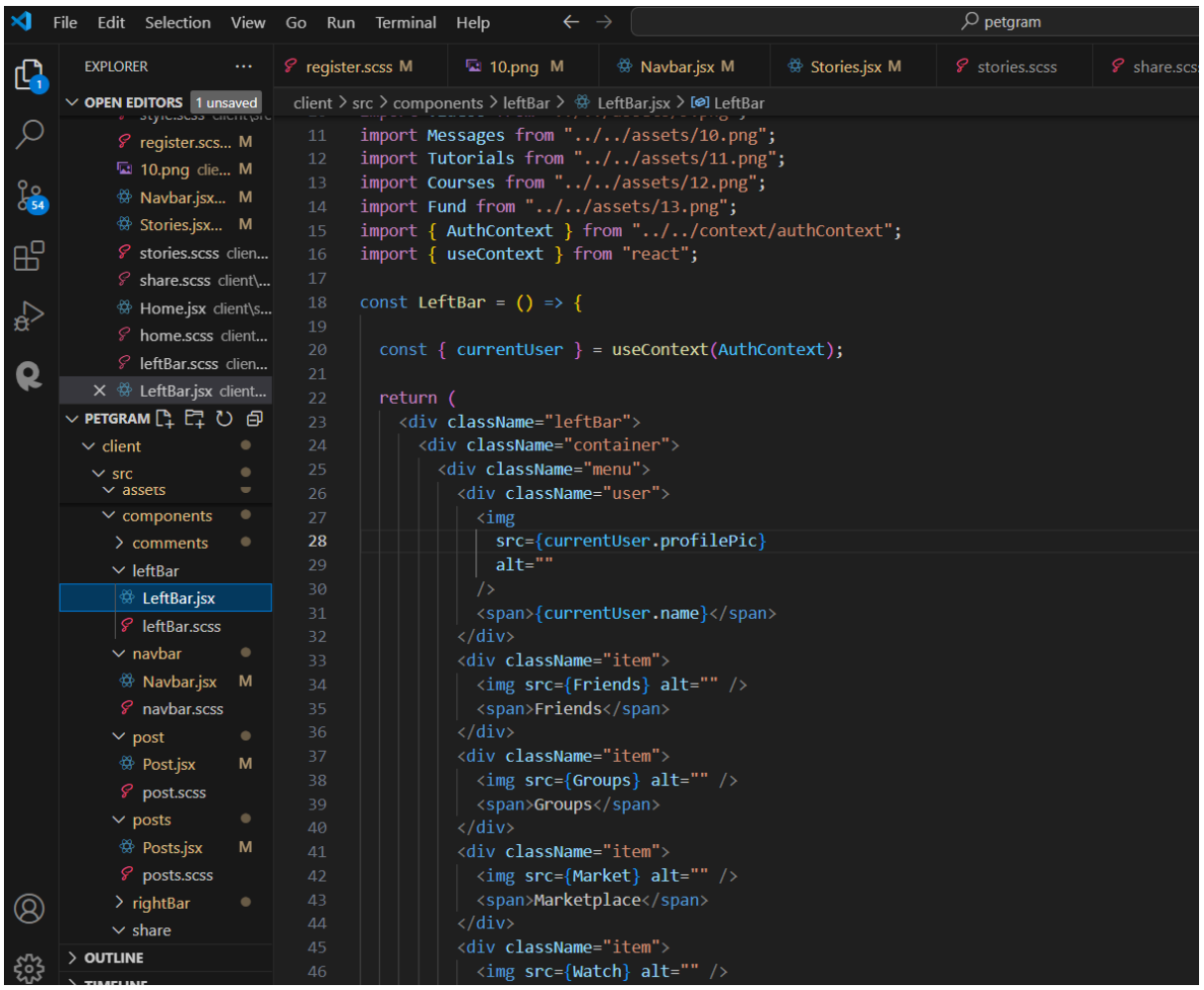
client > src > pages > profile > Profile.jsx > Profile

```jsx
const Profile = () => {
  const [profilePic, setProfilePic] = useState( D:/petgram/client/src/assets/images/Profile.JPG );

  // Handler for profile picture change
  const onProfileChange = (e) => {
    const file = e.target.files[0];
    if (file) {
      const reader = new FileReader();
      reader.onloadend = () => {
        setProfilePic(reader.result);
      };
      reader.readAsDataURL(file);
    }
  };

  return (
    <div className="profile">
      <div className="images">
      <img
        src={require("D:/petgram/client/src/assets/images/Profile.JPG")}
        alt="Whiskers"
         className="cover"
       />
       <div className="profilePicContainer">
         <img src={profilePic} alt="" className="profilePic" />
         <input
           type="file"
           id="profilePicInput"
           onChange={onProfileChange}
           style={{ display: "none" }} // Hide the file input
         />
         <label htmlFor="profilePicInput" className="changeProfilePicButton">
           Change Profile Photo
         </label>
       </div>
      </div>
      <div className="profileContainer">
```

darkModeContext.js | Share.jsx | RightBar.jsx M | launch.json | Login.jsx M | Posts.jsx M

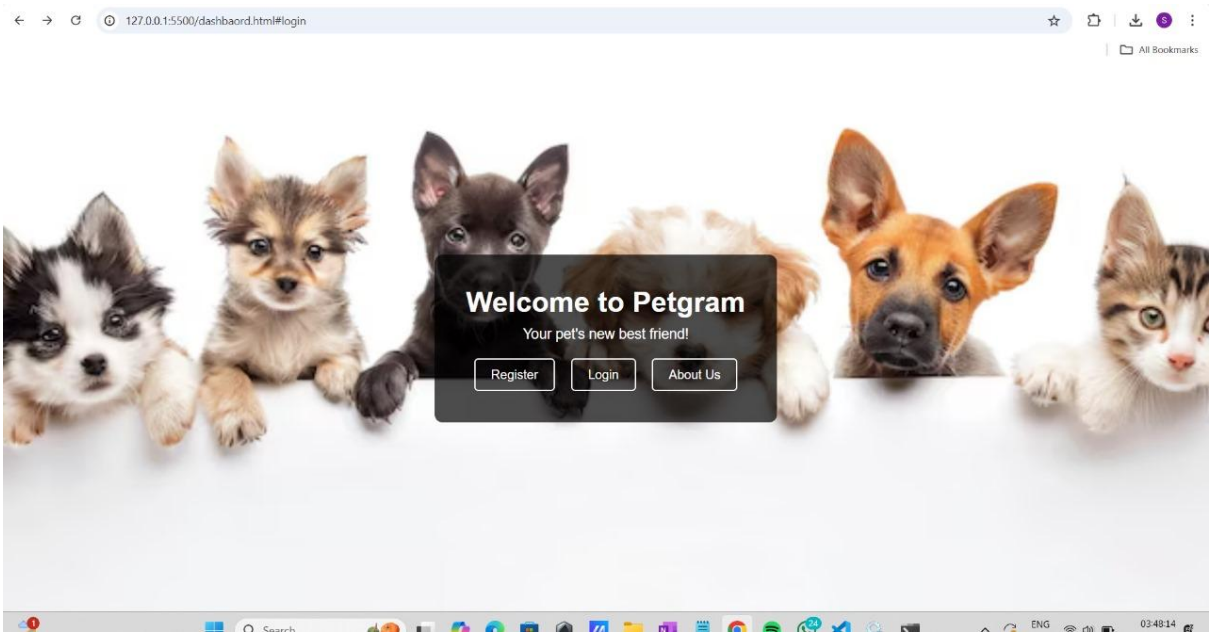
client > src > context > darkModeContext.js > ...

```jsx
import { createContext, useEffect, useState } from "react";

export const DarkModeContext = createContext();

export const DarkModeContextProvider = ({ children }) => {
  const [darkMode, setDarkMode] = useState(
    JSON.parse(localStorage.getItem("darkMode")) || false
  );

  const toggle = () => {
    setDarkMode(!darkMode);
  };

  useEffect(() => {
    localStorage.setItem("darkMode", darkMode);
  }, [darkMode]);

  return (
    <DarkModeContext.Provider value={{ darkMode, toggle }}>
      {children}
    </DarkModeContext.Provider>
  );
};

```

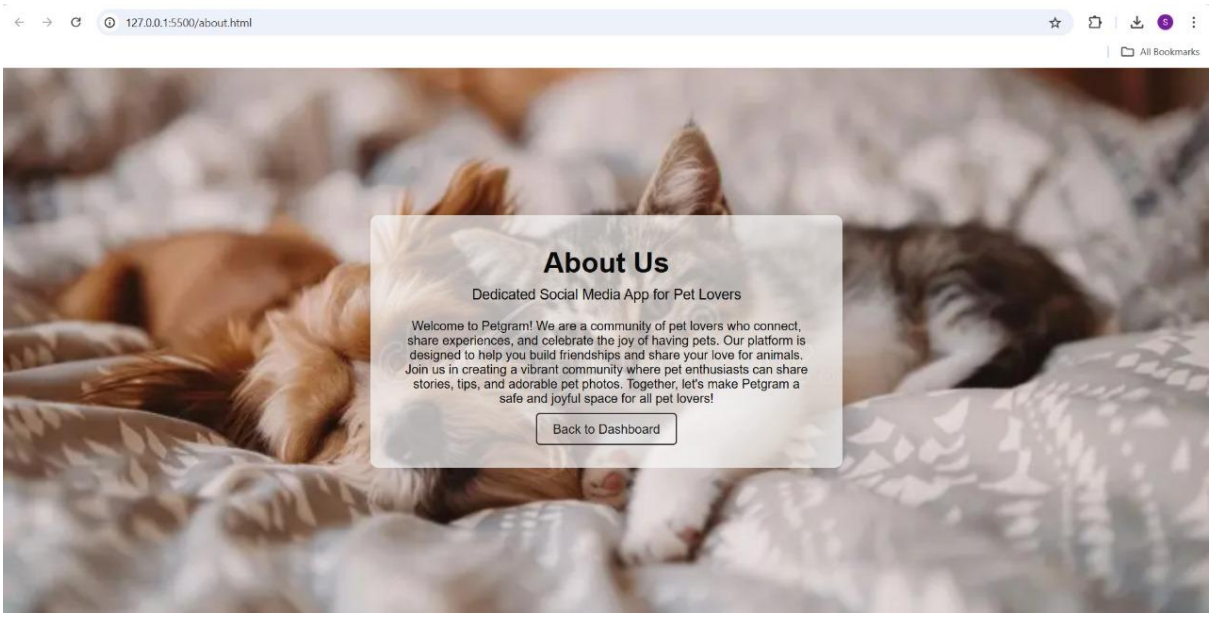

File Edit Selection View Go Run Terminal Help
petgram
EXPLORER
register.scss M
10.png M
Navbar.jsx M
Stories.jsx M
stories.scss
share.scs
client > src > components > leftBar > LeftBar.jsx > LeftBar
OPEN EDITORS 1 unsaved
register.scs... M
10.png clie... M
Navbar.jsx... M
Stories.jsx... M
stories.scss clien...
share.scss client\...
Home.jsx client\s...
home.scss client...
leftBar.scss clien...
LeftBar.jsx client...
PETGRAM
client
src
assets
components
comments
leftBar
LeftBar.jsx
leftBar.scss
navbar
Navbar.jsx M
navbar.scss
post
Post.jsx M
post.scss
posts
Posts.jsx M
posts.scss
rightBar
share
OUTLINE
11 import Messages from "../../assets/10.png";
12 import Tutorials from "../../assets/11.png";
13 import Courses from "../../assets/12.png";
14 import Fund from "../../assets/13.png";
15 import { AuthContext } from "../../context/authContext";
16 import { useContext } from "react";
17
18 const LeftBar = () => {
19
20 const { currentUser } = useContext(AuthContext);
21
22 return (
23
24
25
26
27 <img
28 src={currentUser.profilePic}
29 alt=""
30 />
31 {currentUser.name}
32
33
34
35 Friends
36
37
38
39 Groups
40
41
42
43 Marketplace
44
45
46

GUI Design of Each Page

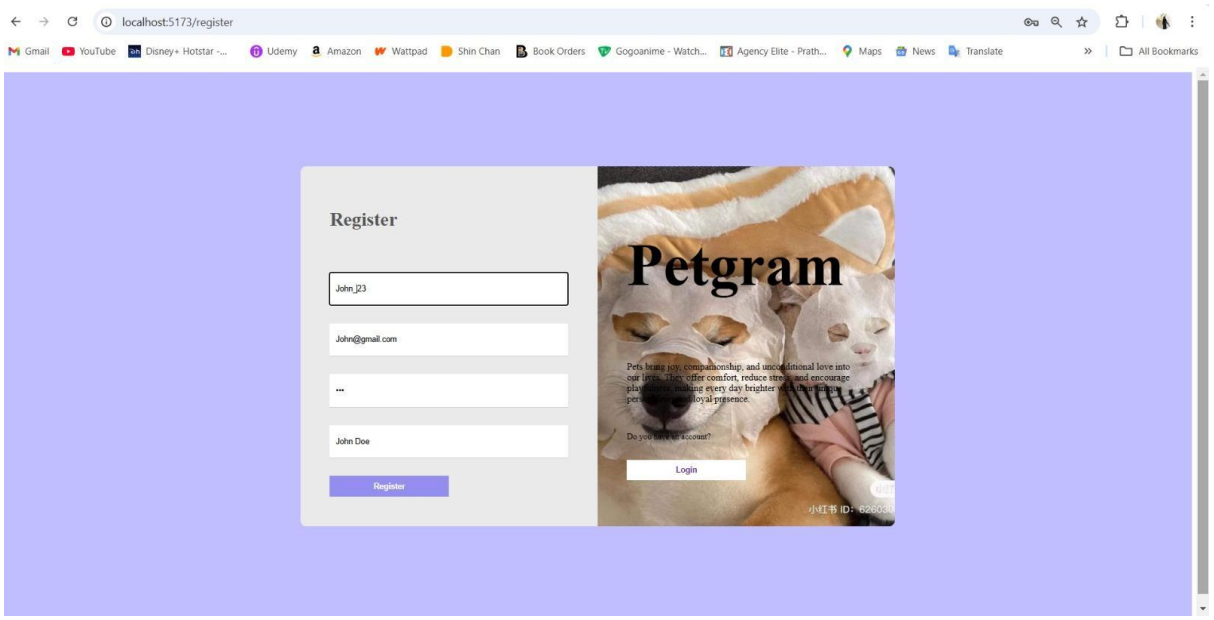
1. Dashboard



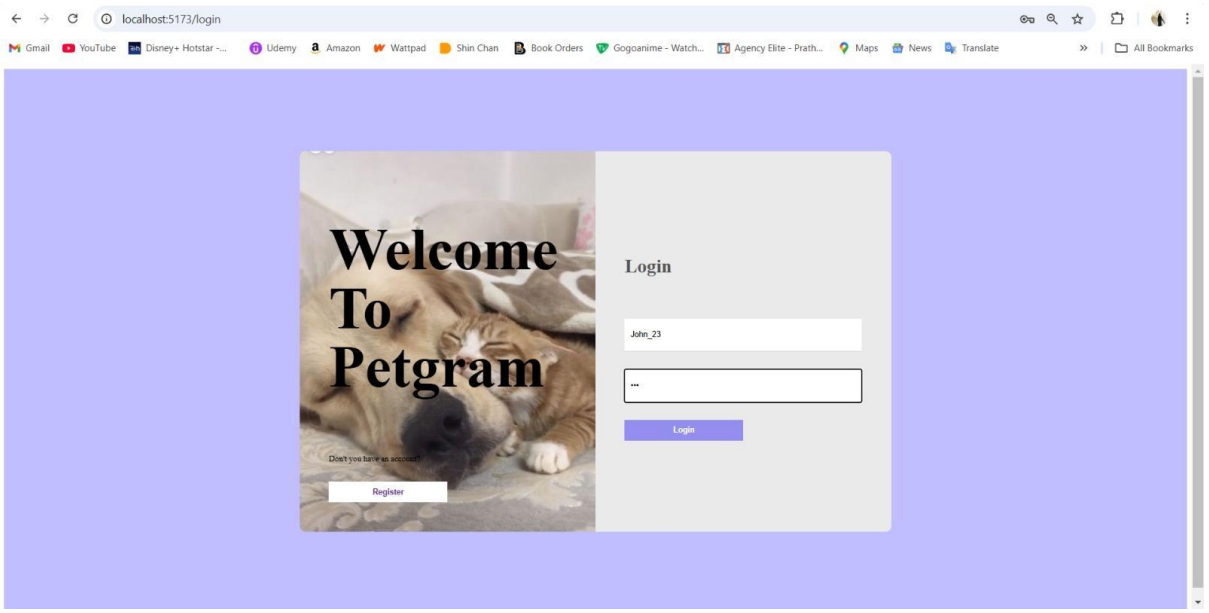
2. About us



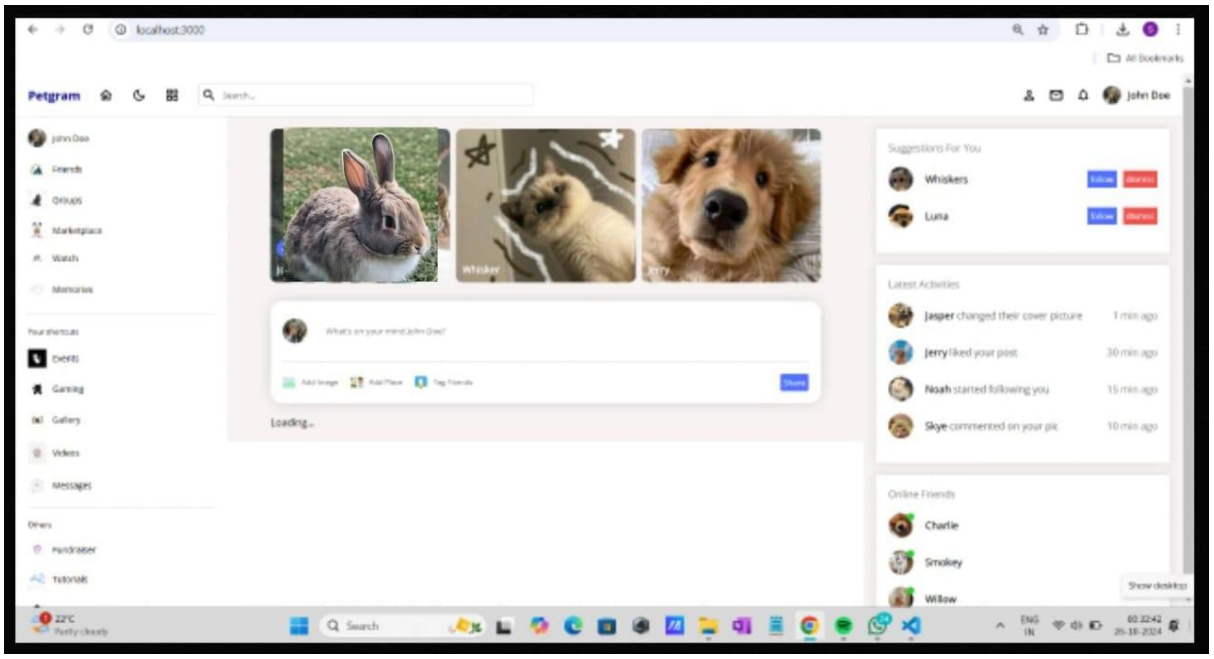
3 Register



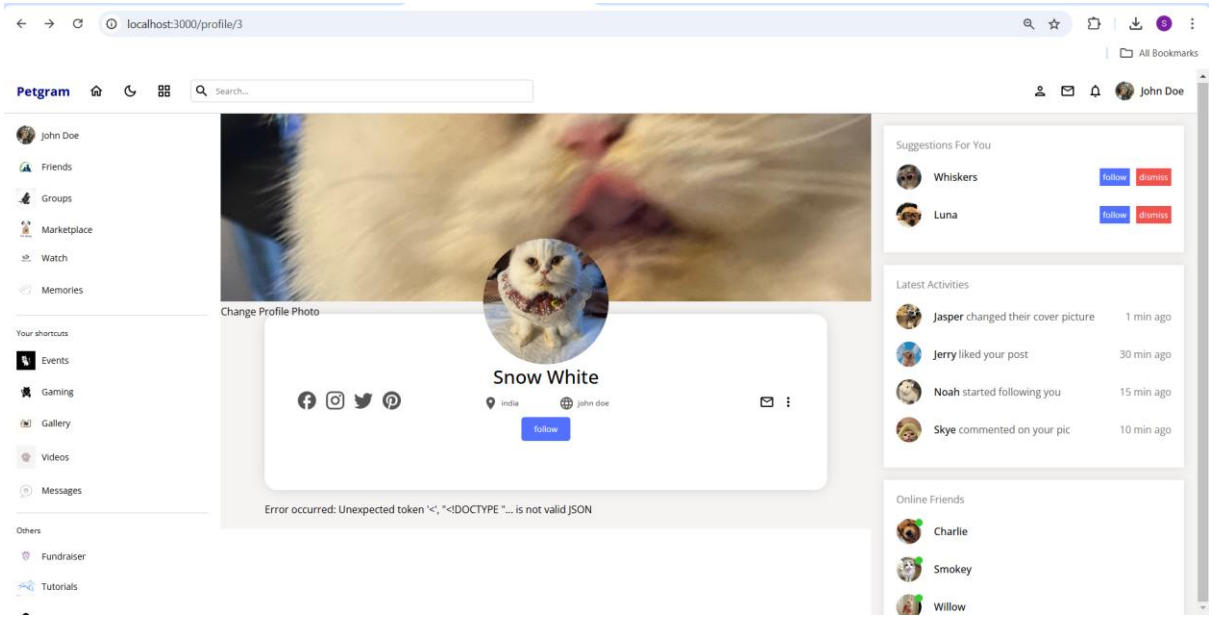
4. Login



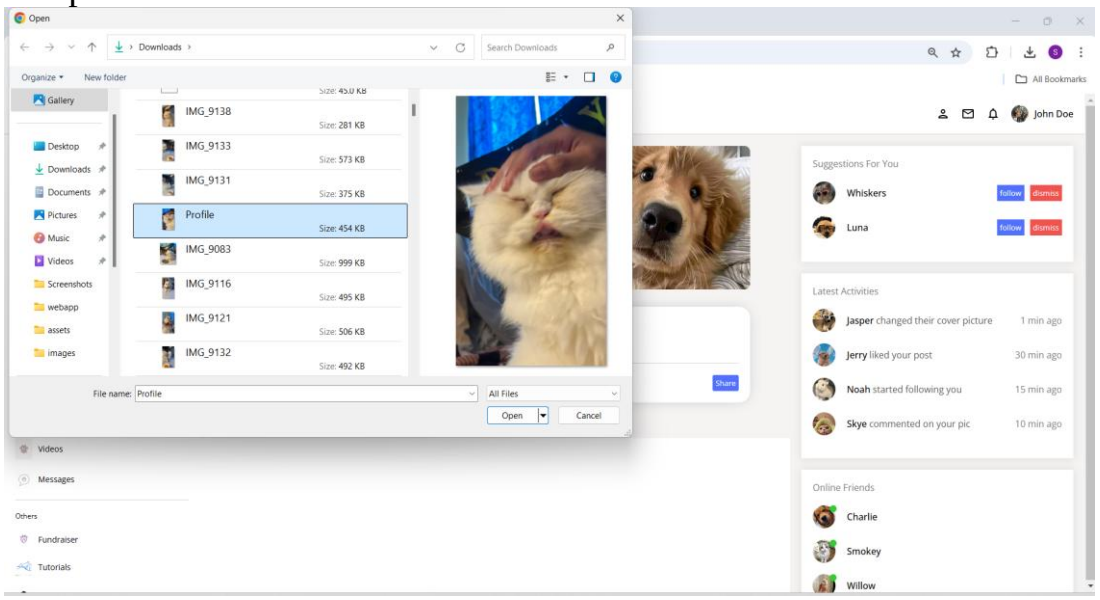
5. Feed



6 . Profile

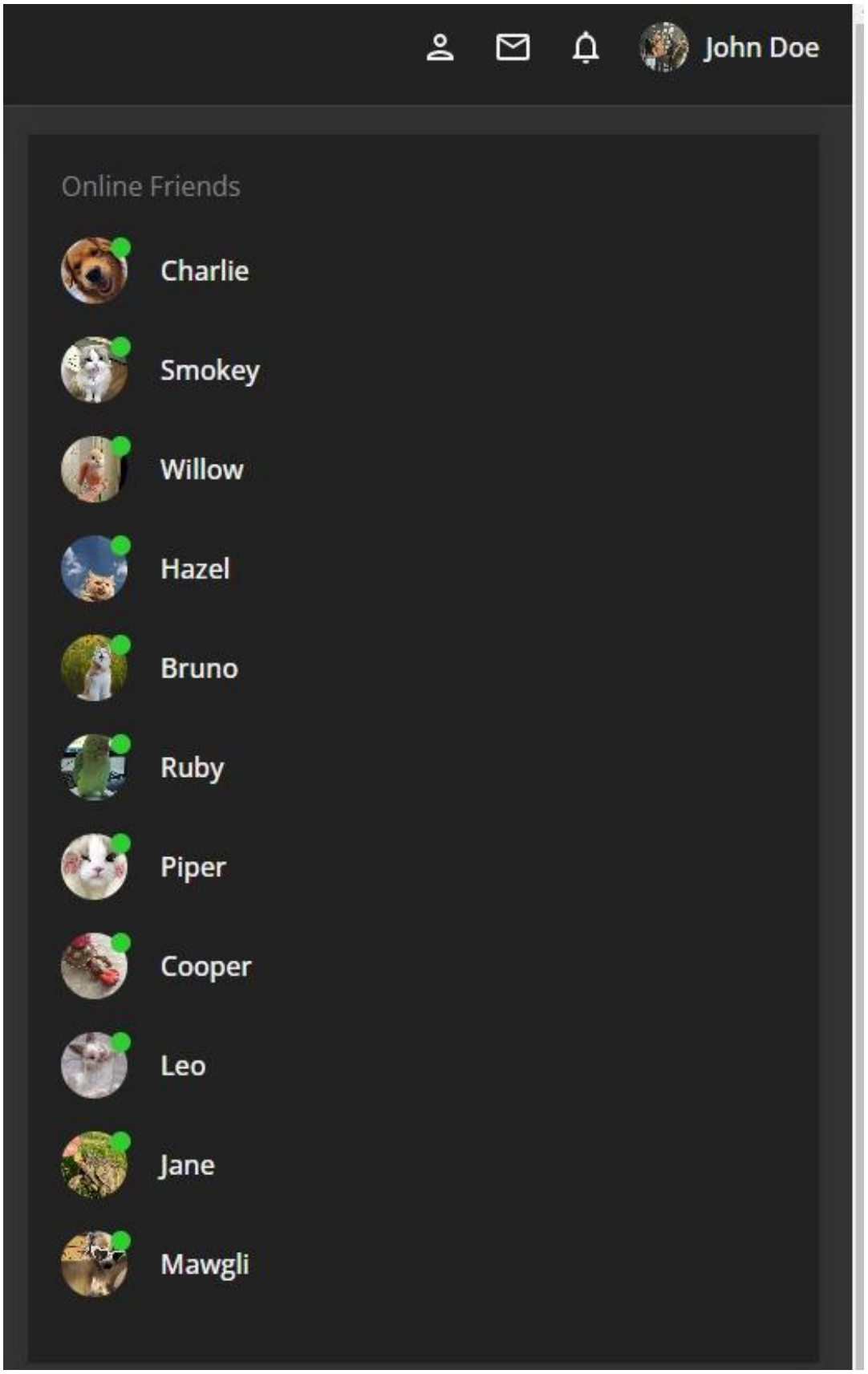


7. Upload

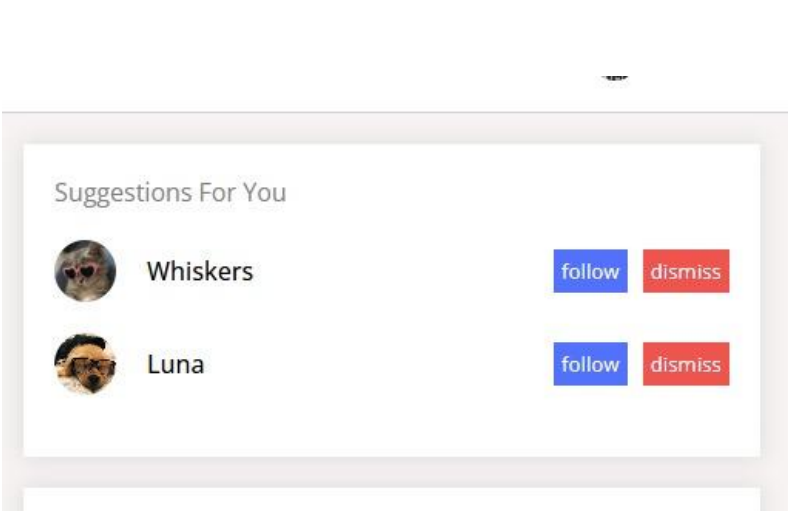


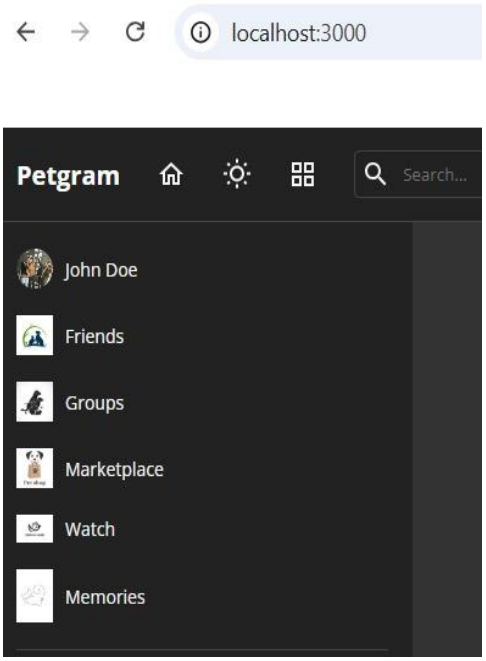
8. Post

9. Online friends and dark mode



10. Suggestions and left sidebar





Future Scope of Petgram

Petgram has immense potential for growth and development, offering several opportunities to enhance its platform and deliver a richer experience to users. As the social media landscape evolves and technology advances, Petgram can introduce new features, expand its services, and stay ahead of market demands by catering to pet lovers' needs in more engaging and innovative ways. Some key areas for future development include:

1. **Expansion of User Base and Features**
    - **International User Base Expansion:** Petgram can expand its reach to pet owners globally by introducing multi-language support and localization features, enabling users from different regions to connect with other pet lovers and share content.
    - **Addition of New Pet Categories:** In addition to cats and dogs, Petgram can introduce more pet categories, including birds, reptiles, and exotic pets, allowing users to explore and celebrate a broader range of animals.
2. **Mobile Application Development**
    - **Native Mobile Apps for iOS and Android:** Developing dedicated mobile applications will enhance accessibility, offering users a more personalized experience with mobile-friendly features such as push notifications for likes, comments, and new posts.
    - **Offline Features:** Petgram can provide offline access to some features, such as saved pet profiles, favorite posts, and messages, allowing users to stay connected with their pet community even when they don't have internet access.

3. **AI-Driven Personalization and Recommendations**
    - **AI-Powered Content Recommendations:** By integrating artificial intelligence, Petgram can provide personalized content feeds based on user preferences, interaction history, and pet type. AI can also suggest relevant articles, services, and products that cater to each user's pet care needs.
    - **AI Chatbots for Pet Advice:** Petgram can introduce AI-driven chatbots to provide instant responses to common pet care queries, from feeding guidelines to health concerns, improving the overall user experience.
4. **Integration of Augmented Reality (AR) and Virtual Reality (VR)**
    - **AR-Powered Pet Features:** Petgram could introduce fun AR features that allow users to interact with their pets in virtual environments, such as playing games or trying on virtual accessories, providing a more immersive and entertaining experience.
    - **VR-Powered Virtual Pet Meetups:** Petgram could offer virtual meetups where users and their pets can interact in a shared virtual environment, strengthening community engagement.
5. **Enhanced Pet Care and Marketplace**
    - **Pet Care Services Integration:** Petgram can expand its offerings by collaborating with veterinarians, trainers, and groomers, providing users access to expert advice, appointments, and services directly through the platform.

- **Pet Product Recommendations and E-Commerce Integration:** Petgram could introduce a dedicated marketplace for pet products, where users can browse, review, and purchase pet essentials like food, toys, and accessories, based on personalized recommendations.

6. **Gamification and Loyalty Programs**
   - **Gamified User Engagement:** Petgram can incorporate gamification elements, such as rewards for engagement (e.g., posting photos, interacting with other users), achievements for pets, and fun challenges, encouraging users to stay active on the platform.
   - **Loyalty Programs for Pet Influencers:** Petgram can develop a loyalty or rewards program, allowing frequent users and pet influencers to earn points, exclusive discounts, and rewards for promoting the platform and engaging with the community.
7. **Community Features and Social Integration**
   - **Pet Owner Forums and Groups:** Petgram can introduce community forums and groups where users can discuss pet-related topics, share tips, and connect based on shared interests, such as breed-specific groups, local pet owner meetups, and more.
   - **Social Media Integration:** Petgram can allow users to share their pet posts, milestones, and achievements directly on other social media platforms, enhancing visibility and expanding its user base through user-generated content.
8. **Sustainable and Ethical Pet Ownership Initiatives**
   - **Pet Adoption and Rescue Partnerships:** Petgram could collaborate with local shelters and adoption agencies to promote

pet adoption and rescue efforts, helping users find and adopt pets in need of homes, contributing to social welfare.

- **Promote Ethical Pet Ownership:** The platform could introduce campaigns focused on responsible pet ownership, covering topics like pet health, behavior, and sustainable pet care practices, helping users become better informed and conscientious pet parents.

9. **Partnerships with Local Businesses and Pet Services:**

- **Collaboration with Local Pet Service Providers:** Petgram can partner with local veterinarians, pet groomers, and trainers, allowing users to book services directly through the platform. This would promote local businesses and enhance user convenience by offering pet services in their area.
- **Integration of Local Experiences:** The platform could offer users access to local pet-friendly events, meetups, and experiences, encouraging users to explore pet-friendly activities in their communities.

10. **Smart Pet Care and IoT Integration:**

- **Integration with Smart Pet Devices:** Petgram can integrate with IoT devices such as pet trackers, feeders, and cameras, providing users with real-time data on their pets' activities, health, and well-being directly through the platform.
- **Pet Health Monitoring and Alerts:** By integrating smart devices, Petgram can offer health monitoring features, sending alerts for any irregularities in a pet's health or behavior, ensuring proactive care for pets.

Conclusion:

Petgram represents an innovative and evolving social media platform dedicated to the ever-growing community of pet owners and enthusiasts. With a focus on creating meaningful interactions and offering valuable resources, Petgram provides a seamless user experience powered by modern technologies such as Node.js, Express.js, and React.js. By allowing users to create unique profiles for their pets, share stories, photos, and engage with other like-minded individuals, Petgram brings the joy of pet ownership into the digital space.

The platform goes beyond basic social networking by incorporating features like pet care articles, real-time content updates, and a potential marketplace for pet products and services, making it a comprehensive solution for pet lovers. With personalized recommendations and secure user authentication, Petgram ensures that users find relevant content and services tailored to their pets' needs, fostering a strong, interactive community.

As technology continues to evolve, Petgram has immense potential for growth and development. Future enhancements like mobile applications, AI-driven personalization, augmented and virtual reality features, and integration with smart pet devices promise to expand Petgram’s functionality, further enriching the user experience. Additionally, by focusing on ethical pet ownership initiatives, local business collaborations, and gamification, Petgram is positioned to become a comprehensive, trusted platform that not only celebrates pets but also contributes to their overall well-being.

In conclusion, Petgram is well on its way to becoming the go-to platform for pet owners, enthusiasts, and professionals, offering a dynamic space for sharing, learning, and connecting. Through its forward-thinking features and plans for expansion, Petgram is poised to revolutionize how we engage with and care for our pets in the digital age, creating a vibrant community for all pet lovers around the globe.