

Knight Foundation School of Computing and Information Sciences

Fall Semester 2024 Senior Design Project

Pet Guardian

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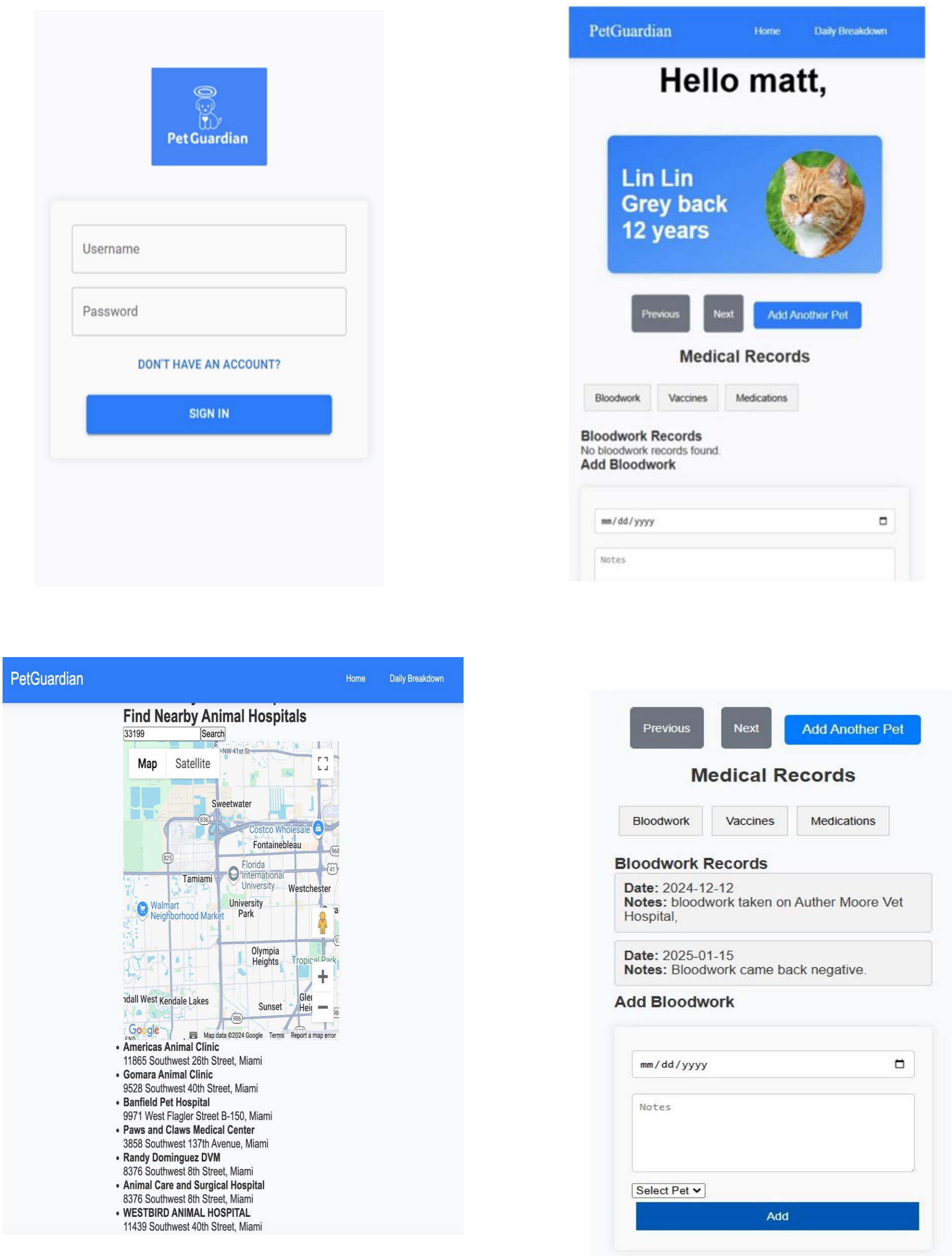
PROBLEM

Pet owners face significant challenges in managing their pets’ health and wellness due to the lack of centralized tools. Important details like vaccination dates, bloodwork history, and medication routines are often scattered across various platforms or lost in manual notes, leading to missed treatments or checkups. Moreover, finding reliable veterinarians nearby can be a daunting task, especially in unfamiliar areas. Adding to these challenges is the difficulty of accessing trustworthy, concise, and actionable information about pet health best practices. These issues create unnecessary stress for pet owners and can adversely affect the well-being of their pets.

IMPLEMENTATION

The pet wellness application was built using ReactJS for dynamic and responsive user interfaces, with HTML and CSS providing structure and styling. NodeJS powered the backend, handling server-side logic and communication with the SQLite database, which stored and managed pet health data efficiently. JavaScript was used throughout for interactivity and backend logic, enabling features like health data tracking, vet location recommendations, and educational resources. This tech stack ensured a seamless, scalable, and user-friendly application for pet owners.

SCREENSHOTS



ATTENTION: Subheadings shown above is a recommended structure for a research/scientific poster. Main elements of a poster are Introduction, Research and Conclusion. Researchers can customize the section headers based on their projects’ needs. REMOVE THIS TEXT ONCE YOU START WORKING ON YOUR POSTER

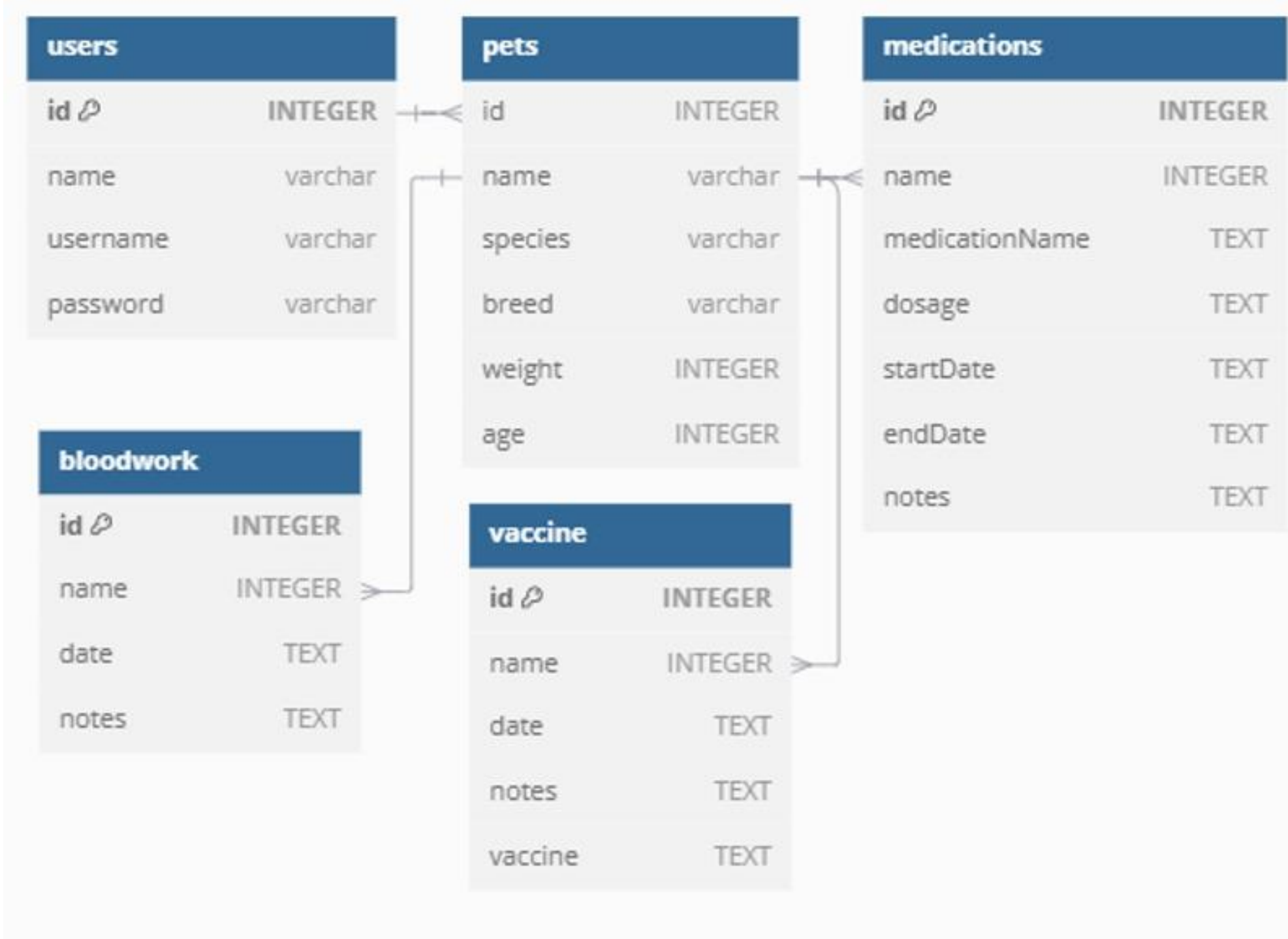
ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by XXXXX (name of the project sponsor: federal, state or local government, or corporate partners, where applicable). We/I thank XXXX for his/her/their assistance and mentorship that I/we received throughout the senior design project.

REQUIREMENTS

To address these issues, the application must provide a user-friendly interface for managing critical health data such as vaccination schedules, bloodwork records, and medication routines. It should also incorporate a vet-finder feature that uses the user’s zip code to suggest nearby veterinary services, ensuring convenience and accessibility. Additionally, the app should host an article section curated with reliable, up-to-date resources on pet health best practices, enabling users to educate themselves and make informed decisions for their pets’ care. Seamless integration, intuitive navigation, and data security are also essential to ensure the application’s effectiveness and user trust.

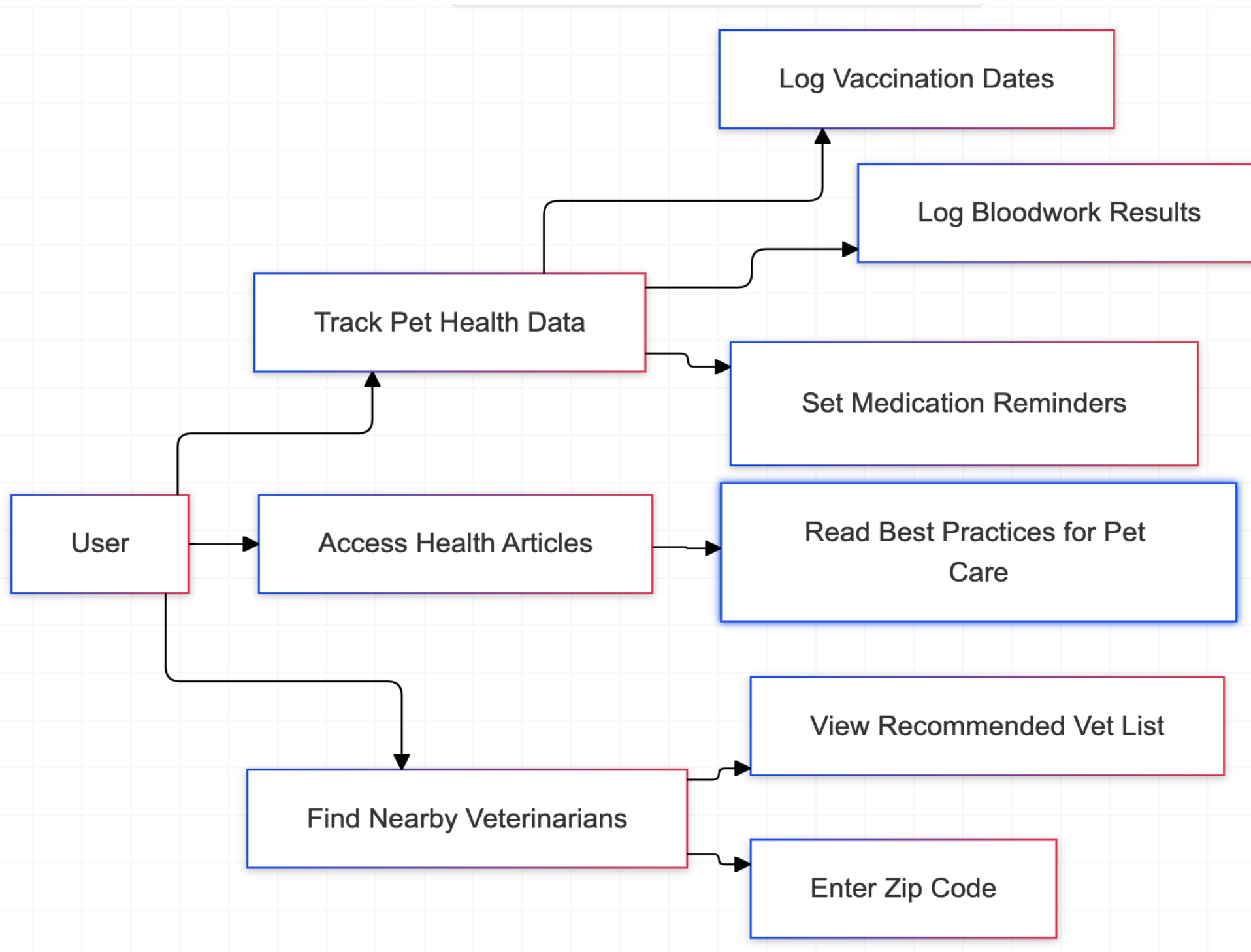
OBJECT DESIGN



SUMMARY

This help and wellness web application offers a holistic solution tailored to the needs of pet owners. By centralizing health data management, users can easily track and update crucial information like vaccination dates, bloodwork results, and medication schedules. The vet finder tool simplifies the process of locating nearby veterinarians, enhancing convenience and care accessibility. The curated article section empowers pet owners with knowledge about best practices in pet health, fostering proactive and informed care decisions. This application is designed to alleviate the challenges of pet health management, improving the overall well-being of pets and providing peace of mind to their owners.

SYSTEM DESIGN



VERIFICATION

Pet Guardian was thoroughly tested for compatibility, responsiveness, and functionality across devices, including desktops, tablets, and smartphones. Postman was used to validate API routes, ensuring reliable communication between the frontend and backend, with each endpoint tested for correct responses, error handling, and data consistency. After each sprint, regression testing was conducted to verify that new features did not disrupt existing functionality, covering workflows such as health tracking, vet recommendations, and the article section. This rigorous testing process ensured a stable, responsive, and user-friendly application.

INDIVIDUAL CONTRIBUTION

As the group lead, I played a critical role in ensuring the success of our project by organizing and coordinating all team activities. I scheduled and facilitated regular meetings, ensuring clear communication among team members and addressing any roadblocks promptly. My leadership ensured that we stayed on track with our timeline, meeting all delivery deadlines efficiently. Beyond coordination, I actively contributed to the creative aspects of the project by designing our logo, which encapsulates the mission and values of our application. Additionally, I took a central role in the development of the project poster, shaping its content, layout, and overall presentation to effectively convey our goals and accomplishments. By balancing leadership responsibilities with hands-on contributions, I ensured that every aspect of the project was executed smoothly and aligned with our vision. My efforts were pivotal in maintaining team momentum and delivering a polished, high-quality product.