UC-134 Volunteer Management System for Angels Among Us

Abstract

This project focused on creating a Volunteer Management System (VMS) for Angels Among Us (AAU) - a non-profit organization dedicated to rescuing and rehabilitating stray and abandoned animals. This application was developed to:

- Handle comprehensive volunteer information
- Streamline operations and better manage volunteer data
- Support AAU specific use cases
- Include a data enrichment capability through a newly developed GUI
- Allow authorized users to add more comprehensive information to each volunteer record
- implement reporting throughout the data migration process

Introduction

In February 2009, a small group of people dedicated to rescuing Georgia's increasing number of unwanted, abused, abandoned, and stray dogs and cats in animal control facilities and other dangerous circumstances created Angels Among Us Pet Rescue (Angels Rescue). In just ten years, this group has saved the lives of more than 20,000 dogs, cats, puppies, and kittens thanks to the efforts of donors, fosters, and other volunteers.

They are supported by tax-deductible donations from caring individuals and organizations.

"Rescue One Until There Are None" is the motto of Angels Among Us Pet Rescue, and they work hard to live up to this ideal every day, dog by dog and cat by cat. They are devoted and concentrate to fulfill our mission's ultimate goals.

Research Question(s)

1. Who are Angels Among Us Pet Rescue, what they have, and what they need?
2. What is the newest market ability to support VMS and the need of AAU?
3. How to create a functional VMS according the needs of AAU?
4. What to include in the application so that we will make it effective for AAU?
5. What are the benefits for AAU to get more than they require?
6. How to provide AAU with more help if they want it as recommendations?

Materials and Methods

- New database using PostgreSQL back-end.
- React-Admin was used as front-end framework
- REST APIs built using Django Rest Framework
- New ETL was created to migrate data from MySQL database to PostgreSQL
- Security tools were implemented to protect the application and its content
- Docker environment was created for easy development, deployment and scalability
- Version control using Git. Collaboration was done via GitHub

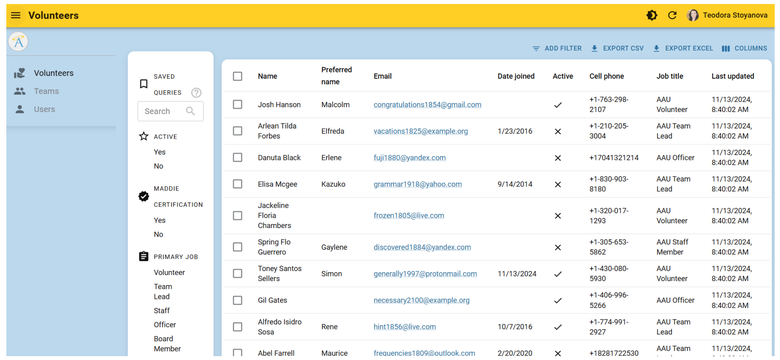

Fig.1 Application overview – volunteers

Results

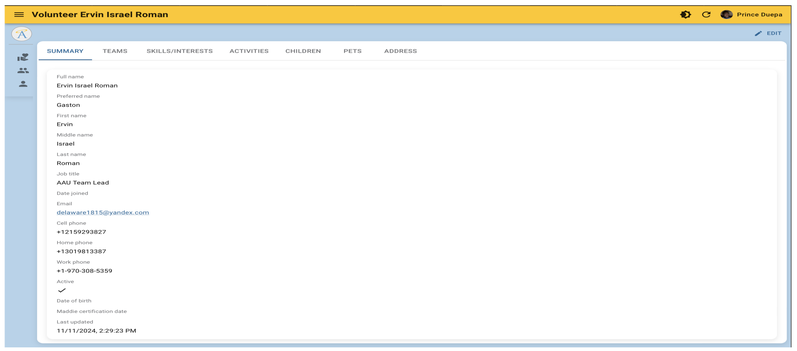

Fig.2 Application overview – volunteer information

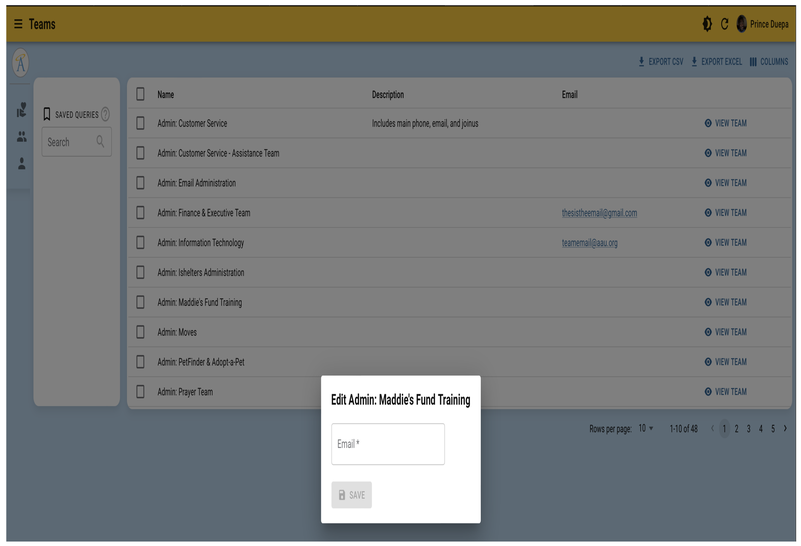

Fig.3 Application overview — Editing team information

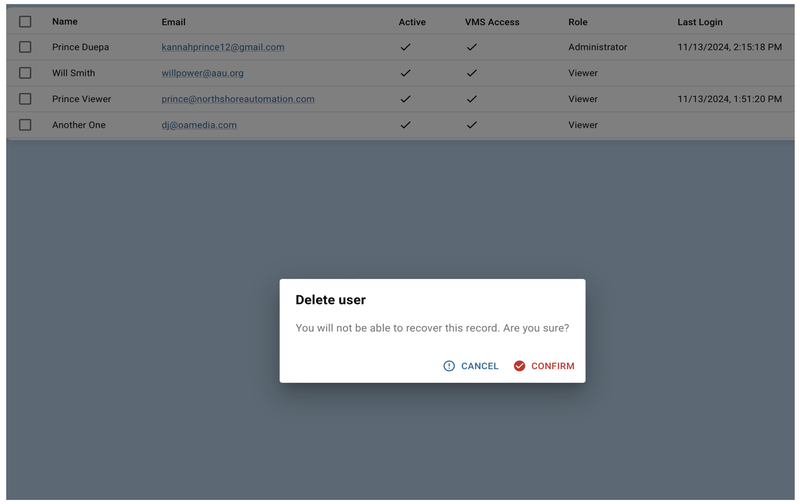

Fig.4 Application overview – Removing a user

Conclusions

In conclusion, the project achieved its objective of creating a comprehensive VMS for AAU by enhancing data management and providing streamlined access to essential information for different user roles. The inclusion of a role-based access system strengthened data security and allowed for tailored user experiences. The integration of open-source tools like PostgreSQL, Django, and React-admin ensured scalability and ease of maintenance. Git and GitHub were utilized for version control, and various resources and frameworks were referenced to ensure best practices in system architecture. This project offers a foundation for future improvements, such as further automating workflows and implementing more detailed reporting capabilities to support AAU's mission.

Acknowledgments

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