

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

<input type="checkbox"/>	Name	Preferred name	Email	Date joined	Active	Cell phone	Job title	Last updated
<input type="checkbox"/>	Josh Hanson	Malcolm	congratulations1854@gmail.com		✓	+1-763-298-2107	AAU Volunteer	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Arlaan Tilda Forbes	Elfreda	vacations1825@example.org	1/23/2016	✗	+1-210-205-3004	AAU Team Lead	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Danuta Black	Erlene	fujj1880@yahoo.com		✗	+1-704-132-1214	AAU Officer	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Elisa McGee	Kazuko	grammar1918@yahoo.com	9/14/2014	✗	+1-830-903-8180	AAU Team Lead	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Jackeline Floria Chambers		frozen1805@live.com		✗	+1-320-017-1293	AAU Volunteer	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Spring Flo Guerrero	Gaylene	discovered1884@yahoo.com		✗	+1-305-653-5862	AAU Staff Member	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Toney Santos Sellers	Simon	generally1997@protonmail.com	11/13/2024	✓	+1-430-080-5930	AAU Volunteer	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Gil Gates		necessary2100@example.org		✓	+1-406-996-5266	AAU Officer	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Alfredo Isidro Sosa	Rene	hint1856@live.com	10/7/2016	✓	+1-774-991-2927	AAU Team Lead	11/13/2024, 8:40:02 AM
<input type="checkbox"/>	Abel Farrell	Maurice	frequencies1809@outlook.com	2/20/2020	✗	+1-828-172-2530	AAU Team	11/13/2024, 8:40:02 AM

Fig.1 Application overview – volunteers

Results

Volunteer Ervin Israel Roman	
Full name	Ervin Israel Roman
Preferred name	Gaston
First name	Ervin
Middle name	Israel
Last name	Roman
Job title	AAU Team Lead
Date joined	
Email	dellawave1815@yahoo.com
Cell phone	+1-215-929-3827
Home phone	+1-970-308-5359
Work phone	+1-901-981-3387
Active	✓
Date of birth	
Maddie verification date	
Last updated	11/13/2024, 2:29:23 PM

Fig.2 Application overview – volunteer information

<input type="checkbox"/>	Name	Description	Email
<input type="checkbox"/>	Admin: Customer Service	Includes man phone, email, and joins	
<input type="checkbox"/>	Admin: Customer Service- Assistance Team		
<input type="checkbox"/>	Admin: Email Administration		
<input type="checkbox"/>	Admin: Finance & Executive Team		thesistheal@gmail.com
<input type="checkbox"/>	Admin: Information Technology		teamemail@aau.org
<input type="checkbox"/>	Admin: Isabella's Administration		
<input type="checkbox"/>	Admin: Maddie's Fund Training		
<input type="checkbox"/>	Admin: Moves		
<input type="checkbox"/>	Admin: PetFinder & Adopt-a-Pet		
<input type="checkbox"/>	Admin: Prayer Team		

Fig.3 Application overview — Editing team information

<input type="checkbox"/>	Name	Email	Active	VMS Access	Role	Last Login
<input type="checkbox"/>	Prince Duepa	kannahprince12@gmail.com	✓	✓	Administrator	11/13/2024, 2:15:18 PM
<input type="checkbox"/>	Will Smith	willpower@aau.org	✓	✓	Viewer	
<input type="checkbox"/>	Prince Viewer	prince@northshoreautomation.com	✓	✓	Viewer	11/13/2024, 1:51:20 PM
<input type="checkbox"/>	Another One	dj@oamedia.com	✓	✓	Viewer	

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.

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References

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