NEXT GEN EMPLOYABILITY PROGRAM

Creating a future-ready workforce

College Name

Student Name :Thamreen.M
Student ID :au820621104085

Arasu Engineering College

CAPSTONE PROJECT SHOWCASE

Project Title

Voting Application using Django Framework-Thamreen.M(4085,AEC)

Abstract | Problem Statement | Project Overview | Proposed Solution | Technology Used | Modelling & Results | Conclusion

Abstract

The proposed voting application is a web-based platform that allows users to create and participate in online votes. The application is built using the Django framework, a popular and well-supported Python-based web framework that provides a robust foundation for building scalable and secure web applications . The application is also designed to be flexible and scalable, with a modular architecture that allows for easy customization and extension. This makes it suitable for a wide range of use cases, from small-scale internal votes to large-scale public elections . Overall, the proposed voting application is a secure, user-friendly, and flexible platform for conducting online votes. Its use of the Django framework ensures a robust and scalable foundation, while its focus on security and user experience makes it an ideal choice for a wide range of voting scenarios.

Problem Statement

Online voting has become increasingly popular in recent years, with a growing number of organizations and governments turning to digital platforms to conduct elections and polls. However, online voting also presents a number of challenges, particularly in terms of security and integrity . Overall, the proposed voting application will address the challenges of security and integrity in online voting, while also providing a user-friendly platform for conducting online votes. Its use of the Django framework will ensure a robust and scalable foundation, while its focus on security and user experience will make it an ideal choice for a wide range of voting scenarios.

In addition to its focus on security, the application will also prioritize user experience, with a clean and intuitive interface that makes it easy for users to create and participate in votes. The application will support multiple types of votes, including single-choice and multiple-choice votes, and will allow users to set deadlines and restrictions for each vote.

Project Overview

The project overview for a voting application using the Django framework involves creating a secure and user-friendly online voting system. The application allows users to register, vote, and view real-time results. Here is a steps involved in building the voting application:

1. **Setting up a Django Project**: Create a Django project to serve as the foundation for the voting application.
2. **Designing the Database Schema**: Define the database structure to store user information, votes, and other relevant data.
3. **Creating User Authentication**: Implement user authentication to allow users to register, log in, and participate in voting.
4. **Building the Voting Interface**: Develop the interface where users can view options, select their choices, and submit votes.
5. **Implementing Real-time Results**: Display the voting results dynamically to provide instant feedback to users.
6. **Developing an Admin Panel**: Build an admin panel to manage the voting process, candidates, and user accounts effectively.

Proposed Solution

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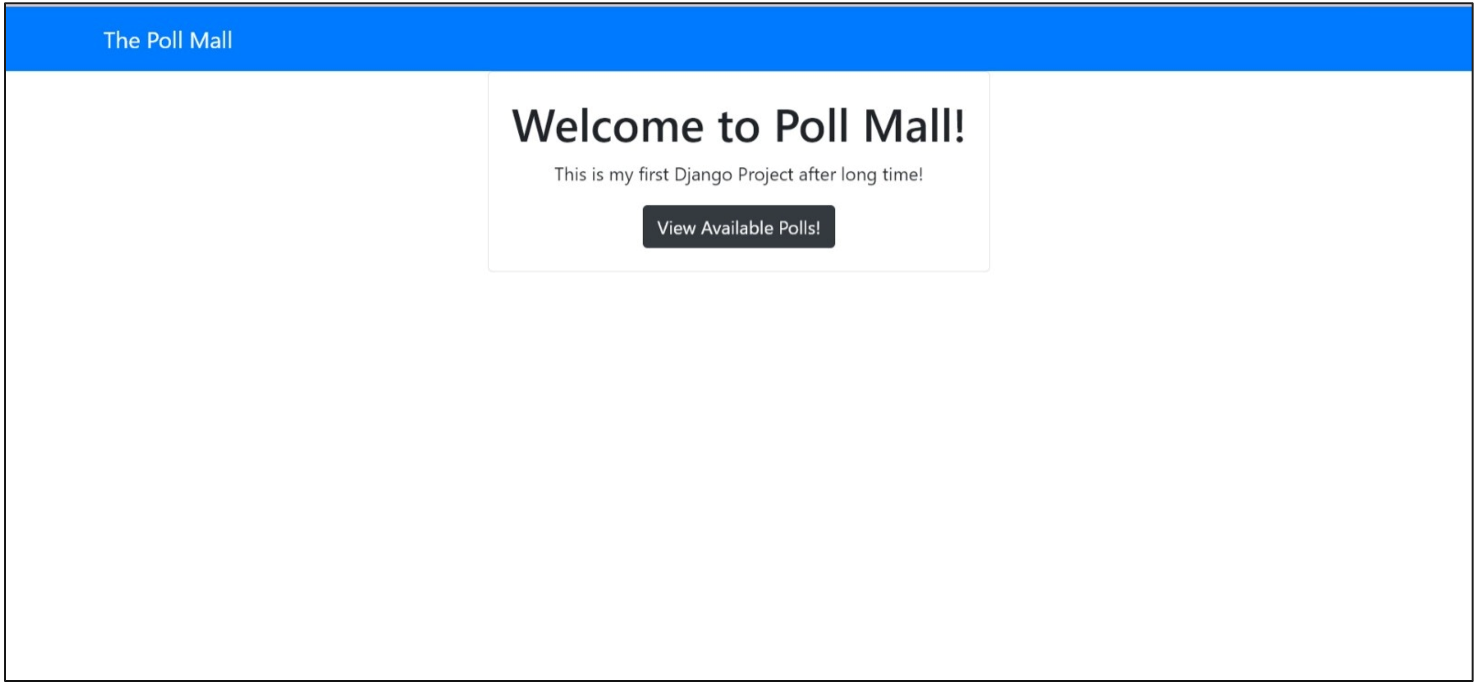
The proposed solution for a voting application using the Django framework is to create a secure and user-friendly online voting platform. The application will allow users to register, vote, and view real-time results . To build the application, the Django framework will be used as the foundation due to its robustness and scalability. The application will have a user-friendly interface, a secure database, real-time results, and an admin panel for efficient management of elections, candidates, and user accounts.

In summary, the proposed solution for a voting application using the Django framework is a secure, user-friendly, and flexible platform for conducting online votes. Its use of the Django framework ensures a robust and scalable foundation, while its focus on security and user experience makes it an ideal choice for a wide range of voting scenarios.

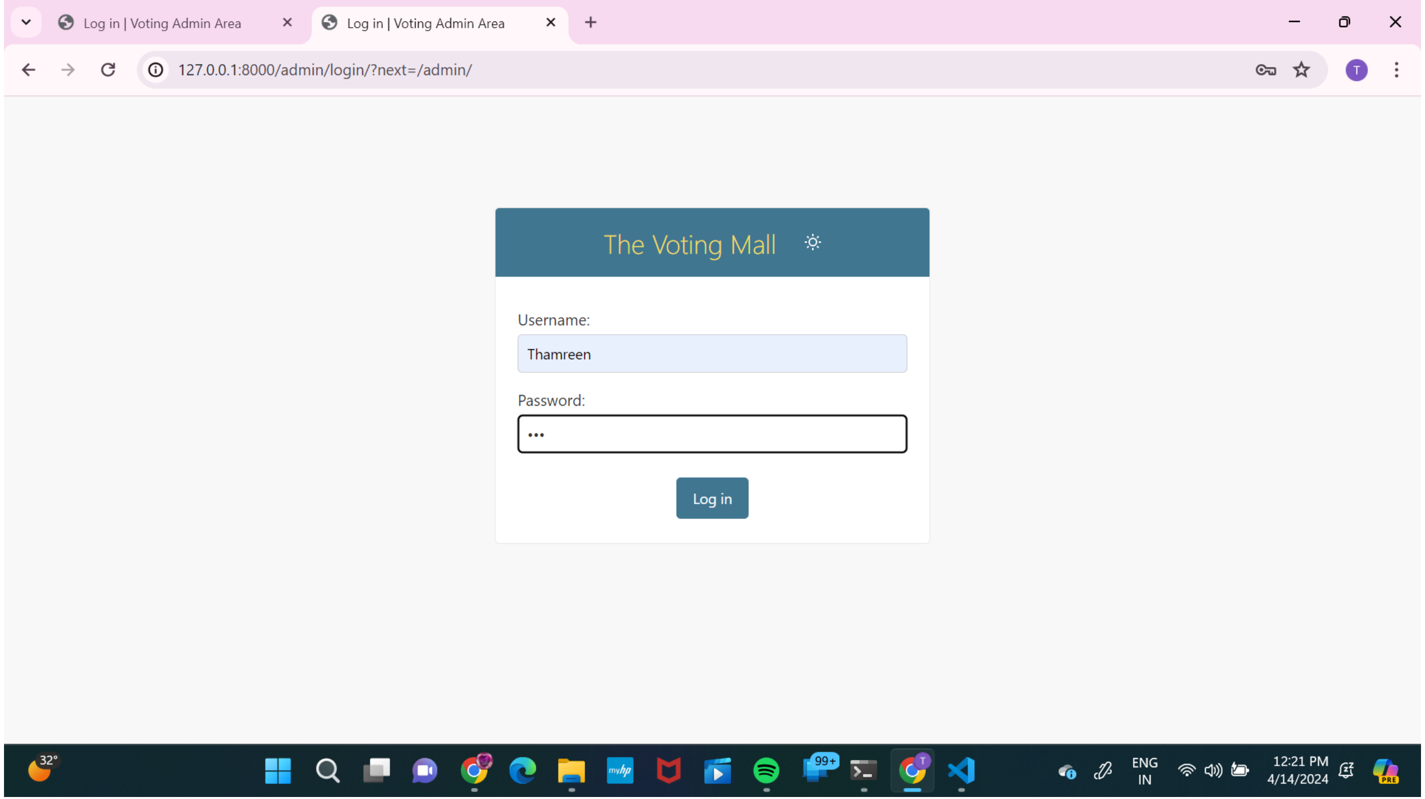
Home Page



Welcome to Poll Mall!

This is my first Django Project after long time!

Admin Login Page



Log in | Voting Admin Area
Log in | Voting Admin Area
127.0.0.1:8000/admin/login/?next=/admin/

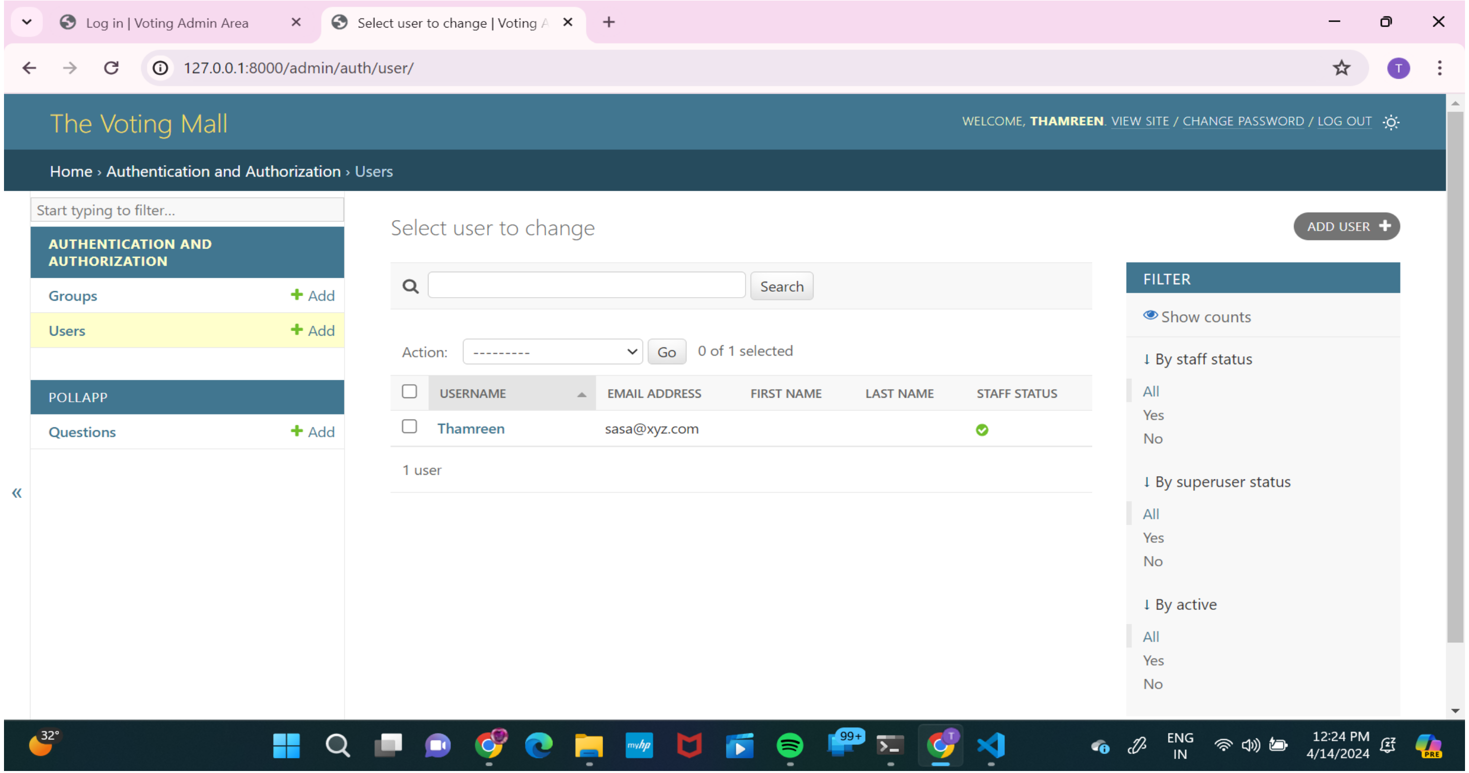
The Voting Mall

Username: Thamreen

Password: •••

Log in
32°
ENG
IN
12:21 PM
4/14/2024

Admin Details Page



Log in | Voting Admin Area
Select user to change | Voting A
127.0.0.1:8000/admin/auth/user/
T
32°
ENG
IN
12:24 PM
4/14/2024

The Voting Mall

WELCOME, **THAMREEN**. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Authentication and Authorization › Users

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups	+ Add
Users	+ Add

POLLAPP

Questions	+ Add

«

Select user to change

ADD USER +

Search

Action: --------- Go 0 of 1 selected

□	USERNAME	EMAIL ADDRESS	FIRST NAME	LAST NAME	STAFF STATUS
□	Thamreen	sasa@xyz.com			✓

1 user

FILTER

Show counts

↓ By staff status

All
Yes
No

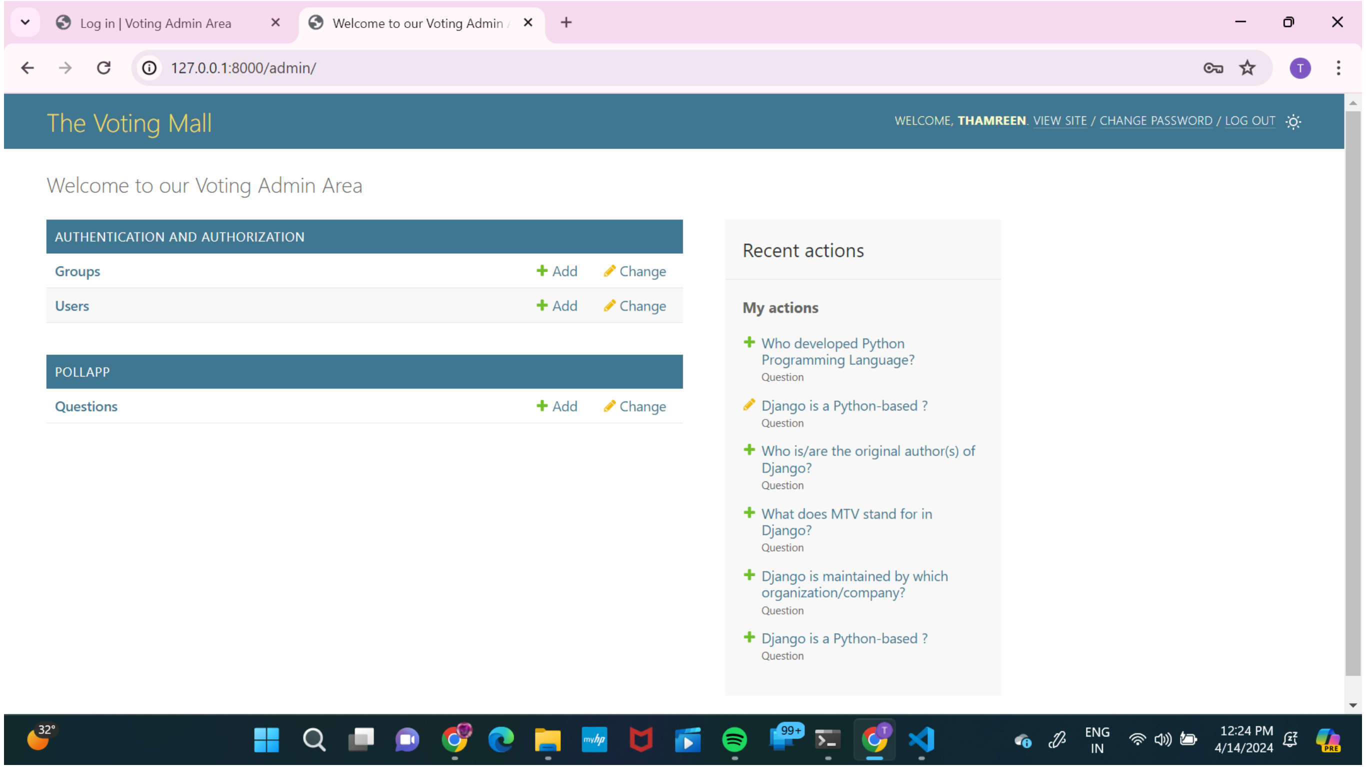
↓ By superuser status

All
Yes
No

↓ By active

All
Yes
No

Admin Page



The Voting Mall

WELCOME, **THAMREEN**. VIEW SITE / CHANGE PASSWORD / LOG OUT

Welcome to our Voting Admin Area

AUTHENTICATION AND AUTHORIZATION		
Groups	+ Add	✎ Change
Users	+ Add	✎ Change

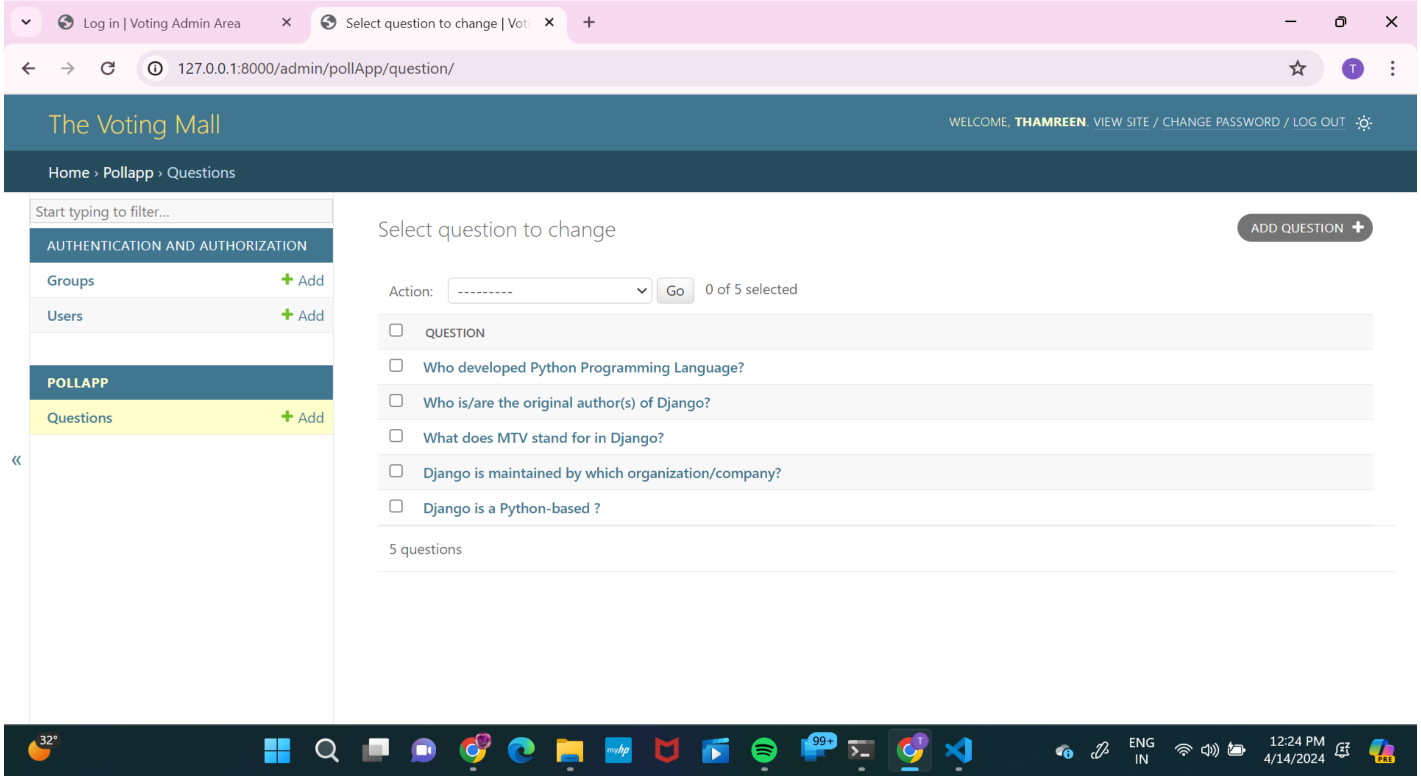
POLLAPP		
Questions	+ Add	✎ Change

Recent actions

My actions

- + Who developed Python Programming Language?
  Question
- ✎ Django is a Python-based ?
  Question
- + Who is/are the original author(s) of Django?
  Question
- + What does MTV stand for in Django?
  Question
- + Django is maintained by which organization/company?
  Question
- + Django is a Python-based ?
  Question

Question Adding Page



Log in | Voting Admin Area
Select question to change | Voti
127.0.0.1:8000/admin/pollApp/question/

The Voting Mall

WELCOME, **THAMREEN**. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Pollapp › Questions

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

- Groups + Add
- Users + Add

POLLAPP

- Questions + Add

Select question to change

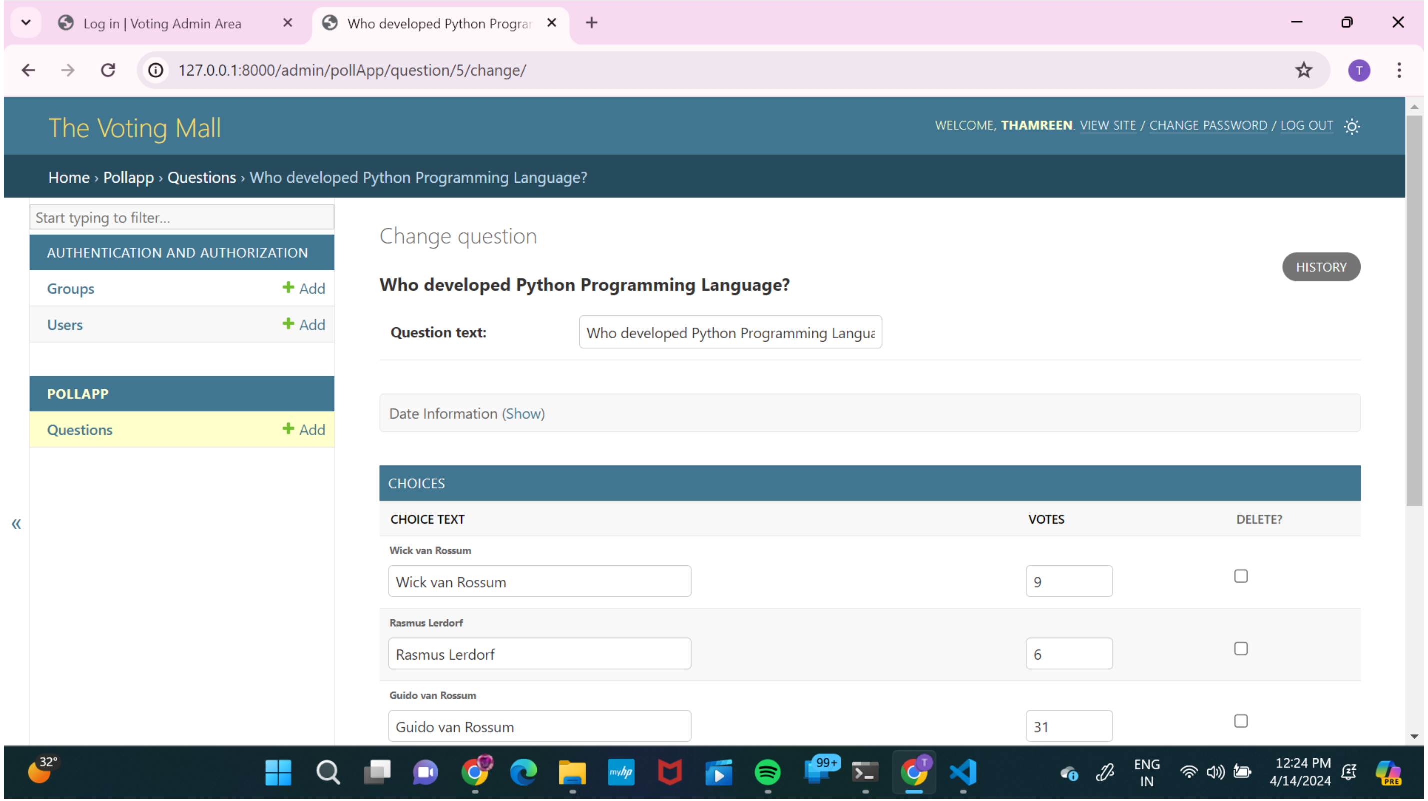
ADD QUESTION +

Action: --------- Go 0 of 5 selected

□	QUESTION
□	Who developed Python Programming Language?
□	Who is/are the original author(s) of Django?
□	What does MTV stand for in Django?
□	Django is maintained by which organization/company?
□	Django is a Python-based ?

5 questions

Voting Details Page



Log in | Voting Admin Area
Who developed Python Progra
127.0.0.1:8000/admin/pollApp/question/5/change/

The Voting Mall

WELCOME, **THAMREEN**. VIEW SITE / CHANGE PASSWORD / LOG OUT

Home › Pollapp › Questions › Who developed Python Programming Language?

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

POLLAPP

Questions + Add

Change question

HISTORY

Who developed Python Programming Language?

Question text: Who developed Python Programming Langua

Date Information (Show)

CHOICES

CHOICE TEXT	VOTES	DELETE?
Wick van Rossum Wick van Rossum	9	□
Rasmus Lerdorf Rasmus Lerdorf	6	□
Guido van Rossum Guido van Rossum	31	□

Technology Used

Front-end

Back-end

Future Enhancements:

Future enhancements in a voting application using the Django framework, several key features and improvements can be considered based on the information from the provided sources,

1.Asynchronous Programming: Implementing asynchronous programming can enhance the performance of the application by allowing tasks to run concurrently, improving responsiveness and scalability.

2.Microservices Architecture: Adopting a microservices architecture can make the application more modular, easier to maintain, and scalable by breaking it into smaller, independent services that communicate with each other

3.Serverless Computing: Utilizing serverless computing can optimize resource utilization and reduce costs by enabling automatic scaling and only paying for actual usage, enhancing the application's efficiency and cost-effectiveness.

4.Client-Side Encryption: Enhancing security by implementing client-side encryption can protect sensitive data and ensure the confidentiality of votes, contributing to a more secure e-voting platform.

5.Blockchain Technology: Integrating blockchain technology can provide transparent and verifiable voting processes, ensuring the integrity of elections and promoting trust in the system

Conclusion

To create a voting application using Django, one should have a solid understanding of Python programming, Django framework, HTML, CSS, and Bootstrap. The development process involves creating a new Django project, creating a Django app, defining models, creating views, defining templates, and creating URLs.

The application can be further enhanced with features such as real-time results, a user-friendly interface, and a secure database design. It can also include an admin panel for managing elections, candidates, and user accounts.

Overall, a voting application using the Django framework is a powerful and flexible solution for creating online voting systems that can cater to various use cases and requirements.

Thank You!