



NEXT GEN EMPLOYABILITY PROGRAM

Creating a future-ready workforce

Team Members

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CAPSTONE PROJECT SHOWCASE

Project Title

Voting Web Application using Django Framework

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Abstract

Install Django using pip, create a new Django project, and set up a virtual environment for your project. Define Django models to represent the data you'll be working with. For a voting app, you might have models for "Question" and "Choice". Each Question can have multiple Choices.

Use Django's built-in admin interface to manage your Question and Choice models. This will allow you to create, edit, and delete questions and choices via a web interface. Define views to handle user requests. For example, you'll need views to display the list of questions, display the details of a specific question, handle user voting, etc.

Set up URL patterns to map URLs to your views. Define URL patterns for listing questions, viewing individual questions, submitting votes, etc.

Implement appropriate security measures to prevent issues like CSRF attacks and unauthorized access. Deploy your Django application to a web server. You can use platforms like Heroku, AWS, or DigitalOcean for deployment.

Problem Statement

Traditional polling methods suffer from a lack of user engagement and real-time interaction, inhibiting effective data collection and decision-making processes.

Manual handling of voting data is laborious, prone to errors, and lacks scalability, especially in situations with a large number of participants or frequent polling events.

Existing polling systems often lack robust security measures, making them susceptible to unauthorized access, data breaches, and tampering, thereby jeopardizing the integrity and confidentiality of voting outcomes.

Developing a custom voting web application from scratch necessitates substantial expertise in web development, backend programming, and database management, presenting hurdles for individuals or organizations with limited technical resources.

Project Overview

1. Set up the Django environment by installing Django and configuring the project settings.
2. Define data models for voting components, including polls, questions, choices, and user profiles.
3. Integrate authentication features using Django's built-in authentication system or third-party authentication libraries.
4. Design user interfaces for polls using HTML, CSS, and JavaScript to create an intuitive voting experience.
5. Implement security measures such as CSRF protection, input validation, and secure password storage to enhance data security.

Proposed Solution

This platform, users can seamlessly participate in polls in real-time, fostering engagement and simplifying data collection processes. To ensure the integrity of the voting process, robust authentication mechanisms will be implemented, allowing only authorized users to access and contribute to polls .

1. Scalable Architecture
2. Accessibility Features
3. Interactive Voting Platform
4. Data Encryption
5. Secure Authentication
6. Secure Authentication
7. Real-Time Updates
- 8 Comprehensive Testing

Advantages:

- ❖ Robust authentication measures and encryption techniques ensure the integrity and confidentiality of voting data, safeguarding against unauthorized access and data breaches.
- ❖ The platform simplifies the process of collecting voting data in real-time, allowing organizers to gather insights quickly and make informed decisions promptly.
- ❖ With its intuitive interface and accessibility features, the platform caters to users of all abilities, providing an inclusive voting experience that is easy to navigate and understand.
- ❖ The interactive nature of the voting platform encourages active participation, leading to increased engagement among users and fostering a sense of community involvement.

Disadvantages:

- ❖ Running a real-time voting platform requires adequate server resources and bandwidth, which could incur significant costs for hosting and maintenance, especially for large-scale usage.
- ❖ Despite security measures, the platform may still be vulnerable to sophisticated cyber attacks or hacking attempts, posing risks to the integrity and confidentiality of voting data.
- ❖ Some users may be hesitant to engage with online voting platforms due to concerns about privacy, trust, or unfamiliarity with the technology, leading to lower participation rates compared to traditional voting methods.

Technology Used

Front-end

- 1.HTML
- 2.CSS
- 3.JavaScript
- 4.Bootstrap

Back-end

- 1.Python
- 2.Django
- 3.SQL

Modelling & Results

- Testing and Deployment:** Conduct rigorous testing to validate functionality, usability, and security, then deploy the platform, continuously monitoring its performance and gathering user feedback for iterative improvements, ensuring a reliable and user-friendly voting platform.
- Model Definition:** Define "Question" and "Choice" models in Django, storing question text, publication dates, and choices with their corresponding vote counts, facilitating organized data storage and retrieval.
- Implementation of Views and Templates:** Create interactive views and templates for users to browse questions, select choices, and submit votes, ensuring a seamless and intuitive voting experience while dynamically updating voting results.
- Security Measures:** Implement user authentication to control access and encryption techniques to protect voting data, ensuring confidentiality and integrity, and mitigating risks of unauthorized access or tampering.

Homepage

The Poll Mall

Welcome to Poll Mall!

This is my first Django Project after long time!

[View Available Polls!](#)

About-Us-Page

- ❖ Our priority is your security. We've implemented strict authentication and encryption to protect your data and ensure the integrity of every vote.
- ❖ Welcome to our voting platform! We're a team passionate about making democratic participation easy and secure for everyone. Using Django, a trusted web framework, we've built a user-friendly platform for conducting polls and gathering valuable insights.
- ❖ Accessibility is key to us. Our platform is designed to be inclusive and easy to use for everyone, regardless of ability.
- ❖ Join us as we work towards a future where everyone's voice counts.

Service-Page

- ❖ Customization Options
- ❖ Data Privacy
- ❖ Poll Creation
- ❖ Real-Time Results
- ❖ Secure Authentication
- ❖ Accessibility Features
- ❖ Expert Support
- ❖ Scalable Infrastructure

Departments-Page

- ❖ Marketing and Outreach
- ❖ Administration
- ❖ Development
- ❖ Security
- ❖ Legal and Compliance
- ❖ Customer Support
- ❖ Design and Accessibility
- ❖ Research and Development

Poll Questions

The Poll Mall

Poll Questions

who is slower ?

[Vote Now!](#)

[Results!](#)

Voting Status

The Poll Mall

Back To Polls

who is slower ?

☐ Tiger

☐ Rabbit

☒ Turtle

Vote

Voted List

The Poll Mall

who is slower ?

Tiger	0 votes
Rabbit	0 votes
Turtle	2 votes

[Back To Polls](#)

[Vote again?](#)

Admin Page

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

POLLAPP

Questions + Add

Select question to change

Action:

Go

 0 of 1 selected

☐ QUESTION

☐ Which one you like ?

1 question

Future Enhancements:

- Develop dedicated mobile applications for iOS and Android devices, offering users the convenience of voting on-the-go and accessing voting events from their smartphones or tablets.
- Implement advanced analytics features to provide in-depth insights into voting trends, demographics, and user behaviors, enabling organizations to make data-driven decisions and optimize their strategies.
- Expand language support to cater to a global audience, allowing users to access the platform and participate in polls in their preferred language, thereby promoting inclusivity and accessibility.
- Enable seamless integration with popular social media platforms to facilitate broader reach and engagement, allowing users to share polls, invite friends to participate, and generate viral interest in voting events.
- Continuously enhance security measures by adopting emerging technologies such as blockchain for transparent and immutable voting records, ensuring the highest level of integrity and security for voting processes.

Conclusion

As we continue to evolve and implement future enhancements, our commitment remains unwavering: to provide a reliable, inclusive, and innovative platform for facilitating meaningful interactions and driving positive change. In conclusion, our voting platform offers a user-friendly and secure solution for conducting polls and gathering valuable insights. With features such as real-time results, secure authentication, and accessibility compliance, we strive to empower organizations and individuals to engage in democratic decision-making processes effectively.

Thank You!