IJITCE

ISSN 2347- 3657

International Journal of Information Technology & Computer Engineering

Email : ijitce.editor@gmail.com or editor@ijitce.com

International Journal of Information Technology & Computer Engineering

ISSN 2347–3657

Volume 13, Issue 1, 2025

SOCIAL NETWORKING APP USING DJANGO

T. Anil Karuna Kumar [1], K Bhanu Srivalli [2], K.V.L. Siva Sai Kalpha Pravalya [3], A. Renu[4], B. Teja Sri [5]

[1] Associate Professor, Dept. of Computer Science & Engineering, Vijaya Institute of Technology for Women, Enikepadu, Vijayawada-521108

[2,3,4,5] Students, Dept. of Computer Science & Engineering, Vijaya Institute of Technology for Women, Enikepadu, Vijayawada-521108

Email id: anilkarunakumar@gmail.com [1], bhanusrivallikollu33799@gmail.com[2], pravalyakhande0905@gmail.com[3], avanigaddarenu@gmail.com [4], tejasri502.vitw@gmail.com[5]

Abstract:

Social networks constitute the greatest global information platform on the internet today. They have become an indispensable part of our daily lives. As people spend more time socializing on the internet. The web project developed by Prathiksha Kini and Shanelle D'Mello simulates a social media website called "Truffle" where the users can create, edit and update their profiles with a strong authentication system provided inbuilt by the Django framework. The logged in users can add, edit, download and delete posts, search users, like and comment on the post as well as follow/unfollow other users. The website hosts a user suggestion section where random users are displayed on refreshing the page. This project report will introduce how to build a social media web application system using the Django framework. Django is an open-source web application framework written in python. This social media web application system built using Django has five major components with different functionalities that will be introduced later. We will introduce various features of the Django framework and SQLite3 RDBMS in the later section. In the end, snapshots are attached to demonstrate UI.

Keywords: web application, Social networks, Django

Introduction

In today's digital age, social networking applications have become an integral part of communication and connectivity. Using Django, a high-level Python web framework, developers can build secure, scalable, and feature-rich social networking applications efficiently. The project aims to create a desirable social media application for users with a suitable UX design and proper backend management. The project uses the Django web framework (python framework) to implement the social media application. The project uses SQLite3 software library for a relational database management system in the backend to store, retrieve, and perform necessary backend operations. HTML, Bootstrap, CSS, SCSS and Django Template Language implement the front-end to customize the user interface. Truffle is a Django based social media website where users can utilize the features exactly as on other straightforward social media websites. Features: As mentioned above, this application system has five vital components/features: User registration/authentication, User posts, Search users, Like and Comment on user posts and Follow/Unfollow users. User registration/Authentication: Any application will include this primary feature to register users in their application. To access all the other features, the user must register into the application. We collect users-fundamental data such as email, username, first name, last name, password, and store it in the database. Moreover, the users can change their password for security purposes. Profile modification: This is an extended feature of user registration. Here, users can create and modify their profiles. Users can change their profile picture, email address, and their usernames.

Literature Review:

Social Networking, Matthew N. O. Sadiku, Adedamola A. Omotoso, Sarhan M. Musa (2019) Social networks constitute the greatest global information platform on the Internet today. They have become an indispensable part of our daily lives as people spend more time socializing on the Internet. The penetration of these technologies into the popular culture has been pervasive. Social networking has changed the way people communicate, share information, and interact socially. It allows individuals to connect and socialize with others, regardless of location. As the popularity of social networking increases, new applications for the technology are often being observed. A new trend is the social internetworking of machines. The ultimate goal in this evolution is creating the Internet of Things (IoT) and social networks among machines. However, creating online social networks raises privacy concerns of possible misuse. This paper provides a brief introduction to social networking and its diverse applications.[2] Social Network Structure as a Moderator of the Relationship between Psychological Capital and Job Satisfaction: Evidence from China, Yuanyuan Xiao, Fan Gu (2021) This study extends research by examining the moderation effect of social network structure on the relationship between psychological capital and job satisfaction in the Chinese context. Thus, we could better realize the important role of social networks in Chinese daily life is the main academic contribution of this study. In order to test the effect of psychological capital on job Beyond the Internet of Things: The Social Networking of Machines Marina Pticek, Vedran Podobnik, and Gordan Jezic (2016) Communication is a prerequisite for any form of social activity, including social networking. Nowadays, communication is not reserved only for humans, but machines can also communicate. This paper reviews the state-of-the-art technology in the area of Machine- to- Machine (M2M) communication by comparing the M2M concept with other related research paradigms such as Wireless Sensor Networks, Cyber-Physical Systems, Internet of Things, and Human-Agent Collectives. The machine social network conceptually complies with the machine Web 2.0 paradigm. It is a network of devices that are contextually, socially, and network aware and which are able to dynamically create (social) connections between each other in order to offer services to each other and to jointly solve problems.

Existing system:

The Existing method for achieving social network functionalities within web development that Django has streamlined or replaced.

Custom User Authentication: Before Django's built-in functionalities, developers might have implemented user registration, login, and password management from scratch. This would have involved handling password hashing, session management, and user data persistence manually.

Separate Authentication Libraries: Libraries like Django-piston or Python Social Auth might have been used in the past for authentication purposes. Django's current user model and functionalities provide a more integrated approach.

Proposed System

The project will be developed using an iterative and incremental approach. The first step will be to define the requirements and design the system architecture. This will involve identifying the various components of the system and their interactions, as well as defining the user flows and functionalities. Once the requirements and design are finalised, the implementation phase will begin. This will involve the development of the various components of the system, including the user interface, database, and backend logic. The system will be tested and refined throughout the development process to ensure that it meets the requirements and provides a smooth and efficient user experience. Django is an open-source web application framework written in python. It is a high-level framework that encourages rapid development and clean, pragmatic design.

DJANGO:

International Journal of Information Technology & Computer Engineering
ISSN 2347–3657
Volume 13, Issue 1, 2025

Django is a high-level Python web framework that has taken the web development world by storm. Renowned for its rapid development capabilities, clean design principles, and robust security features, Django empowers developers to build complex web applications with efficiency and elegance. This comprehensive exploration delves into the core concepts, functionalities, and advantages of Django, making it an invaluable resource for aspiring web developers considering this remarkable framework.

Glimpse into Django's Philosophy:

Born in the heart of the Lawrence Journal-World newsroom in 2003, Django was initially created to address the shortcomings of existing content management systems (CMS). The core developers, Adrian Holovaty, Simon Willison, and Jacob Kaplan-Moss, envisioned a framework that would streamline the development process, promote reusability of code, and prioritize security. These guiding principles continue to define Django's approach to web development. Another cornerstone of Django's philosophy is the Model-Template-View (MTV) architectural pattern.

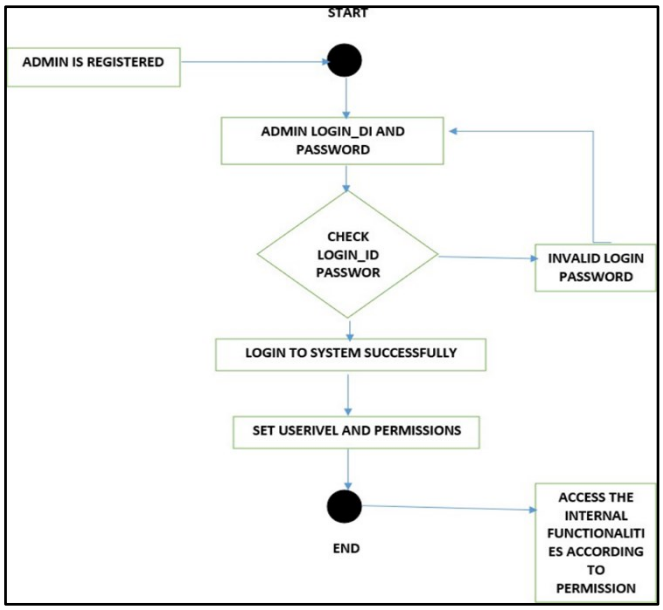

Figure: Use Case Diagram

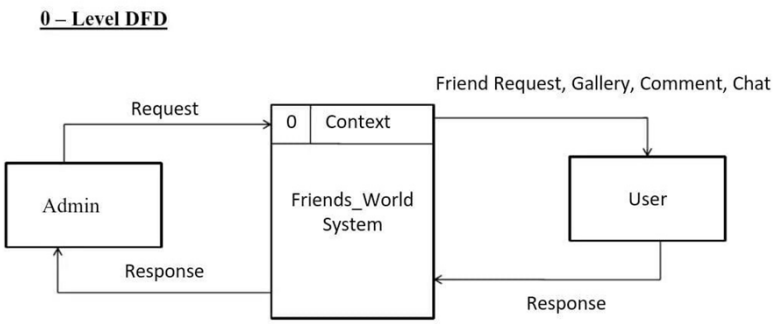

Figure: DFD'S

International Journal of Information Technology & Computer Engineering
ISSN 2347–3657
Volume 13, Issue 1, 2025

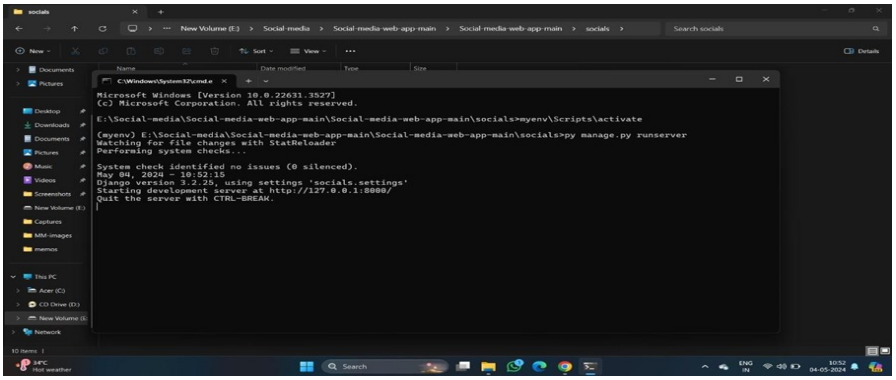

Figure: Activate The Project &To Generate Link

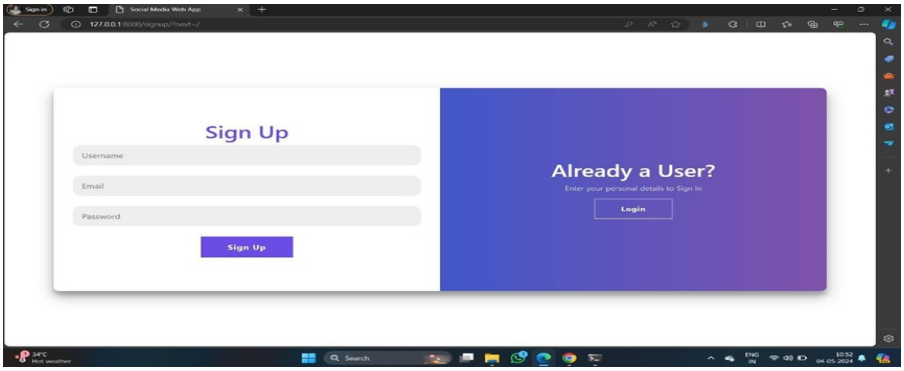

Figure: The Link Will Open This Page

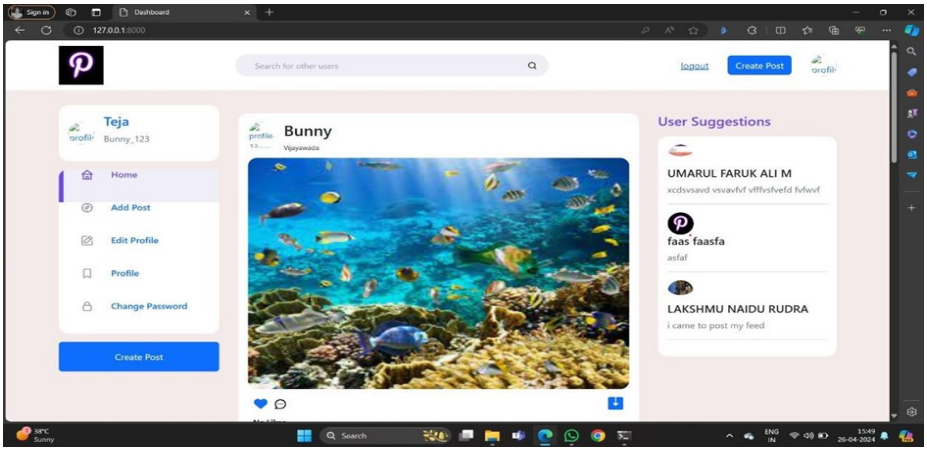

Figure: Home Page

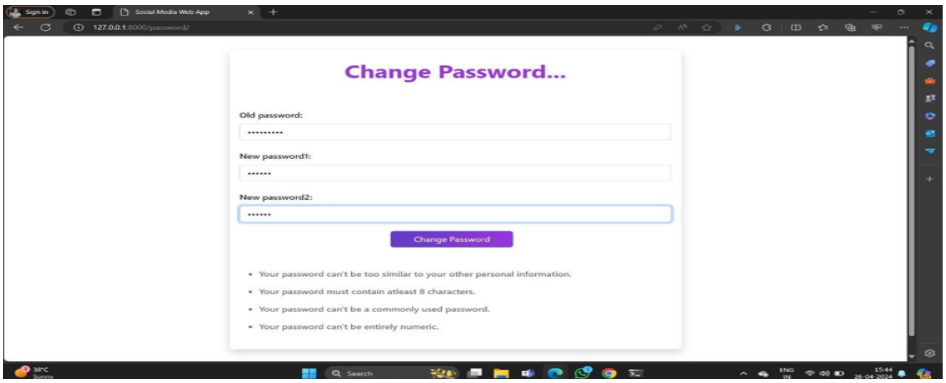

Figure: Change Password Page

Future Work

Django is a great choice for building and enhancing social networking applications. Expand more Here are some future-oriented features you can consider integrating into your Django social network app:
Focus on Content and User Experience:

- Content Moderation with AI: Leverage machine learning to identify and flag potentially harmful content like hate speech or misinformation. This can be combined with human moderation for a robust system
- Personalized Content Feeds: Use algorithms to recommend content and users based on a user's activity and interests. This can be achieved through collaborative filtering or content-based filtering techniques.
- Rich Media Support: Allow users to share and interact with various media formats like videos, podcasts, or 360° content.

Conclusion

As the goal was set most of the implementations and requirements have been passes and test cases been solved. Some problems for developer like error correction did become a hassle as we are new to this subject, but at the end a fruitful website was created together. Future Scope can include integrating our application with a real time chat application that could serve the demand of the users on a successful social media web application. Working on the backend can be time-consuming and yet can be simplified when working with the Django framework. SQLite3 provides a robust and flexible Database Management System that is very suited for the scalability of products. Extensions or development of the database tables so that a better database can be provided. No software is perfect, good maintenance an update to the trend is what will make any software shine. SQL ite3 database works at its best, backed by the authentication and security features of Django.

References:

1. Social Networking, Matthew N. O. Sadiku, Adedamola A. Omotoso, Sarhan M. Musa (2019)
2. Social Network Structure as a Moderator of the Relationship between Psychological Capital and Job Satisfaction: Evidence from China, Yuanyuan Xiao, Fan Gu (2021)
3. Beyond the Internet of Things: The Social Networking of Machines Marina Pticek, Vedran Podobnik, and Gordan Jezic (2016)
4. In a World of Social Media: Instagram Use in Social Networking Marketing and Its Effect on Well- Being, Manish Singh, Nilesh Kumar (2021)
5. A. J. Y. Zaidieh, “The use of social networking in education: challenges and opportunities,” World of Computer Science and Information Technology Journal (WCSIT), vol. 2, no. 1, 2012, pp. 18-21.
6. A. M. Attia et al., “Commentary: the impact of social networking tools on political change in Egypt’s ‘Revolution 2.0’,” Electronic Commerce Research and Applications, vol. 10, 2011, pp. 369–374.