Real-Time Chat Application Project Proposal

Real-Time Chat Application Project Proposal A Secure and Scalable Web-Based Chat Application U

This document outlines the development plan for a web-based real-time chat application built using the Django framework. The application facilitates user registration, authentication, profile management, friend requests, and real-time messaging using Django Channels for WebSocket-based communication. Detailed data flow diagrams (DFDs) are provided to illustrate the system's architecture and data interactions.

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1 Introduction

1.1 Problem Statement

In the modern digital era, real-time communication is critical for both personal and professional interactions. The rise of digital platforms has increased the demand for efficient, secure, and customizable communication

tools. However, many existing chat applications lack customization options, seamless integration capabilities, and robust security features, which can limit user experience, scalability, and data protection. This project aims to address these limitations by developing a secure, scalable, and customizable real-time chat application using the Django framework. By leveraging Django's robust ecosystem and Django Channels for WebSocket support, the application will provide a flexible platform for real-time messaging, suitable for individual users and organizations.

1.2 Abstract

This project proposes a web-based real-time chat application developed using the Django framework. The application supports user registration, secure authentication, profile management, friend request handling, and real-time one-to-one messaging. By utilizing Django Channels, the system ensures asynchronous communication through WebSockets, delivering a responsive and efficient user experience. The application is designed to be scalable, secure, and user-friendly, with a modular codebase to facilitate maintenance and future enhancements. Detailed data flow diagrams (DFDs) are included to provide a clear understanding of the system's data interactions and architecture.

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5 References

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