FINAL PROJECT REPORT

Project Title

Chat It – A Real-Time Social Media Application with Shared Music and Mini Games

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1. Abstract

Social media applications have become an integral part of modern communication; however, most platforms focus on passive content consumption rather than active interaction. The project **Chat It** aims to enhance social connectivity by combining traditional social media features with real-time shared experiences. In addition to Instagram-like functionalities such as posts, stories, and chats, Chat It introduces innovative features like **synchronized music listening** and **mini-games inside chat**, enabling users to interact, play, and enjoy together in real time. The application is developed using **React Native** for the frontend and **Supabase** as the backend, ensuring scalability, security, and real-time performance.

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2. Introduction

With the rapid growth of mobile technology, social networking applications have evolved significantly. Despite this evolution, users often rely on multiple applications for chatting, music streaming, and gaming. This fragmentation reduces seamless interaction. Chat It addresses this issue by providing an integrated platform where users can communicate, share content, listen to music together, and play games without leaving the app.

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3. Objectives of the Project

The objectives of the Chat It project are: - To design and develop a modern social media application - To enable real-time communication between users - To provide shared music listening experiences - To integrate mini-games within chat - To improve user engagement and retention

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4. Scope of the Project

Included Features

- User authentication and profile management
- Photo and video posting
- Stories with 24-hour visibility
- One-to-one real-time chat
- Shared music listening feature

- Mini-games inside chat

Limitations

- Group music sessions are not included in the MVP
- Advanced AI-based recommendations are excluded

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5. Literature Survey

Various existing social media platforms such as Instagram, WhatsApp, and Snapchat were studied. These platforms provide strong communication features but lack integrated real-time shared activities like music synchronization and in-chat games. Chat It bridges this gap by merging communication with entertainment in a single platform.

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6. System Analysis

6.1 Existing System

The existing systems require users to switch between multiple apps for chatting, listening to music, and gaming. This leads to reduced user engagement and fragmented experiences.

6.2 Proposed System

The proposed system, Chat It, integrates social networking, entertainment, and real-time interaction into one application, providing a seamless and engaging user experience.

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7. System Design

7.1 Architecture

Chat It follows a client-cloud architecture: - Frontend: React Native (Expo) - Backend: Supabase (Auth, Database, Realtime, Storage) - External APIs: Music streaming APIs

7.2 Database Design

The database includes tables such as users, posts, chats, messages, music sessions, and games. Relationships ensure data integrity and security using Row Level Security (RLS).

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8. Technology Stack

- **Frontend:** React Native with Expo

- **Backend:** Supabase
- **Database:** PostgreSQL
- **Authentication:** Supabase Auth
- **Realtime Communication:** Supabase Realtime
- **Storage:** Supabase Storage

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9. Module Description

9.1 Authentication Module

Handles user registration, login, and secure session management.

9.2 Profile Module

Allows users to create and manage personal profiles.

9.3 Feed & Post Module

Enables users to upload, view, like, and comment on posts.

9.4 Chat Module

Provides real-time messaging between users.

9.5 Music Sync Module

Allows two users to listen to the same song simultaneously with synchronized controls.

9.6 Mini Games Module

Supports simple real-time games such as Tic Tac Toe and Quiz battles inside chat.

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10. Implementation Details

The frontend was developed using React Native components, while Supabase handled backend services. Realtime subscriptions were used for chat messages, music synchronization, and game state updates. Secure authentication and database access were ensured using Supabase Auth and RLS policies.

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11. Testing

Various testing methods were applied: - Unit Testing - Integration Testing - Functional Testing

Test cases verified chat reliability, music synchronization accuracy, and game state consistency.

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12. Results and Discussion

The developed application successfully demonstrated real-time chat, synchronized music playback, and mini-games. The integration of these features improved user interaction and engagement compared to traditional social media applications.

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13. Advantages of the System

- Enhanced user engagement
- Real-time shared experiences
- Reduced dependency on multiple apps
- Scalable and secure architecture

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14. Future Enhancements

- Group music listening sessions
- Advanced multiplayer games
- AI-based content recommendations
- Monetization features

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15. Conclusion

Chat It successfully demonstrates how social media can evolve beyond passive content consumption into active, shared experiences. By integrating communication, music, and gaming, the application offers a unique and engaging platform suitable for modern users.

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16. References

- Supabase Documentation
- React Native Documentation
- Software Engineering Textbooks

Project Status: Completed
Academic Use: Suitable for submission