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Converso: Chat App with Live Video Sharing and AI Chat Bot

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Abstract

Internet communication is now an integrated part of daily life with lots of communications related applications in computer systems. The proposed mobile communication application, named Converso, is an Android chatting application for real-time text chat with additional features like the live streaming and an artificial intelligence-based chatbot. Java is used in developing the back end of the application while XML has been used for the design aspect of the application. The application makes use of Firebase as the data storage as well as data synchronization solution. In this paper, the author describing the process of devising of Converso and its purpose of offering cost effective rapid communication channel for business promotions and education get Total: The paper focuses on describing the creation of Converso and indicating the main purpose of the creation of the service. Furthermore, it emphasizes the measures taken to safeguard user security within the context of existing trends of mobile communicating technologies.

Keywords: Android App, AI Chatbot, Live Streaming, Firebase, Mobile Communication

Introduction

With the presentation of the internet, a lot of our correspondence has been done through the screen of our PC monitors or even through our telephones (Ali & Sagheer, 2017). Mobile technology has indeed played a crucial role in enhancing the communication with different applications that are available to provide a better way of connecting (Shukla et al., 2021). Converso is a novel Android application that aims at promoting conversation interaction with text-based chat capabilities in mind. While the app is somewhat similar to others in terms of offering users the opportunity to exchange messages, it focuses on the speed of this process rather than on details such as the exchange of media: images, videos, or audio messages (Tan & Jamel, 2021). These features entail state-of-the-art options including Live Video sharing as well as the AI Chatbot for improving the flow of interactions. The app utilizes fresh approaches of mobile application development technologies such as Firebase, Java and XML for a streamlined user interface (Maurya et al., 2022; Hatem et al., 2024). In this paper, the author will investigate the proposed and created hypotheses regarding The Converso, its architecture and its features and security elements implemented during the process of designing and developing of the tool.

The discussion centers around the evolving communication landscape in the digital age, with a focus on the rising dominance of text messaging as a primary form of interaction. The literature review explores the factors driving this shift, alongside the growing demand for enhanced mobile chat app features such as live video sharing and AI-powered chatbots. It also delves into the technical foundations of mobile chat applications, examining the use of

programming languages like Java, XML, and frameworks such as Firebase for backend processes and database management. Additionally, the review considers the importance of user experience and interface design in the success of these apps. Socially, mobile chat applications are recognized for their role in fostering connections, enabling knowledge sharing, and facilitating collaboration among users (Moondra et al., 2021; Wei & Chen, 2006). The challenges and opportunities of integrating innovative features like live streaming and AI-driven chatbots are also discussed, highlighting the potential for these technologies to transform mobile communication (Botha et al., 2019). By synthesizing key insights and findings from existing literature, this review offers a comprehensive overview of the current state of mobile chat applications, highlighting their relevance to the objectives and features of Converso. This analysis provides a foundational framework for the following chapters of the thesis, guiding the development, analysis, and evaluation of Converso as a cutting-edge communication platform. It is designed to meet the diverse needs of users by incorporating advanced features like live video sharing and AI-driven chatbots, aligning with the evolving demands of modern communication technology.

Methods

Choosing the internal structure and using the Model-View-Controller (MVC) model as a base with reference to the prospects of modularity and scalability for the work of Converso. On the back end of the logical structure of the program, the Java Language is used while for the frontend aspect of the program lay outing, the program incorporates the Extensible Markup Language. The actual data stored and synchronized between different clients is done via Firebase (Bastian et al., 2021).

The development of Converso utilizes a variety of tools including: a) Android Studio: The primary Integrated Development Environment (IDE) for Android development; b) Firebase: For real-time database, authentication, and cloud storage; c) OpenAI's GPT-3: For developing the AI chatbot; d) Zego Cloud API: For developing live video sharing.

In the implementation phase of the project, we coded the main features of the application, including the writing function, the development of which required integrating with Firebase technologies and the integration of the AI chatbot (Sayed et al., 2016). Concerns are taken in security aspects such as where in implementing one touch password, to ensure that users and all related information to the users are safe. The architecture system of the overall methodology has been illustrated in Figure 1.

Some core features are listed below:

Text Messaging: Converso provides one-click text messaging (Figure 2), so the interlocutors can have a continuous, immediate and easily addressed text conversation. This feature guarantees that there will be an opportunity of interacting without causing time lapses between the two communicators, a factor that makes the interaction almost similar to a direct and real-life conversation. Taking into consideration the concentration of C2C communication on text-only methods, it is well suited to use by consumers who require a simple and efficient means for interaction.

Live Streaming: Converso also allow users to use Live TV simultaneously adding a new aspect of interactivity into the system (Figure 3). This feature is ideal for using it in real time and especially in imaging when issuing updates, live events, or meetings. Through enabling live video feed, it increases the perception of presence in the conversation and makes it livelier and engaging than real-life interaction.

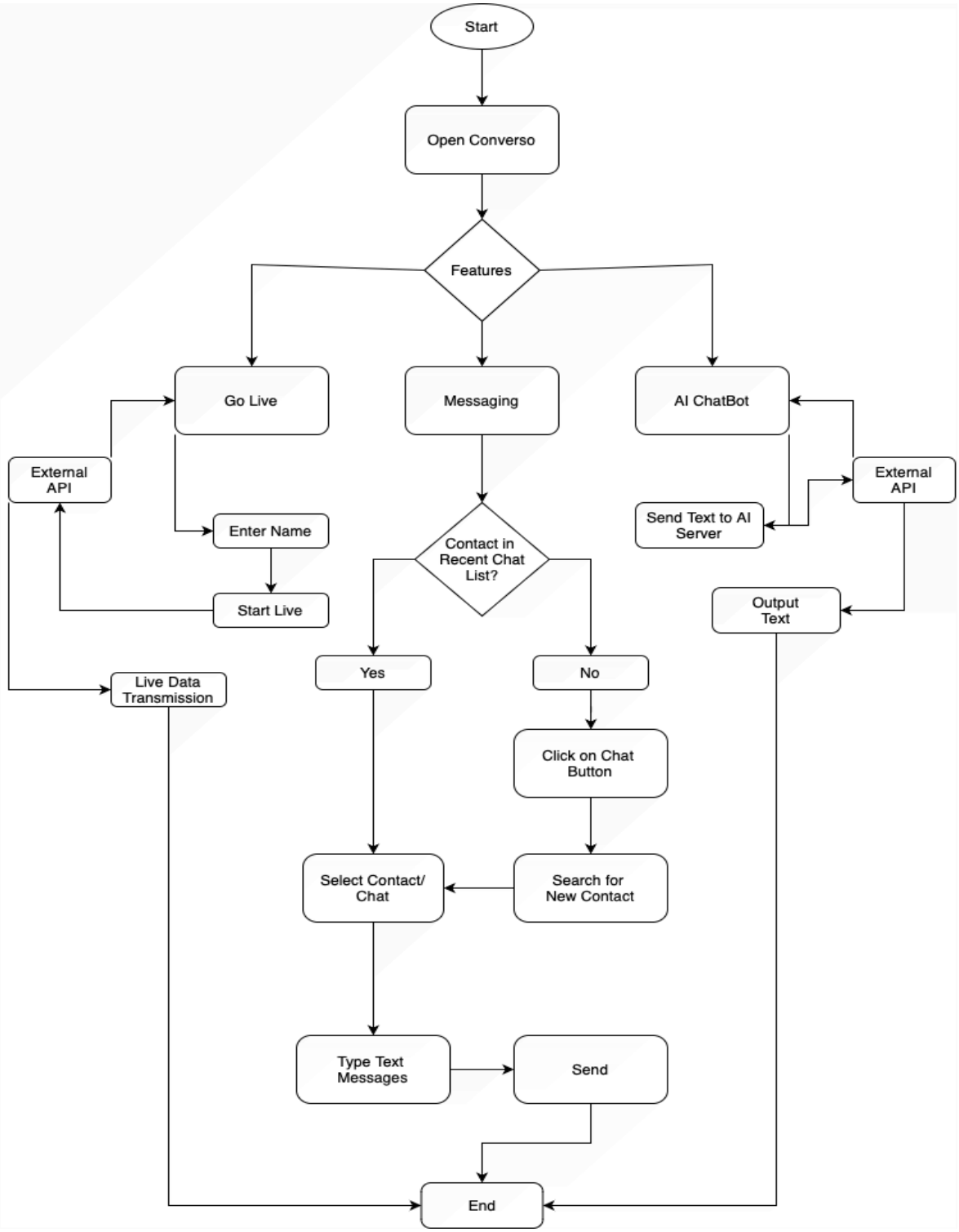

Figure 1. System architecture flowchart.

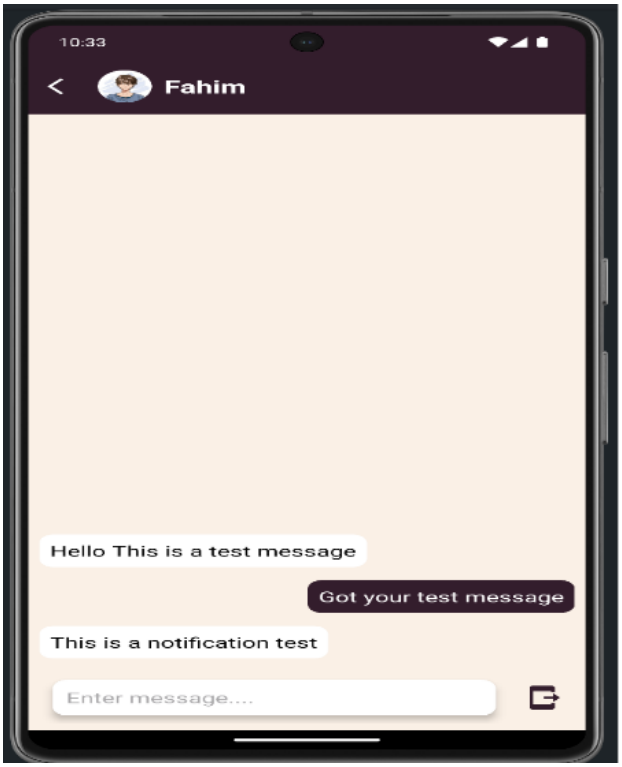

Figure 2. App interface: text messaging.

Figure 3. Live video sharing interface.

AI Chatbot: The AI Chatbot used in Converso (Figure 4) employs the use of natural Language processing of height intelligence and context awareness to give an intelligent response. By employing OpenAI's GPT-3, the chatbot can masterfully address a multitude of subjects within a conversation process while generating human-like interface. Not only does this feature help increase user interactivity, but also the program itself becomes more useful and intelligent as it can adapt to various situations, offering support where it is needed the most, making Converso a truly helpful application.

Figure 4. AI chatbot response.

Results and Discussion

The creation of the Converso and its integration has been proven to be effective and this makes it an ideal text-based chat application with features similar to what social media applications are characterized by Emmadi & Potluri (2019). This section discusses the analysis of the two main unique features: In detail, we have the live video sharing and the AI chatbot which are the key features that somehow enhance the performance of the app as well as the overall interaction done by the users.

Table 1. Comparison of Message Transmission Times Across Devices for Different Message Sizes

Time (ms)			
Pixel 5	**Pixel 6 Pro**	**Pixel 7**	**Message Size (KB)**
67	55	50	26
72	70	50	66
75	71	50	118
85	73	52	220

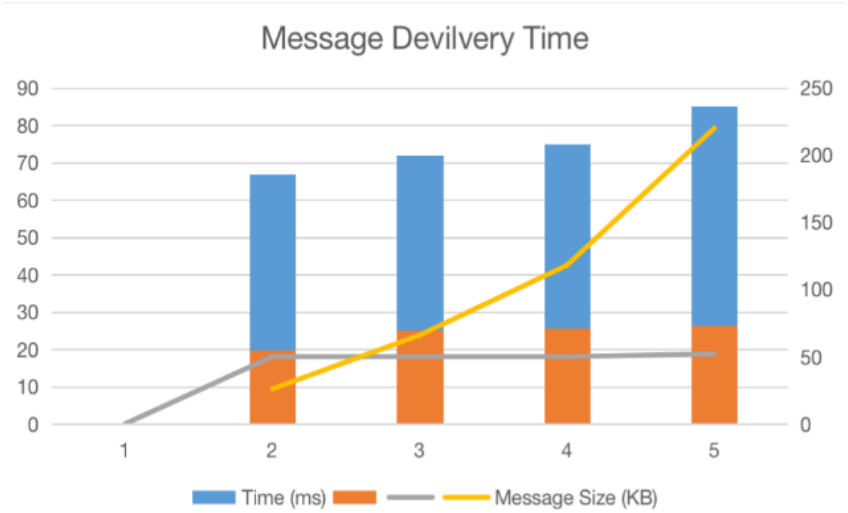

Figure 5. Some comparisons of different mobile phones.

As demonstrated in figure 5, it visualizes two types of data: 1) Time (ms): The time taken for message delivery across three devices (Pixel 5, Pixel 6 Pro, Pixel 7); 2) Message Size (KB): The size of the messages delivered.

Key Features of the Graph

X-axis (1 to 5): Represents the different data points corresponding to each row in the dataset.

Y-axis (Left, 0-90): Represents time in milliseconds.

Y-axis (Right, 0-250): Represents the message size in kilobytes.

Explanation of Graph Components:

Stacked Bar Chart: a) Blue and orange bars represent the delivery time across devices (Pixel 5, Pixel 6 Pro, and Pixel 7); b) Each bar shows how the time varies between devices.

Line Graphs: a) Gray Line: Represents the message size (KB) against the right Y-axis; b) Yellow Line: Trends the relationship between the message size and delivery time.

This thesis paper focuses on an app called Converso, which offers several unique features. This text-based application stands out with its faster message delivery time compared to other applications. Additionally, it includes innovative features such as an AI chat system and live video sharing, making it a distinct and versatile platform.

Conclusion

The cased analysis shows that Converso is thus an effective mix of regular text messaging coupled with some sophisticated functions like face-to-face live video sharing and an accompanying AI conversational bot. These improvements have significantly broadened the perceived value, placing Converso at a competitive advantage in the mobile communications and social networking segments. The future enhancements would include fortification of these features, as well as working on other features that might be able to help the application continually remain appealing to its users.

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