Design and Development of a Framework for building a Messaging Application (DMgram) with Alert System

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Abstract— An app, which is short for "application," is a type of software that can be installed and run on a computer, tablet, smartphone or other electronic devices. A mobile application is a computer program or software application designed to run on a mobile device such as a phone, tablet, or watch. Mobile apps allow users to have easy, smooth, functional access to information, products, services and processes that they need in real-time and are optimized for hands on interaction. The messaging apps are used for interacting purposes with others. Chat based applications will provide a way for easy communication through chatting, voice calls, etc. DMgram is a messaging application designed to provide users with features such as one-to- one chat, group chat, camera, scheduling of messages, hiding "online" status and mainly with a alert system. Alert system is being designed where the primary purpose is to alert the guardians or parents when their child uses certain words such as drugs, elope, etc. One-to-one chat is enabled to increase the interaction between two users and also make sure that a single person is connected and is interactive with a group of people through group-chat feature. Other features such as camera option is provided in order to send photos and videos to their contacts on DMgram, scheduling of messages is enabled using which a message can be scheduled and is delivered to the specified contact and hiding the "online" status where the person can enable the and disable the visibility of their online status whenever wanted.

Keywords— ***Chat, Scheduling messages, Hiding online, Alert system.***

I   INTRODUCTION

A software program known as an app, which stands for "application," is one that may be downloaded and run on a computer, tablet, smartphone, or other electronic device. The term "mobile application" refers to a computer program or software application created specifically for use on a mobile device, such as a watch, tablet, or phone. Mobile apps are designed for hands-on interaction and provide users with simple, streamlined, functional access to the information, goods, services, and procedures they require in real time. Chatting is accomplished through the messaging apps. They facilitate communication using voice calls and instant messaging, for example. Regardless of the operating system, messaging apps can be loaded on smartphones. Cross-platform mobile development today is full of adjustments. Developers have to choose between either building one app a number of times for multiple operating systems, or going with a less than ideal solution that substitutes native speed and precision for portability. Flutter is an open-source SDK for making high-performance, high-fidelity mobile apps for iOS and Android. A few essential features of flutter are that just-in-time compilation is a way of executing computer code that involves compilation during the execution of a program-at run time-rather than before execution. With Flutter, we have a solution that provides the best scenario: equipment accelerated illustrations

and UI, powered by native ARM code, and targeting both standard mobile operational frameworks. Up until recently, mobile phones were enclosed spaces. Anyone can now create application software, such as games for mobile terminals, thanks to the revolution brought about by open platform technologies like the Symbian operating system and Java technologies. However, because of the unique requirements and technical limitations of mobile development, creating mobile applications is now a difficult undertaking. Additionally, very little is currently known about the applicability of the various development techniques for the development of mobile applications. Compromises abound in today's cross-platform mobile development. The only options available to developers are to build the same program several times for different operating systems or to settle for a solution that sacrifices portability for native speed and accuracy. For building fast, high-quality mobile apps for iOS and Android, check out the Flutter open-source SDK. Just-in-time compilation, a method of running computer code, involves compilation at run time rather than before a program is performed. This is one of flutter's key features. The ability to communicate is crucial in the current world. Through a variety of tools or platforms, people have been able to communicate with one another. Initially, letters and other forms of communication were used by humans. The most recent Internet innovation has put the entire globe in our hands. From information sharing to product purchases, everything is done online. The internet has shrunk the world's surface area. This essay demonstrates the value of chat applications in modern living and their influence on the technological landscape. Because the Internet has become ubiquitous, there is now a complicated interchange between Internet technology and human behavior. On one side, the Internet is transforming our daily lives that are, society, industry, and business. The advancement of technology, particularly the Internet, has altered our message communication over the past 20 years. Online communication has been supplemented with group communication since the middle of the 2000s. Recently, mobile messaging services have seen a shift in user behavior. Users can now communicate asynchronously using these apps, such as WhatsApp, telegram, etc. For an extended amount of time, the user's activity is triggered by occurrences in the world around them. Certain groups, i.e., messages that have been posted and can be enriched, By photos and videos submitted by users. Because of cell phones and the internet, people are always online and interacting. Their activity patterns are shifting as a result of their increased connectedness. To create a new group, go to the menu and select a new group. The group's subject must then be defined, and a

group icon must be submitted. After that, go up. To join the group, up to 100 contacts from the contact list can be invited to the Group. A group's creator has administrative rights and can change the group's name. At any time, you can add or delete people from the group. Also, other members of the group should be promoted to group administrators. An alert system is the major feature of the messaging software DMgram, which also offers users features such as private chat, group chat, camera, scheduling of messages, and hiding "online" status. The main goal of the alert system being developed is to notify parents or guardians when their children use specific phrases like "drugs," "elope," etc. In addition to ensuring that a single individual is connected to and interactive with a group of people through the group-chat feature, one-to-one chat is provided to increase contact between two users. Other features include the ability to share photographs and videos using the camera option on DMgram and the ability to schedule messages.

II.   LITERATURE SURVEY

"Group-based Communication in WhatsApp" [ ]

Nowadays, a complicated interaction between Internet technology and human behavior may be seen because the Internet has become so pervasive. The Internet is, on the one hand, transforming society, business, industry, and our daily life. Alternatively, the adoption of internet technology by users and other key players in the ecosystem. A publish-subscribe paradigm is established by mobile messaging services on application layer, which the network layer may implement effectively.

"Android Based Mobile Application Development and its Security" [8] This paper implies that mobile applications are a fast-expanding subset of the worldwide mobile market in the rapidly developing world of technology. Mobile applications are developing quickly to provide a quick and comprehensive user experience. This essay examines Android multilayer mobile platform for developing mobile application methodology and the specifics of Android security information are discussed.

III.   PROBLEM STATEMENT

"To develop a software to connect people, along with an alert system."

This project mainly aims at providing a user-friendly messaging interface for parents and their children below 18 years of age, which mainly includes an alert system with additional features such as - one-to-one

chat, group chat, scheduling of messages, camera, emoticons and hiding the "Online" status.

IV. PROJECT OBJECTIVES

• To build a message application with features such as one-to-one chat, group-chat, emoticons, camera.

• To enable Alert system, where parents are notifies if the child uses certain words.

• To hide "Online" status, where in a toggle button is provided to switch the display of status.

• To enable scheduling of messages, where the messages are delivered on particular date and time to the intended contact.

V HOW DOES IT WORK ?

Fig. 5.1 Flowchart of the application

The flowchart in the Fig 5.1 shows the flow of our application in cellular phone. Firstly, once the app is installed the user can either Sign In or Sign Up by providing required details. Once user logged in it will display the page where we can find all the chats with whom an individual can chat. Along with this there is camera tab and settings options. By clicking on each individual or group chat, it navigates to a chat page where they can send and receive messages. There is a pin option available in this chat page which includes three icons: Bell icon for scheduling of messages, Camera icon for camera option and Image icon for gallery. Initially this app provides user an option to either Sign in or Sign up. Once the user has been logged in it will display them with all the other users to chat that may be single chat or group chat. On clicking of these each individual blocks, it will take to the main chat page where they can chat. Inside this chat page there is pin icon available. On selecting, it will display the icons of gallery, camera, schedule. Here the gallery icon leads to our gallery so that we can pick images and send to the person from gallery, and camera will let the user to take picture or video and send it to others. With the selection of schedule icon, it will lead the user to the page where they can set date, time and message they have to send and the message will deliver at the specified time to each contact. This app also consists of toggle button on the settings page for hiding the status of the user. Additional to all these features there is a feature called alert system where if the child sends some suspicious word, then it will automatically notify their parent about it.

VI. APPLICATIONS

The basic approach in this project is to send an instant alert message to the parent of the child when the minor uses certain words such as "drugs", "sex", "suicide", "murder" and so on. The parent will get notified via normal text message. Including this there are certain other features such as scheduling, hiding online status which helps the users in various scenarios and gives them the required privacy. Our intention is to make a user-friendly application that is easy to use, has various features at the same time can be used by parents to monitor their children. It can be used for scheduling of messages, can be used for hiding online status, can be used for texting both individually and in group, can be used for sending photos and videos and can also be used for the monitoring of minors by their parents.

VII. FUTURE WORK

As enhancement to this project, the following can be implemented:

● Object detection for overlapping chairs new dataset can be created by aiming chairs with every angle.
● Posture detection to check weather person is seated or not on chair.
● For better image or video quality can add external cameras with best angle possible.
● For better user experience this project can be deployed to cloud with mobile or web application and can be stream live video
● Analyzing required number of chairs on basis no people present.

CONCLUSION

This app mainly aims to provide a user friendly interface in order to send message and receive messages. Additionally, to enable scheduling a message so that the message will be sent to that person at specified time. Along with this, the app also enables the user to use features such as camera and emoticons.

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