



PROJECT TITLE

# An Online Cloud Based Chat and Learn Application Using Firebase Cloud Messaging



PROJECT GUIDE  
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Slide 01

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Chat application





# Abstract

An android based chatting and learning application to communicate with one individual using cloud service (Firebase). I shaped this application with the partnership conventional to not just be another chat submission, but to enhance a level of clean UI (user interface) or a solid app structure purpose over a secure broadcast network.

The Previously excited Chat Submissions momentously influenced the project of the UI (user interface) to give it users a renewed but familiar UI (user interface) devise. Therefore, to utilize the current digital technology, it is easy to develop a chatting application which has some functions to facilitate the members to communicate among themselves and assist their jobs with add on activities such as payment, learning, to-do list, and games.

This application is developed using Components used in this project are Java, Android Studios IDE, Google Firebase, Hypervisor.

# Existing System

Earlier, there was no mode of online communication between users. In big or small organization's communication between users posed a challenge. There was a requirement to record these communications and store the data for further evaluation. Today there are many messaging and chat applications that are available across many platforms like telegram, WhatsApp, and many other social media applications that are managed by different companies but this method of using cloud messaging keeps the data and communication secure.

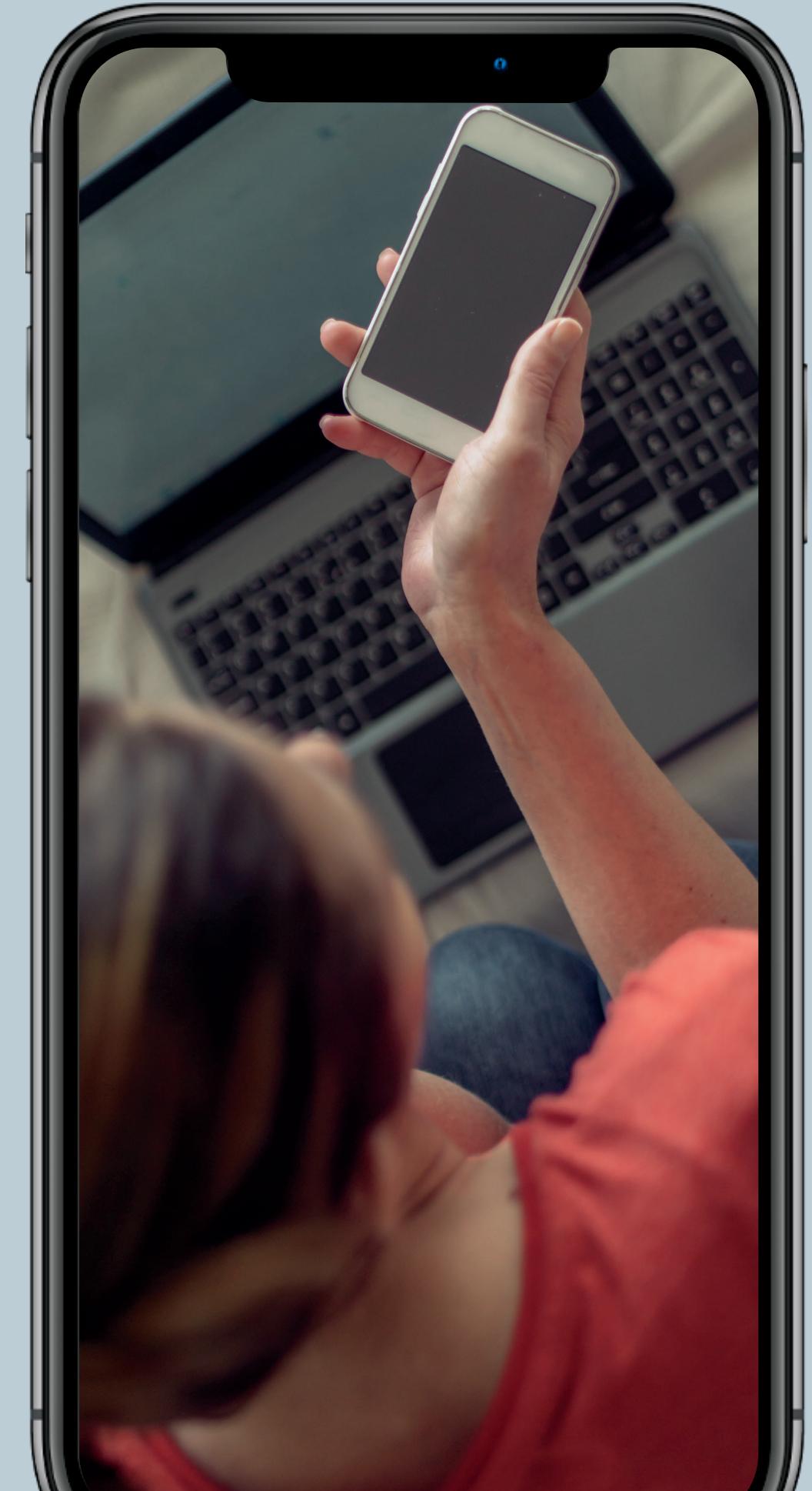
# Disadvantages

- The more time spent on social media can lead to cyberbullying, social anxiety, depression, and exposure to content that is not age appropriate.
- When you're playing a game or accomplishing at ask, you seek to do it as well as you can. Once you succeed, your brain will give you a dose of dopamine and other happiness hormones, making you happy. The same mechanism functions when you post a picture to Instagram or Facebook. Once you see all the notifications for likes and positive comments popping up on your screen, you'll subconsciously register it as a reward. But that's not all, social media isfull of mood-modifying experiences.

# Proposed System

The proposed system chat application is to add a level of clean UI (user interface) and solid app structure function over a secure broadcast network. This application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus, by this all, it proves it is user-friendly. Online chat application, as described, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping

Chat application



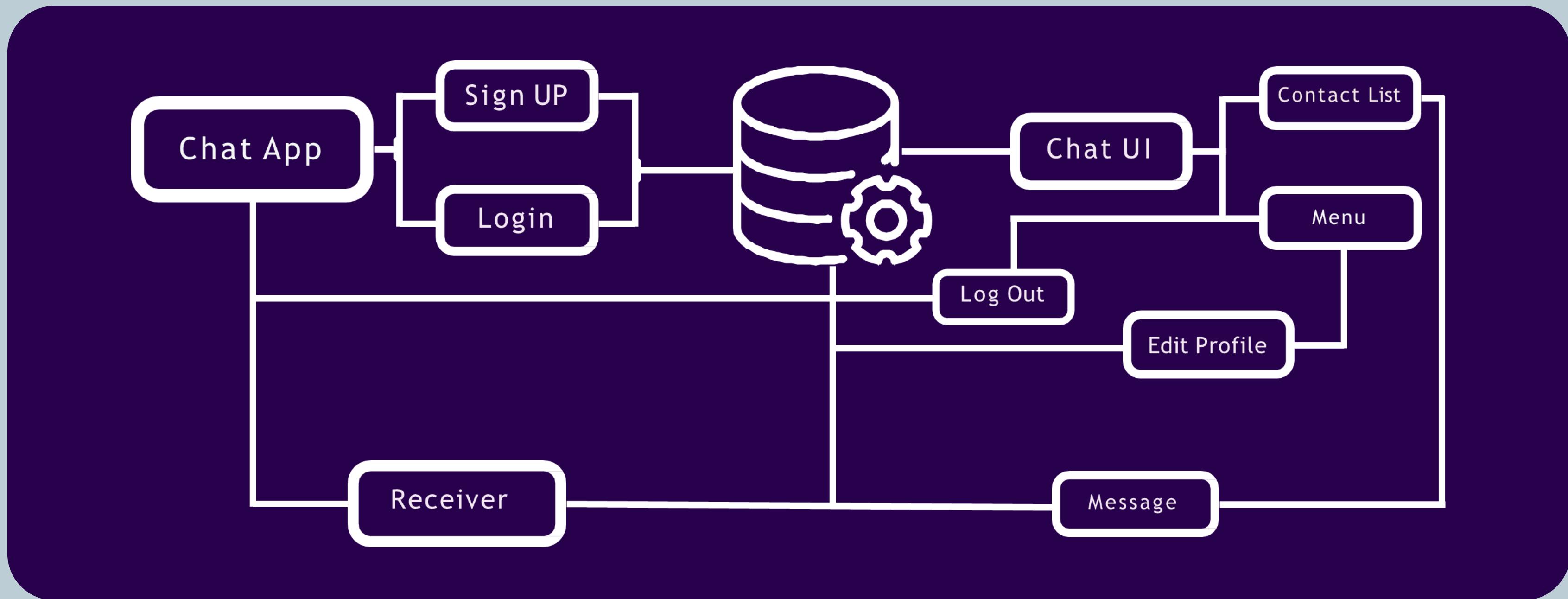
# Advantages

- Speed in Usage
- Easy and Friendly UI (user interface)
- Privacy Protection
- Promotion Unity
- Economic Boost
- Instant messaging

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# System Architecture

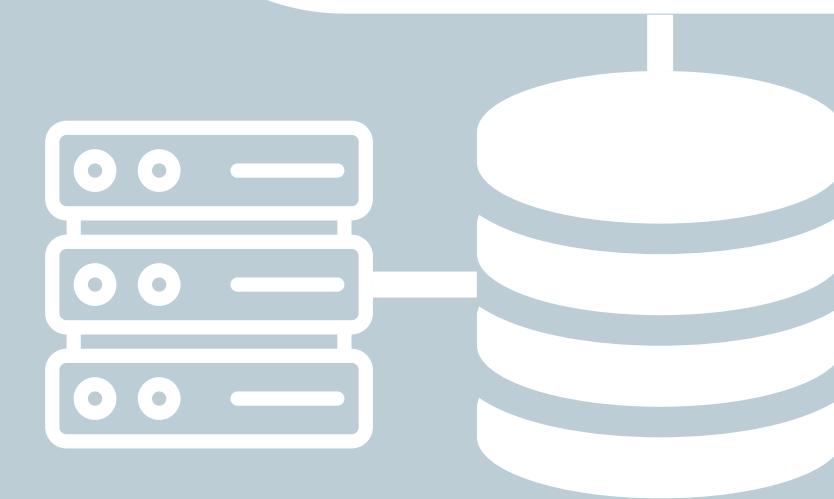
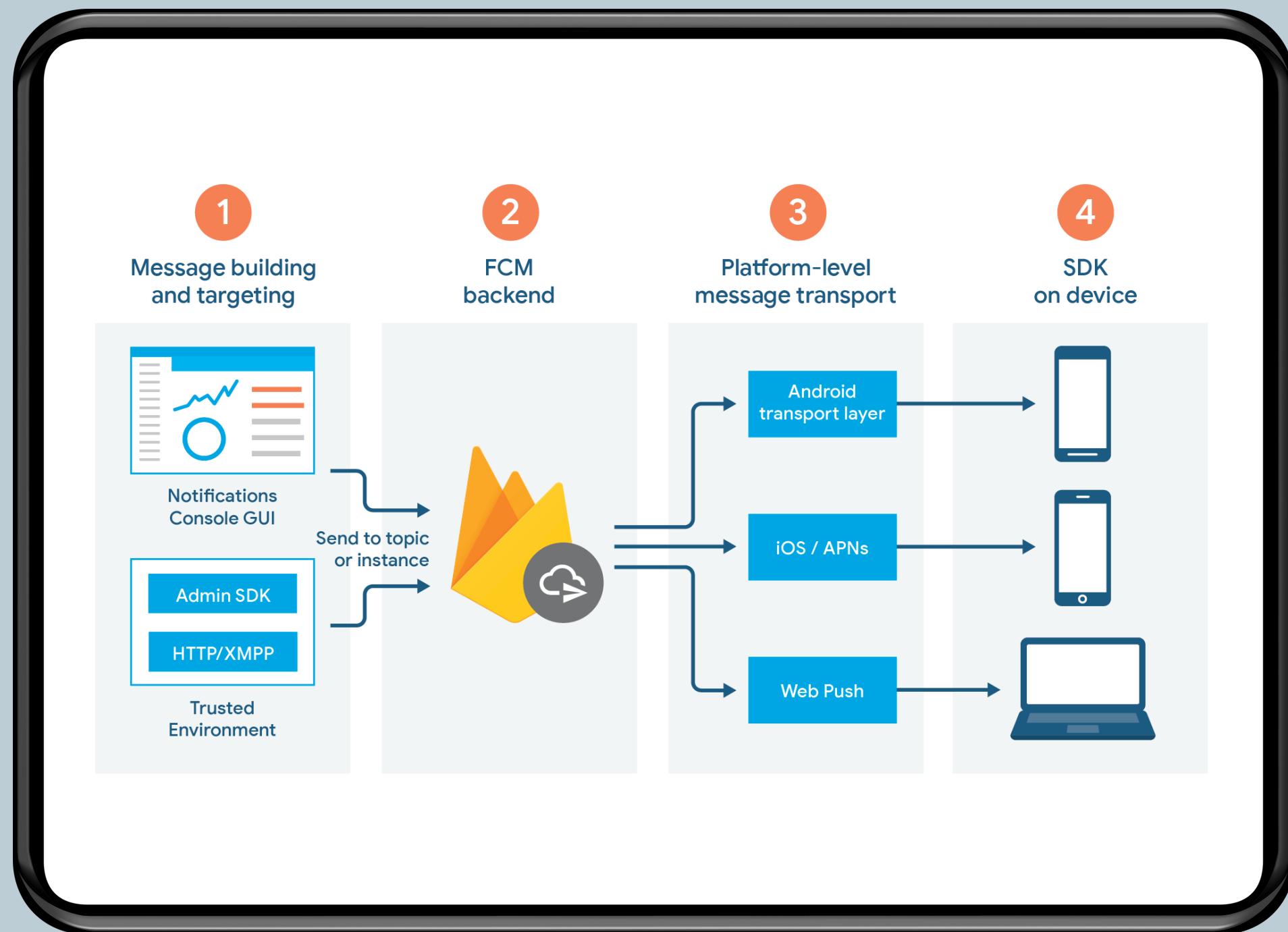


Chat application

# Description

While the system design of a chat app is unique in how it deals with the idiosyncratic business needs, you can always break it down to two major components: the chat client and the chat server. The chat client is what the user experiences. A desktop, web or smartphone chat application, the chat client is responsible for interacting with the operating system (i.e. your computer, browser or smartphone). Interactions include sending, displaying data to the user and storing messages and files. When you type a message and hit send, the chat client transmits that message to the other major component: the chat server. The chat server's resources can include a REST API, a WebSocket server, an AWS instance for media storage, Google Firebase, e.t.c. This system of android application can use it for interacting with the people, to make easy payments, marking off to-do lists, learn to program lessons like java, python and can also play game inside the application. This Simple Chat application will enable the user to chat with the registered users in the application.

# Cloud Architecture



Chat application

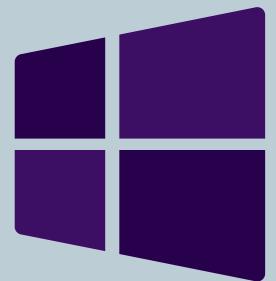
# Description

Firebase isn't just a somewhat normal database. As a real-time, scalable backend, fire base offer the apparatuses you need to quickly build rich, collective applications that can serve millions of operators. Many Firebase-powered apps contain of only client code, and don't need anything other than Firebase and a way to allocate your app to work. Tooling to combine or build communication requirements. The Notification's composer offers a GUI-based option for making notification requests. For full computerization and support for all message types, you must shape message requests in an important server environment that provisions the Firebase Admin SDK or the FCM server protocols. This atmosphere could be Cloud Functions for Firebase, App Engine, or your own app server. The FCM backend, which admits message requests, performs fan out of messages via topics, and generates message metadata such as the message ID.

# Functional Requirements

- The system shall deliver the user the ability to create a new account.
- The system shall deliver the user the ability to log in with the username and password chosen at the time the account was created.
- The system shall deliver the sender's communication to the receiver immediately if the receiver is networked.
- The system shall deliver the sender's message to the receiver once the receiver is back online if the message was sent when the receiver's offline

# Software Requirements



**Windows**

It is a group of numerous assets pictorial haven operating system



**Android Studios**

It is the official-united expansion environment for Android OS.



**JAVA**

It is a high-level, class-based, and oops language



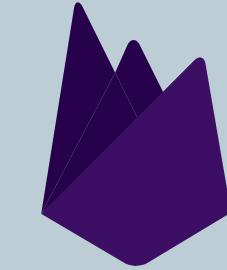
**XML**

It is a markup language format to save, transmit, and rebuild the arbitrary data.



**Geny Motion**

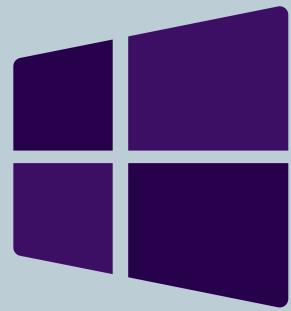
It is an Android 1 emulator which cover a complete set of sensors and features



**Firebase**

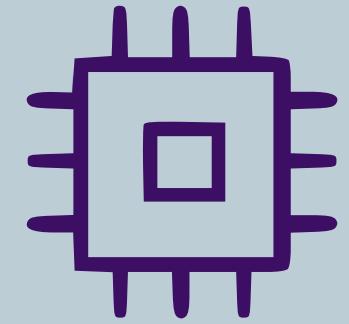
It is a platform develop by Google for developing mobile & web applications.

# Hardware Requirements



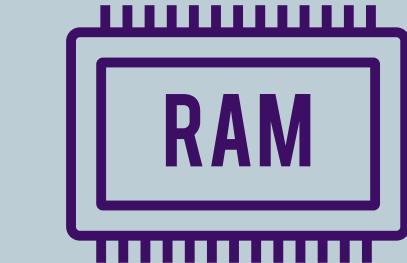
## Windows

64-bit Microsoft®  
Windows® 8/10



## Processor

x86\_64 CPU  
architecture Intel  
Core , or AMD CPU



## RAM

8 GB RAM or  
more



## Storage

32 GB of disk  
space minimum



## Monitor

1280 x 800  
minimum screen  
resolution

# Modules

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# Modules Description

- User Management Module
- User Registration Module
- User Validation Module
- Change Password Module
- Administration Module
- Server Module
- Payment module
- Library management Module

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## User Management Module

The User Management Module enables the managing scope of to access the application and the content available and visible to dedicated users. This module has two submodules which are named as registration and validation modules.

### User Registration Module

You can enable users to create a new user account by clicking New User Registration Module. This Module helps you to create and devise the perfect user registration forms on the application. Also have the option of redirecting the user to Custom URL, auto-login, and sending an email after successful registration using this module.

### User Validation Module

The Validation's module delivers a relaxed out-of-the-box method to confirm that the content of a message in your movement matches a specified set of measures. The main advantage this has over with filter out is traceability, as strainers all raise indistinguishable exclusions, making it hard for the user to know where the exclusion was caused. Validators, on the further hand, raise an exemption with a meaningful message involved. User can optionally modify this message and even the type of exclusion user want it to throw.

### Server Module

The Server Module allow the operators to communicate through the server, also consist of the Broadcasting Module where it is used for chatting like broadcasting and display their inbox and outbox and list of users.

## **Change Password Module**

Users can modify their passwords each time they want by using Self Provision Password Reset. Self Service Password Reset allows managers to modify the password change practice for the operators from the supplication to the end. The Change Password component allows you to organize actions the users must perform before fluctuating their password.

## **Administration Module**

The Administration Unit, only for administrators operators, is proposed for the startup of the basic conformation and the consecutive alterations. You practice the applications in the Administration unit for system administration responsibilities. You can perform functions such as creating and deleting of information in database.

## **Payment Module**

A payment unit is a group of payment structures and settings, repeatedly made available by third parties. For example, Razor Pay, PayPal, Amazon Payment, Gpay are instances of payment modules. Payment Segment used During counter, where a user will send the payment data to a gateway company which can verify a operation for any of the major credit cards and return a pass or fail.

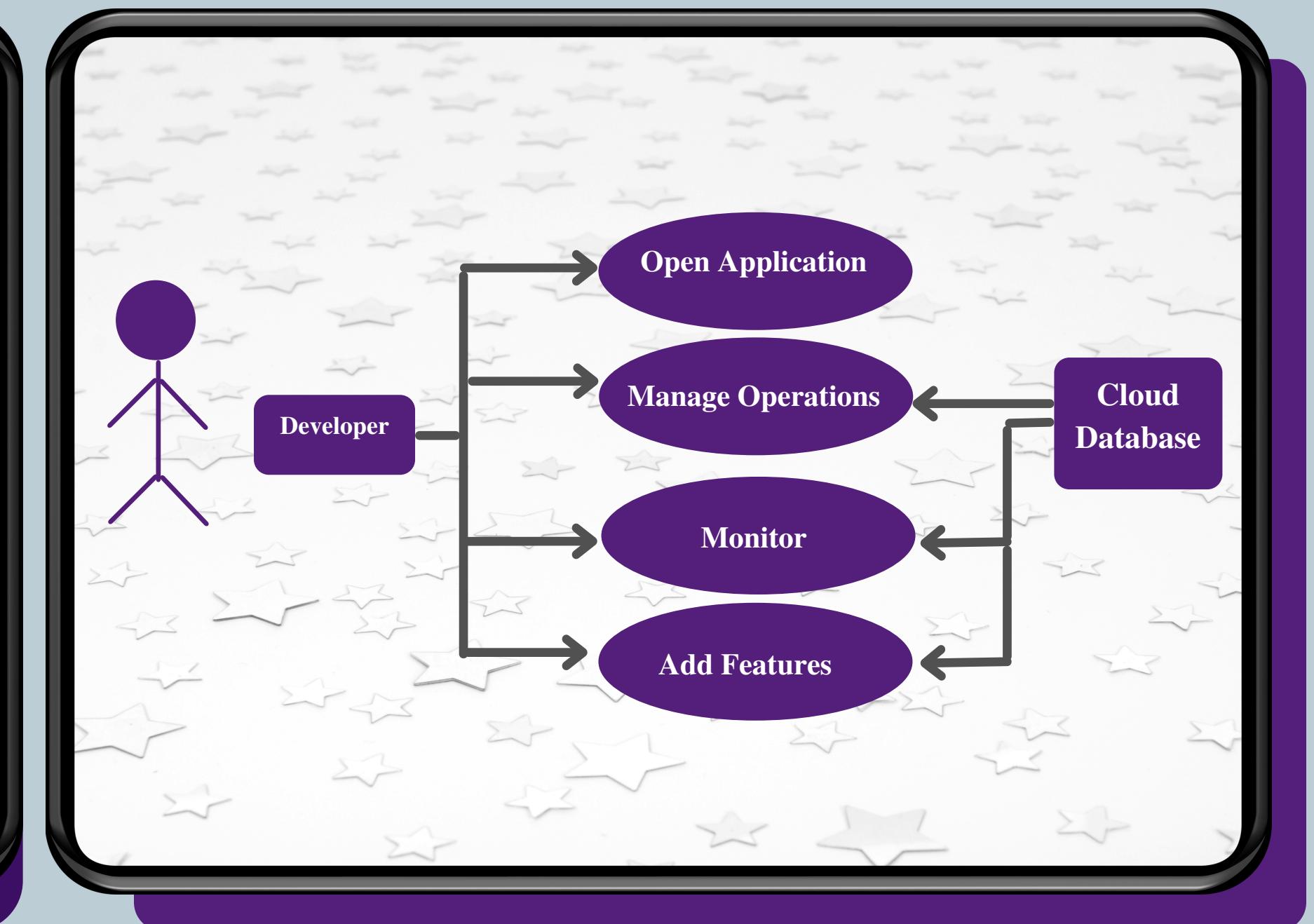
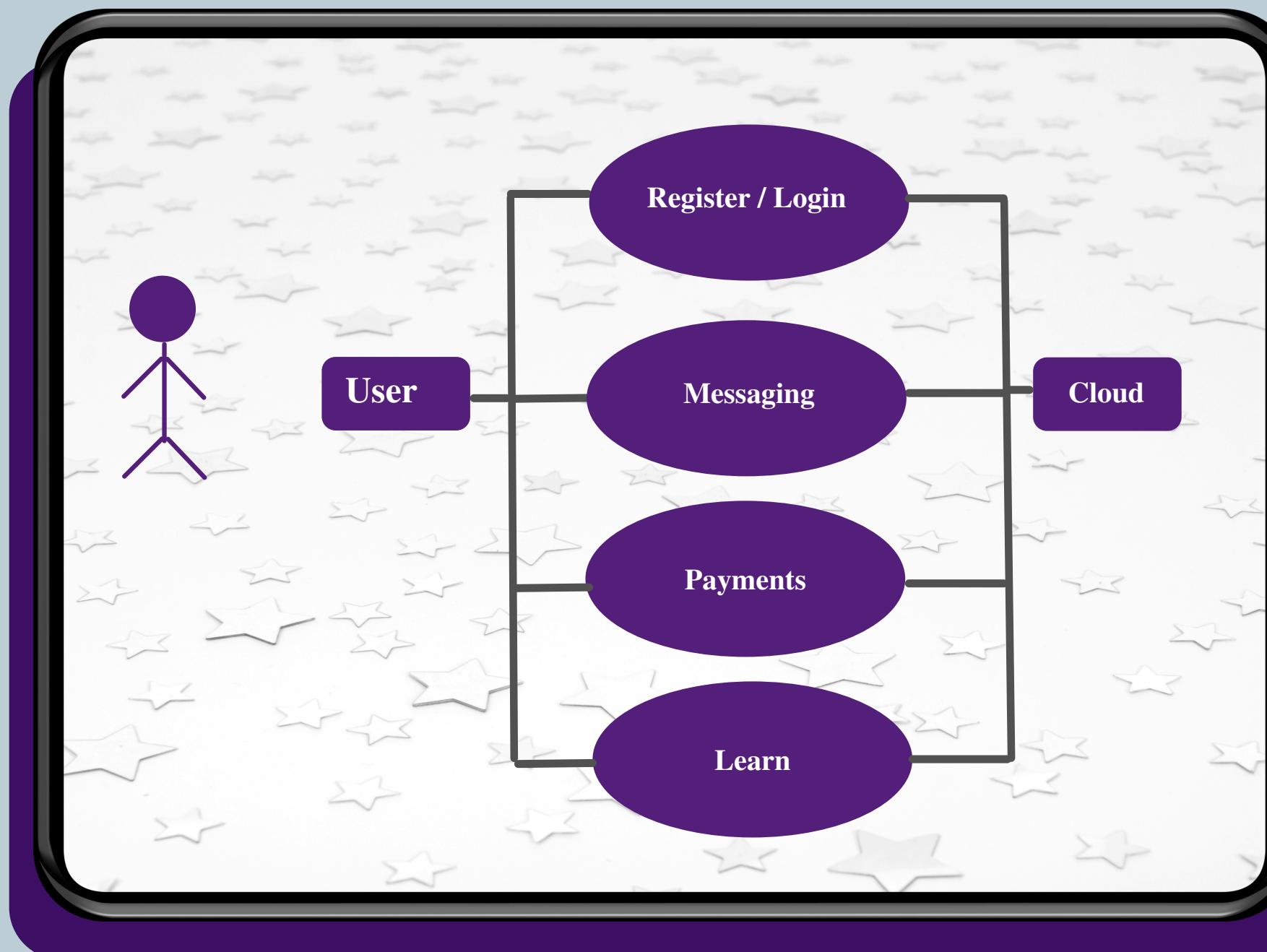
## **Library Module**

Library Management Module deals with the build of the project dependencies, which are used to create and use functions or methods of specific features in the applications. The library management used for these projects is Gradle build where we can add dependencies in order to use their functions and functions example of dependencies are fire base, EasyUpiPayments and many more functions are used to use their functions to add features for the applications.

# UML Diagrams

Chat application

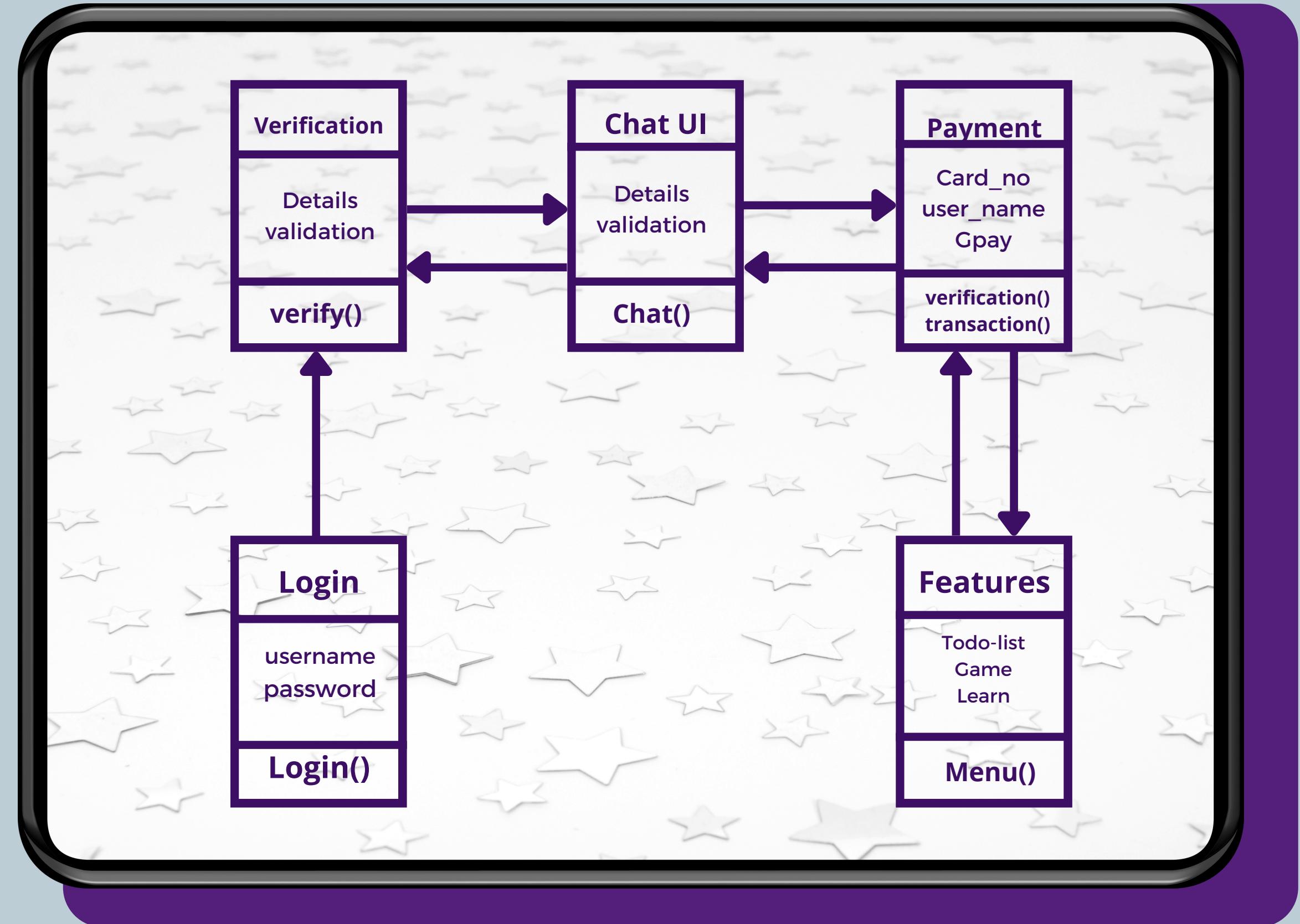
# Use Case Diagram



# Use Case Templates

Use Case	Functions Performed by User
Participating actor	User
Flow of events	<ul style="list-style-type: none"><li>• User Login</li><li>• Messaging</li><li>• Payment</li><li>• Learn</li></ul>
Entry condition	The system must respond to user activities.
Exit condition	System successfully performs task.

# Class Diagram

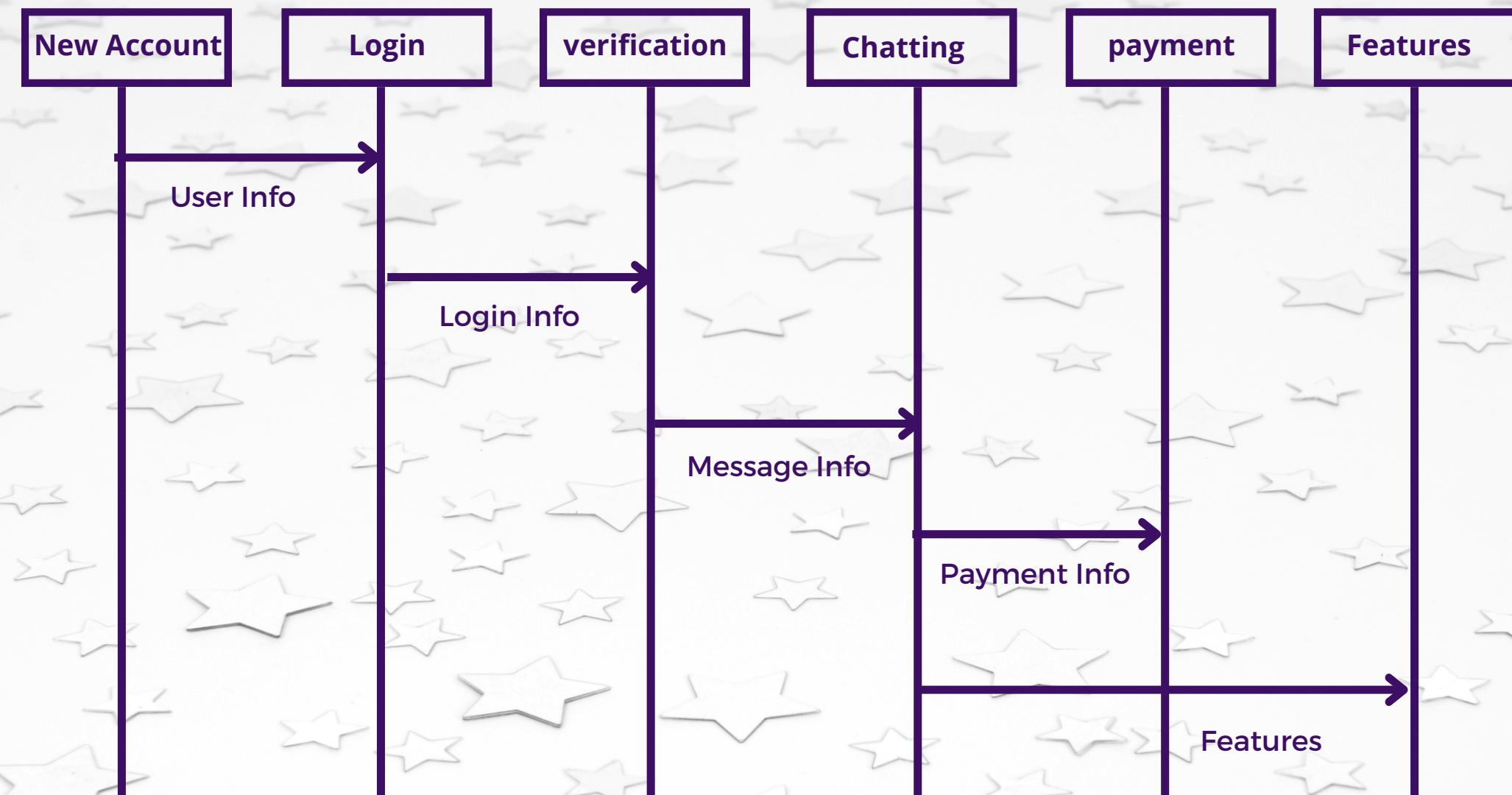


Chat application

# Description

In the above diagram represents the class diagram of this project, “An Online Cloud Based Chat and Learn Application Using Firebase Cloud Messaging”. In the above class diagram, it describes the relation between login, transaction, verification, features and security info.

# Sequence Diagram

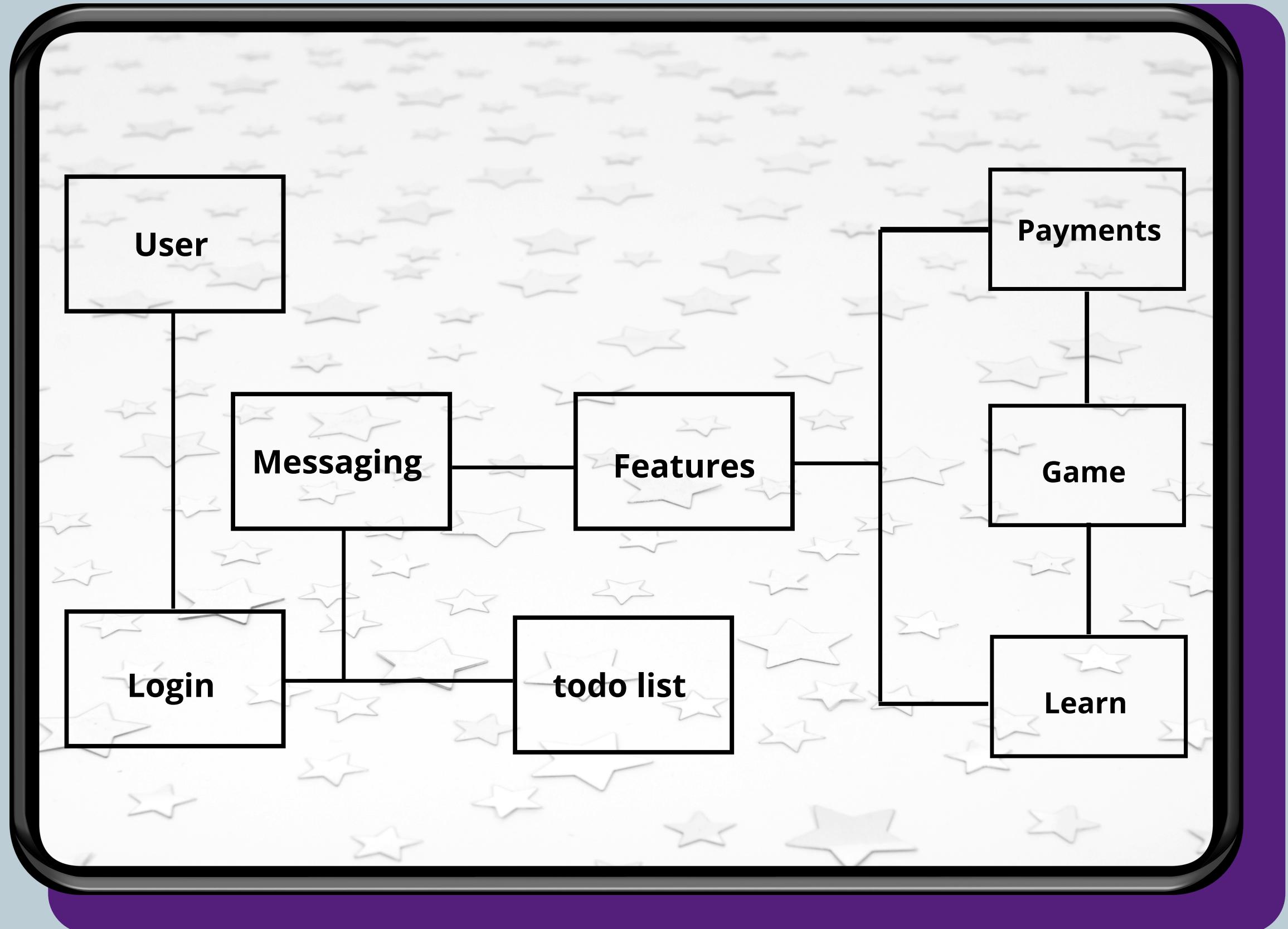


Chat application

# Description

In the above drawing stand for the sequence diagram of the project “An Online Cloud Based Chat and Learn Application Using Firebase Cloud Messaging”. In the preceding sequence diagram, it describes the new account, login, transaction, verification, security and complete transaction acts as objects.

# Collaboration Diagram

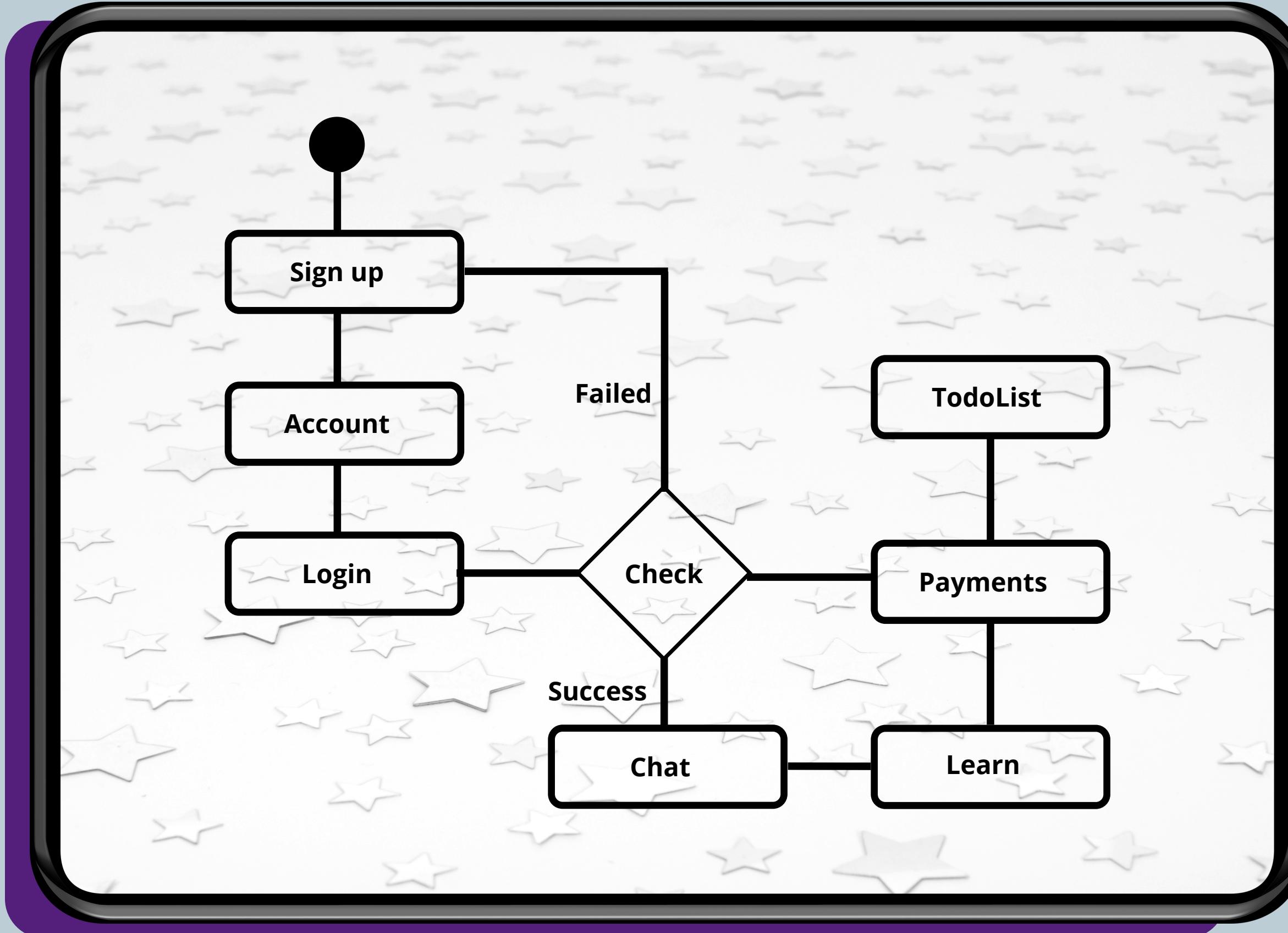


Chat application

# Description

In the below diagram represents the Collaboration diagram of the project “An Online Cloud Based Chat and Learn Application Using Firebase Cloud Messaging”. In the above Collaboration diagram, it describes the new account, login, transaction, verification, security and complete transaction acts as objects.

# Activity Diagram



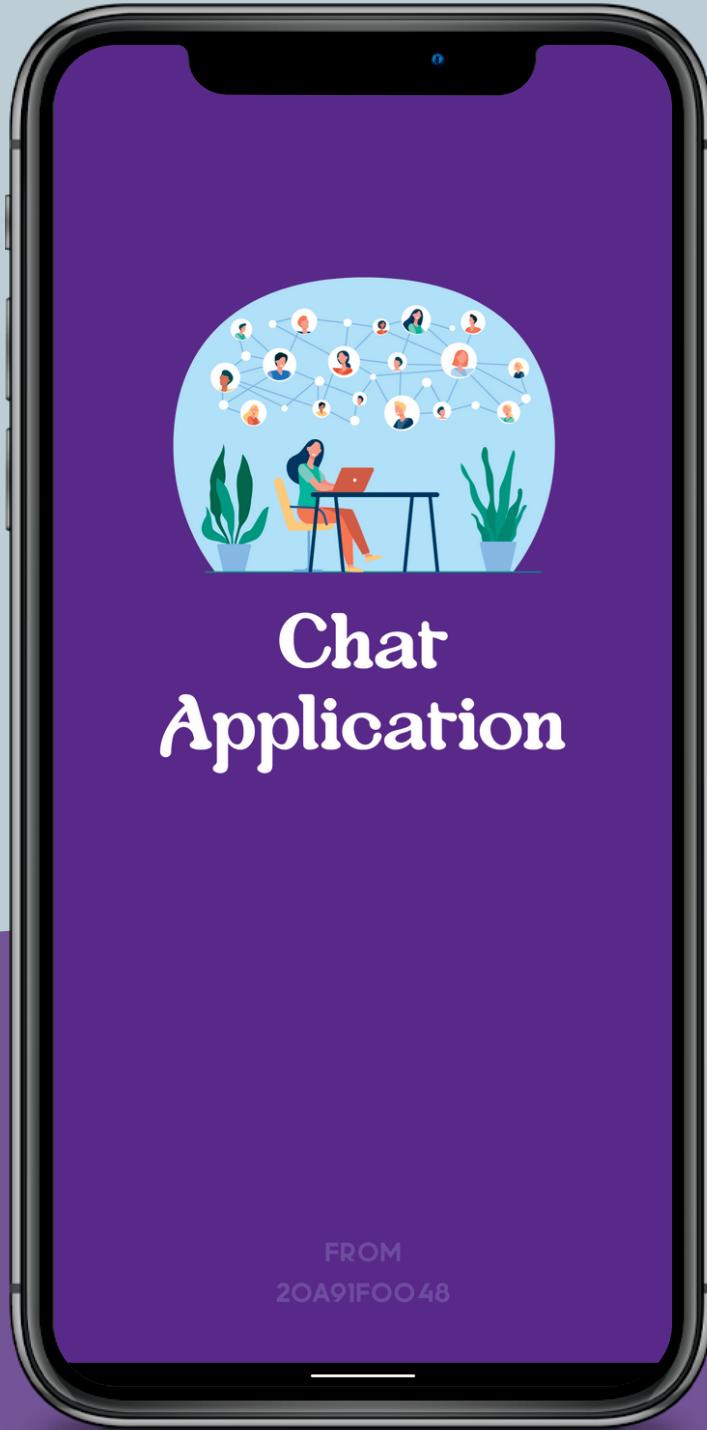
Chat application

# Description

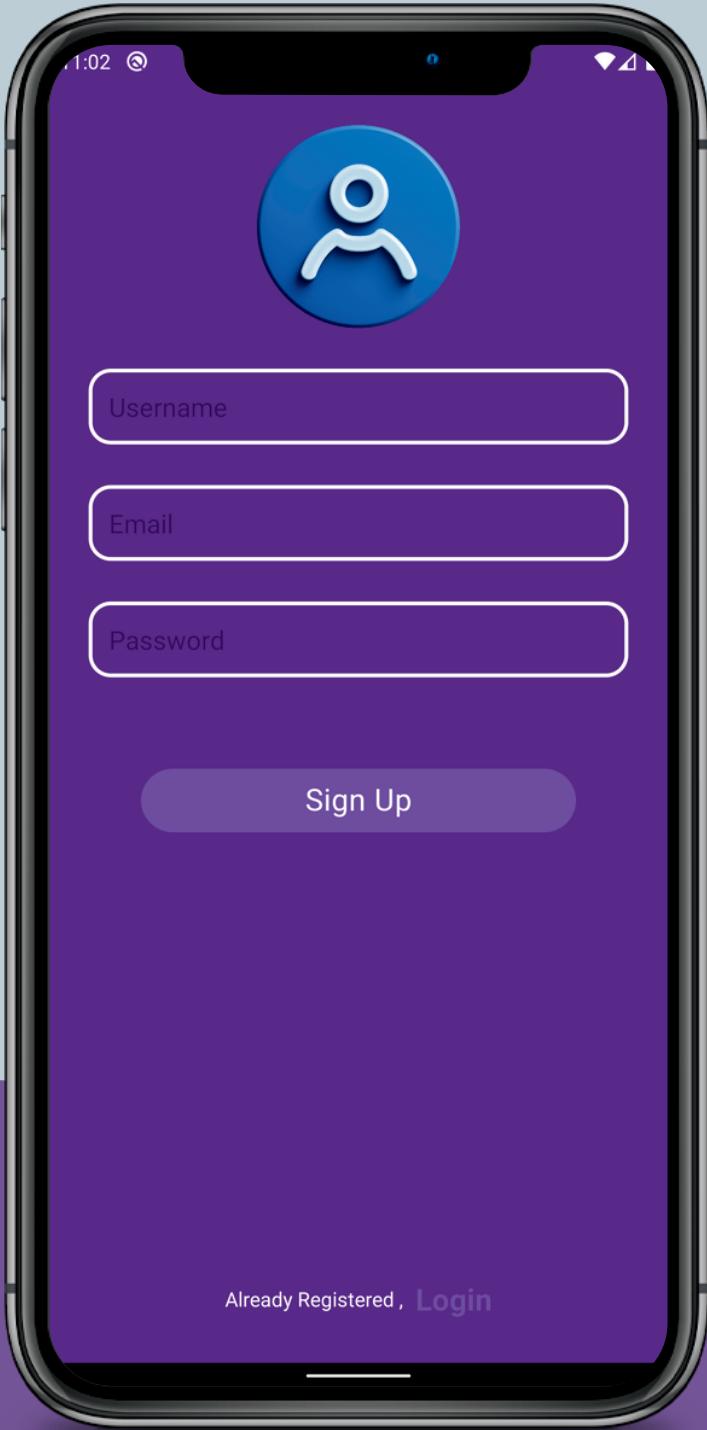
In the above diagram represents the Activity diagram of the project “An Online Cloud Based Chat and Learn Application Using Firebase Cloud Messaging”. In the above Activity diagram, it describes the card and user activities are shown. The user creates a new account, opens the account, login, purchases the product, pays for the product, verifies the transactions, check for security – whether the transaction is valid or not, security is added to the transaction and transaction is complete. Once the user logged into the account, user able to use the features of applications like learn, To-do List and paint as features of the application.

# Screenshots

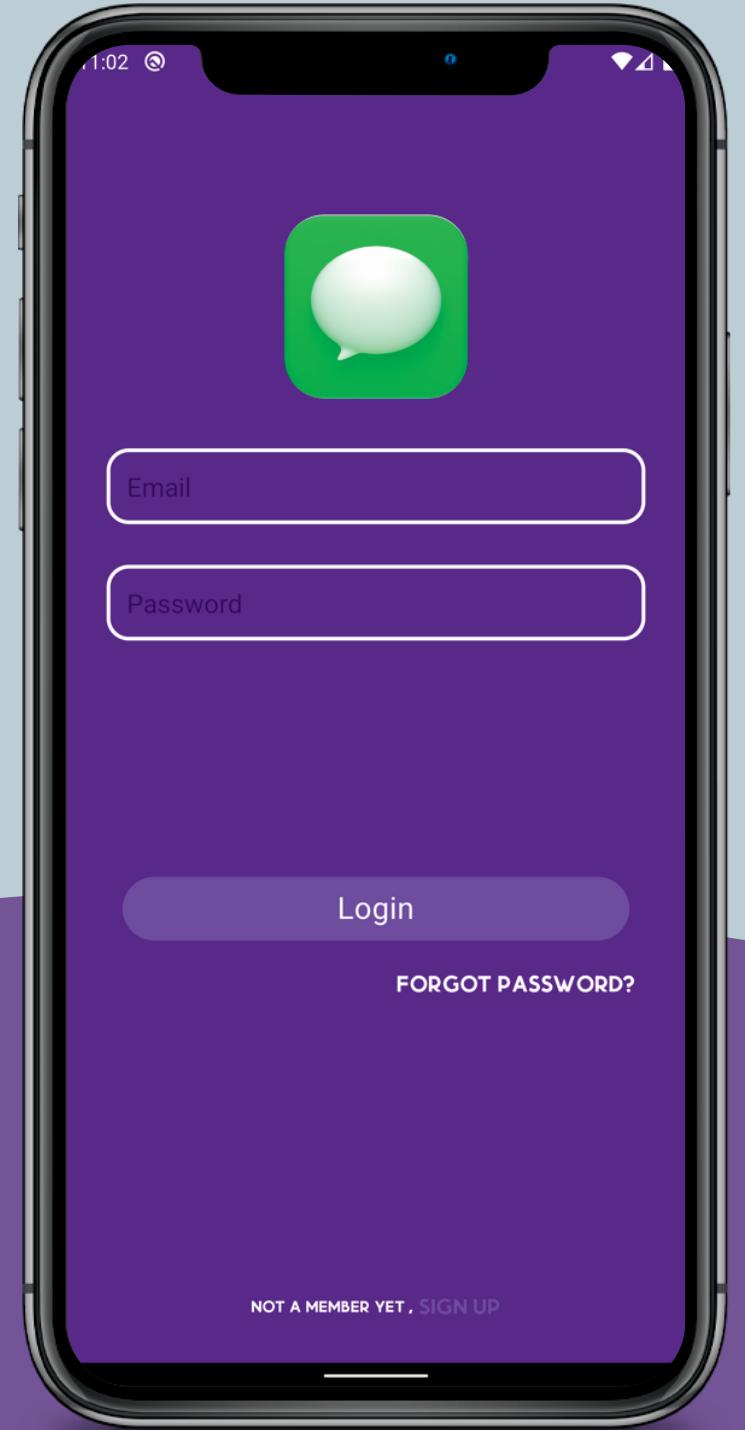
Chat application



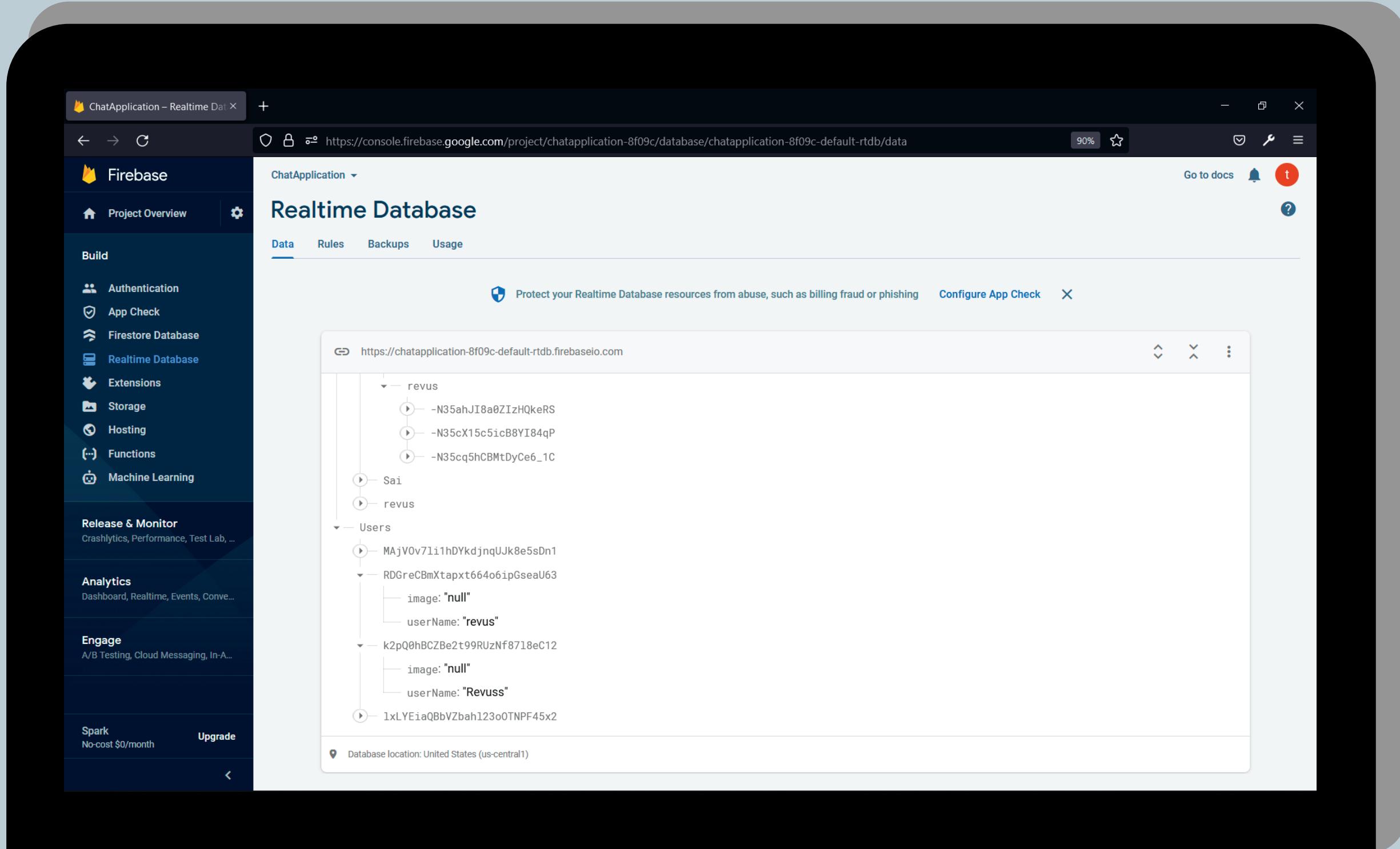
**Splash screen**



**Sign Up screen**

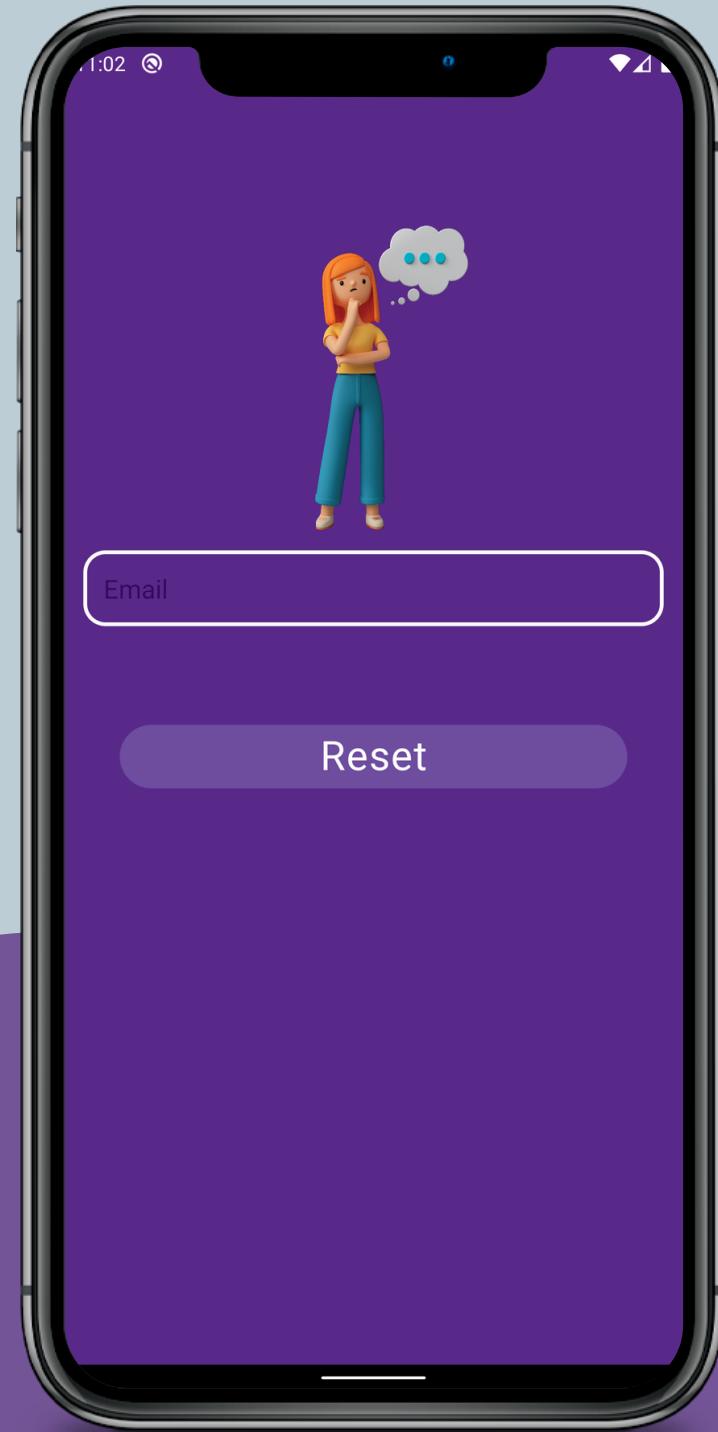


**Login screen**

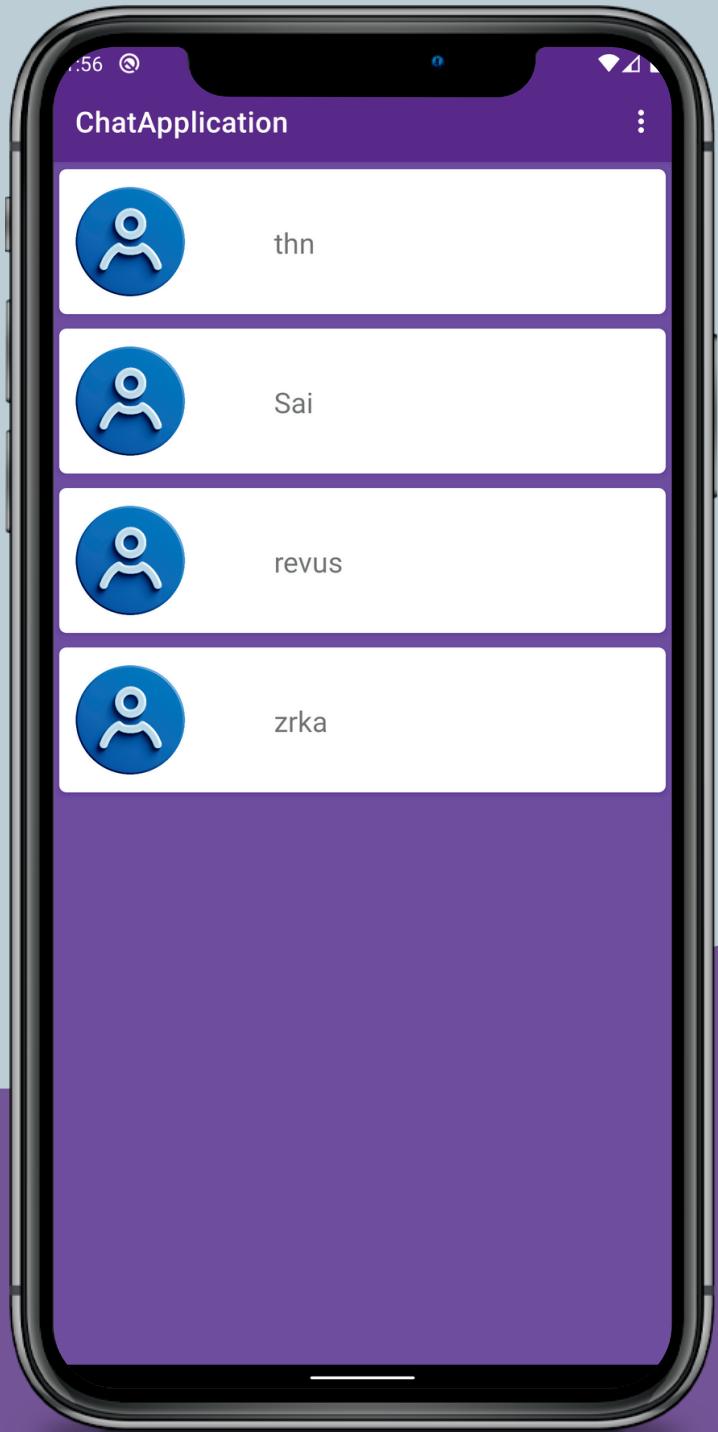


# Real time Database

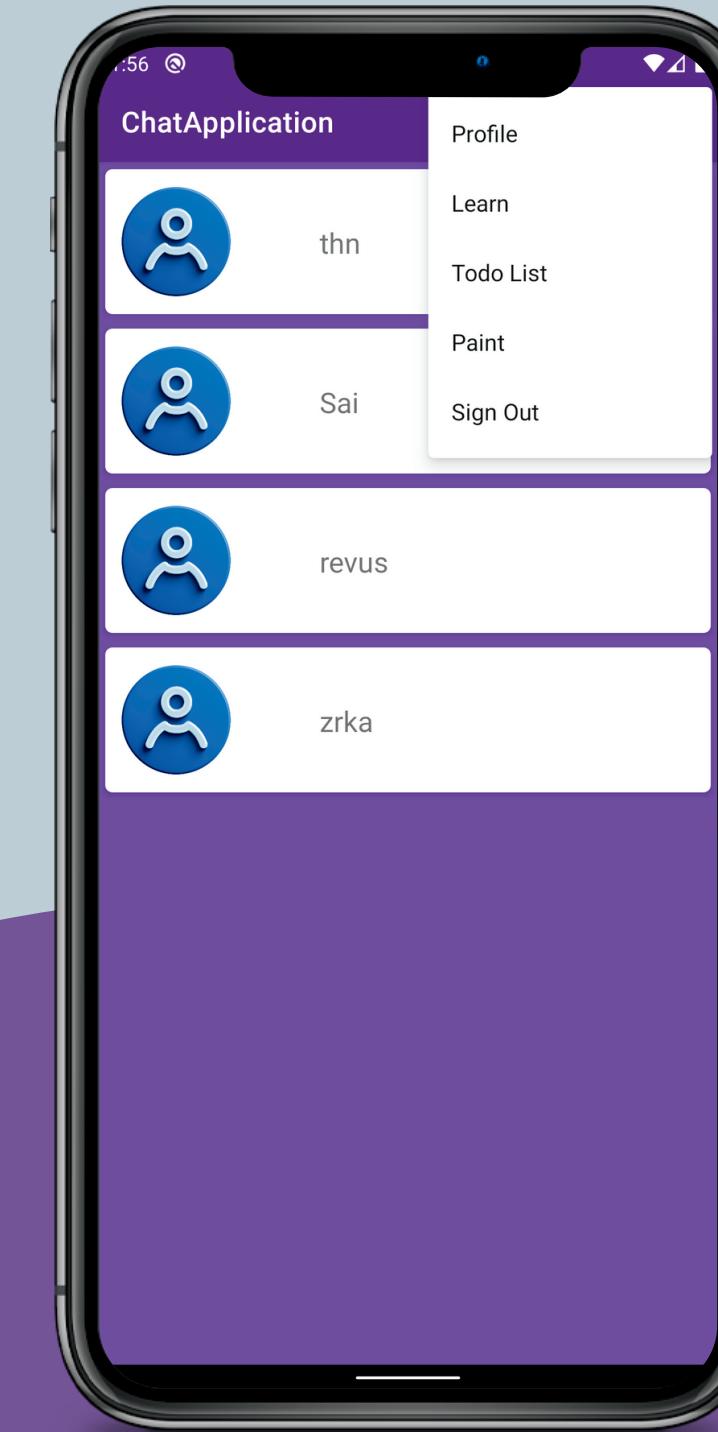
Chat application

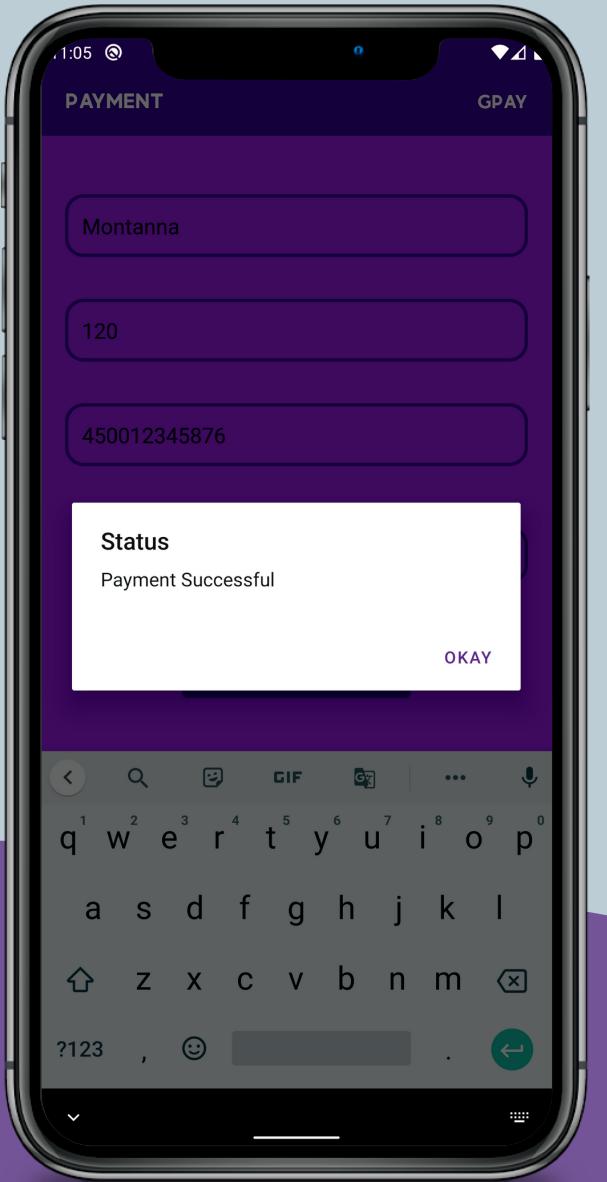
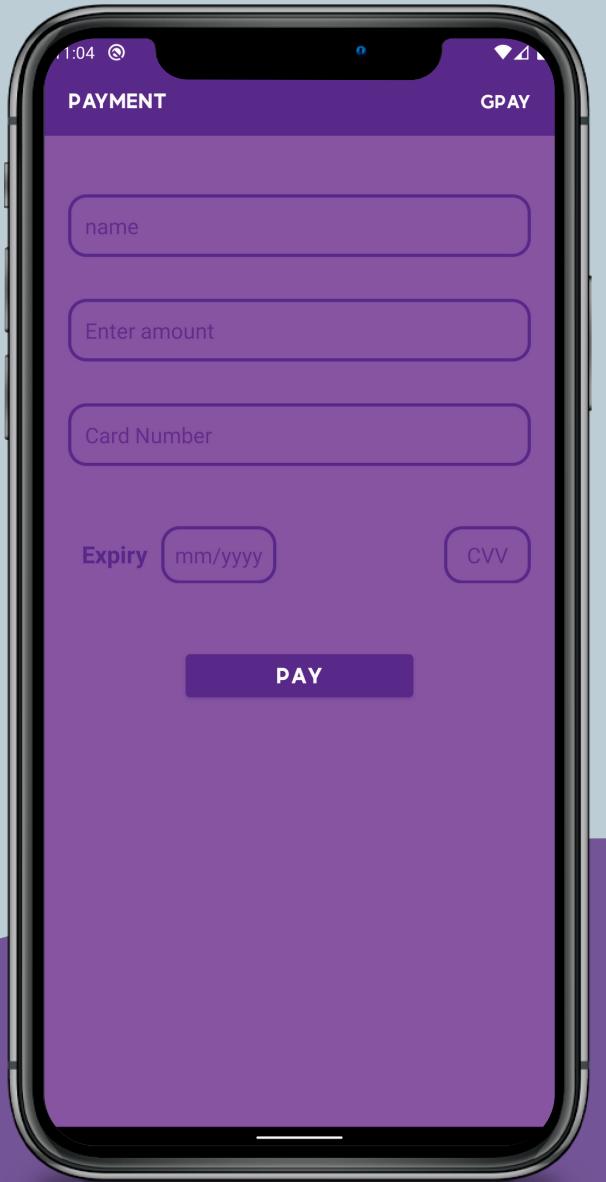
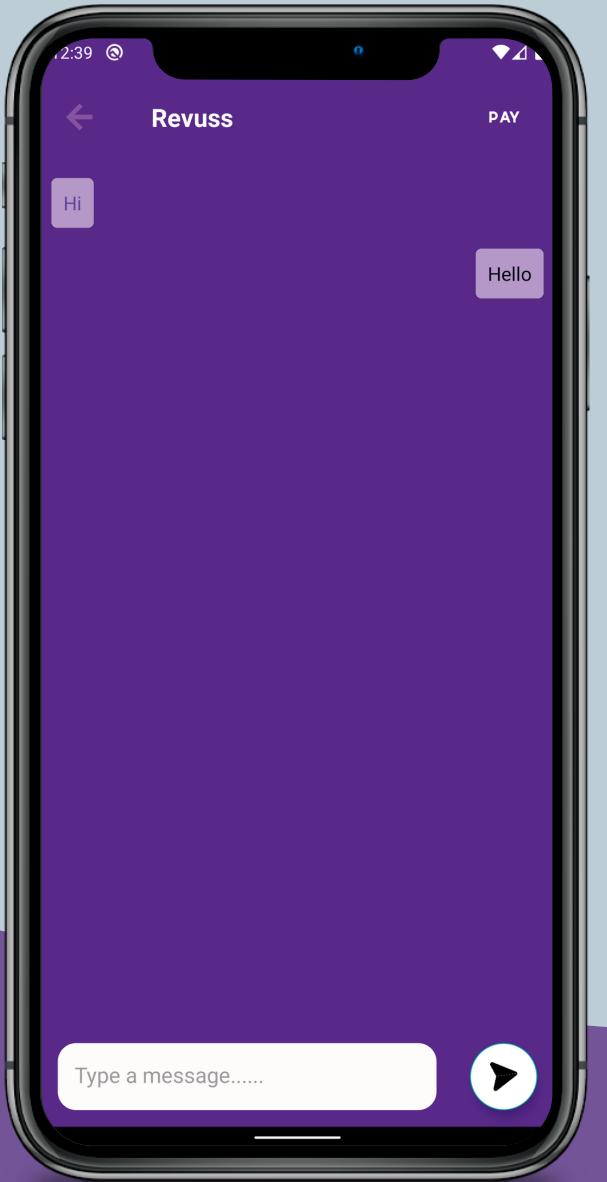
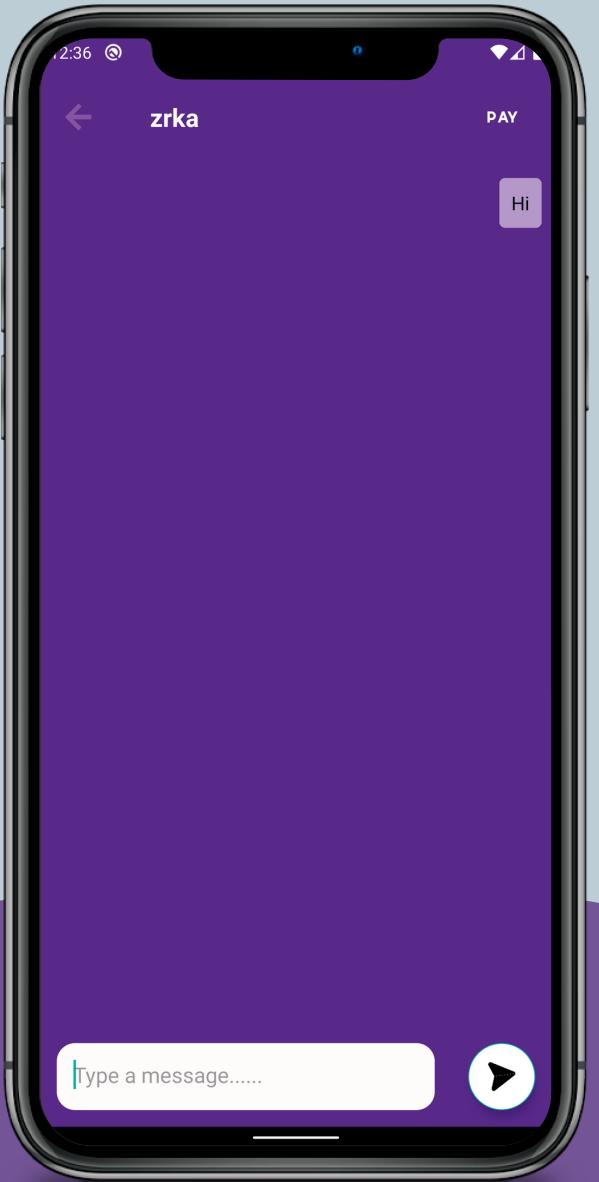


**Forgot activity**



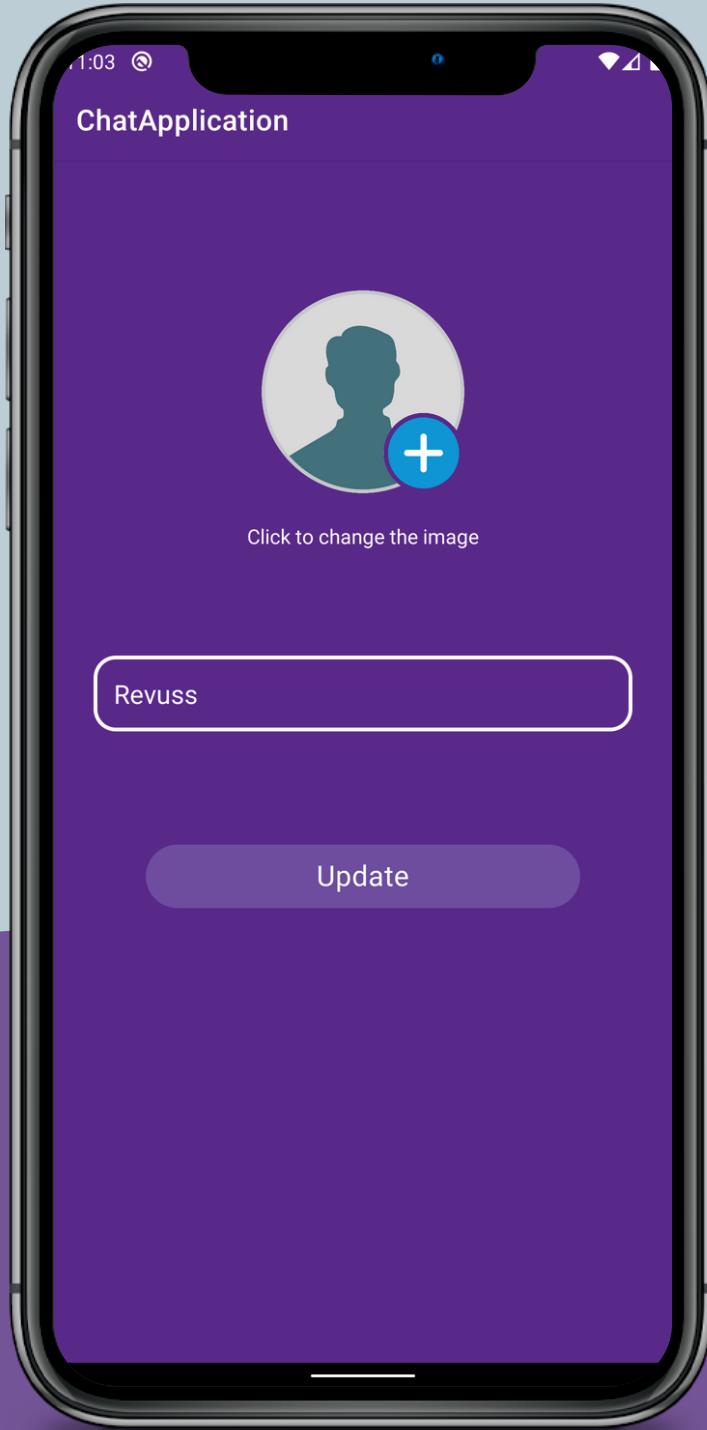
**Home and Menu screen**



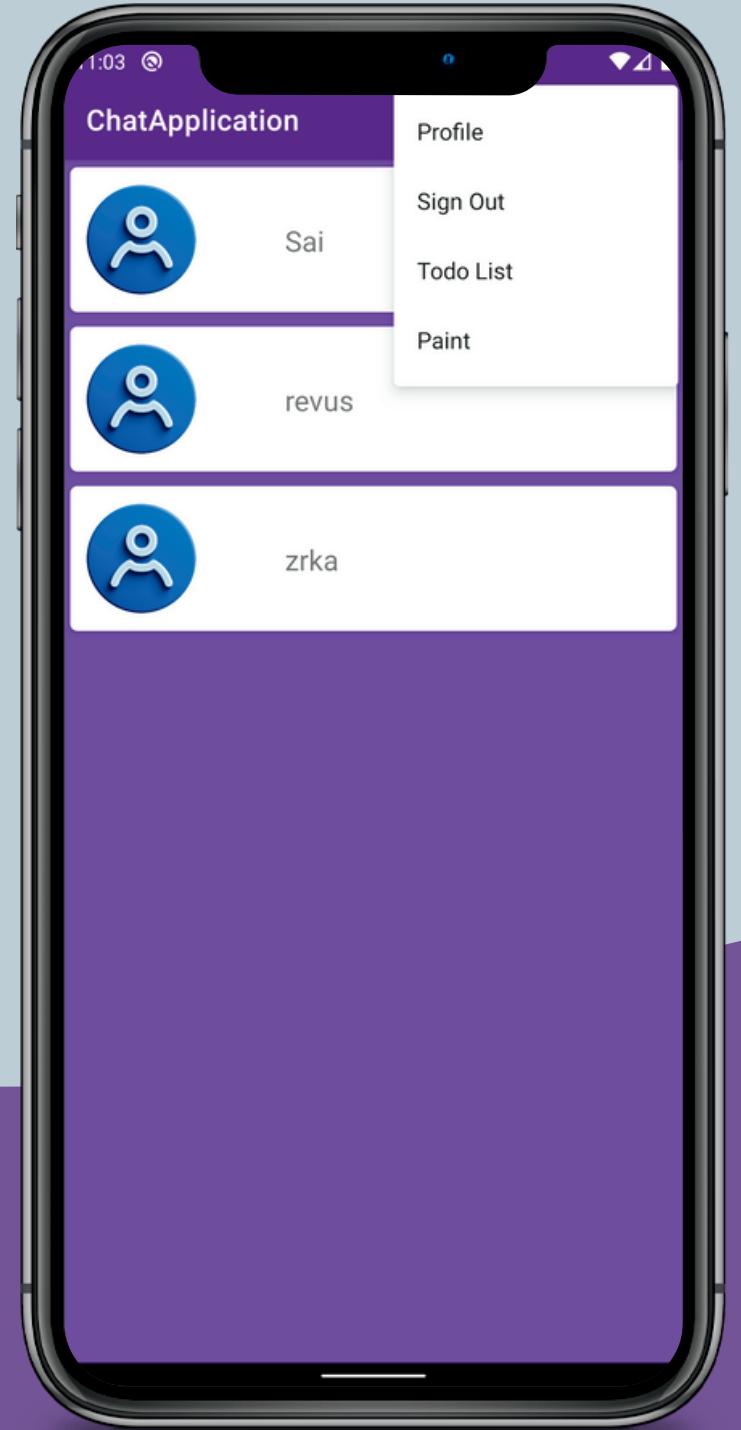


**Chat activity**

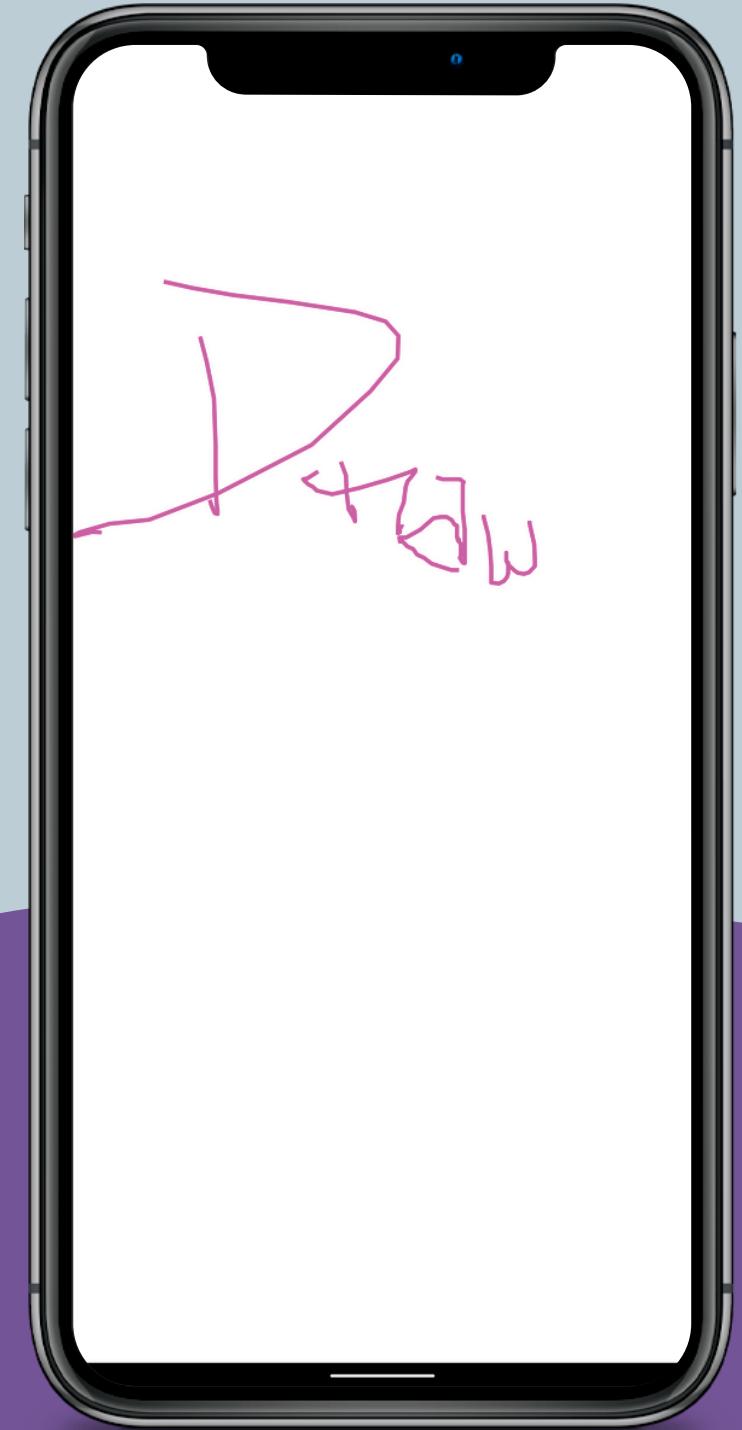
**Payment**

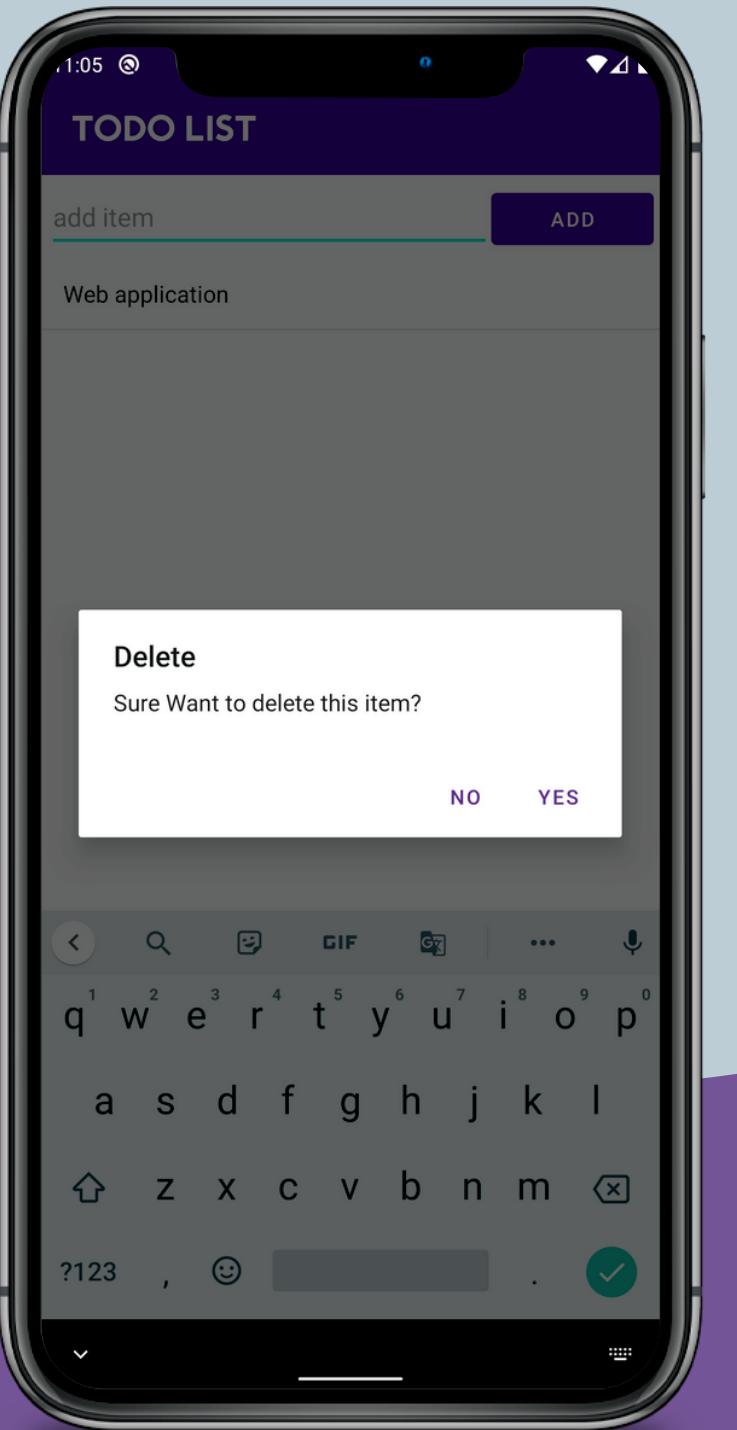


**Update Profile**



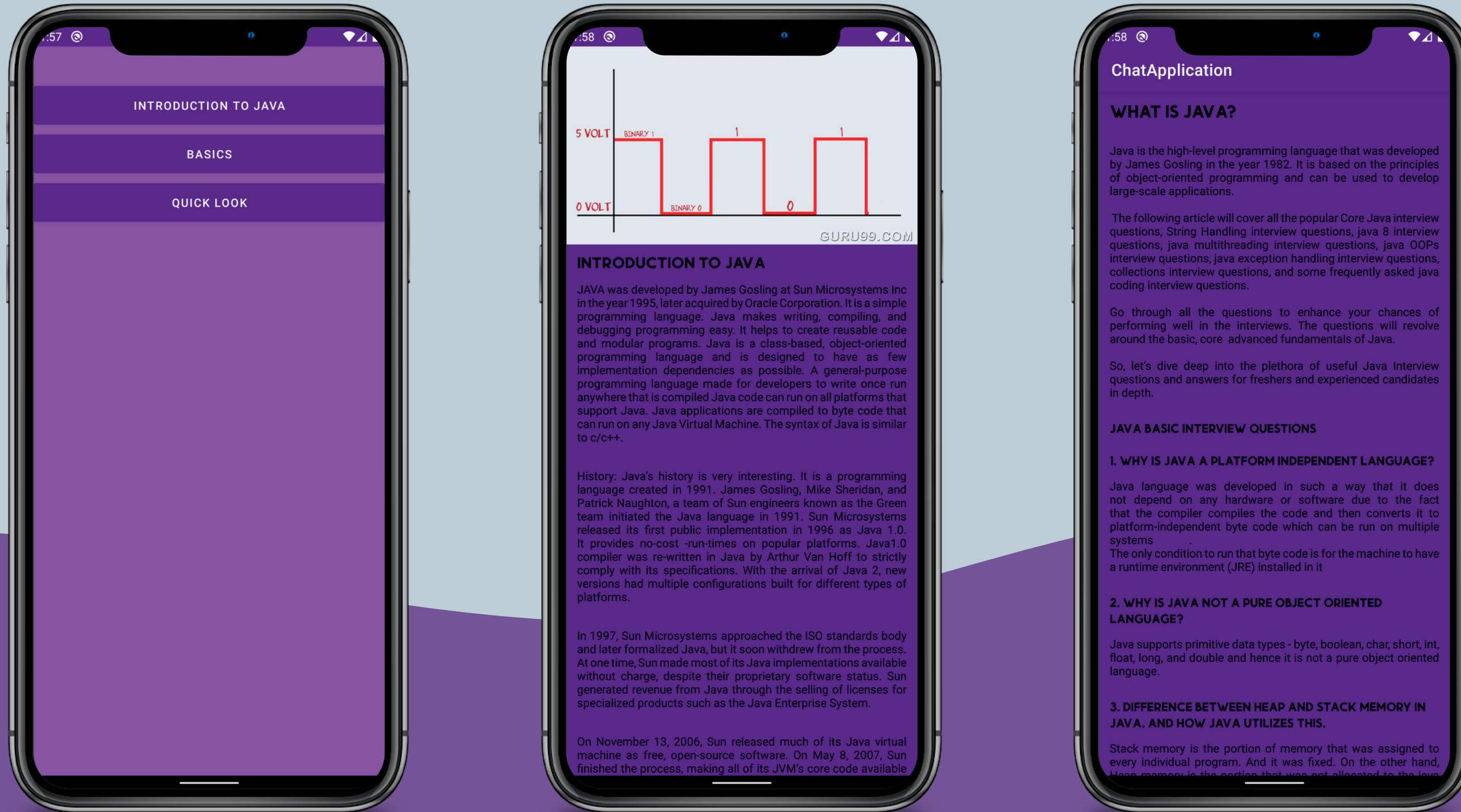
**Paint Activity**



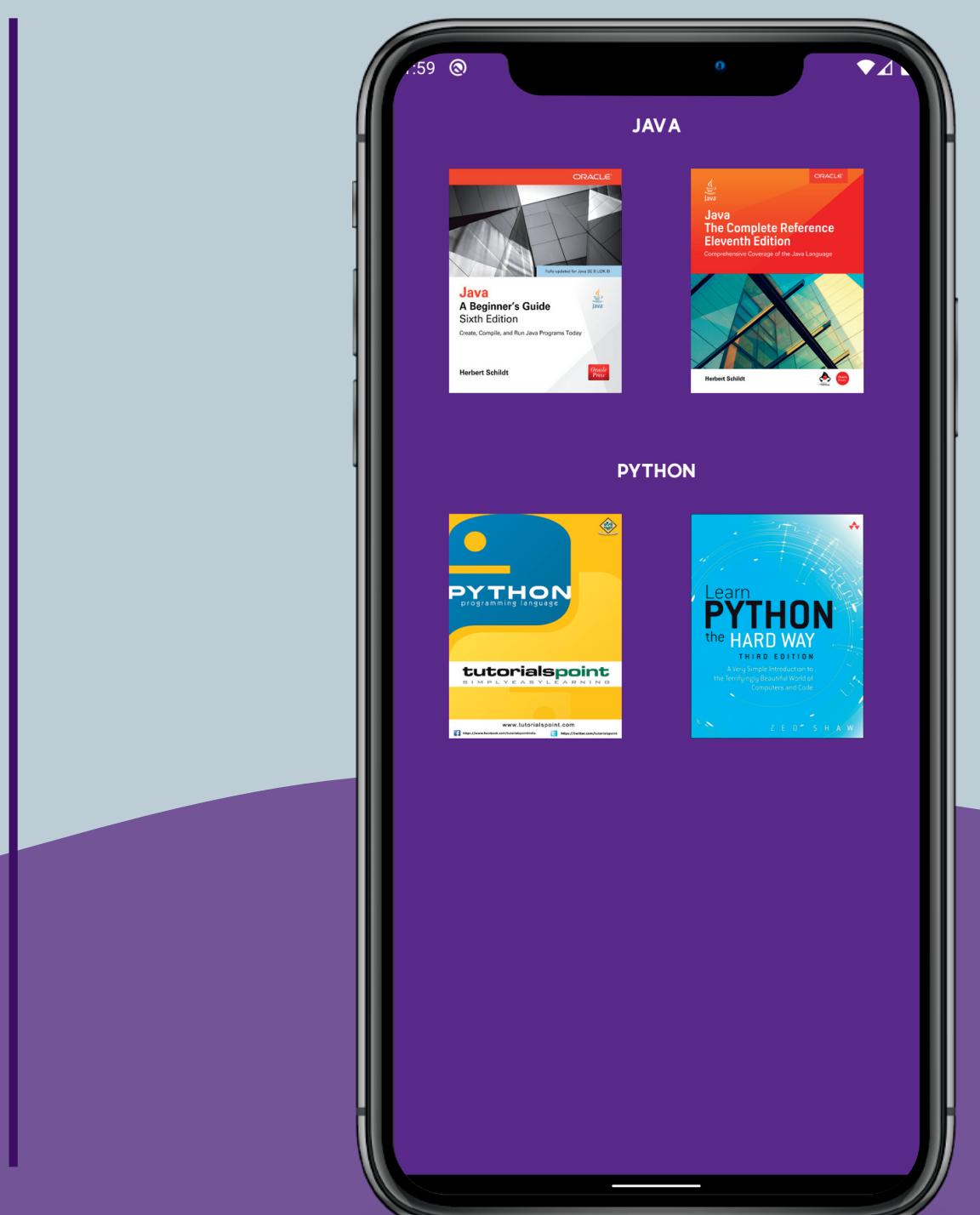
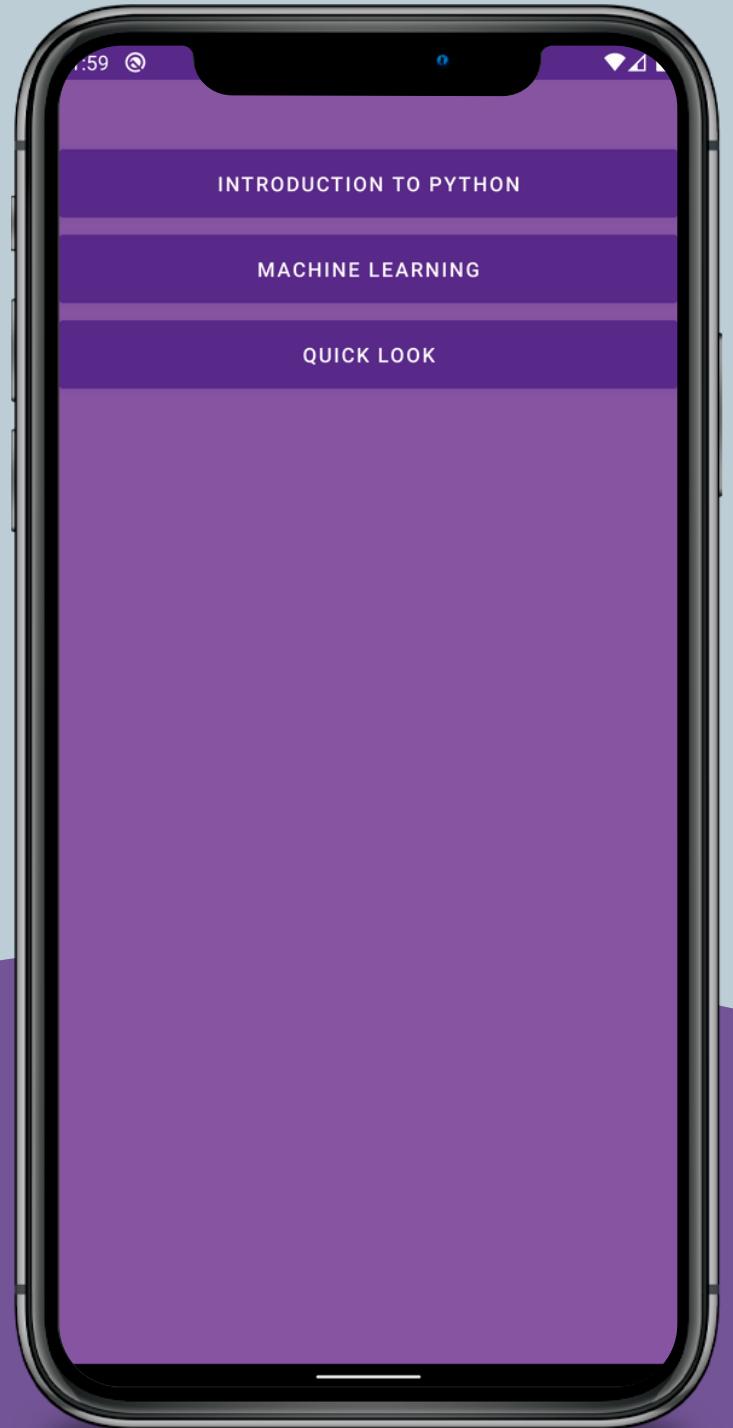


To-do List

Learn Module



# Java Learning Module



## Python Learning Module

## Books Download page

# Conclusion

Chatting is a very mutual used application between the users. General operators use the immediate messaging services to interconnect with other separate users. In our project, we have provided with several enhanced structures for a chat application. The features like watercolour along through chat would be a amusing to use and interactive feature for a general user. The chat application is so aimed that the people could have a better practice of discussion. It has the possible to attract more and more operators to interrelate and connect. Social networks act mainly as transmission tools built around news feedstuffs filled with friends, family, and associates. In difference, messengers allow people to talk privately with the people they most care about. A recent Frank N. Magid Acquaintances survey of U.S. teens institute that only 9 percent designate Facebook as “safe” or “trustworthy.” Many CEOs of foremost messaging apps take a comparable stance, avoiding the collection of personal information and building stages free of hyper-targeted advertising. Chat apps may too feel “trustworthy” to young operators by contribution an amnesty from the watchful eye of parents and employers that have permeated traditional social networks.

# Thank you —

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