**PCET's**
**Pimpri Chinchwad University**
**University Campus, Sate, Maval (PMRDA) Dist.- Pune-412106**
**Department of MCA (Computer Application)**



# **Certificate**

This is to certify that **Gaurav Dawange have** satisfactorily completed the entitled **"Chat Application ' Talkpal ' " for FY MCA under Pimpri Chinchwad University in** the academic year **2023-2024.**

_____                          _____

**Program Coordinator**                                              **Project Guide**

_____                          _____

**Internal Examiner**                                                 **External     Examiner**

**Date:**

# ACKNOWLEDGEMENT

Any efforts to produce successful creation require the help, Guidance and support of many people and their experience. We would like to express our sincere and heartfelt gratitude to all of them.

We would like to take this opportunity to thanks all the people who have directly or indirectly helped this project. We would like to thank our guide **Dr**. Kamlesh Meshram, for his valuable guidance.

# Talkpal

**PROJECT REPORT**
**MASTER OF COMPUTER APPLICATIONS**

**Submitted by**

## [Gaurav Dawange] [Enrollment No. SOS23302010035]

**MASTER OF COMPUTER APPLICATIONS**

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# ABSTRACT

Talkpal is a Java-based chat application developed in Android Studio, designed to provide a seamless and user-friendly messaging experience. The application supports text messaging, media sharing, and real-time notifications. It aims to connect users globally with a secure and reliable communication platform

# Introdution

In the modern digital era, the necessity for instant communication is paramount. Talkpal addresses this need by providing an efficient and secure chat application tailored for Android devices. Instant messaging applications have revolutionized the way people communicate, making it easier to stay connected with friends, family, and colleagues. Talkpal aims to stand out by prioritizing user security, incorporating intuitive design principles, and ensuring robust performance.

With the proliferation of smartphones, the demand for reliable messaging applications has surged. Talkpal is developed to cater to this demand, offering a comprehensive solution that combines text messaging, multimedia sharing, and real-time notifications. By integrating advanced security measures, Talkpal ensures that user data remains private and secure.

# Objective

- To develop a user-friendly and reliable chat application for Android devices.
- To implement secure communication protocols to protect user data.
- To support various forms of messaging, including text, images, and videos.
- To provide real-time notifications for instant message delivery.

# System Requirement

▸ **Hardware Requirement:-**

- Android Device: A smartphone or tablet running Android 5.0 (Lollipop) or higher.
- Minimum Specifications: At least 1GB of RAM and a stable internet connection for real-time communication.
- Development Machine: A computer with sufficient processing power to run Android Studio and the Android Emulator effectively.
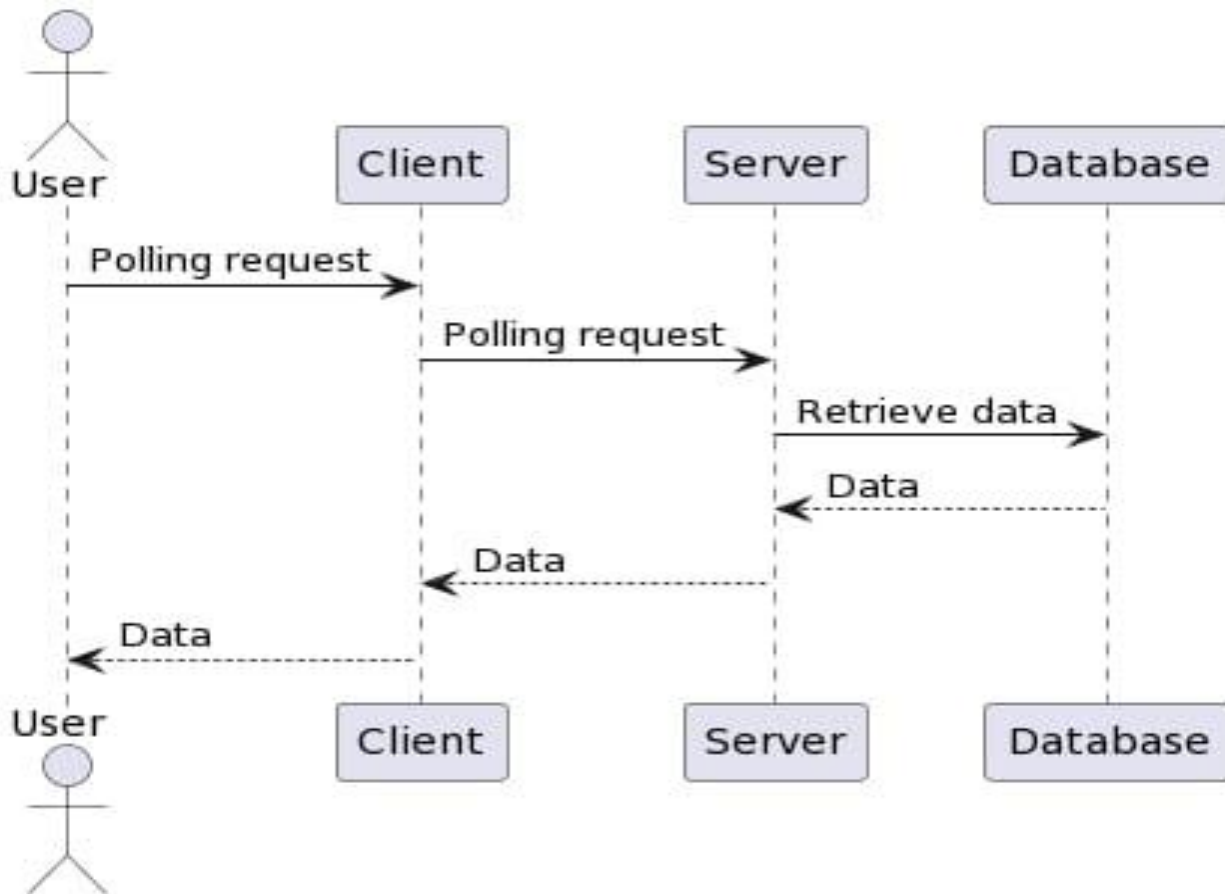
▸ **Software Requirements:-**

- Android Studio IDE: The primary development environment for building the Talkpal application.
- Java Development Kit (JDK): Essential for compiling and running Java code.
- Firebase: Backend services for authentication, database, and notifications.
- Android SDK: Tools and libraries necessary for Android app development.
- Libraries:
- Glide: For efficient image loading and caching.
- Retrofit: For managing network requests and API calls.
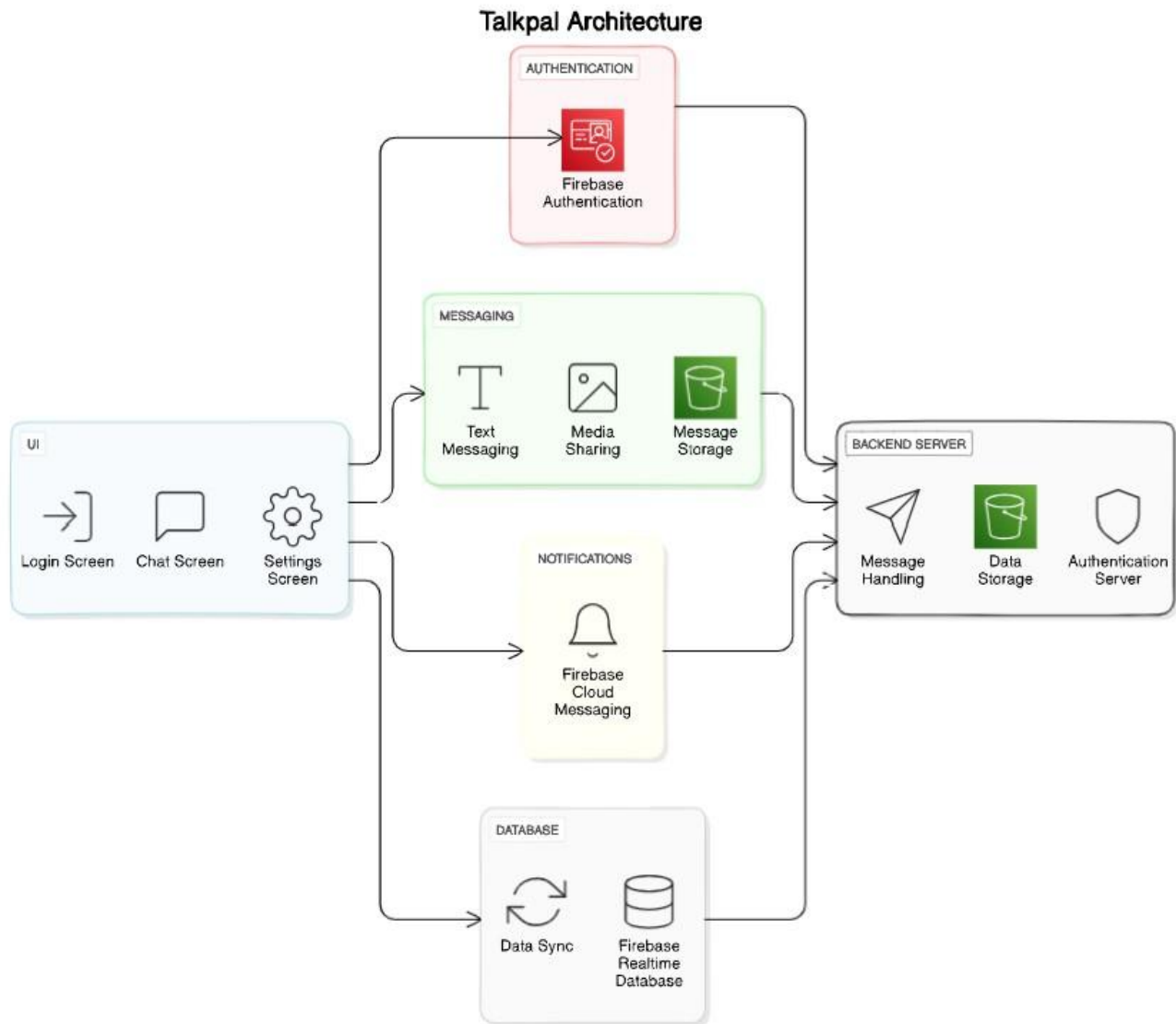- Firebase Cloud Messaging: For implementing push notifications.

# Methodolgy

- **Requirements Gathering and Analysis: Understanding user needs, market demands, and technical requirements.**
- **UI/UX Design: Creating wireframes and prototypes to design an intuitive and appealing user interface.**
- **Development Environment Setup: Configuring Android Studio and integrating necessary libraries and SDKs.**
- **Core Feature Implementation:**
- **User Authentication: Using Firebase Authentication for secure sign-up and login processes.**
- **Messaging System: Implementing text and multimedia messaging capabilities with real-time synchronization.**
- **Notifications: Utilizing Firebase Cloud Messaging for real-time push notifications.**
- **Testing: Conducting extensive testing to identify and fix bugs, ensuring a smooth user experience.**
- **Deployment: Preparing the app for release, creating a developer account on Google Play Store, and uploading the application.**
- **User Feedback and Iteration: Gathering feedback from users post-launch and implementing improvements in subsequent updates.**

# System diagram



Sequence diagram showing interactions between User, Client, Server, and Database:
- User → Client: Polling request
- Client → Server: Polling request
- Server → Database: Retrieve data
- Database ⇢ Server: Data
- Server ⇢ Client: Data
- Client ⇢ User: Data

# Block Diagram



Talkpal Architecture

# Images



Talk Pal

From

Gaurav and Nikhil

# Talk Pal

## Gaurav Dawange
Hey I'm Using This Application

## Nikhil Sangale
Hey

## coder
Hey I'm Using This Application

**T**alk
PAL
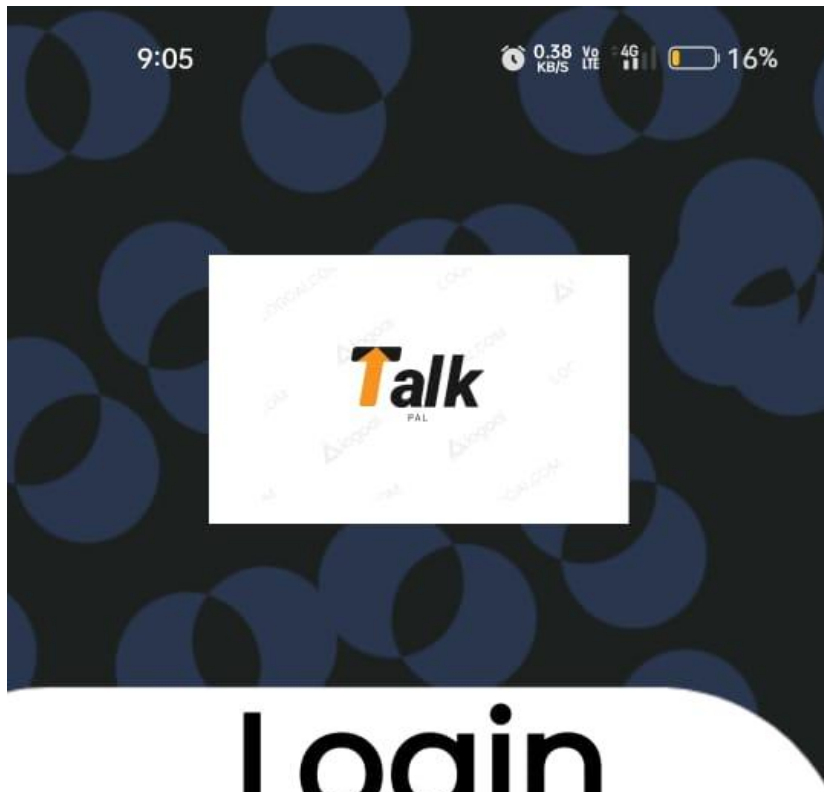
# Login

Sign in to continue.

**Email**

Email

**Password**

Password

**LOGIN**

Need an account?
**SIGN UP!**

# Create New Account

**UserName**    UserName
_____

**EMAIL**    Email
_____

**PASSWORD**    Password
_____

**RE-ENTER PASSWORD**    Password
_____

**SIGNUP**

**Login!**

Gaurav Dawange
_____

Hey I'm Using This Applic
_____

# Conclusion

Talkpal is designed to provide a comprehensive and secure messaging solution for Android users. With its focus on user experience, security, and real-time communication, Talkpal offers a reliable platform for personal and professional messaging needs. The app's robust architecture ensures scalability and performance, making it a competitive choice in the messaging app market. By continuously updating the app based on user feedback, Talkpal aims to evolve and introduce new features, maintaining its relevance and user satisfaction.

# References

- Firebase Documentation: Comprehensive guides and references for using Firebase services.
- Android Developer Guide: Official documentation and tutorials for Android development.
- Glide Documentation: Guidelines and examples for using the Glide library for image loading.
- Retrofit Documentation: Detailed documentation for implementing network requests with Retrofit.
- Material Design Guidelines: Principles and examples for designing intuitive and attractive user interfaces.