**Signal Clone App - Android Project**

**Project Overview**

This project is a clone of the Signal application, focusing on simulating core user interaction flows such as setting up a profile, entering a phone number, and creating a PIN. It is built using Android Studio with layouts in XML and logic in Kotlin. The primary goal is to recreate the key onboarding experiences of the Signal app with modern UI/UX practices.

**Key Features**

* **Profile Setup Screen**: Users can enter their profile information, including first name, last name, and a profile picture.
* **Phone Number Screen**: Users enter their phone number for registration, selecting a country code from a dropdown spinner.
* **Create PIN Screen**: Users are prompted to create a secure PIN, with the option for an alphanumeric password.
* **Additional Screens**: Several additional screens were added to enrich the user experience, enhancing the onboarding and setup flows.

**Setup Instructions**

**Prerequisites**

* **Android Studio**: Ensure Android Studio is installed.
* **Git**: Install and configure Git.
* **Android SDK**: Install required SDK versions via Android Studio's SDK Manager.

**Steps**

1. **Clone the repository**:

https://github.com/farzandali123/Signal

1. **Open the project in Android Studio**:
   * Go to File > Open, then select the cloned project folder.
2. **Sync with Gradle**:
   * Click "Sync Now" when prompted to ensure dependencies are correctly downloaded.
3. **Run the app**:
   * **Emulator**: Set up an AVD via Tools > AVD Manager if not already done, then run the app.
   * **Physical Device**: Connect via USB with USB Debugging enabled, select your device, and run the app.
4. **Install missing dependencies**:
   * If any SDKs or libraries are missing, go to Tools > SDK Manager and install them.

**Screens Designed and Their Purpose**

1. **Profile Setup Screen**
   * **Layout**: activity\_profile\_setup.xml
   * **Purpose**: Allows users to enter their name and add a profile picture.
2. **Phone Number Screen**
   * **Layout**: phone\_number\_layout.xml
   * **Purpose**: Allows users to enter their phone number and select a country code.
3. **Create PIN Screen**
   * **Layout**: activity\_create\_pin.xml
   * **Purpose**: Allows users to create a secure PIN for account security.
4. **Additional Screens**
   * Other screens were added to enhance functionality and improve user experience. This includes enhanced onboarding steps, extra setup options, and more user-friendly flows.

**Technical Challenges Faced**

1. **Country Code Spinner Alignment**: Ensuring the spinner aligned seamlessly with the phone number field across devices.
2. **Masked PIN Input**: Implementing secure input for PIN with masked dots while maintaining smooth keyboard interaction.
3. **Custom XML Styling**: Fine-tuning custom backgrounds, rounded corners, and shadows for buttons and input fields for a modern aesthetic across devices.

**Future Plans**

1. **Backend Integration**:
   * Add Firebase or another backend for user authentication and real-time messaging.
2. **Enhanced Error Handling**:
   * Provide detailed error messages and validation for inputs.
3. **User Authentication**:
   * Implement OTP (One-Time Password) verification for phone numbers.
4. **Dark Mode Support**:
   * Add support for system-wide dark mode.
5. **Security Enhancements**:
   * Encrypt sensitive data such as the user PIN and other credentials.