SPRINT PLAN

- **Sprint 2: Login and Register Functions**
  - Email, Password, and Phone Number authentication
  - Development of user login function
  - Design of the user login interface
  - Development of user registration function
  - Design of the user registration interface

- **Sprint 3: Messages Screen and Viewing All SMS Messages Within the App**
  - Messages screen
  - Design and development of the in-app messaging screen
  - Viewing all incoming and outgoing SMS messages within the app
  - Adding message filtering and sorting mechanisms

- **Sprint 4: Encryption Functions, Diffie-Hellman Key Exchange, Android KeyStore for Key Storage**
  - Implementing the necessary functions for end-to-end encryption of messages
  - Integration of the Diffie-Hellman key exchange algorithm
  - Creating a secure key storage system using Android KeyStore

- **Sprint 5: Handling Unencrypted Messages Sent via Default SMS App, Database Backups**
  - Managing SMS messages sent via the default SMS application
  - Database master key
  - Securely backing up messages and user data

- **Sprint 6: Missing Pages and Features (Settings, Profile, OTP, etc.)**
  - Development of the settings screen
  - Creating the user profile screen
  - Completing other missing pages in the application

GROUP - MINIMIZING INTERNET USAGE - OTP

Offline Login and Register Method

All data will first be stored in the local database, and then messages and user information will be periodically synchronized to the cloud at scheduled intervals.

Advantages of This Method

✅ **Works Offline:** Users can use the app and message even without an internet connection.

✅ **Enhanced Data Security:** Messages and user data will be encrypted before being backed up to the cloud, ensuring they remain unreadable even if stolen.

✅ **Prevents Data Loss:** If the phone is damaged or lost, data can be restored from the

backup.

✅ **Reduced Internet Usage:** Instead of continuously sending data to the API, the app will use the internet only at scheduled intervals.

Technologies to be Used

- **Local Database:** SQLite (Room ORM)

- **Synchronization Module:** WorkManager

- **User Session Management:** SharedPreferences or Android Keystore will be used to track logged-in users. This ensures users remain logged in even after restarting the app.

Additional Technologies We Consider Adding

• **Group Chat Feature**
• **Extra Security for Login Process**

- Store and verify user passwords in a local database (SQLite, Room, Core Data).

- Save the user's device ID (UUID, ANDROID_ID) locally.

- Enhance security by adding biometric authentication.