

Technical Specification Report

Light weight Multi Party Authorisation for IoT Device Access using Bilinear Pairing and Shamir's Secret Sharing

LMPA Android Application

1. General Information

Parameter	Specification
Platform	Android
Language	Kotlin & Java
UI Design	XML-based layouts
Minimum SDK	API Level 23 (Android 6.0)
Target SDK	API Level 30 (Android 11)
Build System	Gradle (Groovy)
Architecture	MVVM (Model-View-ViewModel)

2. Development Tools

Tool	Recommended Version
Android Studio	Android Studio Chipmunk (2021.2.1 Canary 1)
Kotlin	1.4.32
Gradle Plugin	6.5
Gradle Wrapper	6.5
Java Development Kit (JDK)	1.8

3. Security Features

- Code Obfuscation: ProGuard and R8 are to be used for protecting code integrity.
- Network Security: Enforce HTTPS communication using Network Security Config.

4. Network & API Handling

- API Integration: Use Retrofit with Gson for RESTful API communication.
- API State Management: Implement sealed classes for managing API states such as Success, Error, and Loading.
- Network Monitoring: Use ConnectivityManager to detect and manage network state and availability.