

poornima valmiki Android Developer | Mobile Application Engineer

✉ poornimavalmiki1999@gmail.com

8088653857 Hubli, India 3

[LinkedIn](https://www.linkedin.com/in/poornima-valmiki-1782ab258/): <https://www.linkedin.com/in/poornima-valmiki-1782ab258/>

PROFESSIONAL SUMMARY

Results-driven Android and Flutter Developer with 3+ years of experience in designing and delivering scalable, high-performance cross-platform mobile applications. Strong expertise in Java, Kotlin, SOAP web services, Firebase Notifications, Jetpack components, Retrofit, and modern architectural patterns. Proficient in Flutter and Dart, with hands-on experience in Clean Architecture, HMI, Camera Android Pipelines, Android Sdk, Bluetooth Printer Sdk, MVVM, and Experienced in RESTful and API integration, as well as state management solutions, and Provider. Skilled in CI/CD automation and secure, healthcare-grade data handling. Proven ability to optimize application performance, implement modular architecture, and collaborate effectively in Agile environments to deliver production-ready applications deployed on the Google Play Store and Apple App Store. HMI in Android means building a user interface that interacts with external hardware or systems like sensors, IoT devices, or machines. My Android apps act as HMI by displaying real-time data such as radar speed detection, vehicle tracking, and alerts.

EDUCATION

Bachelor of Engineering in CSE
Government Engineering College

09/2018- 08/2022
Haveri, Karnataka

PROFESSIONAL EXPERIENCE

Trinity Technologies And Software Solutions Pvt Ltd
(Android Developer)

02/2023 - present | Hubli

PROJECTS:

Bangalore Traffic e-Challan Closure System

- Developed a mobile application for closing traffic violation e-Challans in Bangalore.
- Implemented vehicle number search functionality to fetch violation details from the server.
- Enabled traffic officers to review violation details and close cases efficiently within the app.
- Implemented **Bluetooth printing** to generate and print challan receipts on the spot.
- Improved operational efficiency by reducing manual paperwork and speeding up the challan closure process

Radar Speed Detection System

- Developed a **real-time vehicle speed detection Android application** using BLE-based radar sensor integration.
- Designed a **custom hex data parsing mechanism** to decode multiple vehicle packets (angle, distance, direction, speed) from raw BLE data.
- Implemented **real-time data processing and visualization**, updating UI components and radar graphs dynamically using EventBus.
- Built a **speed threshold-based trigger system** to automatically capture vehicle images when speed exceeded defined limits.
- Applied **data filtering techniques** to eliminate invalid or low-speed readings, improving detection accuracy and system reliability.
- Developed a **queue-based processing mechanism** for handling high-speed vehicle events efficiently.
- Implemented **device authentication and command validation logic** for secure BLE communication.
- Enabled an **automated traffic violation monitoring system**, reducing manual intervention and improving enforcement efficiency.

SpotFine Application

- Developed a mobile-based SpotFine application for issuing and managing traffic fines on the spot.
- Enabled real-time entry of violation details and instant fine generation.
- Implemented **Bluetooth printer support** for instant fine receipt generation.
- Designed a user-friendly interface for traffic personnel to ensure quick and accurate data entry.
- Enhanced enforcement efficiency with real-time processing and digital record maintenance.

Camera Integration using Camera2 API

- Implemented real-time image capture of vehicle violations
- Enabled high-quality photo capture for evidence using manual controls (focus, exposure)
- Integrated preview and capture pipeline using Camera2 architecture

Traffic Violation & e-Challan Closure System

This is an enhanced version of traffic violation management with additional features like payments and tracking.

- Developed a mobile solution to manage and close traffic violations digitally.
- Integrated Bluetooth printer functionality for instant challan generation.
- Enabled real-time synchronization with backend systems using REST APIs and .NET services.
- Implemented secure payment and violation tracking features.
- Improved transparency and reduced dependency on manual processes.

INTEGRATIONS & SYSTEM EXPERTISE

- **Bluetooth (BLE) Communication:** Device pairing, secure data transfer, command validation
- **Printer SDK Integration:** Thermal receipt printing for challan and POS systems
- **POS Machine Integration:** Billing, transaction handling, and receipt generation
- **Payment Integration:** Secure transaction handling and status management.
- Managed transaction flow (success, failure, pending)
- Implemented secure API communication
- **Web Services:** REST APIs, SOAP, .NET services, Python-based APIs
- **Hardware Integration:** Radar sensors, BLE devices, Camera2 API
- **Human Machine Interface (HMI) Development:** Designed and implemented Android applications acting as HMI systems for interacting with hardware devices such as radar sensors, BLE devices, POS machines, and printers.

Technical SKILLS

- **Mobile Development:** Java, Android Sdk, Fragments & Fragment Lifecycle, RecyclerView & Adapters, Material Design REST API Integration (Retrofit, Volley) Push Notifications (Firebase Cloud Messaging).
- **Architecture & Design Patterns:** Clean Architecture, MVC, MVVM,, Dependency Injection, Modular Architecture, Separation of Concerns.
- **Architecture & Methodologies:** MVC / MVVM, Agile & Waterfall methodologies.
- **API & Backend Integration:** REST APIs, SOAP API's, JSON Parsing,
- **Firestore & Cloud Services:** Firebase Authentication, Firestore, Firebase Cloud Messaging (FCM), Push Notifications.
- **Testing & Debugging:** Unit Testing, Widget Testing, Integration Testing, Debugging, Performance Profiling.
- **Security & Performance:** Secure Storage, Encrypted Data Handling, API Token Management, Memory Optimization, Network Optimization.

Human Machine Interface (HMI): Experience in building HMI-based mobile applications that interact with hardware systems such as sensors, BLE devices, POS machines, printers, and real-time embedded systems.

- **Tools:** VS Code, IntelliJ IDEA, Android Studio.

- **Project Management Tools:** PMT (Project Management Tool), sprint planning, task tracking, and issue management.

LANGUAGES

English • Kannada • Hindi •