

## **Meter Reading Application (MRA) - Detailed Product Features List**

### **1. Overview**

The Meter Reading Application (MRA) is a modern utility management tool that enables field agents, vendors, and administrators to streamline the process of meter reading, billing, and reporting. It integrates with SAP systems and includes real-time OCR-based reading capture and printing capabilities.

### **2. Mobile Application Features**

Key mobile features include:

- Login System using Bearer Token Authentication
- Home Dashboard with summary stats
- Meter List fetched using SAP OData API (Basic Auth)
- Meter Reading Submission using POST request (x-csrf-token)
- Spot Billing Module with live SAP data
- OCR Integration for real-time number extraction
- Live Printing support for receipts/bills
- Side Drawer Navigation with AppBar Titles

### **3. Admin Portal Features**

- User and Role Management
- Route Assignment & Scheduling
- Billing Summary and Report Generation
- Vendor Performance Tracking
- Dashboard with Real-time Status and Statistics
- Manual Data Overwrites and Correction Logs

### **4. Vendor Portal Features**

- Login Dashboard with Assigned Routes
- Daily Meter Read Submission
- Submission Reports and Acknowledgements
- Spot Billing Reports
- Escalation Mechanism to Admin
- Meter Creation and editing/deleting.
- Meter Reader Management
- Analytics and History

## **5. SAP Integration**

The MRA integrates directly with SAP via OData services. Meter data is pulled using GET requests and submitted using POST methods with required headers like Basic Auth and CSRF tokens. The integration ensures live synchronization between SAP and MRA.

## **6. Security & Authentication**

All endpoints are secured with either Basic Authentication (for SAP) or Bearer Tokens (for the mobile app). CSRF protection is implemented for submission endpoints. User roles ensure access control across Admin, Vendor, and Field User levels.

## **7. User Experience Highlights**

The app features a modern red-themed UI with smooth navigation, real-time validation, responsive layout, and clear call-to-action buttons. All modules are built with a focus on ease of use for field staff.