**Muddemal: Digital Seized Asset Management System**

**1. Introduction**

**1.1 Project Overview** Muddemal is an advanced desktop application designed to streamline and modernize the management of seized assets within Maharashtra Police stations. By integrating cutting-edge technologies, Muddemal enhances accuracy, transparency, and efficiency in tracking and managing evidence.

Muddemal significantly reduces administrative workload, boosts efficiency, accelerates judicial procedures, and ensures greater accountability and transparency. Developed by a trusted company with extensive experience delivering government projects—such as Mahaayudaan, Maharashtra's renowned organ transplant system—Muddemal is meticulously tailored to meet the specific requirements of law enforcement. It has been built in close collaboration with police departments, aligning seamlessly with existing operational procedures, ensuring ease of adoption, reliability, and practical effectiveness.

**1.2 Project Scope** Muddemal covers end-to-end management of seized assets including:

* Data entry automation via OCR
* Asset classification with AI
* Secure record maintenance via Blockchain
* Real-time asset tracking with QR codes
* Digital evidence handling (images, videos, documents)
* Multilingual support (English, Hindi, Marathi)

**1.3 Audience**

* Police officers and administrative staff
* Maharashtra state police departments
* Judiciary and legal officers

**1.4 Definitions, Acronyms, and Abbreviations**

* **OCR:** Optical Character Recognition
* **Blockchain:** Secure digital ledger technology
* **AI:** Artificial Intelligence
* **FIR:** First Information Report
* **QR Code:** Quick Response Code
* **SQL:** Structured Query Language
* **Prisma:** Database toolkit

**2. Project Architecture**

**2.1 Modules/Components**

* **Data Entry Module:** Automated FIR uploads via OCR
* **Blockchain Module:** Secure, immutable data storage
* **AI Module:** Intelligent classification and categorization
* **Tracking Module:** QR code generation and scanning
* **Digital Evidence Module:** Video, image, and document storage
* **Multilingual Interface:** English, Hindi, Marathi

**2.2 Data Flow**

1. FIR scanned/uploaded → OCR module converts data
2. Data verified and entered into the blockchain
3. AI module classifies seized goods automatically
4. QR code generated for asset tracking
5. Digital evidence uploaded, tagged, and stored securely
6. Data accessed in real-time by authorized personnel

**2.3 Technology Stack**

* **Frontend:** React
* **Backend:** Node.js
* **Database:** SQL with Prisma ORM
* **Desktop Application Framework:** Electron
* **Blockchain:** Ethereum (Solidity smart contracts)
* **OCR:** Python (Tesseract OCR integration)

**3. Installation and Setup**

**3.1 Prerequisites**

* Minimum 4 GB RAM (Recommended 8 GB)
* Intel Core i3 or equivalent processor
* 500 MB free disk space
* Windows 10 or higher, MacOS, Linux

**3.2 Installation Instructions**

1. Download executable build package
2. Run installation setup
3. Follow prompts for installation (administrator rights may be required)

**3.3 Running the Application**

* Launch the installed application from the desktop shortcut
* Log in using authorized police credentials
* Navigate modules via intuitive user interface

**3.4 Troubleshooting**

* Common issues: Database connectivity, OCR accuracy
* Solutions: Check database connection, ensure clarity of scanned FIRs
* Contact support for unresolved issues

**4. Usage Guide**

**4.1 Stakeholders Profiles**

* **Police Officers:** Perform data entry, asset tagging, QR code scanning
* **Administrative Staff:** Manage, verify, and monitor data accuracy
* **Judicial Officers:** Access evidence, view asset status
* **Technical Support:** Maintain and troubleshoot system operations

**5. Key Features and Benefits**

* **Automated Data Entry:** Quick, error-free data capture via OCR
* **Blockchain Security:** Immutable records, transparent and secure
* **AI-Powered Classification:** Efficient asset categorization
* **QR Code Tracking:** Real-time asset tracking capability
* **Digital Evidence Management:** Secure storage of multimedia files
* **Multilingual:** Easy adoption across diverse staff

**6. Current Tracking Methods**

* Manual handwritten registers
* Physical logs and paper files stored in record rooms
* Reliance on manual verification and updating

**6.1 Room for Improvement**

* Enhanced data accuracy through digital systems
* Improved real-time access and tracking
* Reduced dependency on physical storage space
* Strengthened data security

**7. Advantages**

* Enhanced transparency and accountability
* Significant reduction in administrative workload
* Accelerated judicial proceedings
* Real-time data tracking and accessibility
* Enhanced data integrity through blockchain technology

**7.1 Disadvantages**

* Initial training and familiarization required for staff
* Dependence on stable internet connectivity for optimal performance
* Potential technical challenges during initial rollout

Muddemal revolutionizes police asset management—saving time, increasing security, and ensuring accuracy.