SecureCheck: Digital Ledger for Police Post Logs

Domain : Public Safety & Real-Time Monitoring

Tech Stack : Python , SQL , Streamlit

Goal : Digitize police check-post logs.

By
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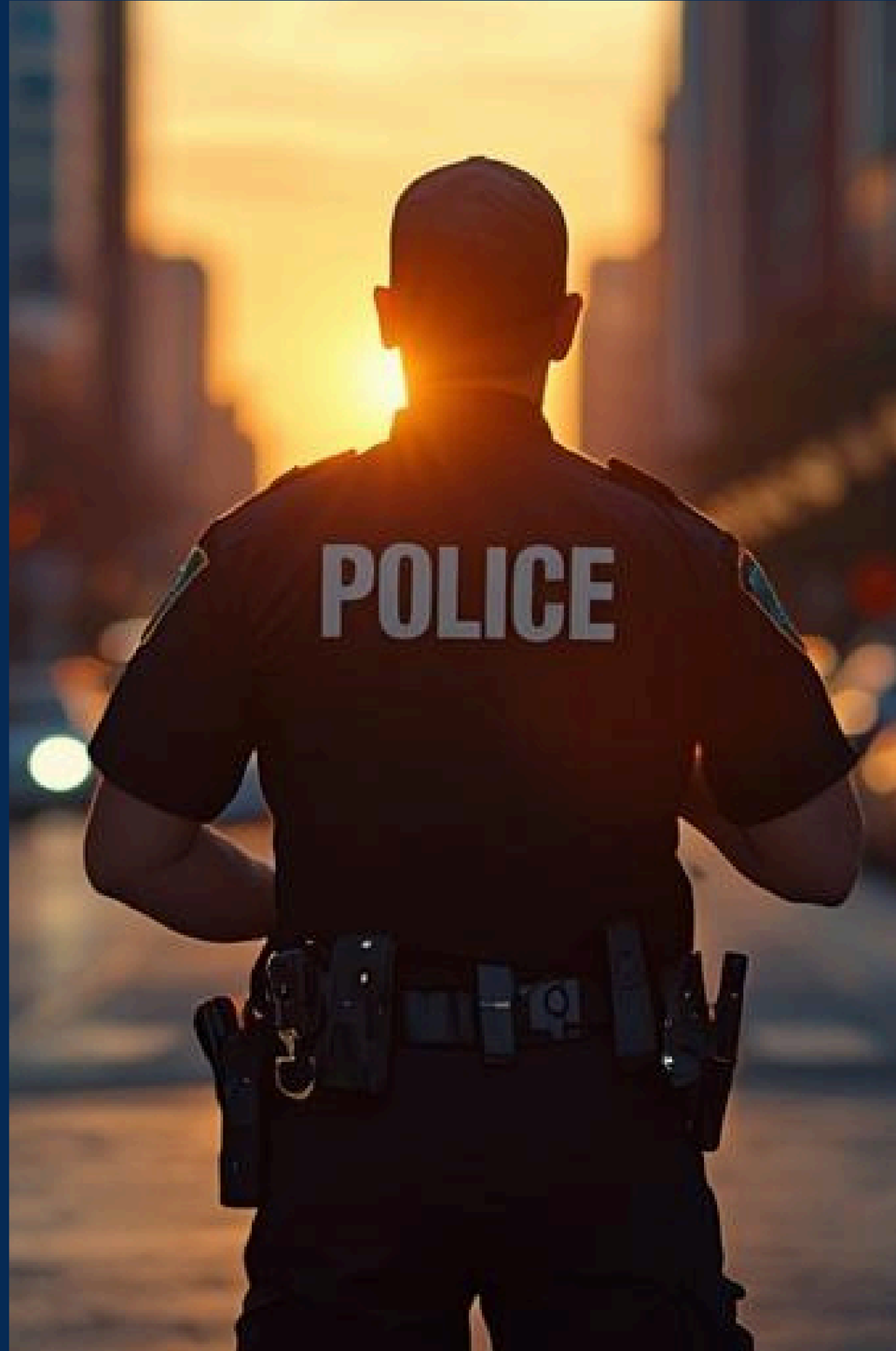
Problem Statement

Police check posts lack a centralized digital system to log, track, and analyze vehicle movements. Manual records and outdated databases slow down security operations and delay critical decision-making.

My Solution

This system uses a centralized SQL database and a Streamlit dashboard to digitally log, track, and analyze vehicle movements in real time. It replaces manual logs with automated recording, instant search, and quick alerts.



Technical Approach

Python for Data Processing

Clean and preprocess the dataset by removing empty columns and handling missing (NaN) values for reliable storage.

Database Design (SQL)

Create structured SQL tables and insert cleaned data to enable fast, organized, and secure storage of vehicle records.

Streamlit Dashboard

Build an interactive dashboard to view logs, search records instantly, and display analytics like high-risk vehicle trends.

Libraries: Streamlit , Pandas , Sqlite3 , Datetime , Io(Bytesio)

KEY FEATURES

- Automated Data Cleaning
- Handling Missing & Unwanted Data
- Schema-Aligned Column Reordering
- CSV Export for Database Insertion
- Data Type Validation
- Reusable Pipeline Design

Impacts and Benefits

Potential Impact

Enhanced security through centralized and accurate vehicle logging.

Reduced manual workload for officers with automated data entry.

Faster investigation support using quick SQL-based lookups

Better traffic and violation insights through analytics dashboards.

Benefits of the Solution

Real-time monitoring of vehicle movements across check posts.

Improved data quality with clean, validated Python-processed records.

Instant alerts for suspicious or flagged vehicles.

Easy accessibility via a user-friendly Streamlit dashboard.

THANK YOU