Comprehensive Description – Cairo Traffic Dashboard

- **Simulator & Data Generation:** Generates realistic traffic events with vehicle count, average speed, congestion %, weather, and incidents for multiple Cairo locations. Rush hour factors adjust traffic intensity.

- **Anomaly Detection:** Flags low/high speeds, over-capacity congestion, and incidents, producing real-time alerts.

- **KPI Overview:** Shows total events, recent events (last 5 min), average speed, and average congestion percentage.

- **Map Visualization:** Displays latest traffic conditions per location on a 3D map with congestion-based color coding and scalable markers.

- **Analytics Charts:** Line charts for vehicle count and speed trends; pie chart for vehicle type distribution; table for top congested locations. Time window filtering is available.

- **Alerts Panel:** Lists detected anomalies with timestamp, location, and event details; includes bar chart summarizing anomaly types.

- **Controls & Filters:** Sidebar allows starting/stopping simulation, resetting data, adjusting refresh interval, and toggling display tabs.