Project Title: Intelligent Urban Monitoring System in a Smart City

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Aim

To design and implement a simulated intelligent urban environment using **Cisco Packet Tracer**, integrating:

- Smart Surveillance
- Intelligent Street Lighting
- Fire Monitoring

The system should monitor environmental and human conditions in real time and respond automatically to events such as motion detection, low lighting conditions, and fire or smoke detection.

Problem Statement

Urban areas face challenges in energy efficiency, public safety, and emergency response. Traditional systems are reactive, energy-intensive, and lack integration. There is a need for an automated, centralized monitoring system that:

- Reduces energy consumption via intelligent lighting
- Enhances public safety using real-time surveillance and alerts
- Provides early fire detection and response

Scope of the Solution

This project simulates an IoT-based smart environment using Cisco Packet Tracer that:

- Automatically adjusts street lighting based on ambient light and motion.
- Detects fire and sends alerts to a control center.
- Monitors urban areas using motion sensors and simulated cameras (using motion detectors).
- Sends real-time data to a cloud/server for centralized monitoring.
- Operates in a simulated city block with multiple smart street devices.

Required Components

- Home gateway
- Switch
- Tablet
- Smart Cameras
- Motion Detectors
- Street Lights
- Fire Monitor
- Smoke Detectors
- Alarm
- Fire Sprinklers
- Temperature Monitor