

SmartCityX: The AIoT Hackathon

Prototype Phase REPORT

Project name: 51. Stall monitoring - 2D - Infra

Team name: Sparkd

Team Lead:

1. Parthivsurya K B – CB.SC.U4CSE24535 - CSE 2nd Year

Team Members:

1. Nimal Danyath K – CB.SC.U4CSE24033 - CSE 2nd Year
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Theme: Urban Infrastructure

Track: 2D Model

Idea Brief:

At large tech fairs, Our project shows how many visitors are at each stall in real-time, also helps the organizers to identify the most engaging stalls and it also helps to improve event planning. So we are planning to build an AI-Powered Stall Monitoring System that uses an ESP32-CAM module to count visitors at each stall in real time and generate data about which stalls attract the most people.

Software Requirements:

Mention usage of cloud platforms, AI and ML models and Augmented Reality for the implementation of the problem statement.

App Tech Stack: Mobile app(flutter)

AI/ML model: Edge impulse, YOLOv8

Dataset: <https://github.com/Parthivsurya/Crowd-control>

Wokwi link: <https://wokwi.com/projects/437533569721840641>

Drive link : <https://drive.google.com/drive/folders/1yPd4yEZCslC4PzWkb8-MnxXTgfQU8EZw?usp=sharing>

Cloud Platform:NodeRed(for real-time data processing and visualization)

Feasibility:

This allows organizers to monitor crowd flow instantly. Powered via stalls, this system can run continuously for the entire event, providing valuable insights on peak hours and stall performance for better planning and management.

Budget:

S. No.	Name	Count	Purchase link/Offline store	Status	Price
1.	ESP32-Cam	1	https://quartzcomponents.com/products/esp32-camera-development-board-wifi-bluetooth-with-ov2640-camera-module	Yet to order	549
2.	TP4056 Charging Module	1	https://robu.in/product/tp4056-1a-li-ion-lithium-battery-charging-module-mini-usb/	Yet to order	17
3.	ESP32-CAM-MB MICRO USB	1	https://robu.in/product/esp32-cam-mb-micro-usb-shield-module-for-esp32-cam-development-board/	Yet to order	91
4.	5V recharge battery	1	Offline store	Yet to order	400
				Total required	1057
				Total Available	0
				Total Budget	1057

Intel IoT Club

AMRITA VISHWA VIDYAPEETHAM, COIMBATORE