Museum Analytics

Description

Using the existing infrastructure, we propose to mine data through CCTV cameras to understand the visitor footfall and also their flow during their visit to the museum. Through the interactive graphs that we built, museums could monitor the areas which are receiving a greater exposure and co-relate it with environmental readings from the sensors placed throughout the museum to take necessary precautions to conserve the exhibits.

Motivation

There are numerous data sources in a museum that give insights into obscure areas. Through the personal interactions with the participating museums we realised that manifesting all the raw data through interactive graphs, we could help them in locating points of interest. From this prototype, we would like to give a glimpse of the possible.

Technical details

Platform - Web
Languages - JavaScript, Python
Frameworks used - D3.JS (JS), OpenCV, Tensorflow, Tornado
This is a web application. We are visualising the footfalls through the D3.JS from a CSV file containing all the footfall information in JavaScript. The website is completely responsive and scales on devices of all resolutions. Using OpenCV we sample a frame every 30 seconds from the given CCTV footage. Using the Single Shot Detector trained on the MS-COCO dataset using Tensorflow, we tweaked it to detect only people from a given frame. Once the entire video is annotated, we return the data in form of JSON for plotting a line graph to understand the trends. The JSON data is visualised using D3.JS

GitHub Links

https://github.com/Nikhil-Kasukurthi/Counting-people-video
https://github.com/Shambhavi96/Shambhavi96.github.io