# Video Analytic System

**Aim**:- In this project we want to generate some analytics on a video given by a user. We will display these generated insights and display them back to user.

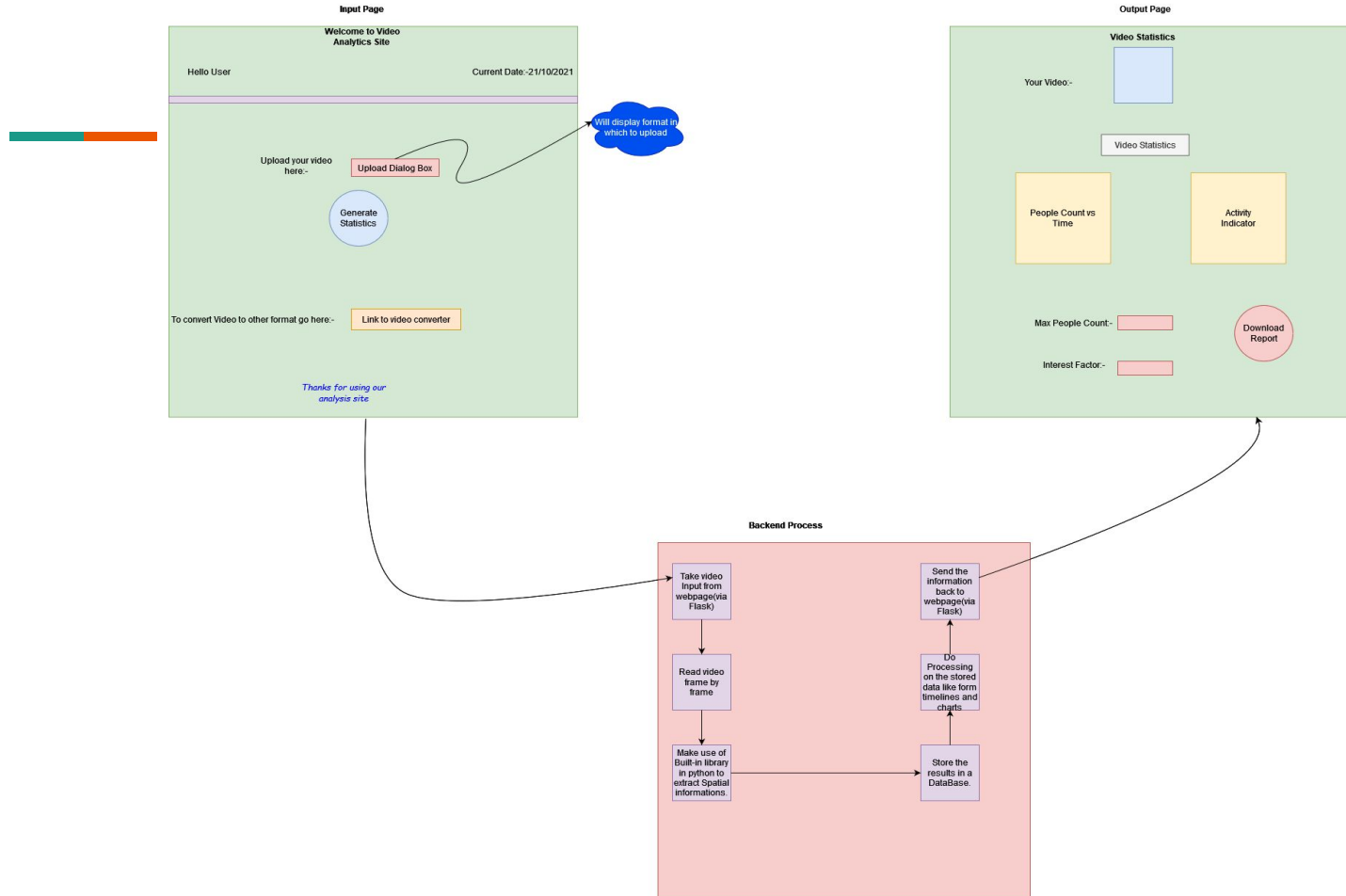**Input**:- A recorded video of a room/cctv footage.

**Output**:- We would like to display these insights on video

1. A graph of people present over the duration of video.
2. Activity graph, highlighting section of video in which some activity is happening.
3. Some general statistics(Numerical Outputs):-
   a.) Maximum number of People throughout the footage
   b.) Interesting_factor = Active time / Total time of video

**Data**:- We will use user's uploaded video as our data.

**Data Processing**:- We will be using OpenCv library in python for processing video's spatial information like detecting number of people in the video frame and keep track of Person that are currently in the frame.

# Expected Outcome of this project



**Input Page**

Welcome to Video Analytics Site

Hello User

Current Date:-21/10/2021

Upload your video here:-

Upload Dialog Box

Will display format in which to upload

Generate Statistics

To convert Video to other format go here:-

Link to video converter

*Thanks for using our analysis site*

**Output Page**

Video Statistics

Your Video:-

Video Statistics

People Count vs Time

Activity Indicator

Max People Count:-

Interest Factor:-

Download Report

**Backend Process**

Take video Input from webpage(via Flask)

Read video frame by frame

Make use of Built-in library in python to extract Spatial informations.

Store the results in a DataBase.

Do Processing on the stored data like form timelines and charts

Send the information back to webpage(via Flask)

# Contents Delivered

Input From User

Online Processing(Live Video feed from user)

Offline Processing(Uploading a Recorded Video)

Action Page

**Thread - 1**

Reading Data from Spatial.csv

Using a Bokeh App to generate live chart and display on webpage from csv file.

Connecting Bokeh app(which is running on localhost:5006) to Action Page through web-sockets

Data Out(Every 1000ms)

Spatial.csv file(Storing data)

Data In(Updates for each video frame Processed)

**Thread - 2**

Using a Mobilenet SSD model for feature detection

Scanning Each Frame of the video and identifying objects in the frame.

Writing frame data to Spatial.csv

Generate Report(Button)

Report Page

Spatial.csv file(Storing data)

Using Spatial.csv to generate an insight report for user

Report consists of displaying of busiest/crowded frames detected and Motion and no Motion period throughout the video.