SAFETYSCAN 1.0

Face Detection and Analysis Website to tackle the novel Coronavirus

Team Name: Path Finder

Chosen Track: Awareness

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TITLE AND DESCRIPTION

What is the SafetyScan Platform?

SafetyScan is a revolutionary product which fits really well with our current global pandemic scenario. Safety Scan is a website which can be used by governments or corporate organizations having >20 people in a room to monitor the use of facemasks by the people. It uses computer vision and CNN to detect the face mask in a live streaming platform, and utilizes Django to connect the webpage with the live streaming service. This will help better manage safety standards and precautions and help flatten the pandemic curve

In addition to the face detection system, the SafetyScan website provides detailed stats and analysis of the pandemic, for regular users to track the spread of the virus in their location. SafetyScan is looking to provide a wholesome package, engineered towards both regular users and duty personnel

PROBLEM IT AIMS TO SOLVE

Through this project, we aim to tackle the novel coronavirus pandemic and its major problem-safety and social distancing. A few of the issues tackled are:

- Implement Safety Protocols in Public Spaces with CCTV coverage
- Ease pressure of active-duty personnel in monitoring the implementation of safety standards
- Utilise emerging technologies to flatten the curve while also not deterring the economic situation
- Provide an accurate detail of the growth of the pandemic and the measures taken

ERRORS AND PROBLEMS FACED

Some of the problems we faced/might face at implementation are:

- Multiple Cameras are utilised in most organizations and should be connected to the same webpage
- Large Size of the dataset used can be a hassle in a less powerful machine
- Accuracy can be improved with a larger dataset such as the type of mask worn, but the additional computational power is a limitation

TECHNOLOGIES USED

Given Below are the technologies used in this project

- Computer Vision
- Convolutional Neural Networks
- Django
- HTML And CSS to build the webpage

Links:

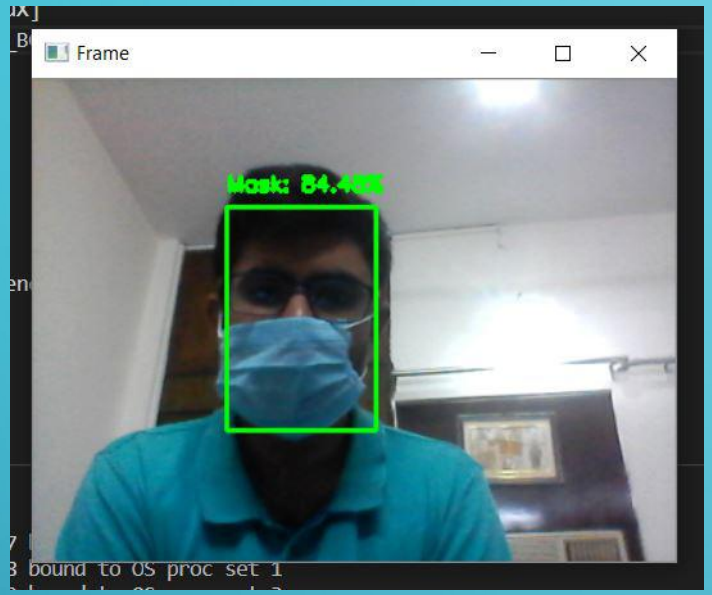
The links to Access our project have been given here:

https://github.com/ChaitanyaSachdeva/Face-Mask-Detection-for-Authorities

YouTube Video URL

Video URL: https://youtu.be/jQUIpURrA74

WORKING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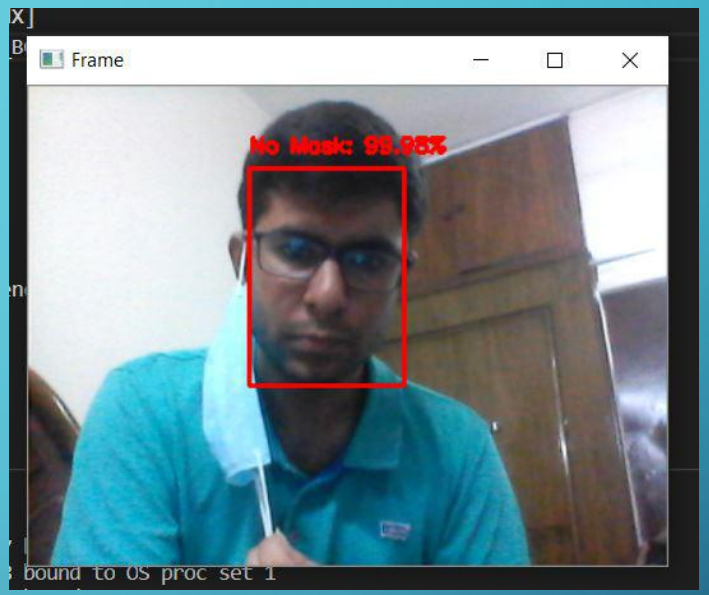
bound to OS proc set 1


Frame
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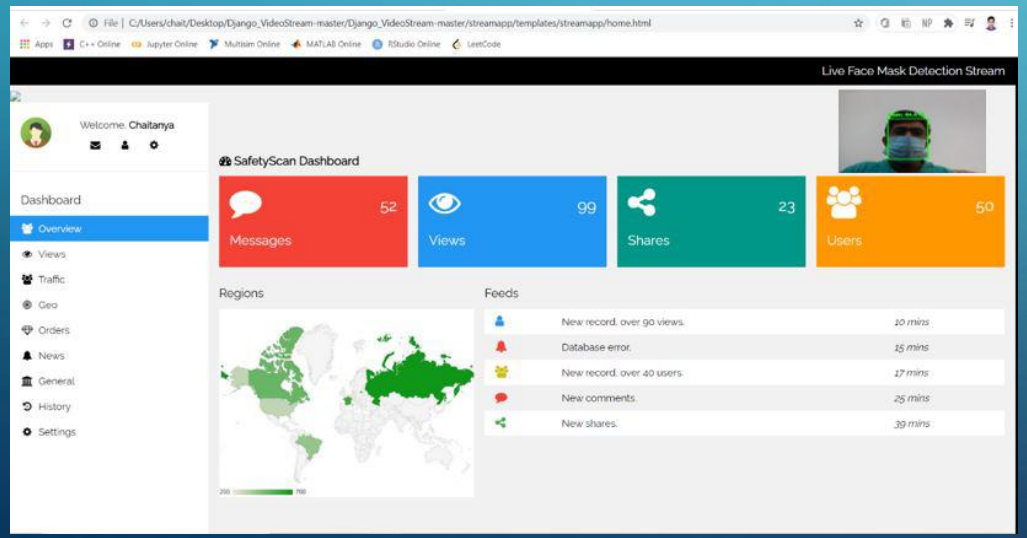
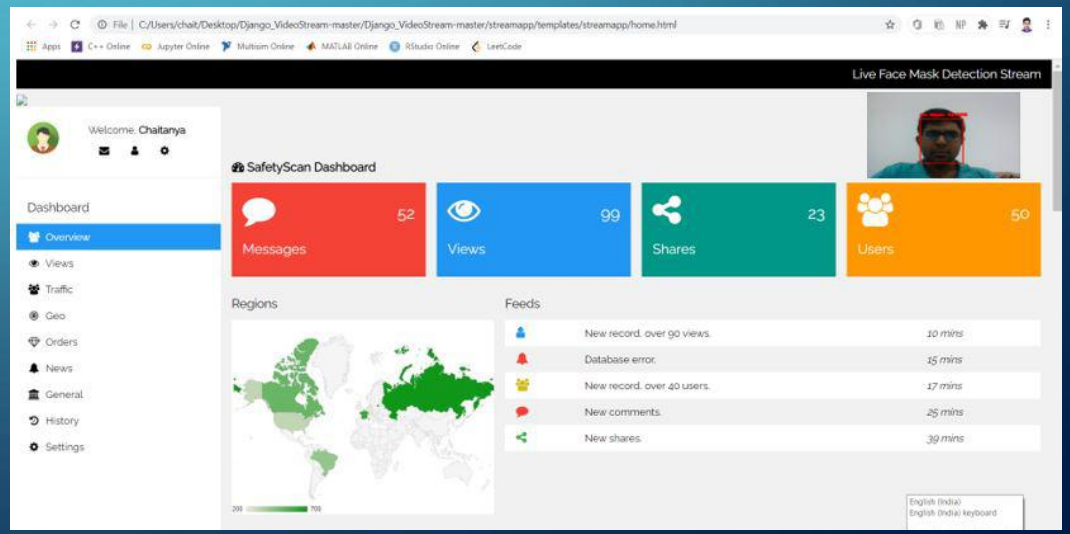
bound to OS proc set 1


Live Face Mask Detection Stream
Welcome Chaitanya
SafetyScan Dashboard
Dashboard
Overview
Views
Traffic
Geo
Orders
News
General
History
Settings
Messages 52
Views 99
Shares 23
Users 50
Regions
Feeds
New record, over 90 views. 10 mins
Database error. 15 mins
New record, over 40 users. 17 mins
New comments. 25 mins
New shares. 39 mins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CONCLUDING STATEMENT

We are thankful to be able to utilise the emerging technologies of computer vision and CNN to contribute to the global pandemic cause. We hope our project can help authorities risking their lives for our safety.

Thank you HackJaipur for giving us the opportunity to present this. Stay Safe, Stay Secure!