Intelligent “Best Safety / Max Safety” Rating Generator For Restaurant

INTRODUCTION:

As the world grapples with the pandemic of epic proportions, the food we consume and the environment in which we eat needs to be of the highest quality in terms of hygiene. As living beings, we rely on food and water for basic survival. Food safety is inextricably linked to good health. So, what happens when the consumption of food, a necessity, is considered risky and deemed unsafe? This is the exact scenario that the world is facing today. The COVID-19 pandemic has brought the aspect of food safety to the forefront. Owing to the highly transmissible nature of the virus, hygiene standards and safety measures have made their way to the top of the priority list.

Safety became an import factor during the pandemic situation and gaining the trust of customers became more difficult. The restaurant’s business completely depends on the rating. Nowadays the food delivery apps are rating the restaurants with “Best Safety” or “Max Safety” based on the COVID-19 safety guidelines followed by the restaurant staff. This rating would help customers in choosing the safest restaurants. Safety in terms means, sanitizing the kitchen, chefs equipped with gloves and masks, etc.

In regard to the problem faced, an application is to be built which would scan the people and check how many customer are visiting without all the safety measures. The methodology which this lab follows is using the AWS Cloud. Using the Rekognition, Lambda, S3 and API Gateway services of the AWS Cloud, this application will be built.

OVERVIEW:

The whole application is build by using the AWS Cloud.In this project we have used **rekognition,lambda function,S3 bucket,DynamoDB and API Gateway** of the AWS Cloud.There is in build ML algorithm of rekognition in which we have train our dataset by entering the data and we have marked a level to each dataset for better rekognition and test it.

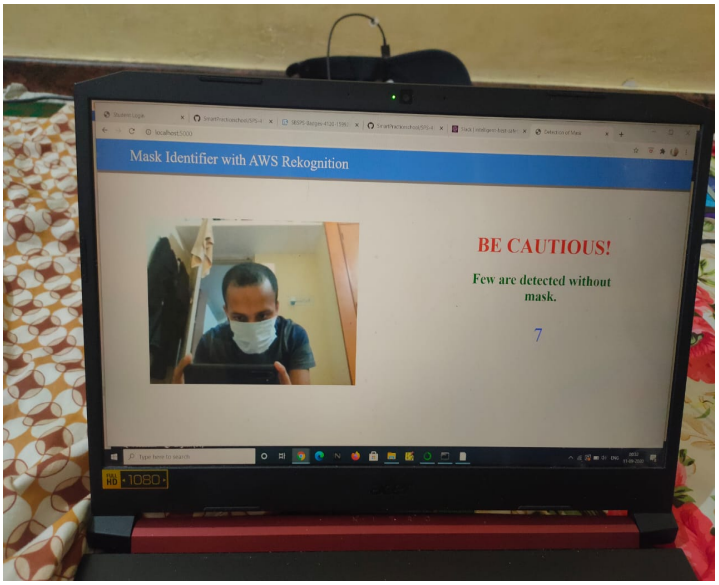
AWS Lambda used to run our code in response to events, such as changes to data in an Amazon DynamoDB table to run our code in response to HTTP requests using Amazon API Gateway.

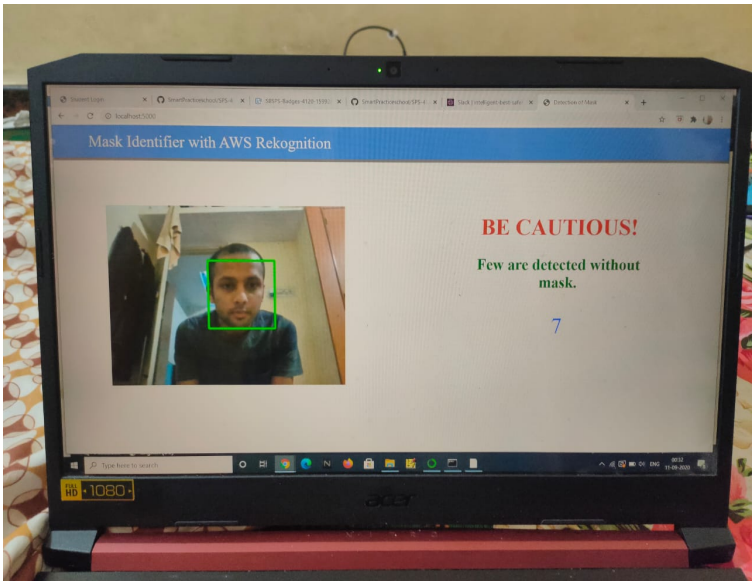
An **Amazon S3** bucket is a public cloud storage resource available in Amazon Web Services' (AWS) Simple Storage Service (S3), an object storage offering. Amazon S3 buckets, which are similar to file folders, store objects, which consist of data and its descriptive metadata.

DynamoDB is reliable and helps small as well as large firm. It offers built-in security, backup and restores, and in-memory caching. Among the customers, the AWS DynamoDB is suitable as It is chosen for mobile, web, gaming, ad tech, Internet of Things, and many other applications that need low-latency data access

The **API Gateway** is responsible for request routing, composition, and protocol translation. All requests from clients first go through the **API Gateway**. It then routes requests to the appropriate microservice. The **API Gateway** will often handle a request by invoking multiple microservices and aggregating the results.

RESULTS:





APPLICATION:

- This system can be used in the restaurants for maintaining the safety standards and rate the restaurants with a safety factor.
- In the hospitals,this system helps to check whether the workers are wearing masks and gloves during their work day or not.
- In Airport/Railways passenger can be detected without mask and can be charged/warned for this activity.
- In offices it is used to check employee are maintaning safety standards or not.

CONCLUSION:

This project helps to generate a safety rating for every restaurants which would see the factors like wearing of masks and gloves. And this safety rating would help customers to choose better restaurants for them among this COVID-19 Pandemic. Thus, overall this is a great experience where we have learned the use of AWS cloud and different features of it and knowing to use AWS cloud will have a potential effect on your career.The teachers and staffs involved in this project had been very supportive and cooperative. I would like to thank them for providing us with such a wonderful experience of this project.

FUTURE SCOPE:

Today, one of the fields that uses facial recognition the most is security. Facial recognition is a very effective tool that can help law enforcers recognize criminals and software companies are leveraging the technology to help users access their technology. This technology can be further developed to be used in other avenues such as ATMs, accessing confidential files, or other sensitive materials. This can make other security measures such as passwords and keys obsolete.

Another way that innovators are looking to implement facial recognition is within subways and other transportation outlets. They are looking to leverage this technology to use faces as credit cards to pay for your transportation fee. Instead of having to go to a booth to buy a ticket for a fare, the face recognition would take your face, run it through a system, and charge the account that you've previously created. This could potentially streamline the process and optimize the flow of traffic drastically.