# SMART SYSTEM FOR  SANITIZATION MONITORING  IN CO-WORKING SPACES

## INTRODUCTION

Corona virus Disease 2019 (COVID -19) is an acute respiratory disease caused by a novel Corona virus (SARS-CoV-2), transmitted in most instances through respiratory droplets, direct contact with cases and also through contaminated surfaces/objects. Though the virus survives on environmental surfaces for varied period of time, it gets easily inactivated by chemicals.

Ever since COVID-19 outbreak was declared as global pandemic, Indian Cities have been making significant efforts in sanitizing the cities, especially the public places which are considered risk prone areas for local spread of virus. , Cities around the world  have been adopting numerous approaches to disinfect the public spaces including the bus/railway stations, streets, markets, hospital premises, banks, etc.

## OVERVIEW

Keeping the workplace clean can prevent the spread of COVID-19 as contaminated surfaces are one the main ways to get sick

WHO and public health authorities around the world are taking action to contain the COVID-19 outbreak. However, long term success cannot be taken for granted. All sections of our society – including businesses and employers – must play a role if we are to stop the spread of this disease.

some of the basic measures which can be taken would be

1)Optimizing the space.

2)Cancelling community events.

3)washing of hands constantly.

4)What to sanitize and when to disinfectant.

5)A guide to preventing and addressing social stigma associated with COVID-19 is essential for a co-working space.

6) Lastly providing sanitary Equipments such as sanitizers, dispensers, closed bins, surgery masks, liquid soap and digital non contact I-R thermometers to selectively control individual temperature of the member

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**Hence a solution to this problem would be smart sanitization using NFC tags among employees.**
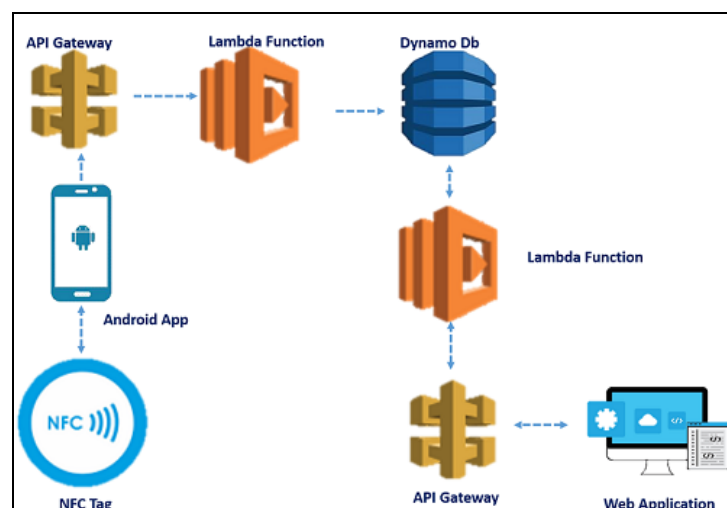
PURPOSE

Implementing smart system for sanitization monitoring would be using NFC Tags.
Every Rooms in office should be equipped with NFC Tags. All the cleaning stfaff would have the NFC enabled Devices.
This method would never involve any human intervenation, as it is safe and easy to implement.
Project flow:
1)NFC Tags are acting as enabled devices handelled by all the staff members cleaning the space.
2)Whenever the cleaning staff Reaches room to clean the device gets communicated to the tag, the log of sanitization is stored in the Dynamo DB
3) A Flask web app is created to showcase the sanitization log of each and every room and is hosted in the AWS



purpose of this implementaion is simple (CONTACTLESS)
◊  All the NFC tags would have a contactless reader and through the NFC radio , the reader radio would interact using magnetic fields.
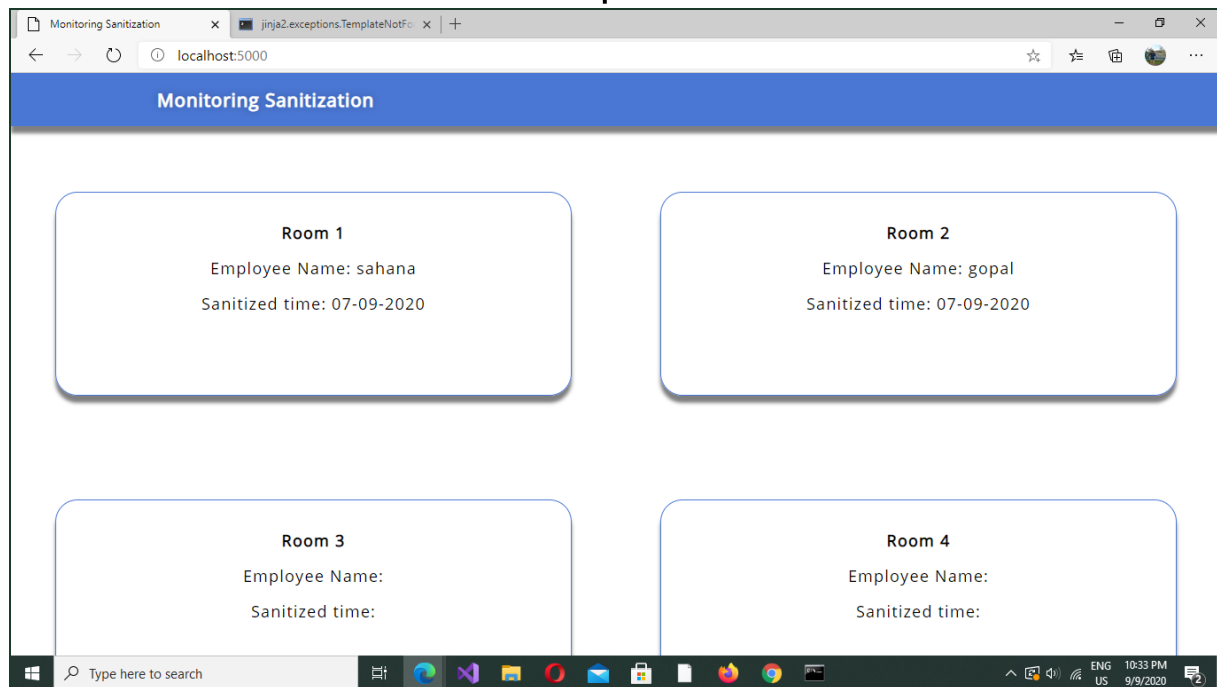
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- Intelligent and sustainable sanitation facilities for specific purposes, and applying circular economy and bio-mimicry principles. (As the hygienic means of promoting health through prevention of human contact )
- Technologies used to execute : Python, python web frame, AWS, API gateway,Dynamo DB,mit application, flask framework and hosting the application using EC2 instance.
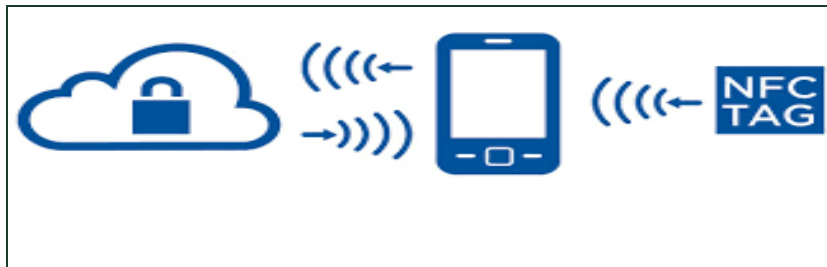
**RESULT:**

Flask web application:  http://localhost:5000/

screenshoot of the output:



Application deployed using AWS:
http://ec2-18-225-33-148.us-east-2.compute.amazonaws.com:5000/

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## APPLICATION

☑ Smart system for sanitization monitoring in co working spaces is essential for today's Pandemic situation. It is a saftey measure which is easy to deploy among the employees working in corperate space and largely populated areas.



☑ We all are aware that regular sanitation and personal hygiene can prevent the virus from spreading. The solution helps automatically monitor the sanitation routines and make sure people are observing personal hygiene. This is done by a rule engine inside the receivers that monitors these activities periodically by using NFC TAGS and controlled over a single click and updated on cloud.

## CONCLUSION

Due to the current pandemic situation, companies need to rethink strategies before they can be restarted. Monitoring employees in the workplace has become a necessity in such times to help maintain social distancing in the workplace, safeguard employee health, avoid crowding, and business continuity.

We have an easy solution for employees –

**SMART-SYSTEM-FOR-SANITIZATION-MONITORING using NFC TAGS and AWS**

THINKING OF RETURNING TO WORK AFTER COVID-19,

Stay alert against any future risks, eliminate contact among co-workers and keep real-time track physical hygiene in the workplace by using safe monitoring system.

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## ACKNOWLEDGEMENT

## FUTURE SCOPE

Our country is collectively fighting an unprecedented problem and unfortunately, our industry is hit the hardest. The hospitality industry is dominantly people-based and for the same reason, it's hit the hardest by a pandemic which has 'Social distancing' as its fundamental solution. The situation calls for everyone to come together and experience the **power of the collective**.

usage of smart systems like this would increase the health and welfare of the citizens and we can make a virus free country.