IBM Nalaiya Thiran Project

Topic : Containment Zone Alerting Application **Team ID:** PNT2022TMID35342
Domain: Cloud Application Development **Batch:** B11-5A1E

Team Members:
Abimanyu Vijay Krishnamoorthy
Karthick R
Vignesh Kumar P
Vijay Suriya S

Literature Survey:

Contact Tracing is an important step inorder to stop the spread of Covid-19 or any other viruses. Initially, the Ministry of health and family welfare rolled out volunteers to do contact tracing. There is a huge risk associated with that and also we cannot cover every place with manpower. So, [1] proposed a 3-fold solution to detect the covid-19 using a symptomatic quiz, track the people using GPS or RFID to create a geofence and alert the close contacts of infected people through messages. The quiz answers will be taken by a Machine Learning model to predict the result and severity of covid-19.

MoveinSync software company built a containment zone tracker application [2] which allows people to be aware of areas around them that are containment zones. The data about the containment zone is gathered from the government notice boards and also from the people. The containment zone boundary data is maintained by the geoIQ proprietary platform.

Aarogya Setu[3] platform is owned, updated and maintained by the Government of India. Test Sample is collected at lab, then it is analysed, then if test report is upload in the ICMR portal, then suppose the test result is positive, ICMR shares the details with Aarogya Setu and finally Aarogya Setu application turns our status a red and initiates the contact tracing. There is a small flaw in this method. Since the contact tracing is initiated after a person reports positive for Covid, the persons he contacted before the test won't be recorded.

[4] developed an Android application which can inform people about the Covid-19 containment zones and prevent trespassing into these zones. This Android application updates the locations of the areas in a Google map which are identified to be the containment zones. The application also notifies the users if they have entered a containment zone and uploads the user's IMEI number to the online database. They used APIs from Google like Firebase and Geofencing API. Application directly connects with the firebase database without any intermediate servers or SDK's and firebase sends data to the application using WebSockets which is faster than HTTP. Whenever data is updated in the database the user will

receive those updates. The location data are stored in documents, which are organised into collections.

[5] Covid-19 Jagratha is a comprehensive solution for real time surveillance, care and support for people affected/quarantined by Covid 19. This portal is a one stop platform for the public to avail emergency services and information related to Covid 19 and ensures transparency and quality in public services and welfare measures. Features of Covid-19 Jagratha are Registration of returnees and a comprehensive surveillance system. Registration of returnees has to be strengthened in a post lock down scenario with a proper system in place. Simple Health Care Management System for those who are under observation. Services to facilitate Citizen needs during the LockDown period like 'online self declaration' and 'emergency travel pass'.

References:
1. https://ieeexplore.ieee.org/document/9432254
2. https://www.expresscomputer.in/interviews/moveinsyncs-containment-zone-tracker-aims-at-democratising-information-flow/55826/
3. https://www.aarogyasetu.gov.in/
4. https://link.springer.com/article/10.1007/s41403-020-00137-3
5. https://covid19jagratha.kerala.nic.in/home/containmentZoneList