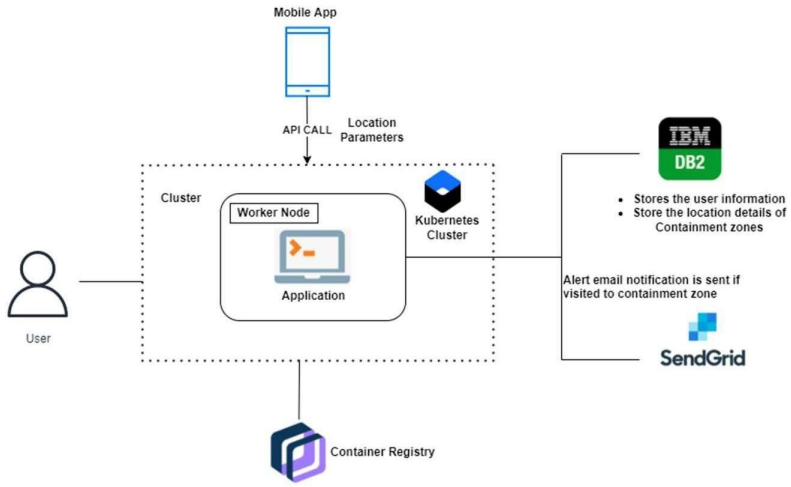
Project Design Phase-II
Technology Stack (Architecture & Stack)

Team ID	PNT2022TMID35351
Project Name	Containment Zone Alerting Application
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate external interfaces (third party API's etc.)
4. Indicate Data Storage components / services
5. Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript & Bootstrap
2.	Routing	Connect backend to the user interface	Python Flask
3.	Application Logic-2	Access the user location and updating the new infected zone by admin	Python, JavaScript
4.	Application Logic-3	Alert the user by sending the notification while enters into the marked zone using geofencing	IBM Watson Assistant, Python
5.	Database	Storing the coordinates of the geofencing	SQL
6.	Cloud Database	To push the objects, files into the storage and use in the application	IBM DB2, IBM storage object
7.	File Storage	File storage requirements and stores it in a binary data	IBM Block Storage
8.	Google Map API	To integrate the google map in our website	JavaScript API, Places API, Geocoding API etc..
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Show the nearby infected zone by geofencing Cloud Server Configuration : updated the newly affected zone	Local, Cloud Foundry, Kubernetes etc..

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask	Python flask
2.	Security Implementations	Access permission for login and encrypt the user's password	Python Encryption algorithm - bycrypt
3.	Scalable Architecture	The application respond much more quickly	Python flask
4.	Availability	The system should be handle many number of user's account	Python flask

S.No	Characteristics	Description	Technology
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Python Flask framework

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d