CONTAINMENT ZONE ALERTING APPLICATION

PROJECT DESIGN PHASE 1

SOLUTION ARCHITECTURE

Team ID : PNT2022TMID35197

Team Members

   Team Leader   : KARTHICKEYAN E

   Team member   : CHANDNI G

   Team member   : RISHI VISVAS T S G

   Team member   : VAANMATHI S

Problem Statement:

       Create an application to indicate Containment Zone Alert.

Problem Statement Description:

       This application is intended to provide information about containment zones in a particular region by alerting people, through continuous monitoring of an individual's location. Key benefits of the application are monitoring people's activity and alerting them of their safety movements.

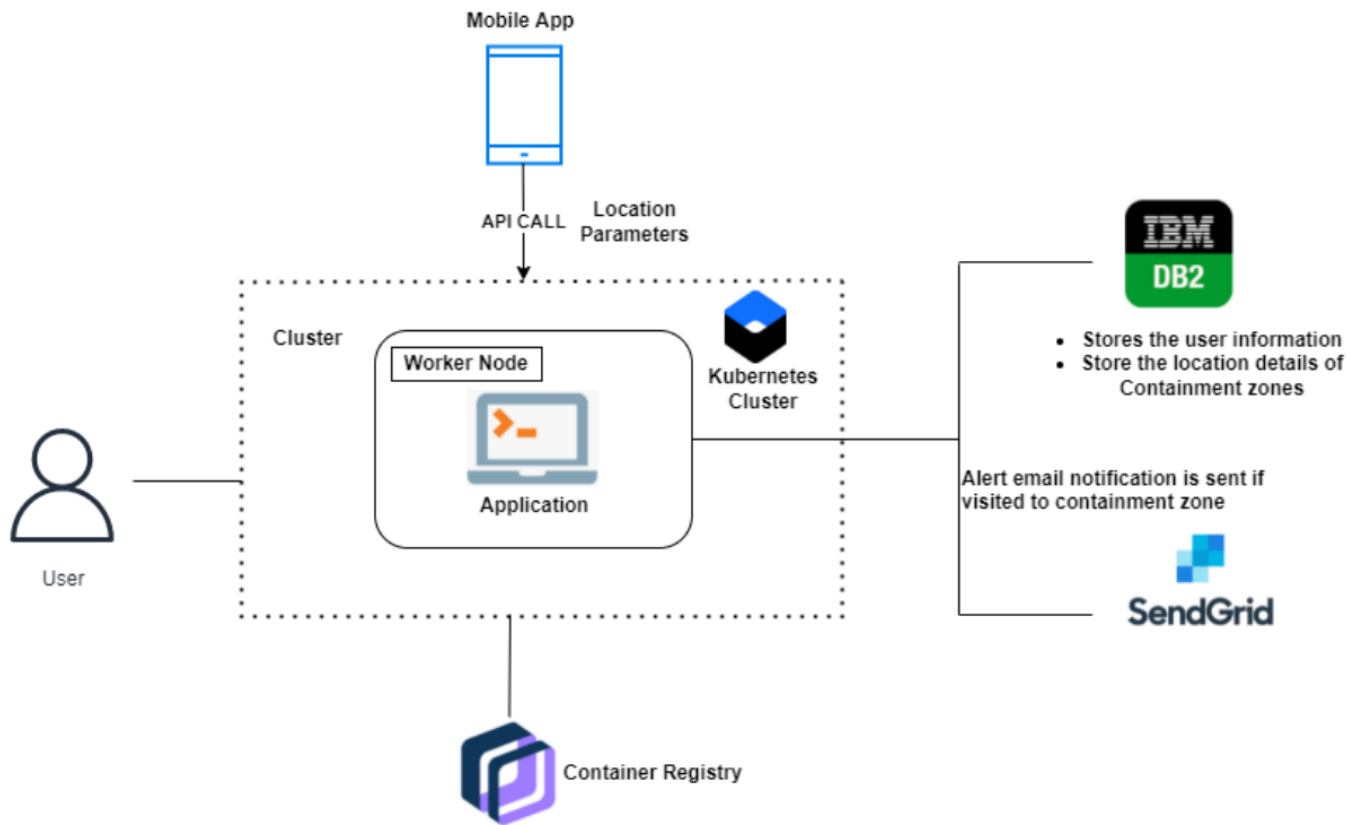**Solution Architecture:**

       Solution Architecture is a complex process with many sub processes that bridges the gap between business problems and technology solutions. The project aims at building an application that provides information about the containment zones of a particular region by continuously monitoring an individual's location. The location of the individual must be stored in the Database. Alerts are sent using the notification service.

       The app should have a user registration and login. After the user logged into the app it will track the user's location and update the database with the current location. If the user is visiting the containment zone, he will get an alert notification. They should login to the app and update the containment zone's locations in the portal. Based on the location a Geofence will be created within a 100 meters radius. They should be able to see how many people are visiting that zone.
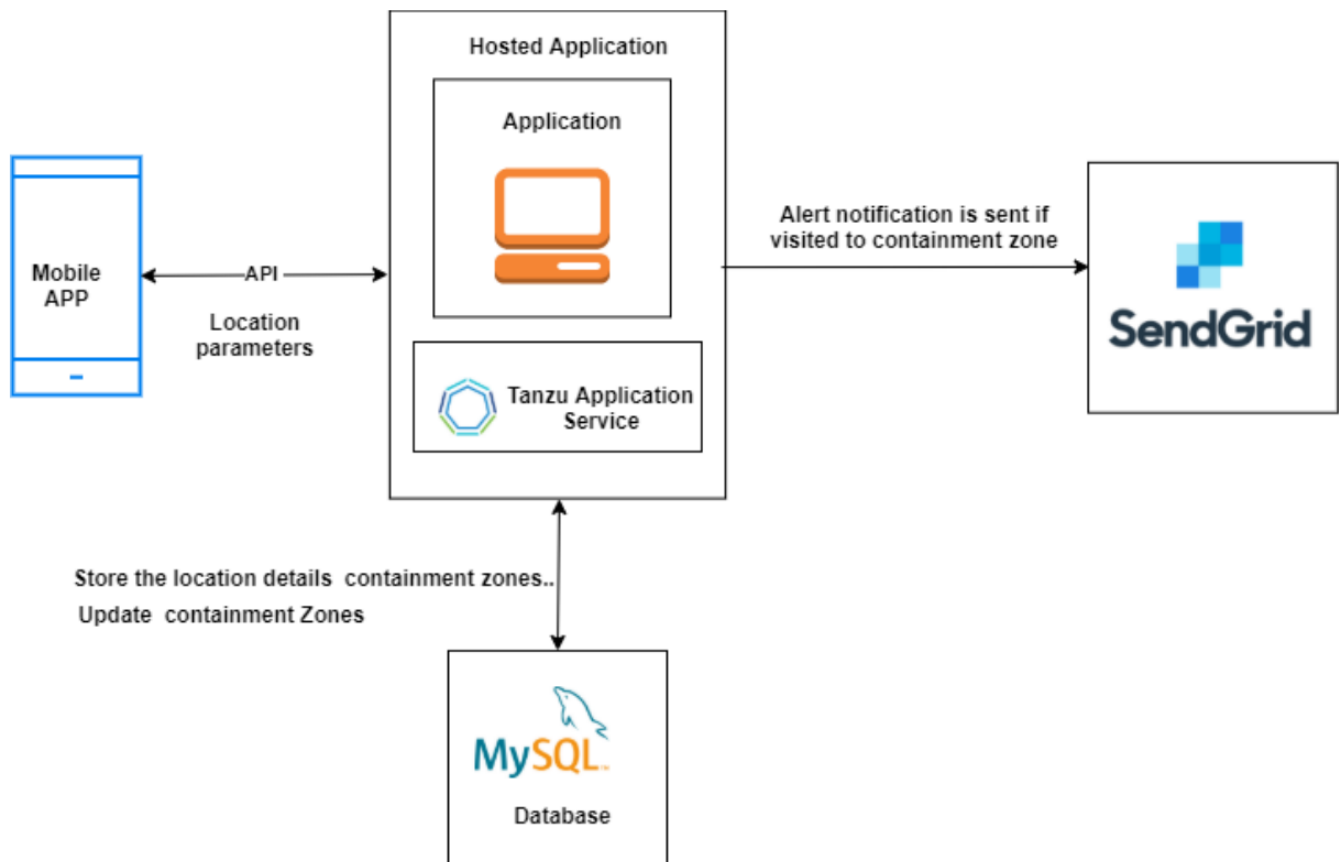
       Its goals are:

1. Find the best tech solution to solve existing problems.
2. Describe the structure, characteristics, behavior and other aspects of the software the project takes holders.
3. Define the features, development phases, and solution requirement.
4. Provides specification according to which the solution is defined, managed and delivered.

Solution Architecture Model 1:

Mobile App

API CALL · Location Parameters

Cluster

Worker Node

Application

Kubernetes Cluster

User

IBM DB2

- Stores the user information
- Store the location details of Containment zones

Alert email notification is sent if visited to containment zone

SendGrid

Container Registry

Solution Architecture Model 2:

Hosted Application

Application

Mobile APP

API — Location parameters

Alert notification is sent if visited to containment zone

SendGrid

Tanzu Application Service

Store the location details containment zones..
Update containment Zones

MySQL

Database

Solution Architecture Diagram:

Containment Zone

- Recognition module
- Resources Used are Flask,Docker,IBM Cloud,IBM DB2
- Algorithmic techniques for operation
- Collection of cases from database

Recognition module → User message

User message → Statistics data from RESTful API

User message → Data snapshot from firebase

Statistics data from RESTful API → Containment Zones are shown using map

Data snapshot from firebase → Containment Zones are shown using map

Containment Zones are shown using map → 100m around Containment zone has been set with

100m around Containment zone has been set with → if the user enters the containment zone they will receives notofication

Algorithmic techniques for operation → Cloud management → Monitoring and metrics → Data security → User