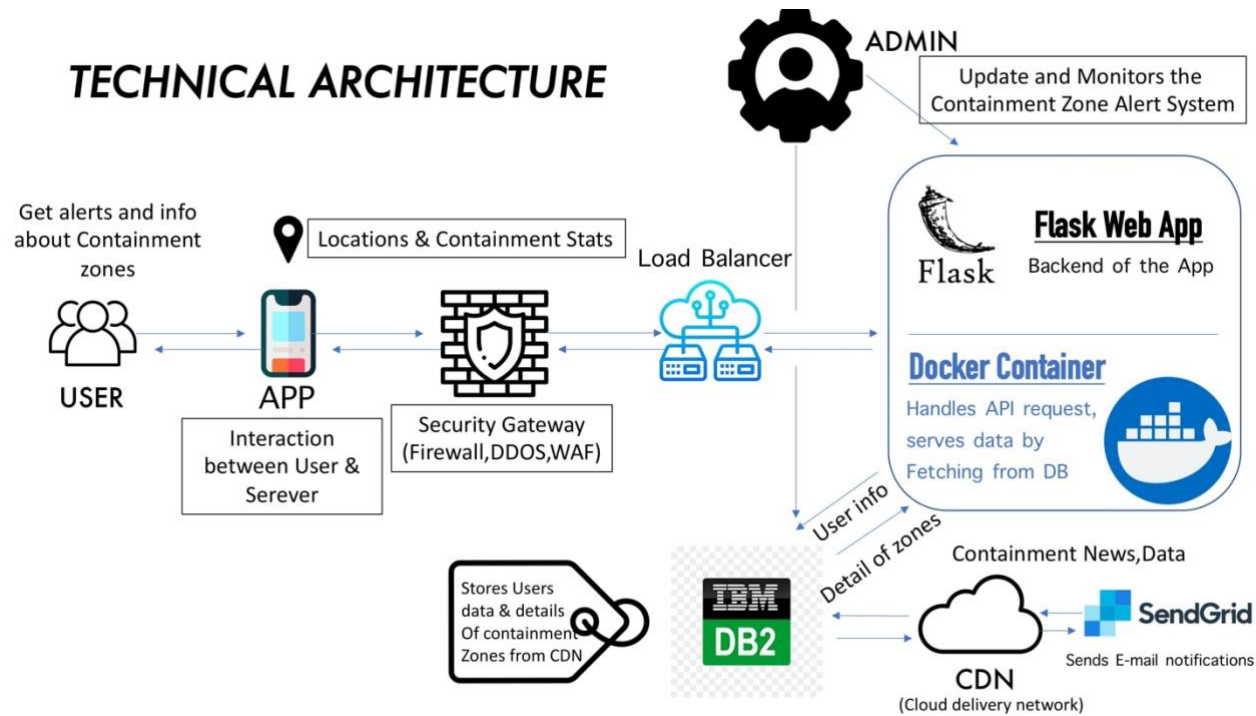


## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	03 October 2022
Team ID	PNT2022TMID37165
Project Name	CONNTAINMENT ZONE ALERT
Maximum Marks	4 Marks

### Technical Architecture:

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



**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, IBM Cloud, IBM Watson
2.	Application Logic-1	Logic for a process in the application	Flask, Docker
3.	Application Logic-2	Logic for a process in the application	IBM Watson, IBM Cluster
4.	Application Logic-3	Logic for a process in the application	IBM DB2
5.	Database	Data Type, Configurations etc.	IBM Cloud Container, IBM DB2
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud
7.	File Storage	Information storage requirements	IBM Block Storage, IBM DB2, Docker Container
8.	External API-1	SendGrid is used in application will send the mail alert to the user about Containment zones	SendGrid
9.	External API-2	Docker handles the API request and serves data by fetching the Data	Docker
10.	Cloud Storage Model	To store database	IBM Cloud
11.	Infrastructure (Server / Cloud)	Application Deployment on Cloud Local Server Configuration: NILL Cloud Server Configuration : IBM DB2, IBM Cloud	IBM Kubernetes Cloud

**Table-2: Application Characteristics:**

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask which provides the framework for the total API structure, Docker which is used to handle the API request and acts as a container to store the Database, SendGrid used to send E-mail alerts to the user about Containment zone	Docker, Flask, SendGrid
2.	Security Implementations	The Firewall is used between the Cloud Cluster and the User API server to secure the SSID of the server, The Users Login credentials are hashed.	SHA-256 Encryptions, Advanced Encryption Standard (API), Blowfish (E-mail encryption), Elliptic curve cryptography.
3.	Scalable Architecture	This API is scalable because the data is to be stored in the cloud storage, So there will be no hassle in Users mobile to handle and processing the data.	Flask, Docker, IBM DB2, Kubernetes cloud storage.
4.	Availability	The availability of the API is wider in range. As in India 54% of people use smart phones there is no hassle in it, rest of the people are using Feature phones. Those people are provided with the options of Downloading the API via internet.	Java, HTML, Javascript, CSS, IBM Watson assistant.
5.	Performance	Here it takes less processing power in the mobile phones. As the data is processed by the cloud technology, As well as the Storage taken for an individual is also less.	Flask, Docker, IBM DB2, Kubernetes cloud cluster, IBM cloud Storage.

**References:**

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