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

Date	03 October 2022
Team ID	PNT2022TMID02662
Project Name	Project – Personal Expense Tracker 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
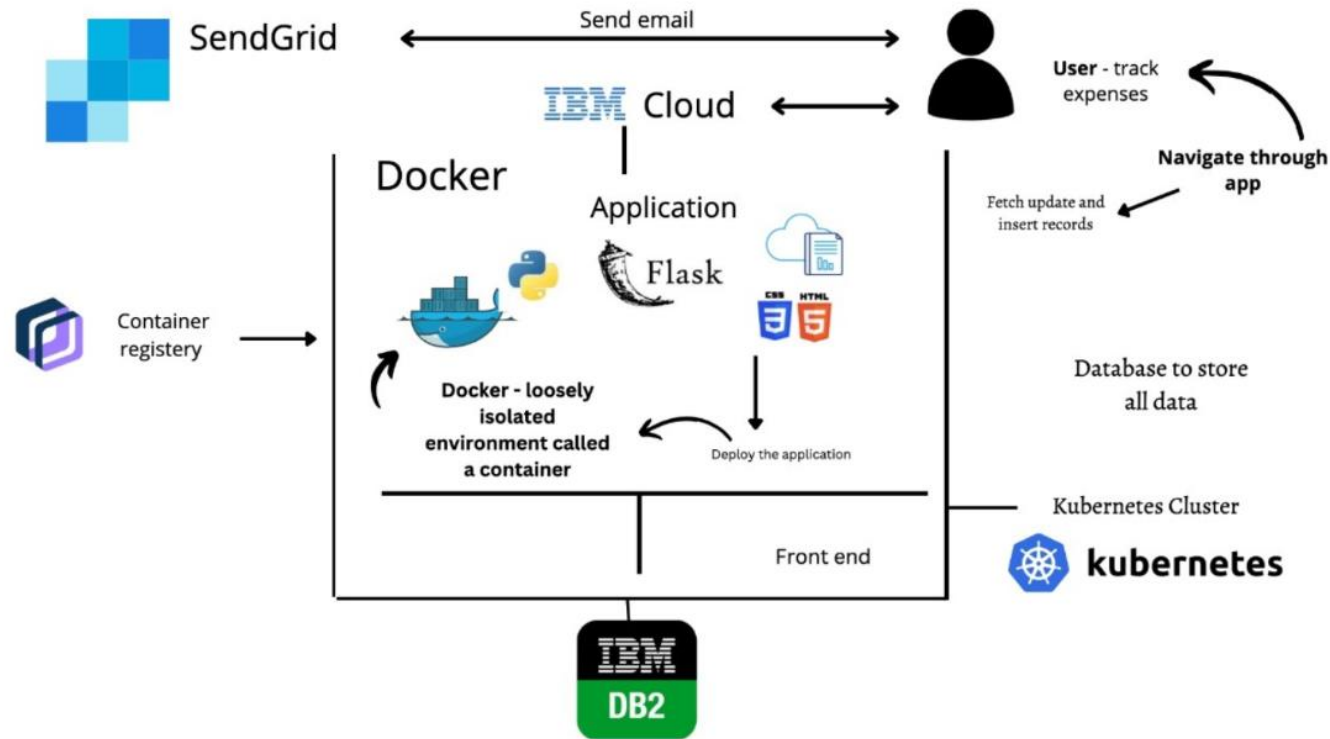
Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Login and Dashboard functions	HTML, CSS, JavaScript
2.	Personal expense tracking	Database operations to get data and perform operations and give user the appropriate details	Python
3.	IBM Watson	Ask Watson for assistance	IBM Watson Assistant
4.	Database	All user information is stored	MySQL, NoSQL
5.	Cloud Database	Database Service on Cloud to store expense and user info.	IBM DB2, IBM Cloudant.
6.	File Storage	File storage requirements	IBM Cloud object storage
7.	External API: To send email SendGrid	Send email and notify users in-case the set limit exceeds	SendGrid
8.	Infrastructure (Server / Cloud)	Application Deployment Cloud	IBM - Docker — container, Cloud Foundry, Kubernetes container

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask to get the functional unit of the application	Flask
2.	Security Implementations	Stable with secure access of data and its transactions and user is comfortable with transactions.	SHA-256, Encryptions, IAM Controls
3.	Scalable Architecture	Micro-services and 3 tier and scalable structure so it is extensible.	Front end, IBM cloud and Flask
4.	Availability	Use of Kubernetes and load balancers, distributed servers.	IBM DB2, Cloud Object storage, Docker, Kubernetes.
5.	Performance	Performance is made to be effective so that the user is able to access recourses at ease.	IBM Container registry