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

Date	03 November 2022
Team ID	PNT2022TMID17912
Project Name	Project - Personal Expense Tracker
Maximum Marks	4 Marks

Technical Architecture:

The deliverable must include the architectural diagram shown below as well as the data from tables 1 and 2.

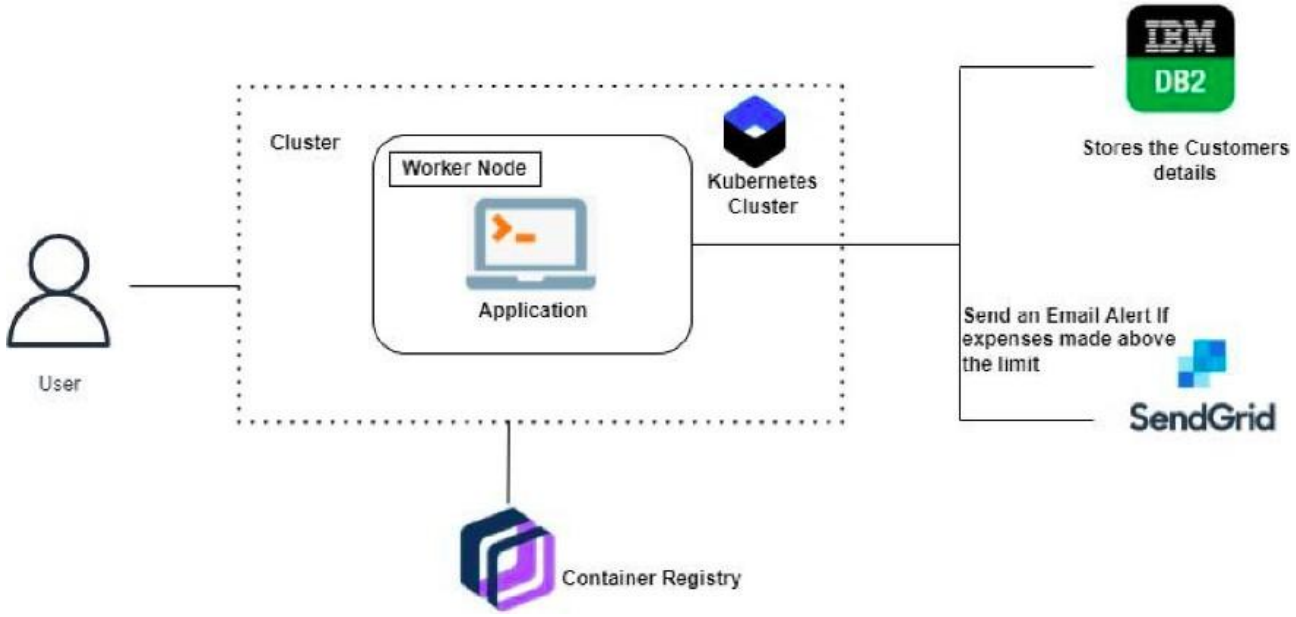

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript in Python Flask
2.	User Login	The user can login either through their gmail account or an account in the app server	Google Oauth for Google Signin. Hashed password in DB
3.	Graph Visualization	Rendering plots and graphs based on the user spending data	Seaborn, Mathplotlib
4.	Database	Data Type, Configurations etc.	NoSQL database can be used as it promotes flexible structuring of data
5.	Cloud Database	Database Service on Cloud	IBM DB2 is used to store the user details and the data entries
6.	SendGrid	You can send email without needing to maintain email servers by using a cloud-based SMTP provider.	Send Grid is used to trigger mail to user emails when a particular condition is met
7.	Google OAuth	OAuth 2.0 allows users to share specific data with an application while keeping their usernames, passwords, and other information private.	Enables login through gmail account, thus making the application accessible
8.	Cloud Deployment	Application Deployment on Cloud Server	Docker and Kubernetes is used for deployment as it promises scalability and high availability

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Python-based Flask is a micro-web framework. Due to the fact that it doesn't require any specific tools or libraries, it is categorized as a micro framework.	Python Flask Framework
2.	Security Implementations	Passwords must be hashed and salted since plain text cannot be saved for them.	BCrypt
3.	Scalable Architecture	Applications installed in containers are scaled up quickly to meet demand.	Docker

S.No	Characteristics	Description	Technology
4.	Availability, Performance	Kubernetes is an open-source container orchestration system for automating software deployment, scaling, and management. Availability and Performance enhances user experience	Kubernetes