Project Design Phase-II

Technology Stack (Architecture & Stack)

Team ID	PNT2022TMID01706
Project Name	Project - Personal Expense Tracker
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Technical Architecture:

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

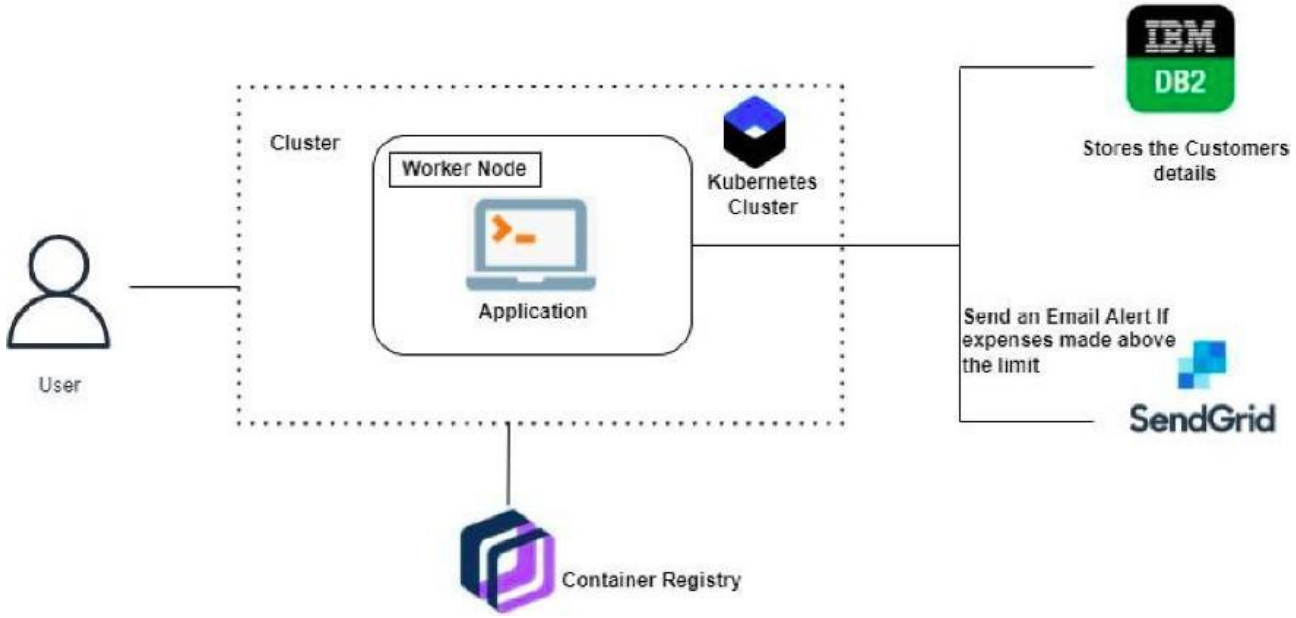

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How the 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	A cloud-based SMTP provider that allows you to send email without having to maintain email servers	SendGrid 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 onCloud 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	Flask is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries.	Python Flask Framework
2.	Security Implementations	Passwords cant be stored as plaintext so it is hashed and salted	BCrypt
3.	Scalable Architecture	Containerized application is deployed to rapidly increase scale on demand	Docker
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