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

Date	03 October 2022
Team ID	PNT2022TMID44963
Project Name	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

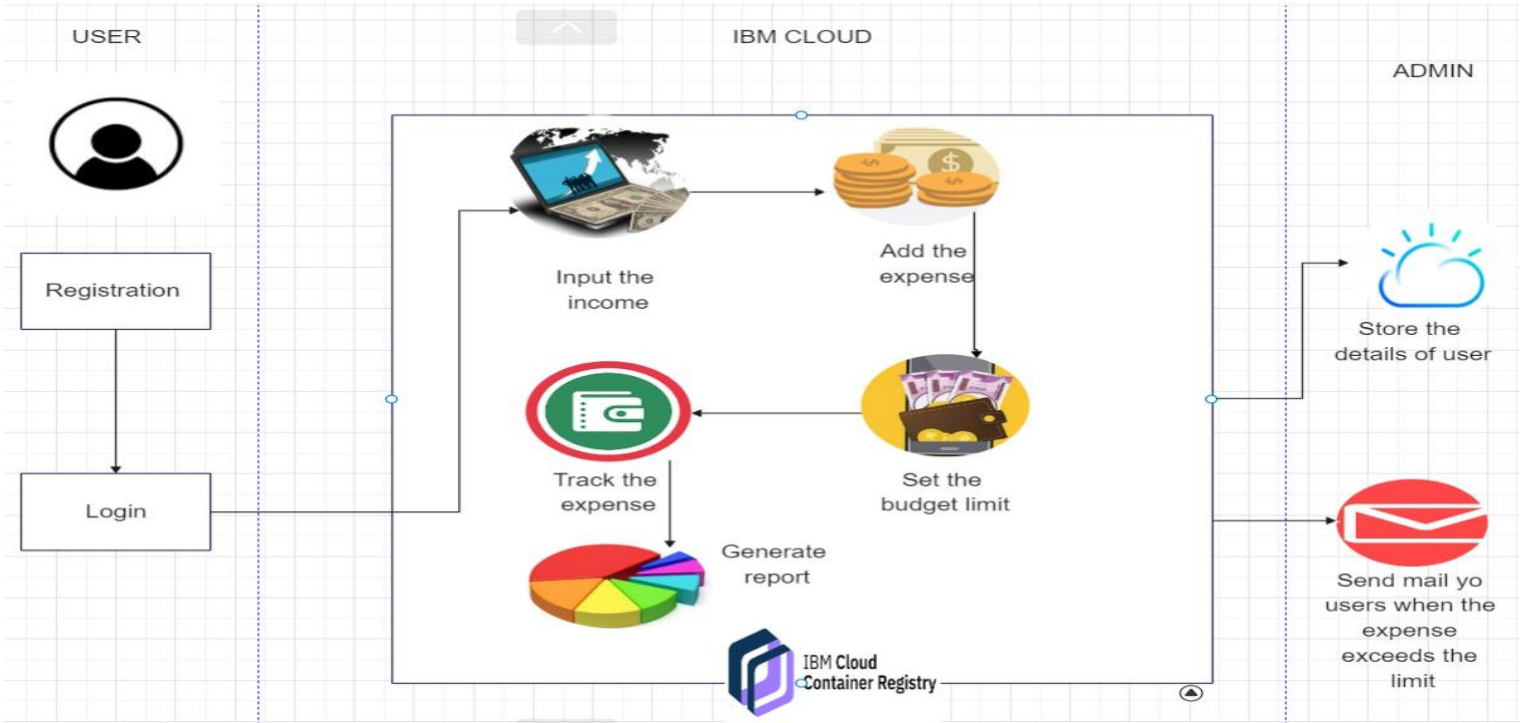

Table-1 : Components & Technologies:

S. No	Component	Description	Technology
1.	User Interface	The user can interact with the application using mobile tracker app	HTML, CSS, JavaScript
2.	Application Logic-1(Registration and Login)	The application consists of sign in and sign up page where the user can login using password	Python
3.	Application Logic-2(Dashboard)	The user can add the expense. The dashboard displays the summary of expenses. The user can be able to set the limit of expenditure.	IBM Watson STT service
4.	Application Logic-3(Report generation)	The user can get the report of expenses in a graphical format like pie chart, bar graph etc..	Seaborn, Matplotlib
5.	Database	The data of users ‘s expense and savings are stored in a strong database	MySQL
6.	Cloud Database	The data stored in cloud database are in a secured manner for end-to-end encryption	IBM DB2
7.	File Storage	Files are used to store the financial data of the users.	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	This application sends email alert to the users when their expense exceeds the budget.	SendGrid

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Flask is an open source framework which is used to implement this application. It is a microframework and fast debugger	Python-Flask
2.	Security Implementations	This application is more secure because of cloud database. It allows access for users with specific privileges. It is secured by a strong password.	IBM DB2
3.	Scalable Architecture	It is a three-tier architecture. (1)Presentation tier - This application is designed in such a way that the user can interact with the application. It displays and collect information from the user. (2)Application tier – It uses python logic to process the data. (3)Data tier – It controls the server where information is stored.	IBM Cloud Object Storage
4.	Availability	The application can be accessed by the users from anywhere and anytime. Kubernetes is an open source container. It is the form of load balancing traffic. The load balancer distributes incoming application traffic across multiple targets in multiple availability zones. It increases the availability of application.	Kubernetes
5.	Performance	The performance of this application depends on the storage and computer sources available. It can handle large number of users with high performance and data security.	IBM Container Registry, Kubernetes