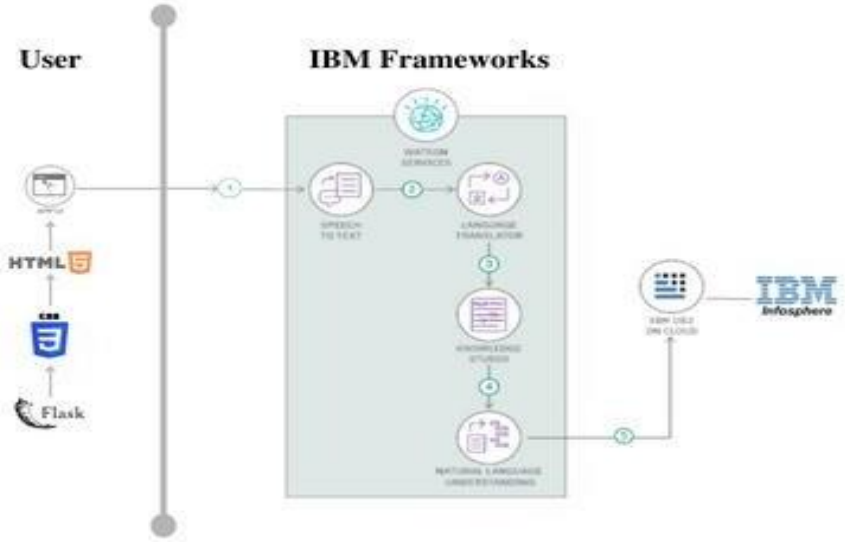
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14 October 2022
Team ID	PNT2022TMID24912
Project Name	Project - Personal Expense Tracker
Maximum Marks	4 Marks

Technical Architecture:



Guidelines:

1. The HTML and CSS are used for the user interface for the user to use the application.
2. The user search for the particular daily,week,month expenses rather than scrolling down the all the transaction.
3. The End user receive a push notification when there is update and limit exceed.
4. IBM DB2 on cloud is used to access the information of the transaction from anywhere using the mobile/computer.

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 / Angular Js / React Js etc.
2.	User Enrollment	User can register themselves using their email id orany social media accounts	Python
3.	Application Logic 1	Analyse the Expense of each customer.	Flask
4.	Application Logic 2	Integrating the customer feed with IBM Watson to improve user experience.	IBM Watson Assistant
5.	Dashboards	User can view their expenses and investments in graphical view	HTML, CSS, JavaScript, Web UIFramework, Python, Flask
6.	Accounts	User can view and manage all their financialaccounts for real-time tracking of expenses	Python, Flask and trusted bankdatabases for verification
7.	Notifications	Alerts and suggestions on expenses andearning/saving money techniques	InfoSphere® MDM NotificationFramework
8.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
9.	File Storage	File storage requirements	IBM Object Storage or Other StorageService or Local Filesystem.
10.	External API-1	Bank accounts and user verification	Bank API
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Docker Cloud Server Configuration : Kubernetes	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	A software for which the original source code is made freely available and may be redistributed and modified according to the requirement of the user.	Flask, Docker, etc.
2.	Security Implementations	Cloud Security Posture Management(CSPM), Detect cloud security and compliance configuration risk, anomalous activity,	Built-in encryption, BYOK
3.	Scalable Architecture	Python is one of the pioneers of programming languages that developers can use to do all the scaling work. To improve scalability, you can enable or disable services run by the dispatcher on individual servers to balance the load for a given computer by request type.	Technology used in the architecture is that with the Python and the IBM cloud.
4.	Availability	Availability is the ability of a system to withstand or recover from exceptional situations, such as a computer failure. IBM Cloud is on-demand access, via the internet, to computing resources applications, servers (physical servers and virtual servers), data storage, development tools, networking capabilities, and more hosted at a remote data centre managed by a cloud services provider (or CSP).	Technology used are the IBM cloud and the database.
5.	Performance	DB2 is a database product from IBM. It is a Relational Database Management System (RDBMS). DB2 is designed to store, analyse and retrieve the data efficiently. DB2 product is extended with the support of Object-Oriented features and non-relational structures with XML.	Technology used are the python, cloud and IBM db2.

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

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https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d