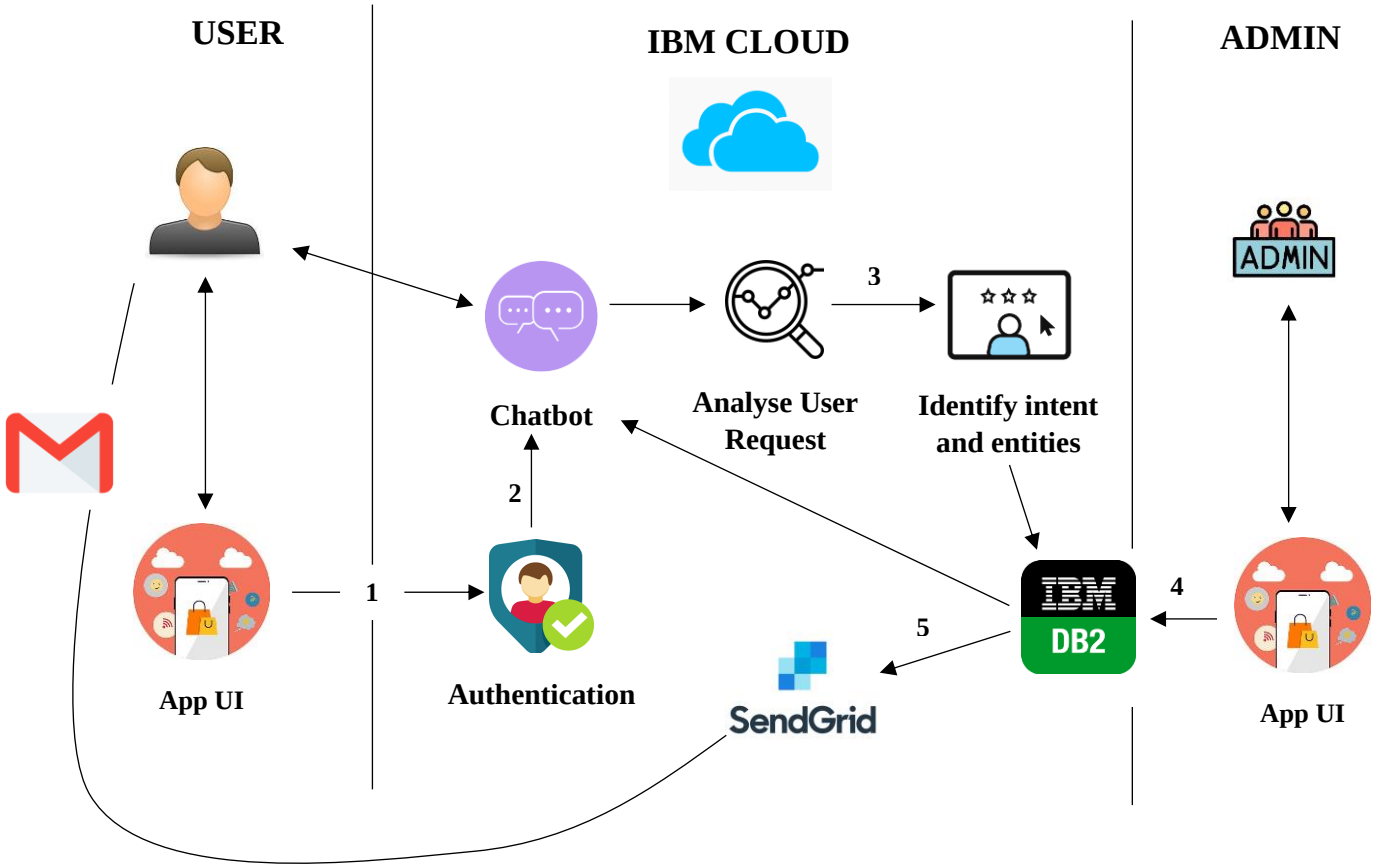
PROJECT DESIGN PHASE-II
TECHNOLOGY STACK (ARCHITECTURE & STACK)

Date	15 October 2022
Team ID	PNT2022TMID22341
Project Name	Smart Fashion Recommender Application
Maximum Marks	4 Marks

TECHNICAL ARCHITECTURE:



Guidelines:

1. Include all the processes (As an application logic / Technology Block)
2. Provide infrastructural demarcation (Local / Cloud)
3. Indicate interface to machine learning models
4. Indicate Data Storage components / services
5. Indicate external interfaces (third party API's etc.)

TABLE-1 : COMPONENTS & TECHNOLOGIES:

S.NO	COMPONENT	DESCRIPTION	TECHNOLOGY
1.	User Interface	User can interact with the application through Web UI and Chatbot.	HTML, CSS, JavaScript
2.	SignUp / SignIn	The application will have SignUp/ SignIn pages where user can register and login to the application	HTML, CSS, JavaScript, Python
3.	Chatbot	The application contains Chatbot assistant where user can query the chatbot to get recommendations	IBM Watson Assistant
4.	Chatbot Recommendations	The Chatbot recommend the products that meet up the user requirements based on the data given by the user	IBM Watson STT services
5.	Database	The Customer details and Order details are stored in the database and can be retrieved when needed	MySQL, NoSQL
6.	Cloud Database	With the use of Cloud Database, the user can access the data stored in the cloud over the network and in secured manner.	IBM DB2
7.	File Storage	Previous Order history and other Customer details are get stored for future reference of the user	IBM Block Storage or Other Storage Service or Local Filesystem
8.	Email Services	The status of the Order and other updates are sent to the user registered email using the SendGrid API	SendGrid API
9.	Infrastructure (Server / Cloud)	The application with updated chatbot and cloud services is deployed in Docker.	Local, Cloud Foundry, Kubernetes, Docker

TABLE-2: APPLICATION CHARACTERISTICS:

S.NO	CHARACTERISTICS	DESCRIPTION	TECHNOLOGY
1.	Open-Source Frameworks	Flask Framework is used to implement the web application. Bootstrap is used to design the web application.	Flask , Bootstrap
2.	Security Implementations	The application uses Container Registry in the IBM Cloud so that user details are more secure and confidential.	Container Registry , Authentication
3.	Scalable Architecture	The web application enables to scale seamlessly with increased traffic. Since it is cloud-based application maintenance is also low.	Docker , IBM Cloud
4.	Availability	The high availability can be created by making clusters in the cloud. If one server fails or is otherwise unavailable, the other servers can step in.	IBM Cloud , Kubernetes Cluster
5.	Performance	The application is highly responsive to the end-user because of containerization. It also provides Web Optimization to improve the performance.	Docker , Kubernetes