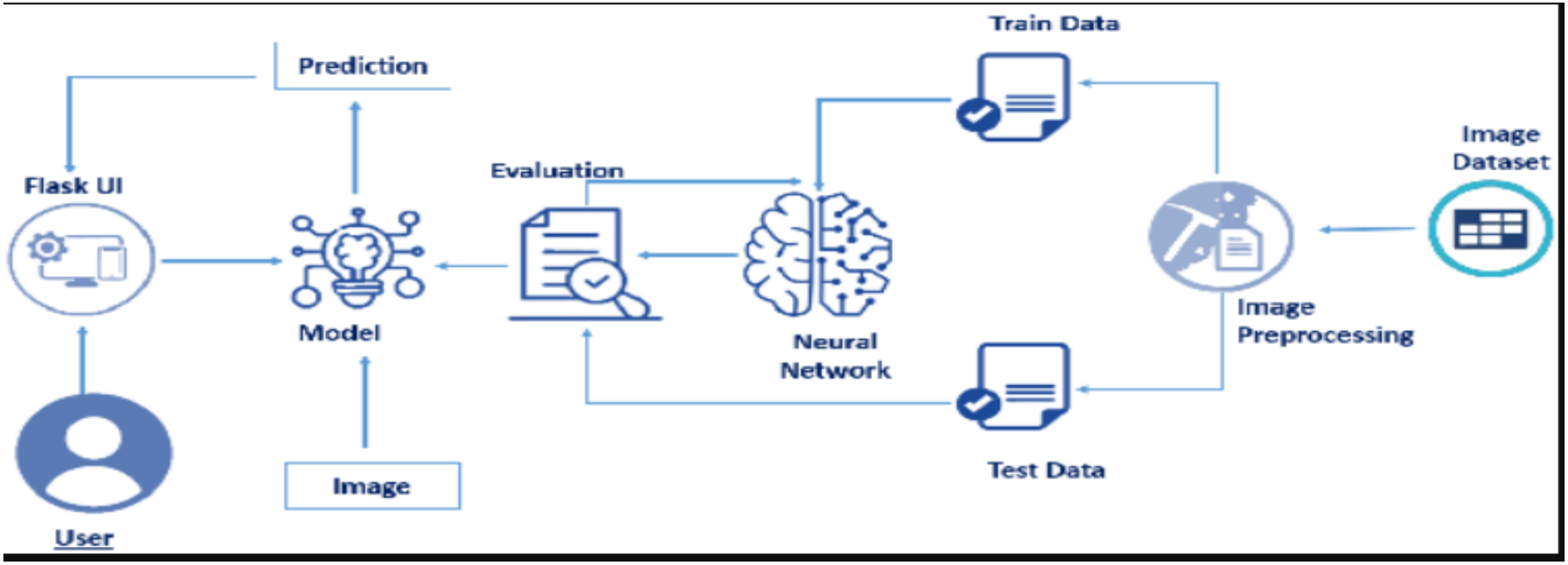
Project Design Phase-II

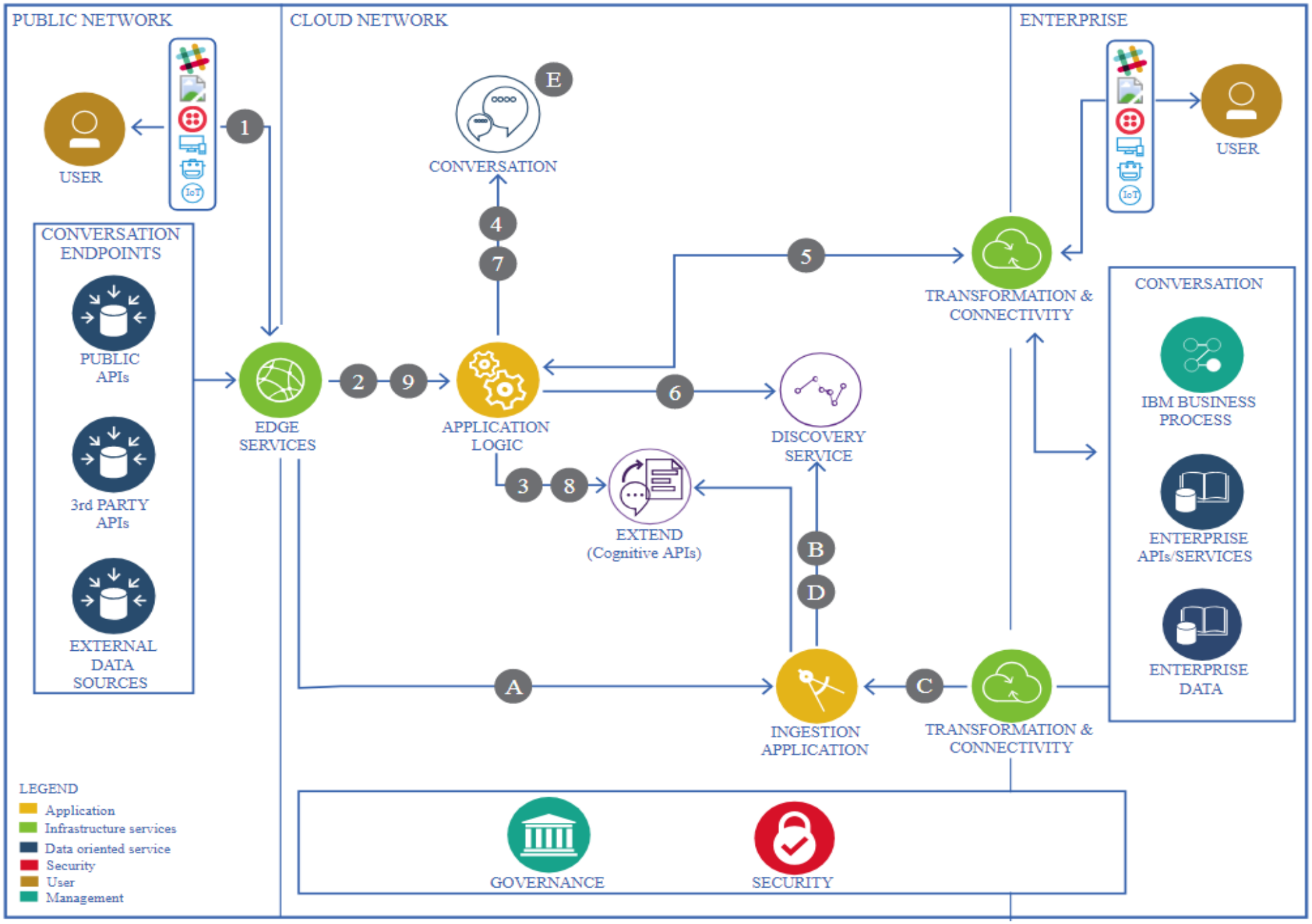
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID44057
Project Name	Real Time Communication System Powered by AI for Specially Abled
Maximum Marks	4 Marks

Technical Architecture:

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




PUBLIC NETWORK
CLOUD NETWORK
ENTERPRISE
USER
CONVERSATION
USER
CONVERSATION ENDPOINTS
PUBLIC APIs
3rd PARTY APIs
EXTERNAL DATA SOURCES
EDGE SERVICES
APPLICATION LOGIC
EXTEND (Cognitive APIs)
DISCOVERY SERVICE
TRANSFORMATION & CONNECTIVITY
CONVERSATION
IBM BUSINESS PROCESS
ENTERPRISE APIs/SERVICES
ENTERPRISE DATA
INGESTION APPLICATION
TRANSFORMATION & CONNECTIVITY
GOVERNANCE
SECURITY
1
2
3
4
5
6
7
8
9
A
B
C
D
E
LEGEND
Application
Infrastructure services
Data oriented service
Security
User
Management

Guidelines:

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

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	**User Interface**	AI using for disabled people	HTML, CSS
2.	**Application Logic-1**	Converts the sign language into human hearing voice in the desired language to convey the message to normal people	Java / Python
3.	**Application Logic-2**	Converts speech into understandable sign language for deaf and dumb	IBM Watson STT service
4.	**Application Logic-3**	Making use of convolution neural network to create the model that is trained on different hand gestures	IBM Watson Assistant
5.	**Database**	Data Set	MySQL
6.	**Cloud Database**	Database Service on Cloud	IBM DB2

7.	**File Storage**	File storage requirements	IBM Block Storage
8.	**External API-1**	To create user friendly for deaf and dumb	IBM Weather API
9.	**External API-2**	Easy for communication	Aadhar API
10.	**Machine Learning Model**	Purpose of Artificial Intelligence Model	Used for deaf and dumb people for conveying their information using signs
11.	**Infrastructure (Server / Cloud)**	Application Deployment on Local System / Cloud Local Server Configuration: IBM Cloud Cloud Server Configuration	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	**Open-Source Frameworks**	Open source with many features	HTML
2.	**Security Implementations**	Secure for people to communicate with each other	Encryptions
3.	**Scalable Architecture**	Justify the scalability of architecture	Python and Cloud
4.	**Availability**	It is especially used by disabled people	CDMA
5.	**Performance**	Good to share information with each other by understanding sign gestures	AI