Project Design Phase-II

Technology Stack
(Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID03446
Project Name	Project - Analytics for Hospitals' Health-Care Data
Maximum Marks	4 Marks

Technical Architecture:

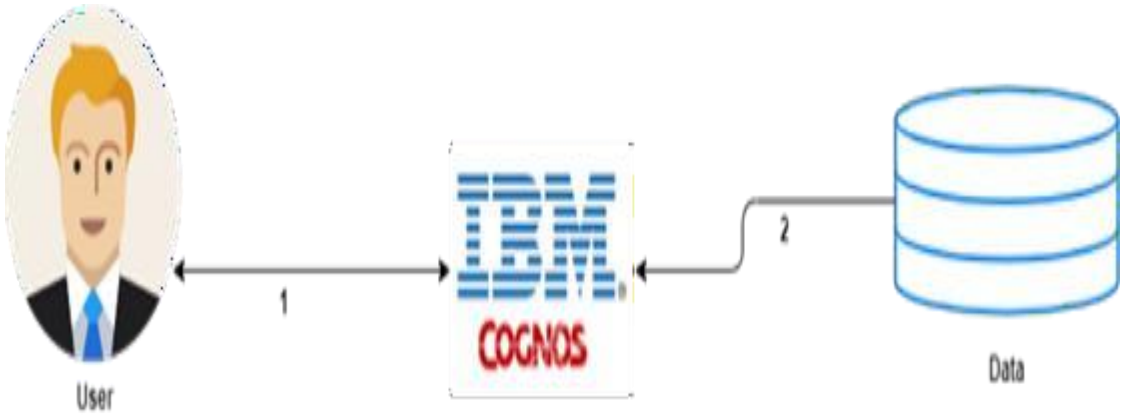

Figure: Technology Architecture for Analytics For Hospital's Health - Care Data

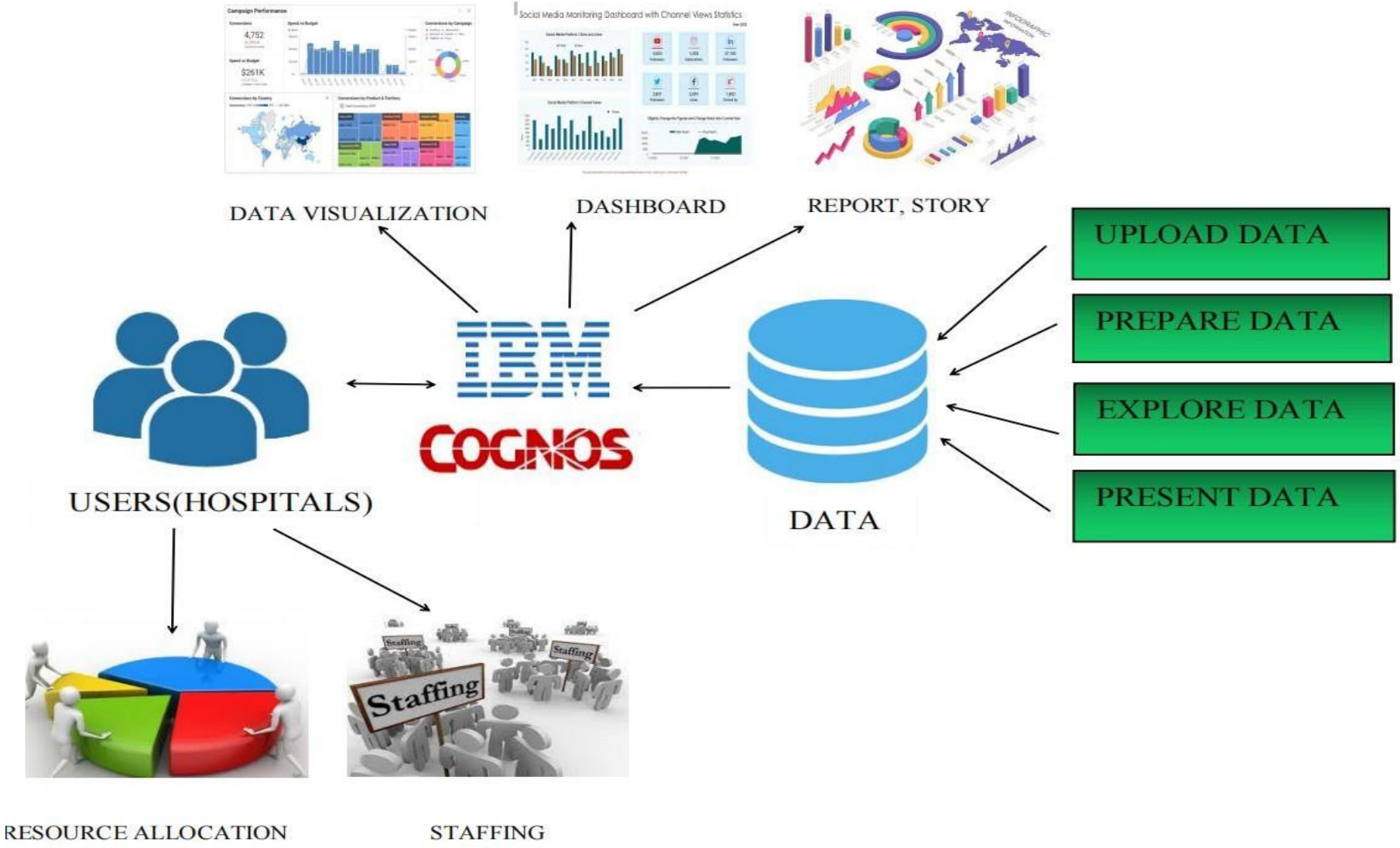

Table-1 : Components & Technologies:

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.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson, IBM Cognos Analytics
4.	Application Logic-3	Logic for a process in the application	IBM Cognos Analytics
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, Cloudant DB etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	ExternalAPI-1	For data visualization	IBM Watson API
9.	Machine Learning Model	Purpose of Machine Learning Model	Regression Model, Classification Model, Clustering Model, Object Recognition Model, etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	IBM Watson Studio enables Data Analyst to engage with data toanswer tough question .It relies on Jupyter Notebook/Google Colab, to create/share documents with live codes, equation,visualization, and narrative text.	IBM Watson
2.	Security Implementations	Authenticated users Hosted on Cloud-based servers, which is located away from the premises, it offers strong, multilayer security to all data exchanged, also remains protected from Cyberattacks	SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Support future increases in throughput Able to handle data of 100 patient at any given point of time without affecting stability	IBM Cognos BI

S.No	Characteristics	Description	Technology
4.	Availability	The proposed system will be accessible 24*7 days except maintenance and downtime activities	IBM Cloud Private, two levels of High Availability(HA) -HA of platform component -HA of workloads that run on the platform
5.	Performance	By streamlining and integrating multiple processes, system infuses much speed, agility, and efficiency System boosts the performance and capabilities of a healthcare facility in helping to treat patients, and better functioning of Hospitals (number of requests per sec, use of Cache, use of CDN's) etc.	IBM Power System, IBM Cognos