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

Date	03 October 2022
Team ID	PNT2022TMID21113
Project Name	Analytics For Hospitals' -Healthcare Data
Maximum Marks	4 Marks

Technical Architecture:

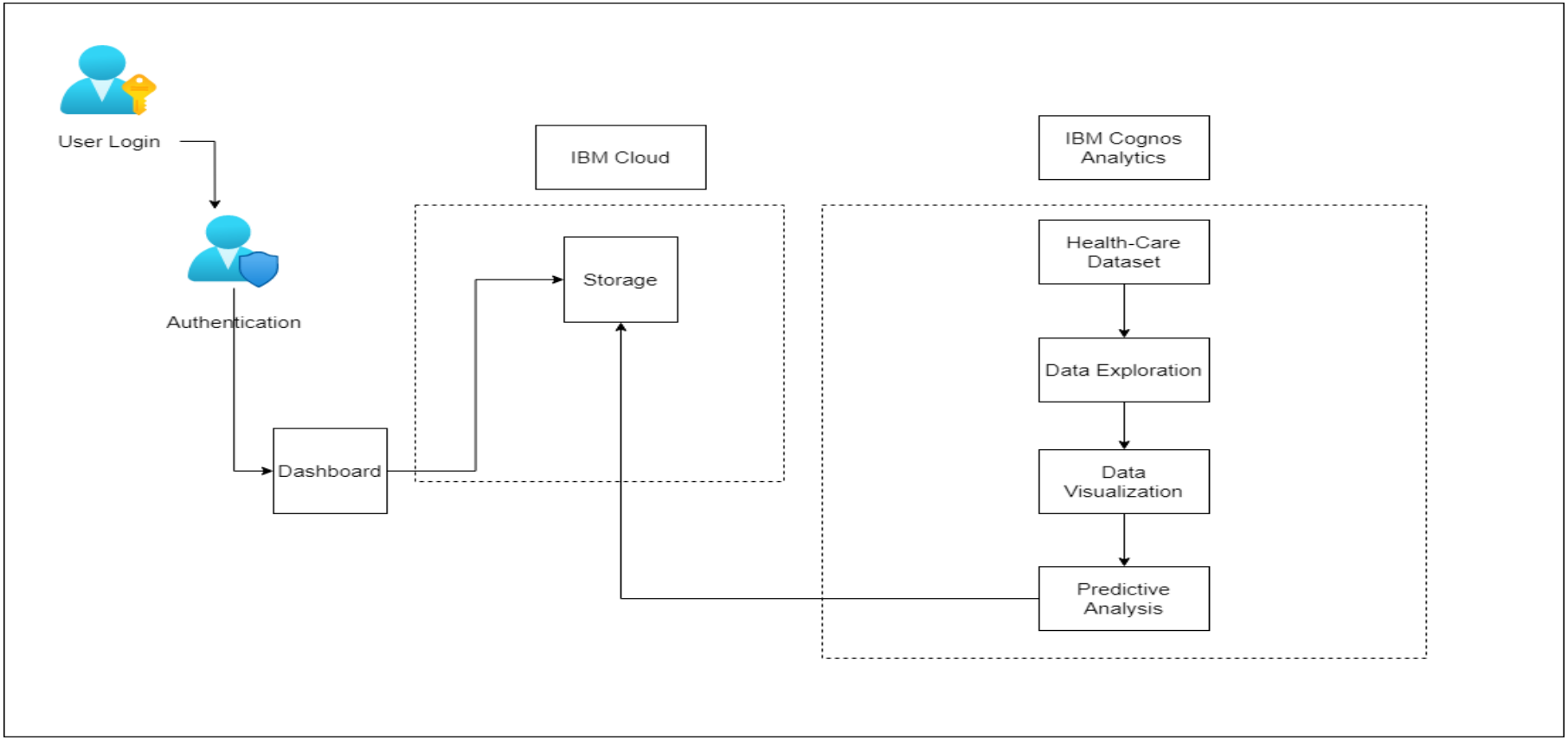

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Bootstrap
2.	Application Logic	Logic is to obtain insights from the Patient details from the hospital	Python
3.	Dataset	Hospital Health-Care Dataset that contains required details about Patients and Hospitals	Excel
4.	Data Analysis	Process consists of Data Preparation, Data Exploration, Data Transformation and Data Visualization	IBM Cognos Analytics
5.	Predictive Analysis	Model used to predict the LOS each patient	Machine Learning
6.	Cloud Database	Database Service on Cloud which is used to store all the report	IBM Cloud
7.	Infrastructure	It provides the platform for deployment and services	Kubernetes
8.	External API	Extracting the Dataset	Kaggle

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	A software for which the original source code made freely available and may be redistributed and modified according to the requirements of user.	Python, Jupyter notebook, Github
2.	Security Implementations	IBM Cloud Application provides security features that are in addition to many of the components identified in the security framework.	IBM Cloud
3.	Scalable Architecture	To improve scalability, enable or disable server run by administrator to balance the load for a given computer by request type.	IBM Cognos Analytics and IBM Cloud
4.	Availability	Availability is the ability of a system to withstand or recover from exceptional situation. The Google Colab/ Jupyter is interactive computing platform. It can support coding, visualisation, etc.	Jupyter notebook
5.	Performance	This is a fundamental step if we need to achieve the greatest benefit with the least amount of work. Designing for capacity means determining the hardware needed for your system to perform well under its workload.	Algorithms or Models

References:

https://c4model.com/

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

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

https://aws.amazon.com/architecture

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