

PROJECT DESIGN PHASE – 1

PROPOSED SOLUTION

Date	10 October 2022
Team ID	PNT2022TMID29546
Project Name	Analytics For Hospital's Health-Care Data
Maximum marks	2 marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none">• Data and analysis can go a long way, but health organizations must ensure that their data is used effectively.• Due to the uniqueness of health data and its measurement difficulties, it is crucial to choose the right analytical technology for healthcare.• On the other hand, to effectively manage health data, specialized technical teams, including data scientists and analysts, must be hired, which can be expensive depending on the size of the medical facility.• An important point is to give the relevant workers the resources and access to the data that will enable them to make data-based decisions and to ensure that the data they receive is as close to real time as possible.• Health organizations face challenges with health data that fall into several broad categories, including data aggregation, policies, and process management.

2.	Idea/Solution description	<ul style="list-style-type: none"> • Health organizations need a modern approach to data management that brings together all sources of information to support patient-centric initiatives and provide a full understanding of patients, physicians, payers, and other partners, with real-time visibility of relationships, health metrics, resource use, and trends across all care locations. • Implementing new business models, meeting customer expectations, and adopting new regulations will not be easy, but building this database is the first step toward a patient-centric healthcare system. • In the context of a data-driven health system, data analysis can help to understand the systemic waste of resources, track the performance of individual physicians, track the health of populations, and identify people at risk of chronic disease. • With this information, the system can allocate resources more efficiently to maximize revenue, population health, and patient care. • This process is supported by new software technologies that help to scan large amounts of data for hidden information. State-of-the-art data and analysis can be used to improve patient care in the healthcare system.
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3.	Novelty/Uniqueness	<ul style="list-style-type: none"> • Data analysis is the next step in the evolution of health care, and it uses data-driven insights to predict and solve health problems. • Applying data analytics to health care can have life-saving results, as it can use data on a subset of specific individuals to prevent potential epidemics, cure diseases, and reduce healthcare costs. • Applying data analytics to health care can have life-saving results, as it can use data on a subset of specific individuals to prevent potential epidemics, cure diseases, and reduce healthcare costs.
4.	Social Impact/ Customer satisfaction	<ul style="list-style-type: none"> • When analysing patient data, health care providers are now able to see which treatments produce the best results. • As a result, they're able to treat patients better, especially those with severe diseases like chronic renal diseases, multiple sclerosis, cardiovascular issues, and others. • When patient care improves, so do health outcomes. One of the benefits of data analytics is that it allows health care providers to predict future outcomes which allows them to formulate the best possible treatments. • Data analytics thus helps not only in serious situations like diabetes mellitus but also in non-communicable diseases as well as mental health problems.

5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> • The data analytics market in the healthcare space has only increased over the last few years. • Considering the rising costs of medical treatments globally, a proper body of knowledge was needed to reduce the costs at the business-level as well as the professional-level. • Healthcare data analytics aims at reducing the cost of healthcare operations and processes. Hence, the treatment cost for patients will gradually go down.
6.	Scalability of the Solution	<ul style="list-style-type: none"> • Healthcare data is increasing in volume and complexity. Storing and analysing this data to implement precision medicine initiatives and data driven research has exceeded the capabilities of traditional computer systems. • Modern big data platforms must be adapted to the specific demands of healthcare and designed for scalability and growth. • The use of emerging data management approaches along with open-source technologies such as Hadoop can be used to create integrated data lakes to store large, real-time data sets. • The implementation and use of integrated data science platforms offer organizations the opportunity to combine traditional data sets, including data from the electronic health record, with emerging big data sources, such as continuous patient monitoring and real-time laboratory results. • These platforms can enable cost-effective and scalable analytics for the information that will be key to the delivery of precision medicine initiatives.

