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Project Design Phase-1
Proposed Solution

Team ID	**PNT2022TMID21554**
Project Name	**Analytics for Hospital's Health-Care Data**

SNo.	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Analytics for Hospitals Health-Care Data:** Hospitals have some main challenges such as deficient infrastructure, deficient manpower, unmanageable patient load, etc.,so people can benefit if these problems are solved by adhering to certain software or some notes to maintain them all. The goal is to accurately predict the Length of Stay for each patient on a case by case basis so that the Hospitals can use this information for optimal resource allocation and better functioning. The length of stay is divided into 11 different classes ranging from 0-10 days to more than 100 days.

2.	Idea/Solution description	We are able to predict the length of stay of patients with data from the movement they entered the hospital and are diagnosed with an accuracy of ~70%. Such a model has the ability to profoundly improve hospital management and patient well-being. Also we can predict the LOS with big data analytic tools within a Python interface such as Spark, AWS clusters, SQL query optimization, and dimensionality reduction techniques.
3.	Novelty/Uniqueness	Length of stay in the hospital differs based upon the critical in their health situation it can range between 2 to 3 days or even upto 10- 20 days so based on the exploratory analysis of various patients we can accurately predict the length of stay of patients and can allocate optimum resource allocation
4.	Social Impact/Customer satisfaction	With Exploratory analysis using different methods to predict the length of stay creates a way to out patients to know the vacancy of beds in the hospitals and also paved a way in their critical times to secure their better life
5.	Business Model (Revenue Model)	Using this model The usage of length of stay of patients in the hospitals has increased among the people and it is free of cost to get the details about the vacancy. It doesn't affect the revenue model.
6.	Scalability of the Solution	It is a easily scalable method using dataset of previous patients we can able to predict the LOS ● Increased productivity among the users ● Decreased stress level ● Possibility of getting the detailed list of vacancy

SNo.	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Bioinformatic** It is a powerful technology to manage, query, and analyze big data in life sciences. Here The sequence of issues are faced such as the data problems such as representation , storage and retrieval , analysis (statistics, artificial intelligence, optimization, etc.) and biology problems such as **sequence analysis, structure or function prediction, data mining**, etc.
2.	Idea/Solution description	We can modify the database with different data categorizing on the basis of different properties from genotype to phenotype. Sequence alignment Database similarity search Motif finding (Gene finding Comparative genomics DNA methylation)
3.	Novelty/Uniqueness	Can Form Molecular Networks: Protein interaction networks Transcription regulation networks Metabolic & signaling networks
4.	Social Impact/Customer satisfaction	Easy Manage Data Collect,Store ,Ensure Security. Interpret Data: Create Data Models Enhance Interoperability
5.	Business Model (Revenue Model)	The main objectives of this technique is a top-down, holistic, data-driven, genome-wide, and systems approach that generates new hypotheses, finds new patterns, and discovers new functional elements and with all those features it fits best in business implementation.

6.	Scalability of the Solution	● Limited Resources better results. ● Boost productivity in results. ● Much more user friendly and can further be improved in future.

SNo.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Peoples from all over the world who were busy at their work who needs a way to maintain their health,Analysis of level of stay in hospitals for various treatments, so that the users can be benefited in their busy schedule
2.	Idea/Solution description	Health sector has improved in many factors.Nowadays people can maintain their health at their place of stay. Like smartphones, smart watches and many more gadgets came to make our lives easier. We can monitor our blood pressure, no of distance walked and etc
3.	Novelty/Uniqueness	Health gadgets have come in a large amount and it is handy to the users. From their place of stay they can monitor their health like breathing capacity, heart beat rate and many more
4.	Social Impact/Customer satisfaction	It has impacted from rich to poor, from educated to common peoples all got to know the usage of gadgets and it is really helpful to the peoples who are far away from the hospital. Now they can easily monitor their heart beat rate, blood pressure, etc.
5.	Business Model (Revenue Model)	In the modern world. the usage of healthcare gadgets has increased and peoples are more likely to buy these gadgets and so it has increased the revenue model in the market

6.	Scalability of the Solution	Scalability is up to the usage of peoples by getting their commands about the gadgets. We can scale the gadgets to their usage in terms of speedness, accuracy in predicting the results and even more.