Project Design Phase

Proposed Solution Template

Date	30 October 2023
Team ID	NM2023TMID08856
Project Name	Vaccine Tracking- Transparent
Maximum Marks	10 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem statement(problem to be solved)	The current vaccine distribution systems lack comprehensive real-time visibility. There is a need for a solution that enables governments, healthcare providers, and the public to access up-to-date information about vaccine availability, location, and usage.
2.	Idea/ solution description	Develop a centralized digital platform that allows healthcare providers, government agencies, and vaccine manufacturers to track vaccine inventory in real time. This system should provide visibility into the availability of vaccines, their location, and stock levels. Develop a user-friendly, public-facing website or app that provides information on vaccine availability, vaccination centers, and vaccination progress. Make sure this information is easily accessible and updated in real time.Create a user-friendly mobile application that allows healthcare providers and individuals to report adverse events following vaccination. This data should be integrated into the tracking system for quick analysis and response.
3.	Novelty/ Uniqueness	Implementing blockchain technology for vaccine tracking ensures a unique and tamper-proof record of each vaccine's journey. This level of security and traceability is unparalleled

		in traditional tracking systems. Real-time IoT Temperature Monitoring: The use of Internet of Things (IoT) devices for continuous temperature monitoring in the cold chain is unique. This proactive approach helps prevent vaccine spoilage due to temperature excursions. Global Integration and Data Exchange: Establishing international data exchange protocols and agreements for vaccine tracking is a unique feature. This ensures seamless tracking of vaccines as they cross borders, enhancing global vaccination efforts.
4.	Social impact/ customer satisfaction	Accessibility: Ensure that the system is accessible to all, including individuals with disabilities or those in remote areas. Consider multi-language support to accommodate diverse populations.Ensure that the integration of vaccine tracking into digital vaccine passports or health records is seamless and user-friendly. This adds value to individuals.
5.	Business model	If the system has a public-facing website or app, generate revenue through advertisements or partnerships with pharmaceutical companies, health and wellness brands, or local businesses. Advertisers can target users based on their vaccination data. Donor and Grant Funding: Seek funding from international organizations, foundations, and government grants dedicated to public health initiatives. This funding can support the development and ongoing operation of the system.
6.	Scalability of the solution	Utilize auto-scaling capabilities in the cloud to automatically adjust resources based on usage. When demand for the system increases, it can dynamically allocate more computing power, and when demand decreases, it

		can scale down. Global Distribution: If the system is deployed internationally, use Content Delivery Networks (CDNs) to distribute content and data efficiently, reducing latency and ensuring a seamless user experience. Data Partitioning: Implement data partitioning and sharding techniques to manage large datasets efficiently. This ensures that the database can grow as needed without performance degradation.