**Project Design Phase**
**Proposed Solution**

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| Team ID | NM2025TMID04457 |
| Project Name | Medical Inventory Management |
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**Proposed Solution Template:**

| S.NO | Parameter | Description |
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| 1. | Problem Statement (Problem to be solved) | Hospitals and pharmacies often face challenges in managing medicine stocks, tracking expiry dates, and linking with suppliers. Manual systems cause medicine shortages, wastage, and miscommunication. |
| 2. | Idea / Solution Description | The system automates medicine tracking, stock updates, supplier linkage, and expiry alerts. It enables hospitals and pharmacies to monitor inventory in real time and generate low-stock and expiry notifications. |
| 3. | Novelty / Uniqueness | The solution integrates real-time monitoring with automated alerts and supplier connection. Unlike basic inventory apps, it focuses on the healthcare sector's unique needs such as batch tracking and expiry-based alerts. |
| 4. | Social Impact / Customer Satisfaction | Ensures timely medicine availability, reduces wastage, and supports better patient care. Pharmacies and hospitals can serve customers efficiently and maintain safety standards. |
| 5. | Business Model (Revenue Model) | The system can be provided as a subscription-based service for hospitals and pharmacies. Additional features like analytics and supplier dashboards can generate extra revenue. |
| 6. | Scalability of the Solution | The system can be scaled to manage multiple branches, integrate with hospital management systems (HMS), and support cloud-based storage for large-scale medical organizations. |

**Solution Description**

The Medical Inventory Management System is designed to automate the process of tracking, managing, and replenishing medical supplies in hospitals and pharmacies. The system monitors real-time stock levels, tracks expiry dates, and provides timely alerts for low-stock and expiring medicines. It also maintains detailed supplier information to streamline reordering and prevent shortages.

Using a centralized database, the system ensures that all medicine-related data—such as batch numbers, quantities, and expiry dates—are easily accessible and up to date. The application minimizes human errors, reduces medicine wastage, and enhances operational efficiency by automating repetitive inventory tasks.

Additionally, the system can generate insightful reports on consumption trends and supplier performance, helping management make data-driven purchasing decisions and improve overall healthcare delivery.

**Conclusion**

The proposed Medical Inventory Management System provides a reliable, automated, and scalable solution for managing medical stocks efficiently. By integrating real-time tracking, expiry alerts, and supplier linkage, it ensures that hospitals and pharmacies maintain adequate stock levels and deliver timely patient care.

This system not only enhances operational efficiency but also promotes transparency, reduces manual workload, and minimizes medicine wastage. With further development, it can be extended to support multi-branch hospitals and integrate with larger healthcare management systems for better coordination and resource utilization.