**IDEATION PHASE**

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| --- | --- |
| Date | 29-05-2025 |
| Team ID | LTVIP2025TMID28829 |
| Project Name | Medical Inventory Management |
| Maximum Marks | 4 Marks |

**2.3 Brainstorming & Mind Mapping**

**Introduction to Brainstorming**

The success of any digital transformation project depends heavily on how well the solution aligns with real-world problems. To ensure we addressed the right issues with effective strategies, our team conducted a series of brainstorming sessions. These sessions brought together domain experts, healthcare professionals, Salesforce developers, and end-users (inventory and procurement staff) to discuss pain points, ideas, features, and implementation feasibility.

We used the brainstorming technique not just for requirement gathering, but also to *challenge assumptions*, *uncover hidden constraints*, and *encourage creative thinking*. Ideas generated were categorized, clustered, and refined through multiple rounds.

**Brainstorming Methodology**

We followed a structured ideation approach:

| **Stage** | **Activity** |
| --- | --- |
| **Stage 1** | Identifying core problems faced by hospitals in inventory management |
| **Stage 2** | Rapid idea generation using "How Might We" (HMW) questions |
| **Stage 3** | Clustering and grouping similar ideas into thematic buckets |
| **Stage 4** | Filtering ideas based on feasibility, impact, and scalability |
| **Stage 5** | Selecting high-value ideas for system features and architectural components |

Some key "HMW" questions used:

* How might we prevent stockouts without overstocking?
* How might we track expired products before they become a risk?
* How might we reduce procurement delays?
* How might we create a system that adapts to both small clinics and large hospitals?

**Highlights from Brainstorming Outcomes**

| **Category** | **Ideas Generated** |
| --- | --- |
| **Inventory Tracking** | Real-time dashboards, barcode scanning, stock threshold alerts, batch & expiry tracking |
| **Automation** | Auto reordering, approval workflows, expiry alerts, reorder forecasting based on past usage |
| **Vendor Management** | Rating-based vendor selection, delivery SLAs, centralized purchase order history |
| **User Roles & Access** | Department-based access, approval hierarchies, audit trails for compliance |
| **Reports & Insights** | Monthly consumption reports, near-expiry stock reports, cost-saving analysis |
| **Integration** | Link with billing and patient systems, import external supplier catalogs, third-party email notifications |

We encouraged divergent thinking in the initial phase, allowing both practical and “wild” ideas. Later, ideas were filtered using a matrix of:

* **Impact** (on hospital operations)
* **Feasibility** (based on Salesforce platform capabilities)
* **Effort** (development complexity)
* **Scalability** (usable across small and large facilities)

**Mind Mapping – Visualizing the Solution Space**

To organize our thoughts and findings from brainstorming, we developed a **mind map**. A mind map is a non-linear, hierarchical visual tool used to map concepts and their interrelationships. At the center of our mind map was the problem: **"Inefficient Medical Inventory Management"**.

**Top-Level Branches:**

1. **Inventory Control**
2. **Automation & Alerts**
3. **User Roles & Accessibility**
4. **Vendor & Procurement**
5. **Reporting & Compliance**
6. **Integration & Scalability**

Each of these branches broke down into sub-features and ideas. Here’s a written version you can recreate visually in the report.

**1. Inventory Control**

* Real-time stock level monitoring
* Product batch & expiry tracking
* Multi-location warehouse support
* Critical stock threshold warnings

**2. Automation & Alerts**

* Scheduled stock audits
* Auto restock triggers
* Daily/weekly stock alerts
* Approval routing workflows

**3. User Roles & Accessibility**

* Department-specific permissions
* Mobile-friendly dashboard
* Emergency override access (for critical shortages)
* Admin-level audit trail visibility

**4. Vendor & Procurement**

* Vendor rating system
* Purchase order lifecycle tracker
* Order vs. delivery variance reports
* Vendor SLA monitoring

**5. Reporting & Compliance**

* FDA/Pharma compliance logs
* Report generator: usage, waste, near-expiry
* Audit log for inspectors
* Budget vs. usage comparison

**6. Integration & Scalability**

* Link to hospital billing and finance system
* Support for HL7/FHIR integration (for future use)
* Template-driven data import/export
* Configurable object models in Salesforce for scalability

**Sample Mind Map Layout (Textual Representation)**

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**| Inefficient Medical Inventory Mgmt |**

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**Inventory Automation User Roles Vendor Reporting**

**Control & Alerts & Access Mgmt & Audit**

**| | | | |**

**Real-time Expiry Alerts RBAC PO Tracker Audit Logs**

**Tracking Auto Restock Mobile Vendor Score Cost Reports**

**Thresholds Approval Flow Audit Order Aging Compliance**

**Multi-location Daily Emails Access Delivery SLA Forecasting**

**Insights from Mind Mapping**

* **User-centric** thinking guided our entire flow – from alert design to automation rules.
* We realized the importance of *scalability* early, leading to a modular design on Salesforce.
* Integration with hospital financial systems (optional) was seen as a value-add for future phases.
* We decided to use **Salesforce Flow** and **Process Builder** for workflows instead of custom Apex code, wherever possible, to reduce development effort and improve maintainability.

**Conclusion**

The brainstorming and mind mapping exercises helped lay a strong foundation for our system design. By starting with the real-world pain points and collaboratively ideating across disciplines, we ensured our solution would be both technically sound and deeply relevant to its users.

The outputs of this phase directly fed into the next stage — **Requirement Analysis** — where these ideas were translated into detailed functional and non-functional requirements, customer journeys, and data flow diagrams.