**Requirement Gathering and Analysis Phase**

**Solution Requirements (Functional & Non-functional)**

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| --- | --- |
| Date |  |
| Team ID | PNT2022TMIDxxxxxx |
| Project Name | Project - xxx |
| Maximum Marks |  |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | Requirement Analysis Phase | Solution Requirement  Solution Architecture  DFDs and User Stories  Tech Stack |
| FR-2 | Frontend | Place Order Page  Home Page  Cart Page  Login Page  Store Context  Tracking  Admin panel |
| FR-3 | Backend | Payment Integration  Food Model  Food Control  Middleware  CRUD Operation using API |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

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| --- | --- | --- |
| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | The usability of a grocery web app is paramount to ensuring a seamless and enjoyable user experience. The interface should be intuitive, with clear navigation, easy-to-use search and filter functions, and a straightforward checkout process. Users should be able to find products quickly, add them to their cart, and complete their purchase with minimal effort. Features like auto-complete, wish lists, and personalized recommendations further enhance usability, making the shopping experience both efficient and engaging. |
| NFR-2 | **Security** | Security is a critical aspect of a grocery web app, protecting both user data and transactions. Implementing SSL/TLS encryption ensures secure data transmission, while robust authentication mechanisms safeguard user accounts. The app should be PCI DSS compliant for secure payment processing and employ fraud detection systems to prevent unauthorized transactions. Regular security audits and updates help to maintain a secure environment, giving users confidence that their personal and payment information is safe. |
| NFR-3 | **Reliability** | Reliability in a grocery web app ensures consistent performance and availability, providing users with a dependable shopping experience. This involves maintaining a stable backend infrastructure that can handle concurrent users and transactions without downtime. Automated monitoring systems detect and resolve issues promptly, ensuring the app is always ready for users. Regular backups and a disaster recovery plan further enhance reliability, minimizing disruptions and data loss. |
| NFR-4 | **Performance** | Performance is crucial for a grocery web app, impacting how quickly and efficiently users can browse and complete transactions. The app should load swiftly, with optimized images and content delivery networks (CDNs) to reduce latency. Efficient database queries and caching mechanisms ensure fast product searches and smooth navigation. Regular performance testing helps identify bottlenecks, ensuring the app remains responsive even during peak usage. |
| NFR-5 | **Availability** | Availability ensures that the grocery web app is accessible to users whenever they need it, without unexpected downtime. This is achieved through a robust hosting environment with redundancy and failover mechanisms. Load balancers distribute traffic evenly, preventing server overloads. Continuous monitoring and alert systems help quickly address any availability issues, ensuring users can always access the app to shop for their groceries. |
| NFR-6 | **Scalability** | Scalability allows a grocery web app to handle increasing numbers of users and transactions as the business grows. This involves designing the app with a modular architecture that can easily accommodate new features and enhancements. Cloud-based solutions provide the flexibility to scale resources up or down based on demand, ensuring consistent performance. By planning for scalability, the app can efficiently support a growing user base and expanded product offerings. |