

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	31 January 2025
Team ID	PNT2025TMID01141
Project Name	Global Malnutrition Trends: A Power BI Analysis (1983-2019)
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Login & Authentication	Option to use OAuth authentication (Google, Microsoft, etc.). Implement multi-factor authentication (MFA) for added security.
FR-4	User Roles & Permissions	Define roles (e.g., Admin, Analyst, Viewer)
FR-5	Data Collection & Integration	The system must ingest data from multiple sources (e.g., WHO, UNICEF, World Bank, FAO).
FR-6	Data Cleaning & Processing	The system must remove duplicates and missing values . Convert data into a standardized format (consistent units, categories).

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The dashboard interface must be intuitive , allowing users to navigate insights without technical expertise. Provide tooltips, legends, and hover-over descriptions for complex metrics.
NFR-2	Security	Implement Role-Based Access Control (RBAC) to restrict access based on user roles. Ensure end-to-end encryption (SSL/TLS) for data transmission. Store sensitive data securely, using encryption at rest (AES-256) .

NFR-3	Reliability	<p>The system must have 99.9% uptime, ensuring minimal downtime.</p> <p>Implement automated error detection and notifications for failed data refreshes.</p>
NFR-4	Performance	<p>Dashboards should load within 3 seconds for typical queries.</p> <p>Data refresh operations should complete within 5-10 minutes for full dataset updates.</p>
NFR-5	Availability	<p>Ensure 24/7 availability for global users through cloud-based hosting (Power BI Service).</p> <p>Implement automatic failover mechanisms in case of system crashes.</p> <p>The system should support scheduled maintenance without affecting availability.</p>
NFR-6	Scalability	<p>The solution must be scalable to support future data expansion (e.g., new years, additional indicators).</p> <p>Power BI service should support concurrent users without lag (at least 50-100 users at a time).</p>