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

Date	27 June 2025
Team ID	LTVIP2025TMID59682
Project Name	Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study
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	Data Import & Management	• Import CSV dataset containing college food choice data (64+ variables) • Validate data integrity and handle missing values • Create data dictionary for all variables • Implement data versioning and backup mechanisms
FR-2	User Authentication & Access Control	• User registration through university email system • Role-based access control (Nutritionist, Administrator, Researcher, Student) • Single sign-on integration with university authentication system • Session management and timeout controls
FR-3	Data Analysis & Visualization	• Interactive dashboards for demographic analysis (GPA, Gender, Income) • Dietary pattern visualizations (calories, cuisine preferences, comfort foods) • Correlation analysis between lifestyle factors and food choices • Statistical significance testing and confidence intervals • Trend analysis across different student segments
FR-4	Filtering & Search Capabilities	• Dynamic filtering by demographic variables (gender, grade level, income) • Advanced search functionality for specific dietary patterns

| | | • Custom filter combinations and saved filter sets |
| | | • Real-time filter application with instant visualization updates |

Non-functional Requirements:

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

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	• Intuitive interface requiring minimal training for health professionals • Responsive design supporting desktop, tablet, and mobile devices • Maximum 3 clicks to access any primary function • Clear visual hierarchy and consistent navigation patterns • Accessibility compliance (WCAG 2.1 AA standards) • Multi-language support for diverse user base
NFR-2	Security	• End-to-end encryption for data transmission (TLS 1.3) • Role-based access control with principle of least privilege • Regular security audits and vulnerability assessments • Secure API endpoints with rate limiting and authentication • Data masking and anonymization for sensitive information • Compliance with university IT security policies
NFR-3	Reliability	• System uptime of 99.5% during business hours • Automatic data backup every 6 hours • Graceful error handling with user-friendly messages • Data consistency checks and validation mechanisms • Rollback capabilities for failed operations • Disaster recovery plan with RTO of 4 hours