

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

Date	27 June 2025
Team ID	LTVIP2025TMID50072
Project Name	Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau
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	Importing Data	Supporting multiple data source connections including CSV, Excel, SQL databases, and API integrations
		Implementing automated data validation and error detection during import process
		Supporting bulk data import operations with progress tracking and rollback capabilities
FR-2	Processing the Data	Executing data cleansing operations including duplicate removal and null value handling
		Performing automated data transformation and standardization across all datasets
		Implementing data aggregation functions for grouping by location, age, and property features
FR-3	Creating Interactive Dashboard	Developing responsive dashboard interface with drag-and-drop component arrangement
		Implementing interactive filtering capabilities across multiple data dimensions simultaneously
		Supporting customizable dashboard layouts with user-specific view preferences
FR-4	Visualizing Data and Analytics	Generating comprehensive charts including histograms, pie charts, and grouped bar visualizations
		Creating trend analysis visualizations showing price movements over time periods
		Enabling comparative analysis charts for benchmarking different property segments
FR-5	Reporting and Export Functionality	Generating automated periodic reports in PDF, Excel, and PowerPoint formats
		Enabling custom report creation with user-defined parameters and data selections
		Providing audit trail reporting for tracking data changes and user activities

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system must provide an intuitive user interface that requires minimal training for real estate professionals. The dashboard should follow established UX principles with consistent navigation patterns, clear visual hierarchy, and responsive design elements.
NFR-2	Security	The system must implement enterprise-grade security measures including role-based access control, data encryption at rest and in transit, and secure authentication protocols. All user activities must be logged for audit purposes, and sensitive housing data should be protected through data masking and privacy controls.
NFR-3	Reliability	The system must maintain 99.5% uptime with robust error handling and graceful degradation capabilities during peak usage periods. Data integrity must be preserved through automated backup processes and transaction rollback mechanisms.
NFR-4	Performance	The system must deliver responsive performance with dashboard loading times under 3 seconds and data processing operations completing within acceptable timeframes. Large datasets containing thousands of property records should be processed efficiently without impacting user experience.
NFR-5	Availability	The system must be accessible 24/7 with minimal planned downtime for maintenance activities scheduled during off-peak hours. Redundant infrastructure components should ensure continuous service availability, and disaster recovery procedures must enable rapid system restoration.
NFR-6	Scalability	The system architecture must support horizontal and vertical scaling to accommodate growing data volumes and increasing user loads. The platform should handle expanding datasets from hundreds to millions of property records without performance degradation.