

ProjectDesignPhase-II
SolutionRequirements(Functional&Non-
functional)

Date	21 June 2025
TeamID	LTVIP2025TMID59746
ProjectName	Visualizing Housing Market Trends:An Analaysis Of Sale Prices And Features Using
MaximumMarks	4 Marks

FunctionalRequirements:

Followingarethefunctionalrequirementsoftheproposedsolution.

FR No.	FunctionalRequirement(Epic)	SubRequirement(Story/Sub-Task)
FR-1	User Registration	Registration through Form RegistrationthroughGmail RegistrationthroughLinkedIn
FR-2	User Confirmation	ConfirmationviaEmail ConfirmationviaOTP
FR-3	DataIngestion&Management	UploadDataset(e.g.,CSV,Excel,fromexternalAPIs) Data Validation and Cleaning DataStorageandOrganization(e.g.,database)
FR-4	EconomicFreedomIndex Calculation	DefineandConfigureIndexComponents ApplyWeightingSchemes(configurablebyuser/admin) CalculateCompositeIndexScoresforcountries/regions
FR-5	DataAnalysis&Visualization	GenerateInteractiveCharts(e.g.,Bar,Line,Scatter, Bubble) CreateGeographicVisualizations(e.g.,Choropleth Maps) ProvideTrendAnalysisoverTime Enable Comparison between Countries/Regions DisplayCorrelationMatricesbetweenindicators
FR-6	Reporting& Export	Generate Customizable Reports (e.g., PDF, HTML) Export Raw and Processed Data (e.g., CSV, Excel) ExportVisualizations(e.g.,ImageformatslikePNG, JPEG)
FR-7	UserAuthentication&Authorizatio n	User Login/Logout Role-basedAccessControl(e.g.,Admin,Analyst, Viewer)
FR-8	Search&FilterFunctionality	SearchbyCountryName,Year,IndexComponent FilterDatabyvariouscriteria(e.g.,region,income level)

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The system should have an intuitive and user-friendly interface, allowing users to easily navigate, interact with data, and interpret results without extensive training.
NFR-2	Security	The system must protect sensitive user data (if any) and ensure the integrity and confidentiality of the economic data. This includes secure authentication, authorization, and protection against unauthorized access or data breaches.
NFR-3	Reliability	The system should consistently perform its functions accurately and without significant errors. Data calculations, visualizations, and report generation should be reliable and repeatable.
NFR-4	Performance	The system should respond quickly to user requests, especially during data processing, index calculation, and visualization generation, even with large datasets. Data loading and rendering times should be minimal.
NFR-5	Availability	The system should be accessible to authorized users whenever needed, with minimal downtime. This includes considerations for server uptime, data accessibility, and disaster recovery.
NFR-6	Scalability	The system should be able to handle an increasing amount of data (e.g., more countries, more years, new indicators), a growing number of concurrent users, and additional features without significant degradation in performance.
NFR-7	Maintainability	The system's code base and architecture should be well-documented, modular, and easy to modify or extend to accommodate future enhancements or bug fixes.
NFR-8	Data Accuracy	The system must ensure the highest level of accuracy for all ingested data, calculations, and visualizations to reflect reliable economic insights.