Project Design Phase-II
SoluƟon Requirements (FuncƟonal & Non-funcƟonal)

Date	28 June 2025
Team ID	LTVIP2025TMID47877
Project Name	Measuring the pulse of prosperity: an index of economic freedom
Maximum Marks	4 Marks

FuncƟonal Requirements:

Followingare the funcƟonalrequirementsofthe proposed soluƟon.

FR No.	FuncƟonal Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User RegistraƟon	RegistraƟon through Form RegistraƟon through Gmail RegistraƟon through LinkedIn
FR-2	User ConfirmaƟon	ConfirmaƟon via Email ConfirmaƟon via OTP
FR-3	Data IngesƟon & Management	Upload Dataset (e.g., CSV, Excel, from external APIs) Data ValidaƟon and Cleaning Data Storage and OrganizaƟon (e.g., database)
FR-4	Economic Freedom Index CalculaƟon	Define and Configure Index Components Apply WeighƟng Schemes (configurable by user/admin) Calculate Composite Index Scores for countries/regions
FR-5	Data Analysis & VisualizaƟon	Generate InteracƟve Charts (e.g., Bar, Line, ScaΣer, Bubble) Create Geographic VisualizaƟons (e.g., Choropleth Maps) Provide Trend Analysis over Time Enable Comparison between Countries/Regions Display CorrelaƟon Matrices between indicators
FR-6	ReporƟng & Export	Generate Customizable Reports (e.g., PDF, HTML) Export Raw and Processed Data (e.g., CSV, Excel) Export VisualizaƟons (e.g., Image formats like PNG, JPEG)
FR-7	User AuthenƟcaƟon & AuthorizaƟon	User Login/Logout Role-based Access Control (e.g., Admin, Analyst, Viewer)
FR-8	Search & Filter FuncƟonality	Search by Country Name, Year, Index Component Filter Data by various criteria (e.g., region, income level)

Non-funcϴonal Requirements:
Followingare the non-funcϴonalrequirements of the proposedsoluϴon.

FR No.	Non-Funcϴonal Requirement	Descripϴon
NFR-1	Usability	The systemshouldhaveanintuiϴveanduserfriendly interface, allowing users to easily navigate, interact with data,andinterpretresultswithoutextensive traini ng.
NFR-2	Security	The systemmustprotectsensiϴveuserdata(ifany) and ensuretheintegrityandconfidenϴalityofthe economic data. This includes secure authenϴcaϴon, authorizaϴon, and protecϴon against unauthorized access ordatabreaches.
NFR-3	Reliability	The systemshouldconsistentlyperformitsfuncϴons accurately and without significant errors. Data calculaϴons, visualizaϴons, and report generaϴon should bereliableandrepeatable.
NFR-4	Performance	The systemshouldrespondquicklytouserrequests, especially during data processing, index calculaϴon, and visualizaϴongeneraϴon,evenwithlarge datasets. Data loading and rendering ϴmes should be minimal.
NFR-5	Availability	The systemshouldbeaccessibletoauthorizedusers whenever needed, with minimal downϴme. This includes consideraϴons for server upϴme, data accessibility, and disaster recovery.
NFR-6	Scalability	The systemshouldbeabletohandleanincreasing amount of data (e.g., more countries, more years, new indicators),agrowingnumberofconcurrent users, andaddiϴonalfeatureswithoutsignificant degradaϴon in performance.
NFR-7	Maintainability	The system'scodebaseandarchitectureshouldbe well-documented, modular, and easy to modify or extend to accommodatefutureenhancementsor bug fixes.
NFR-8	Data Accuracy	The system must ensure the highest level of accuracy for all ingested data, calculaϴons, and visualizaϴons to reflect reliable economic insights.