Indian Mutual Fund Robo-Advisor MVP Phase 1

Software Requirements Specification

Project: Indian Mutual Fund Robo-Advisor **Phase:** MVP Phase 1 (Single User Validation)

Technology: Streamlit (Python)

1. Scope and Constraints (The MVP Definition)

The goal is to deliver a functional web application that calculates risk tolerance and recommends mutual funds based on a local data source.

Area	Requirement Summary	Source
Out of Scope	User registration, authentication, data persistence, portfolio tracking, or investment execution.	
User Access	Limited to single-user access with no authentication required.	
Data Source	Data is read solely from a local CSV file (`robo_advisor_fund_recommendations.csv`). The system must handle 120 fund records.	
State Management	No persistent storage. Session state is maintained in memory and lost upon browser refresh or close.	

2. Functional Requirements (The User Flow)

The application follows a linear, three-step user flow: Risk Assessment → Preference Input → Recommendations.

2.1 Risk Assessment (Questionnaire)

The system must guide the user through the risk assessment process.

ID	Requirement	Source
F-1.1	Display a home page with the title "Mutual Fund Robo-Advisor" and a "Start Risk Assessment" button.	
F-1.2	Present the 13-question, adapted Grable-Lytton risk assessment questionnaire.	
F-1.3	Validate that all 13 questions are answered before submission.	
F-1.4	Upon submission, calculate the total risk score, ranging from **13 to 52 points**.	
F-1.5	Categorize the score into one of **four definitive risk profiles** (Low, Moderate, Medium, High) using the following ranges:	
	- **Low Risk:** 13–22 points	
	- **Moderate Risk:** 23–28 points	
	- **Medium Risk:** 29–32 points	
	- **High Risk:** 33–52 points	
F-1.6	Display the resulting Risk Category name and a brief description.	

2.2 Investment Preference Input

The system must capture investment details to filter recommendations.

ID	Requirement	Source
F-2.1	Prompt the user for **Investment Amount (in ₹)** and **Investment Duration**.	
F-2.2	Duration options must be: "Less than 6 months," "6 months to 1 year," and "More than 1 year".	
F-2.3	Validate the Investment Amount: Must be **numeric** and a **minimum of ₹500** (No maximum limit).	
F-2.4	Display error messages for incomplete input or if the amount is below the minimum of ₹500 (E003, E004).	

2.3 Recommendation Generation and Display

The system must filter, sort, and display the recommended funds.

ID	Requirement	Source
F-3.1	**Filter** the CSV fund database based on **Risk Profile**, **Investment Duration**, and **Minimum Investment** (fund minimum ≤ user amount).	
F-3.2	**Sort** the filtered list of funds by the following priority:	
	1. Rating (Highest first)	
	2. 5-year return (Highest first)	
	3. 3-year return (Highest first)	

	4. Expense Ratio (Lowest first)	
F-3.3	Display the recommendations in a table format, showing the top **3 results** by default.	
F-3.4	Provide a "Show More" option to reveal up to a **maximum of 10** total matching recommendations.	
F-3.5	If no funds match the criteria, display the message: "No funds match your criteria. Try a different investment amount or duration." (E005).	
F-3.6	The table must include the following key columns (in addition to the original 10, explicitly including **AUM** to satisfy the formatting requirements): Rank, Fund Name, Category, Type, **AUM (in Cr.)**, 1Y Return, 3Y Return, 5Y Return, Expense Ratio, Min Investment, Rating, and Remarks.	
F-3.7	Format returns as percentages (2 decimal places) and currency using the Indian Rupee symbol (₹). Assets Under Management (AUM) must be displayed in **Crores with commas**.	

3. Data and Interface Requirements

3.1 Data Schema (CSV Input)

The system must read data from the `robo_advisor_fund_recommendations.csv` file. The CSV must contain fields corresponding to the filtering and display requirements, including `risk_profile` (must be Low Risk, Moderate Risk, Medium Risk, or High Risk) and `duration`.

3.2 User Interface (UI/UX)

ID	Requirement	Source

I-1.1	The application must be fully **mobile-responsive** and render correctly on desktop, tablet, and mobile browsers (down to 320px width).	
I-1.2	The UI must use clear typography, high contrast, and large, touch-friendly buttons (minimum 44px height) to meet **WCAG AA standards** for accessibility.	
I-1.3	The system must allow the user to modify investment preferences (amount/duration) without being forced to retake the questionnaire.	

4. Non-Functional Requirements (Quality Gates)

These requirements define the necessary quality and performance standards for MVP acceptance.

ID	Requirement	Source
N-1.1	**Performance:** Risk score calculation and recommendation generation must occur in **≤1 second** (NFR-2).	
N-1.2	**Maintainability:** The CSV fund database must be replaceable without requiring code changes.	
N-1.3	**Safety:** The system must display a clear disclaimer that "Past performance does not guarantee future results" and must **not execute financial transactions**.	
N-1.4	**Reliability:** The system must validate CSV structure upon load and display error (E006) if the schema is mismatched.	

Conclusion and Acceptance

The MVP is acceptable if a single user can complete the entire flow (Questionnaire → Preferences → Recommendations) successfully on a mobile or desktop browser,

resulting in a correct risk score and filtered recommendations displayed in the required format and within the 1-second performance limit.
This simplified SRS acts like a **single, clear blueprint** for constructing a prefabricated house (the MVP). We define the exact sequence of rooms (the user flow), the type of materials (CSV data schema), and the mandatory safety and speed standards (NFRs and performance targets), ensuring we don't waste time on features outside the agreed upon scope (like plumbing for Phase 2's kitchen sink—authentication and persistence).