

Indian Mutual Fund Robo-Advisor — Phase 3

Software Requirements Specification (SRS)

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Version: 0.3.1 (Phase 3 Prototype Features — Updated with Hybrid Goal Path & Persistence)

Derived from: Phase 2 SRS

1. Executive Summary

Phase 3 builds on the privacy-respecting registration, analytics, and KISS principles of Phase 2. It introduces a **two-stage Goal Path feature** with probability-based scenarios: (1) a generic, motivational Goal Path shown post-registration based on risk category averages, and (2) an optional fund-specific comparison tool shown after fund recommendations. Users can save, revisit, and share goal paths via unique shareable links and downloadable PDFs. Mean reversion logic grounds return assumptions in 10-year rolling averages. Data freshness badges enhance transparency. SEBI compliance disclaimers are hardened and non-dismissible. Registration, analytics, and minimal admin features from Phase 2 are retained.

2. Scope and Constraints

2.1 In Scope (Phase 3)

- **Goal Path Feature (Two-Stage):**
Stage 1: Generic Goal Path ("Motivational Preview")
 - After registration, user enters: starting corpus, monthly SIP, investment horizon
 - System calculates three outcome scenarios (Conservative 25th percentile, Expected median, Best Case 75th percentile) based on **10-year historical average returns for the user's risk category**
 - Display: Final projected corpus, assumed annual return %, confidence label
 - Allow real-time parameter adjustment (sliders/inputs)
 - Purpose: Build motivation, validate investment thesis
 - Label: "These projections are based on historical averages for your risk profile"

Stage 2: Fund-Specific Goal Comparison (Optional)

- After user views fund recommendations (Step 5)
- User can select 2–3 recommended funds for comparison
- System calculates projected corpus for each fund combination, accounting for:
 - Fund-specific expense ratios
 - Fund category 10-year volatility

- Fund-specific historical returns (if available)
 - Display side-by-side: "Fund A: ₹82L | Fund B: ₹78L | Fund C: ₹80L"
 - Purpose: Help user optimize fund selection to reach goal
 - Allow user to export comparison as PDF
- **Goal Path Persistence & Sharing:**
 - After completing Goal Path (Stage 1 or Stage 2), user sees:
 - **Unique shareable link:** /goal/{unique_id} (short, memorable)
 - **QR code:** Printable/shareable for offline sharing
 - **PDF export:** Download goal path details + fund recommendations (if selected) + disclaimer
 - **"Save to My Goals":** Optional checkbox to persist in database (for registered users)
 - Email integration (if registered): Send link + PDF to user's email
 - Link expires after 90 days; users can regenerate
 - Revisit link anytime without re-entering data (pre-filled form)
 - Allow user to create variation: "What if I increase SIP to ₹60k?" → Generate new link
- **Mean Reversion Return Logic:**
 - Category-wise return assumptions anchored to 10-year rolling averages
 - If 1-year return exceeds 10-year average by $\geq 5\%$: subtract 1% from "Expected" return
 - Fund-specific returns (Stage 2) use actual historical fund data where available
- **Scenario Labeling (Both Stages):**
 - Conservative: 10-year mean minus 10% [25th percentile confidence]
 - Expected: 10-year mean [median confidence, highlighted as "most likely"]
 - Best Case: 10-year mean plus 10% [75th percentile confidence]
 - Each includes confidence score (High/Medium/Low) based on volatility
- **Data Freshness Badge:**
 - All fund recommendations show last update timestamp ("Updated 2 days ago")
 - Color-coded: Green (<1 week), Yellow (1–4 weeks), Red (>4 weeks)
 - Fund CSV includes last_updated field
- **SEBI/Compliance Disclaimers:**
 - Prominent, non-dismissible warning on Goal Path (both stages) and Recommendations:
 - > **⚠ DISCLAIMER:** This tool is for educational purposes only.
 - It does NOT constitute investment advice.
 - Past performance is NO guarantee of future results.
 - We are NOT SEBI-registered investment advisors.
 - Please consult a certified financial advisor before investing.
- **Registration, Analytics & Minimal Admin (Phase 2 Retained):**

- Registration step post-risk, email format/consent validation
- SQLite persistence, analytics overview, CSV export
- Privacy-first data collection

2.2 Out of Scope (Phase 3)

- Full user authentication/login system (magic links only for Phase 3)
- Email/SMS/push alerts (dashboard-only)
- Real-time portfolio tracking or progress monitoring
- Rebalancing alerts (Phase 4+)
- Any payment, transaction execution, or tax optimization
- Production-grade financial advice or suitability evaluation

3. User Stories & Flows

3.1 Updated Primary Flow: Home → Questionnaire → Registration → Goal Path (Stage 1) → Investment Preferences → Recommendations → Goal Path (Stage 2, Optional)

Detailed step-by-step:

1. Home Page: User lands on app. Views overview and how-it-works.

2. Step 1 of 6: Risk Assessment

- User completes 13-question questionnaire
- System calculates risk score and displays risk category

3. Step 2 of 6: Registration (Mandatory Gate)

- User registers (email + consent required to proceed)
- Data stored in registrations table
- If user declines: End of flow (they see risk category only)

4. Step 3 of 6: Goal Path — Stage 1 (Generic/Motivational)

- Title: "Your Investment Journey — See Your Potential"
- User enters (via sliders or text inputs):
 - Starting Corpus (₹)
 - Monthly SIP (₹)
 - Investment Horizon (years)
- System calculates three scenarios using 10-year historical average for risk category + mean reversion logic
- Display:

- Conservative: ₹X (confidence: ~70%)
- Expected: ₹Y (confidence: ~50%, highlighted as "most likely")
- Best Case: ₹Z (confidence: ~25%)
- User can adjust inputs and see projections update in real-time
- Prominent disclaimer always visible
- After user reviews (optional: can skip), proceed to next step

5. Step 4 of 6: Investment Preferences

- User selects investment duration
- Confirms investment amount (can update from Stage 1)

6. Step 5 of 6: Fund Recommendations

- System displays filtered, ranked fund list
- Each fund shows: Name, category, type, AUM, 1Y/3Y/5Y returns, expense ratio, **data freshness badge**
- Disclaimer always visible

7. Step 6 of 6: Goal Path — Stage 2 (Fund-Specific Comparison, Optional)

- Title: "Optimize Your Fund Selection"
- Optional interactive widget
- User can select up to 3 recommended funds
- System shows side-by-side comparison:
 - "Fund A (DSP Quant, 0.5% ER): ₹82L"
 - "Fund B (Axis Small Cap, 1.2% ER): ₹78L"
 - "Fund C (Turtle Value, 0.7% ER): ₹80L"
- User can deselect and reselect to compare
- System calculates using fund-specific expense ratios and historical volatility

8. Post-Goal Path: Persistence & Sharing

- After either stage, user sees:
 - ⓘ Unique shareable link (/goal/{unique_id})
 - ⓘ QR code (printable)
 - ⓘ Download as PDF button
 - + "Save to My Goals" checkbox (for registered users)
 - ⓘ "Email me this goal" button (if registered)
- System generates unique entry in goal_paths table
- Email sent (if registered) with link + PDF attachment
- Link expires in 90 days but can be regenerated

9. Revisiting a Saved Goal (via link or email):

- User clicks /goal/abc123def456 link
- Page pre-fills all previous inputs
- Shows: "Your Saved Goal Path (Created Nov 20, 2025)"
- User can:
 - [View/Review]
 - [Modify] (adjust SIP, duration, etc. → generates new link)
 - [Download Updated PDF]
 - [Share Again]
 - [Create Variation] ("What if I increase SIP to ₹60k?")

3.2 Alternate Flows

- **User skips Stage 1 Goal Path:** They proceed directly to investment preferences without entering corpus/SIP data. Stage 1 becomes optional.
- **User doesn't select funds for Stage 2:** They skip fund-specific comparison and go straight to persistence (share/download generic goal).
- **User revisits goal, modifies inputs:** System generates new unique link (old link still valid but archived).
- **Registration optional for goal path sharing:** Even guest users can generate shareable link + PDF; registered users additionally get email.

4. Functional Requirements

FR-G1 — Goal Path Stage 1 (Generic/Motivational Simulator)

- **FR-G1.1:** After registration, present interactive input form with:
 - Starting Corpus (₹, slider or text input, default: 0)
 - Monthly SIP (₹, slider or text input, default: 10,000)
 - Investment Horizon (years, slider or text input, range 1–30)
- **FR-G1.2:** Use three scenario bands (Conservative, Expected, Best Case) with probability/confidence labels
- **FR-G1.3:** For each scenario, display: **Projected final corpus (₹), assumed annual return (%), confidence score**
- **FR-G1.4:** Return assumptions based on **risk category 10-year historical average** with mean reversion adjustment (see Sec. 5)
- **FR-G1.5:** Allow real-time input adjustment; projections update instantly (no page reload)
- **FR-G1.6:** Display disclaimer prominently, non-dismissable
- **FR-G1.7:** Optional: User can skip Stage 1 and proceed to investment preferences without entering goal data

FR-G2 — Goal Path Stage 2 (Fund-Specific Comparison, Optional)

- **FR-G2.1:** After recommendations are displayed, present optional "Optimize Your Fund Selection" widget
- **FR-G2.2:** Allow user to select 2–3 funds from recommendation list via checkboxes
- **FR-G2.3:** For each selected fund, calculate projected corpus using:
 - Fund-specific expense ratio
 - Fund category 10-year historical return
 - Fund-specific volatility (if available, else use category volatility)
 - User inputs (starting corpus, SIP, horizon) from Stage 1
- **FR-G2.4:** Display side-by-side comparison: "Fund A: ₹82L | Fund B: ₹78L | Fund C: ₹80L"
- **FR-G2.5:** User can toggle funds on/off to re-compare instantly
- **FR-G2.6:** Show which fund combination gets closest to Stage 1 "Expected" goal
- **FR-G2.7:** Allow export of comparison as PDF

FR-G3 — Mean Reversion Return Logic

- **FR-G3.1:** Calculate assumed return per risk category using **10-year rolling historical average**
- **FR-G3.2:** If 1-year return exceeds 10-year average by $\geq 5\%$: subtract 1% from "Expected" return
- **FR-G3.3:** Use historical volatility to determine confidence score:
 - High: Low volatility ($< 8\%$), long track record (> 10 years)
 - Medium: Moderate volatility, 5–10 years history
 - Low: High volatility or < 5 years history

FR-G4 — Goal Path Persistence & Sharing

- **FR-G4.1:** After Goal Path completion (Stage 1 or Stage 2), generate **unique shareable link** using short ID (/goal/{short_id})
- **FR-G4.2:** Generate **QR code** (printable, links to goal path)
- **FR-G4.3:** Provide **PDF export** button; download includes:
 - User inputs (corpus, SIP, horizon)
 - 3 scenarios with projections
 - Fund recommendations (if Stage 2 completed)
 - Timestamp and disclaimer
- **FR-G4.4:** For registered users: Send email with goal link + PDF attachment
- **FR-G4.5:** Provide "Save to My Goals" checkbox; if selected, store minimal reference in goal_paths table
- **FR-G4.6:** Link pre-fills form on revisit (user can modify and generate new link)
- **FR-G4.7:** Allow "Create Variation" action: User adjusts parameters → generates new unique link

- **FR-G4.8:** Links expire after 90 days; users can regenerate or archive

FR-G5 — Data Freshness Badges

- **FR-G5.1:** Show last updated date for each recommended fund, color-coded:
 - Green: <7 days
 - Yellow: 7–28 days
 - Red: >28 days
- **FR-G5.2:** Display badge text: "Updated 2 days ago" or "Data last refreshed: Nov 28"

FR-G6 — SEBI & Compliance Disclaimers

- **FR-G6.1:** Display non-dismissible disclaimer on:
 - Stage 1 Goal Path widget
 - Stage 2 Fund Comparison widget
 - Recommendations page
 - Goal Path persistence (PDF, email, link)

FR-G7 — Retain Phase 2 Features

- Registration, email validation, consent, SQLite persistence
- Analytics (registrations, questionnaire completions, recommendations viewed)
- CSV export
- Admin overview page

5. Data Model

Fund CSV Enhancements

Add fields to fund CSV:

Field	Type	Example	Purpose
last_updated	DATE	2025-12-01	Data freshness tracking
category_10y_return	FLOAT	10.5	Historical 10-year avg return
category_volatility	FLOAT (%)	12.3	Historical volatility (std dev)
fund_volatility	FLOAT (%)	11.8	Fund-specific volatility (optional)

New Table: goal_paths (Goal Persistence)

```
CREATE TABLE goal_paths (
    id TEXT PRIMARY KEY, -- UUID or short hash (e.g., "abc123def456")
    registration_id INTEGER NULL, -- FK to registrations (nullable for guests)
    risk_category TEXT NOT NULL, -- e.g., "Medium Risk"
    starting_corpus NUMERIC NOT NULL, -- ₹
    monthly_sip NUMERIC NOT NULL, -- ₹
    horizon_years INTEGER NOT NULL, -- years
    expected_return_assumed FLOAT, -- % (after mean reversion)
    conservative_projection NUMERIC, -- Final corpus (25th percentile)
    expected_projection NUMERIC, -- Final corpus (median)
    best_case_projection NUMERIC, -- Final corpus (75th percentile)
    selected_funds TEXT, -- JSON array of fund names (optional, from Stage 2)
    stage_2_projections TEXT, -- JSON object with fund-specific comparisons (optional)
    is_public BOOLEAN DEFAULT 1, -- 1 = shareable link active, 0 = archived
    created_ts DATETIME DEFAULT CURRENT_TIMESTAMP,
    expires_ts DATETIME, -- 90 days from creation
    last_accessed_ts DATETIME, -- Track revisits
    variation_of_id TEXT NULL, -- If this is a "variation", reference parent
    FOREIGN KEY (registration_id) REFERENCES registrations(id)
);

CREATE INDEX idx_goal_paths_id ON goal_paths(id);
CREATE INDEX idx_goal_paths_registration ON goal_paths(registration_id);
CREATE INDEX idx_goal_paths_expires ON goal_paths(expires_ts);
```

Return Assumptions (Hard-Coded for Phase 3)

Based on 10-year rolling averages for Indian mutual fund categories (post-2015):

Risk Category	Conservative (10yr - 10%)	Expected (10yr avg)	Best Case (10yr + 10%)	Volatility
Low Risk	5.4%	6%	6.6%	3–4%
Moderate Risk	7.2%	8%	8.8%	5–6%
Medium Risk	8.1%	9%	9.9%	7–8%
High Risk	10.8%	12%	13.2%	12–15%

Mean Reversion Adjustment:

```
def get_expected_return(risk_category):
    base_return = CATEGORY RETURNS[risk_category] # 10yr avg
    recent_1yr_return = get_recent_1yr_return(risk_category)

    if recent_1yr_return > (base_return + 5):
        return base_return - 1 # Mean reversion adjustment
    else:
        return base_return
```

Email Template (Goal Path Notification)

Subject: Your Investment Goal Path is Ready — [Your Goal Name]

Body:

Hi [Name],

Your Goal Path simulation is ready! Click below to review and share:

- View Goal: <https://robo-advisor.example.com/goal/abc123def456>
- Or scan QR code (attached)

Your Projection Summary:

- └— Conservative: ₹[Z]
- └— Expected: ₹[Y] ← Most Likely
- └— Best Case: ₹[X]

□ Recommended Funds:

- └— Fund A
- └— Fund B
- └— Fund C

[PDF attachment: Your_Goal_Path_[Date].pdf]

You can revisit and modify this goal anytime. Link expires in 90 days.

Disclaimer: This is an educational simulation, not investment advice.
Please consult a certified financial advisor before investing.

Mutual Fund Robo-Advisor Prototype

6. User Flow & Step Numbering (Updated)

New 6-Step Journey:

```
Home
  ↓
Step 1 of 6: Risk Assessment Questionnaire
  ↓
Step 2 of 6: Registration (Mandatory Gate)
  ↓
Step 3 of 6: Goal Path – Stage 1 (Generic/Motivational Simulator)
  └— Input: Corpus, SIP, Horizon
  └— Output: 3 scenarios based on risk category
  └— Optional: Skip to next step
  ↓
Step 4 of 6: Investment Preferences (Duration, Amount Confirmation)
  ↓
Step 5 of 6: Fund Recommendations (with data freshness badges)
  ↓
Step 6 of 6: Goal Path – Stage 2 (Fund-Specific Comparison, Optional)
```

```
|— Input: Select 2-3 funds
|— Output: Side-by-side corpus comparison
↓
Post-Flow: Goal Path Persistence & Sharing
|— Shareable link (/goal/{id})
|— PDF download
|— QR code
|— Email (if registered)
└— Save to My Goals (optional)
```

7. UI Copy & Wording

Goal Path Stage 1

Header:

>Your Investment Journey
See where your goal could take you with your risk profile.

Input Labels:

Starting Corpus (₹)
How much are you starting with?

Monthly SIP (₹)
How much can you invest every month?

Investment Horizon (years)
How long until you need the money?

Scenario Display:

Conservative Case
If returns are on the lower end...
Expected corpus: ₹72L
Annual return: 5.4%
Confidence: ~70% (likely higher than this)

Expected Case (Most Likely)
Based on 10-year historical averages...
Expected corpus: ₹80L ★
Annual return: 8%
Confidence: ~50%

Best Case
If returns are on the upper end...
Expected corpus: ₹88L
Annual return: 8.8%
Confidence: ~25% (less likely)

Goal Path Stage 2

Header:

Optimize Your Fund Selection

See how these funds compare in reaching your ₹80L goal.

Comparison Display:

DSP Quant
0.5% Expense Ratio
Projected: ₹82L
(Closest to goal!)

Turtle Value Fund
0.7% Expense Ratio
Projected: ₹80L *

Axis Small Cap
1.2% Expense Ratio
Projected: ₹78L

Persistence UI

Post-Goal Path Card:

✓ Your Goal Path is Ready!

Expected Corpus: ₹80L
Over 10 years | ₹50k/month SIP | Medium Risk

Share This Goal

[Copy Link] <https://robo.app/goal/abc123>
[QR Code]

Download

[Download as PDF]

+ Save to My Account

Save this goal to my profile (you can revisit anytime)

Email Me

[Send to my email]

⚠ This is an educational simulation.

Not investment advice. See disclaimer below.

Revisiting Saved Goal

Your Saved Goal Path

Retirement 2030 | Created Nov 20, 2025

Starting Corpus: ₹20L

Monthly SIP: ₹50k

Duration: 10 years
Risk Profile: Medium Risk

Expected Outcome: ₹80L *

Recommended Funds (3):

- └─ DSP Quant (0.5% ER)
- └─ Turtle Value Fund (0.7% ER)
- └─ Axis Small Cap (1.2% ER)

[Modify] [Download Updated PDF] [Share]

8. Implementation Notes (Streamlit)

Key Functions to Add

1. `render_goal_path_stage1(registration_id, risk_category)`
 - Display sliders for corpus, SIP, horizon
 - Calculate projections using mean reversion logic
 - Show 3 scenarios with confidence labels
 - Return: `goal_inputs` dict (corpus, SIP, horizon, projections)
2. `generate_goal_path_id()`
 - Generate unique short ID (e.g., 10–12 characters, URL-safe)
 - Use: hashlib, uuid, or simple base62 encoding
3. `save_goal_path(registration_id, goal_inputs, selected_funds)`
 - Insert into `goal_paths` table
 - Return: unique `goal_id`
4. `render_goal_path_stage2(fund_df, starting_corpus, monthly_sip, horizon_years)`
 - Display fund selection checkboxes
 - For each selected fund, calculate corpus using fund-specific ER + volatility
 - Show side-by-side comparison
5. `generate_goal_pdf(goal_id, goal_inputs, selected_funds, projections)`
 - Create PDF with goal details + disclaimer
 - Return: PDF bytes for download
6. `generate_qr_code(goal_url)`
 - Generate QR code image linking to `/goal/{goal_id}`
7. `send_goal_email(registration_email, goal_id, goal_url, pdf_bytes)`
 - Send email with link + PDF attachment (requires SMTP setup)
 - Optional for Phase 3 MVP (can defer)
8. `retrieve_goal_path(goal_id)`

- Fetch from goal_paths table
 - Pre-fill form on revisit
9. apply_mean_reversion(base_return, recent_1yr_return)
- If recent_1yr > (base + 5%): return (base - 1%), else return base%

Session State Updates

```
# Add to init_session_state()
st.session_state.goal_inputs = None # {corpus, sip, horizon, conservative, expected, best}
st.session_state.goal_id = None # Unique ID for saved goal
st.session_state.selected_funds_stage2 = [] # Funds selected in Stage 2
st.session_state.stage1_completed = False # Track if Stage 1 done
```

URL Routing (for Revisiting Goals)

```
# In main() or after init_session_state():
query_params = st.query_params
if 'goal_id' in query_params:
    goal_id = query_params['goal_id']
    goal_data = retrieve_goal_path(goal_id)
    if goal_data:
        st.session_state.current_step = 'revisit_goal'
        st.session_state.goal_id = goal_id
        st.session_state.goal_inputs = goal_data
        # Pre-fill form and show revisit UI
```

9. Acceptance Criteria

Functional:

- ✓ User completes risk assessment, registers, and is shown Stage 1 Goal Path
- ✓ Stage 1: User can adjust corpus/SIP/horizon; projections update in real-time
- ✓ Stage 1: 3 scenarios displayed with confidence labels + mean reversion applied
- ✓ Stage 1: User can skip and proceed to Step 4 (investment preferences)
- ✓ After fund recommendations, Stage 2 widget presented (optional)
- ✓ Stage 2: User selects 2–3 funds; side-by-side comparison shows with fund-specific ER
- ✓ After Stage 1 or Stage 2: Shareable link generated + QR code + PDF export available
- ✓ Email sent to registered user (if enabled) with link + PDF
- ✓ Revisiting /goal/{id} pre-fills form with saved data
- ✓ User can modify goal and generate new unique link ("Create Variation")
- ✓ All disclaimers non-dismissible and always visible

UX:

- ✓ Flow labels show "Step X of 6" throughout
- ✓ Wording is clear, India-specific, jargon-minimized
- ✓ Confidence labels reduce perceived certainty (no false precision)
- ✓ Mean reversion adjustment is transparent ("If recent market is hot, we lower expected returns slightly")

Data:

- ✓ goal_paths table populated correctly on save
- ✓ Fund CSV includes last_updated, category_10y_return, category_volatility
- ✓ Data freshness badges render correctly on recommendations

Compliance:

- ✓ Disclaimer always visible, not hidden or dismissable
- ✓ Email template includes disclaimer
- ✓ PDF export includes disclaimer

10. Development Phases

Phase 3a (MVP, Core Goal Path + Persistence):

- Stage 1 Goal Path simulator (generic)
- Shareable link generation + QR code
- PDF export (local download, no email)
- Data freshness badges on fund recommendations
- Disclaimers embedded

Estimate: 7–10 days (experienced Streamlit dev)

Phase 3b (Enhancements, 1–2 weeks):

- Stage 2 Fund-Specific Comparison
- Email sending (SMTP integration)
- Goal revisit UI ("Modify", "Create Variation")
- Analytics dashboard for admin (goal paths created, average corpus projected)

Phase 4+ (Future):

- User dashboard with goal history
- Progress tracking (if user provides portfolio data)
- Rebalancing alerts
- Monte Carlo simulation (richer scenario analysis)

11. Security & Privacy Considerations

- **Goal Path Links:** Short IDs are publicly shareable but obfuscated (not sequential)
- **Email:** Only for registered users with explicit opt-in
- **PDF:** Contains no PII; can be shared safely
- **Database:** `goal_paths` table should be encrypted at rest if sensitive
- **Expiry:** Links auto-expire after 90 days (cleanup job)

12. SEBI Compliance Summary

Key Safeguards (Updated):

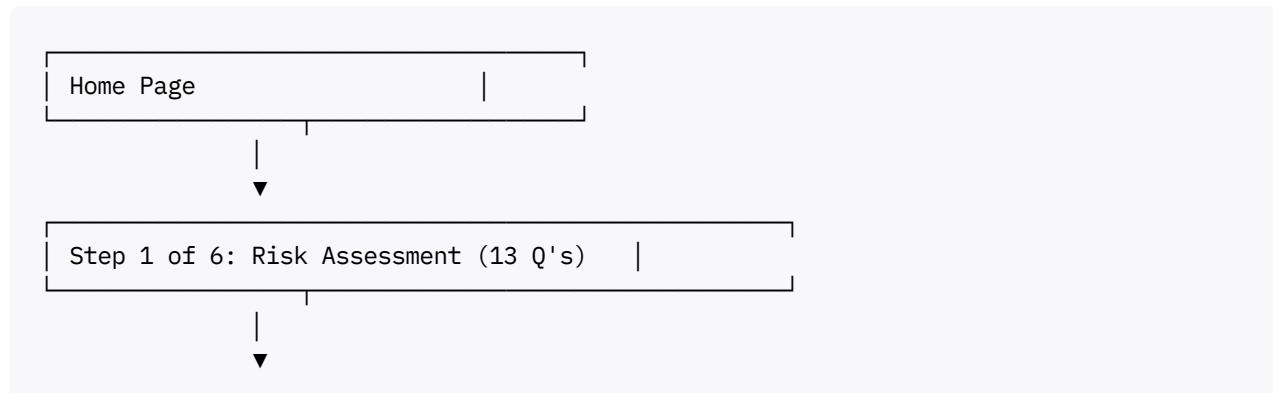
1. Educational tool, not advisory (disclaimer on every screen)
2. No personalized recommendation claims
3. Uncertainty labeled via confidence bands + mean reversion caveat
4. Projections clearly marked as "based on historical averages"
5. Non-dismissable disclaimers on all financial projections
6. Email templates include disclaimer

Recommendation: Conduct legal review before wide deployment, especially if considering email outreach beyond registered users.

13. References

- [1] SEBI Guidelines for Investment Advisors, KS Legal & Associates (2025)
- [2] Mean Reversion in Financial Markets, Value Research Online (2024)
- [3] Monte Carlo Simulation, Corporate Finance Institute (2025)
- [4] Moneycontrol Mutual Fund Screener (2025)
- [5] Investopedia – Mean Reversion (2025)

Appendix A: Updated User Flow Diagram



Step 2 of 6: Registration (Gate)
[Register] or [Walk Away]

| [User registers]
▼

Step 3 of 6: Goal Path Stage 1 (NEW)
└ Input: Corpus, SIP, Horizon
└ Output: 3 scenarios (generic)
└ Optional: Skip to next step

Step 4 of 6: Investment Preferences
└ Duration: <6mo, 6mo-1yr, >1yr
└ Confirm investment amount

Step 5 of 6: Fund Recommendations
└ Filtered fund list
└ Data freshness badges

Step 6 of 6: Goal Path Stage 2 (OPT)
└ Select 2-3 funds
└ Fund-specific comparison
└ Optional: Skip

Post-Flow: Persistence & Sharing
└ Shareable link
└ QR code
└ PDF download
└ Email (if registered)
└ + Save to My Goals

Alternative: Revisit Saved Goal

/goal/{unique_id}
└ Pre-filled form
└ [Modify] → New link
└ [Download Updated PDF]
└ [Share Again]

Appendix B: SQL for Goal Path Cleanup (Automated Job)

```
-- Run weekly to archive expired goals
UPDATE goal_paths
SET is_public = 0
WHERE expires_ts < CURRENT_TIMESTAMP
    AND is_public = 1;

-- Run monthly to delete very old goals (optional)
DELETE FROM goal_paths
WHERE expires_ts < CURRENT_TIMESTAMP - INTERVAL '180 days';
```

Appendix C: Return Assumptions Calculation Example

```
# Example: User with Medium Risk, ₹20L corpus, ₹50k/month SIP, 10 years

risk_category = "Medium Risk"
base_return = 9.0 # 10-year average from RETURNS_TABLE

# Check if mean reversion applies
recent_1yr = 14.0 # Recent market had 14% returns
if recent_1yr > (base_return + 5): # 14 > 14? Yes
    expected_return = 9.0 - 1.0 # Adjusted down to 8%
else:
    expected_return = 9.0

# Calculate scenarios
conservative = expected_return - 1.0 # 7%
best_case = expected_return + 1.0 # 9%

# Project corpus (using FV formula)
conservative_fv = calculate_fv(20L, 50k/mo, 10yr, 7%) # ₹72L
expected_fv = calculate_fv(20L, 50k/mo, 10yr, 8%) # ₹80L
best_case_fv = calculate_fv(20L, 50k/mo, 10yr, 9%) # ₹88L

# Save to goal_paths table
save_goal_path(
    risk_category="Medium Risk",
    starting_corpus=20L,
    monthly_sip=50k,
    horizon_years=10,
    expected_return_assumed=8.0,
    conservative_projection=72L,
    expected_projection=80L,
    best_case_projection=88L
)
```

End of SRS Phase 3 (Updated with Hybrid Goal Path & Persistence)

Version: 0.3.1

Last Updated: December 1, 2025

Author: Ravi Shankar (in collaboration with Claude, Anthropic)

This document is ready for development. For questions on specific sections, refer to:

- *User Flow: Section 3 & Appendix A*
- *Implementation: Section 8*
- *Data Model: Section 5*
- *Compliance: Section 12*