PRODUCT REQUIREMENTS DOCUMENT (PRD)

Financial Planning Client Intake Application

Document Version: 1.0
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Product Owner: Hemanth Garnapally
Status: Ready for Development

1. EXECUTIVE SUMMARY

1.1 Product Overview

A comprehensive web-based financial planning application that guides clients through a structured questionnaire to assess their complete financial situation, identify gaps using the 30/30/20/20 budgeting framework, and generate personalized action plans with quantified ROI.

1.2 Problem Statement

Financial advisors currently spend 3-5 hours per client manually collecting financial data, performing calculations, and identifying gaps. Clients often don't understand the severity of their financial shortfalls until deep into the consultation process, resulting in low engagement and a 60% consultation booking rate.

1.3 Solution

An intelligent intake system that: - Automates data collection through guided questionnaire - Performs real-time calculations and gap analysis - Visualizes financial health with actionable insights - Motivates clients with before/after comparisons - Increases consultation booking rate to 90%+

1.4 Success Metrics

- **Client Engagement:** 80%+ questionnaire completion rate
- **Consultation Bookings:** 90%+ booking rate (up from 60%)
- **Time Savings:** Reduce advisor prep time from 3 hours to 15 minutes
- **Data Quality:** 95%+ accuracy in submitted data
- **Client Satisfaction:** 4.5/5+ rating

2. PRODUCT GOALS & OBJECTIVES

2.1 Primary Goals

1. **Streamline Client Intake:** Replace 2-hour in-person data collection with 30-minute online questionnaire
2. **Increase Conversions:** Boost consultation booking rate by showing clients their financial gaps
3. **Improve Data Quality:** Structured forms with validation eliminate errors
4. **Enable Scalability:** Advisors can handle 10x more clients

2.2 Key Objectives

- Launch MVP in 4 weeks
- Onboard 50 clients in first month
- Achieve 80%+ completion rate
- Generate 45+ consultation bookings
- Collect testimonials and case studies

3. USER PERSONAS

3.1 Primary Users: Clients

Persona 1: Young Professional - **Name:** Raj, 32 - **Income:** $85K - **Pain Points:** - Doesn't know if saving enough for retirement - Confused about 401k vs IRA vs Roth - Wants to buy

house but unsure if affordable - **Goals:** Optimize taxes, start investing, plan for home purchase - **Tech Savviness:** High (prefers mobile)

Persona 2: Mid-Career Couple - **Names:** Sarah & Mike, 38 - **Income:** $180K combined - **Pain Points:** - Need to fund 2 kids' college ($800K needed) - Worried about retirement shortfall - Life insurance coverage unclear - **Goals:** College funding, retirement security, protect family - **Tech Savviness:** Medium (desktop preferred)

Persona 3: Pre-Retiree - **Name:** Linda, 58 - **Income:** $120K - **Pain Points:** - Can she retire at 65? - Healthcare costs in retirement - Estate planning needed - **Goals:** Retirement feasibility, healthcare planning, legacy - **Tech Savviness:** Low (needs simple interface)

3.2 Secondary Users: Financial Advisors

Persona: Financial Advisor - **Name:** Anand - **Experience:** 15 years - **Pain Points:** - Manual data collection takes 3 hours - Clients forget to bring documents - Difficulty showing urgency of gaps - Limited scalability - **Goals:** - Efficient client onboarding - High-quality data before meetings - More consultations booked - Better client outcomes - **Tech Savviness:** Medium

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4. FUNCTIONAL REQUIREMENTS

4.1 Core Features

FEATURE 1: User Authentication

Requirements: - FR-1.1: User registration with email validation - FR-1.2: Secure login with JWT token authentication - FR-1.3: Password requirements: min 8 chars, 1 uppercase, 1 number - FR-1.4: Password reset via email - FR-1.5: Session expires after 24 hours - FR-1.6: All passwords hashed with bcrypt (12 rounds)

User Flow:

```
Landing Page → Register → Email Verification → Login → Dashboard
```

FEATURE 2: Section 1 - Financial Goals

Requirements:

FR-2.1: Top Priorities Selection - Checkboxes for up to 3 priorities: - College Funding - Retirement Funding - Tax Planning - Estate Planning - Insurance Review - Debt Reduction - Investment Strategy - Emergency Fund

FR-2.2: College Planning - Number of children (0-5) - Dynamic forms per child: - Child name (text) - Current age (0-18) - Years to college (auto-calc: 18 - age) - College begin year (auto-calc) - College end year (auto-calc: begin + 4) - Required amount (dropdown): - $80,000 - State School - $160,000 - Private School - $200,000 - Ivy League - Custom amount - Total college funding needed (auto-calc sum)

FR-2.3: Retirement Planning - Current age (pre-filled from profile) - Desired retirement age (55-75) - Years to retirement (auto-calc) - Monthly income needed today ($) - Annual income needed (auto-calc: monthly × 12) - Tax rate assumption (default 22%, editable) - Pre-tax income needed (auto-calc: annual ÷ (1 - tax rate)) - Inflation-adjusted need (auto-calc: pre-tax × 1.03^years)

FR-2.4: Long-Term Care / Medical - Monthly LTC cost - Self ($, default $9,000) - Years of LTC needed - Self (default 3) - Monthly LTC cost - Spouse ($, default $9,000) - Years of LTC needed - Spouse (default 3) - Healthcare out-of-pocket (20+ years) ($, default $100,000) - Total LTC budget (auto-calc: monthly × years × 12 × 2) - Currently have LTC insurance? (Yes/No checkbox)

FR-2.5: Life Goals - Annual charitable giving ($) - Travel/pilgrimage planning: - Years from today (number) - Begin year (auto-calc) - End year (auto-calc) - Amount ($) - Frequency (dropdown: Annual, Biannually) - Vacation home purchase: - Years from today - Begin year - End year - Amount ($) - Charitable giving & community support: - Years from today - Begin year - End year - Amount ($) - Annual contribution ($) - Any other goals: - Description (text area) - Years from today - Begin year - End year - Amount ($)

FR-2.6: Legacy Planning - Legacy amount for family ($) - Fund for kids' primary home or business: - Years from today - Begin year - End year - Amount ($) - Legacy asset for kids/family: - Years from today - Begin year - End year - Amount ($) - Total legacy amount (auto-calc) - Total legacy budget (auto-calc) - Plan for special needs (text area)

FR-2.7: Net Worth Summary - Total current net worth (auto-calc, pulled from Section 2 & 3) - Total projected net worth at retirement (auto-calc) - Display at bottom of section

Validation: - All currency fields: numeric only, ≥ $0 - Age fields: 0-120 - Percentage fields: 0-100 - Years to college: must be ≤ 18 - Retirement age: must be > current age

FEATURE 3: Section 2 - Current Growth Strategy (Offensive)

Requirements:

FR-3.1: Retirement Accounts

401k/403b (Self): - Current balance ($) - Monthly contribution ($) - Employer match % (0-100%) - Average annual after-tax return % (default 7%, reference link) - Toggle: ON/OFF - Annual contribution (auto-calc: monthly × 12) - Are you max funding? (Yes/No) - Max limit display: $23,500 (2024) - Warning if not maxing: "You could save $X more per year"

401k/403b (Spouse): - Same fields as Self

Traditional IRA / Rolled-over 401k: - Toggle: ON/OFF - Current balance ($) - Annual contribution ($)

Roth IRA: - Toggle: ON/OFF - Current balance ($) - Annual contribution ($)

HSA: - Toggle: ON/OFF - Current balance ($) - Annual contribution ($) - Are you eligible? (Yes/No)

Total Retirement Accounts (auto-calc sum of all balances)

FR-3.2: Social Security & Pensions

Social Security: - Self - Monthly expected at age 67 ($) - Spouse - Monthly expected at age 67 ($) - Total Social Security annual (auto-calc: (self + spouse) × 12) - Link: "Check your Social Security estimate →" (opens SSA.gov)

Pension: - Self - Toggle: ON/OFF - Monthly benefit ($) - Spouse - Toggle: ON/OFF - Monthly benefit ($)

FR-3.3: Investment Accounts

- Total brokerage/investment account value ($)
- Annual average rate of return after tax (%, default 7%)

FR-3.4: Real Estate

Primary Residence: - Current market value ($) - Remaining mortgage balance ($) - Monthly payment including escrow ($) - Home equity (auto-calc: value - mortgage)

Rental Properties: - Total rental property value ($) - Positive monthly rental income ($) - Note: "Net positive cash flow after all expenses"

Total Real Estate Equity (auto-calc)

Validation: - All amounts ≥ $0 - Percentages: 0-100 - Mortgage cannot exceed home value (warning if underwater) - Total calculations update in real-time

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FEATURE 4: Section 3 - Current Defense Strategy (Defensive)

Requirements:

FR-4.1: Life Insurance Coverage

Your Life Insurance: - Work/Group Life Insurance Toggle: ON/OFF - Coverage amount ($) - Monthly premium ($) - Employer-paid toggle

- Personal Life Insurance Toggle: ON/OFF

  ◦ Coverage amount ($)

  ◦ Annual premium ($)

Spouse's Life Insurance: - Work/Group Life Insurance Toggle: ON/OFF - Coverage amount ($) - Monthly premium ($) - Employer-paid toggle

- Personal Life Insurance Toggle: ON/OFF

  ◦ Coverage amount ($)

  ◦ Annual premium ($)

Children's Life Insurance: - "+ Add Child Policy" button - For each policy: - Child's name (text) - Coverage amount ($) - Annual premium ($) - Policy type (dropdown: Term Life, Whole Life, Universal) - Remove button

Total Life Insurance Coverage (auto-calc sum)

FR-4.2: Disability Insurance

Disability (Self): - Toggle: ON/OFF - Monthly benefit ($)

Disability (Spouse): - Toggle: ON/OFF - Monthly benefit ($)

FR-4.3: Long-Term Care Insurance

LTC (Self): - Toggle: ON/OFF - Monthly benefit ($)

LTC (Spouse): - Toggle: ON/OFF - Monthly benefit ($)

FR-4.4: Umbrella & Health Insurance

Umbrella Insurance: - Toggle: ON/OFF - Coverage amount ($)

Health Insurance: - Provider (text) - Annual deductible ($) - Annual out-of-pocket max ($)

FR-4.5: Mortgage Protection

Mortgage Protection: - Toggle: ON/OFF - Coverage amount ($)

FR-4.6: Foreign Assets (FBAR/FATCA)

Foreign Assets: - Toggle: ON/OFF - Countries (text: comma-separated) - Total foreign assets (USD) ($) - Exceeds FBAR threshold? (auto-calc: if > $10,000, toggle ON) - FBAR filed this year? (toggle: Yes/No)

Warning Logic: - If foreign assets > $10,000 AND FBAR not filed: - Display red alert: "⚠️ FBAR FILING REQUIRED" - "Penalty Risk: $10,000 - $145,000" - "Deadline: File within 30 days" - "Cost to fix: ~$2,000 (accountant fees)"

FR-4.7: Estate Planning

Trust Fully Funded and Notarized: - Toggle: Yes/No - Question: "Is your trust complete and all assets properly transferred?"

Validation: - All amounts ≥ $0 - Foreign assets automatically trigger FBAR check - Alert styling if FBAR non-compliant

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FEATURE 5: Section 4 - Savings vs Spending Analysis (30/30/20/20)

Requirements:

FR-5.1: Monthly Income Calculation

Inputs (pulled from previous sections): - Annual gross income (from user input or Section 2) - State (for state tax calculation) - 401k contribution (from Section 2) - HSA contribution (from Section 2)

Calculations:

```
Monthly Gross Income = Annual ÷ 12
Federal Tax = calculateFederalTax(gross, tax brackets 2025)
State Tax = calculateStateTax(gross, state)
FICA/Medicare = gross × 0.0765
401k Contribution = monthly 401k
HSA Contribution = monthly HSA

Net Monthly Income = Gross - Federal - State - FICA - 401k - HSA
```

Display:

```
Gross Monthly Income:        $XX,XXX
Federal Tax:                 -$X,XXX
State Tax (XX):              -$XXX
FICA/Medicare:               -$XXX
401k Contribution:           -$X,XXX
HSA Contribution:            -$XXX
─────────────────────────────────────
Net Monthly Income:          $XX,XXX
```

FR-5.2: Current Spending Input

Housing (30% Category): - Mortgage/Rent ($) - Home insurance ($) - Property taxes ($) - Total Housing (auto-calc sum)

Lifestyle (30% Category): - HOA ($) - Home maintenance ($) - Utilities ($) - Groceries ($) - Dining out ($) - Entertainment ($) - Car insurance ($) - Term life premiums ($) - Car loan/lease payment ($) - Mobile, internet, subscriptions ($) - Shopping ($) - Local travel ($) - Hobbies ($) - Kids activities ($) - Other discretionary ($) - Total Lifestyle (auto-calc sum)

Retirement Savings (20% Category): - 401k (auto-filled from Section 2) - Roth IRA ($) - Cash value life insurance premiums ($) - Total Retirement Savings (auto-calc sum)

Short-Term Savings (20% Category): - Emergency fund contribution ($) - College 529 contribution ($) - Credit card payments ($) - Other debt payments ($) - Other short-term goals ($) - Total Short-Term (auto-calc sum)

Loans Section: - Number of loans (0-10) - For each loan: - Type (dropdown: Credit Card, Student, Vehicle, Personal, Furniture, Other) - Amount of loan ($) - APR (%) - Monthly payment (auto-calc or manual input)

Total Monthly Spending (auto-calc: Housing + Lifestyle + Retirement + Short-term)

FR-5.3: 30/30/20/20 Rule Calculator

Calculations:

```
Net Monthly Income: $X,XXX

Recommended Amounts:
Housing (30%)     = Net × 0.30
Lifestyle (30%)   = Net × 0.30
Retirement (20%)  = Net × 0.20
Short-term (20%)  = Net × 0.20
```

```
Differences:
Housing Diff      = Actual Housing - Recommended
Lifestyle Diff    = Actual Lifestyle - Recommended
Retirement Diff   = Actual Retirement - Recommended
Short-term Diff   = Actual Short-term - Recommended
Total Diff        = Total Actual - Total Recommended
```

Status Logic:

```
If Difference within ±5% of Recommended:
  Status = "✅ On Track" (Green)

If Over by 5-15%:
  Status = "⚠️ Slightly Over" (Yellow)

If Over by >15%:
  Status = "🔴 Significantly Over" (Red)

If Under by 5-15%:
  Status = "⚠️ Slightly Under" (Yellow)

If Under by >15%:
  Status = "🔴 Significantly Under" (Red)
```

FR-5.4: Comparison Table Display

Category	Recommended %	Recommended $	Your Actual $	Difference	Status
Housing	30%	$X,XXX	$X,XXX	±$XXX	🟢/🟡/🔴
Lifestyle	30%	$X,XXX	$X,XXX	±$XXX	🟢/🟡/🔴
Retirement	20%	$X,XXX	$X,XXX	±$XXX	🟢/🟡/🔴
Short-term	20%	$X,XXX	$X,XXX	±$XXX	🟢/🟡/🔴
TOTAL	100%	$X,XXX	$X,XXX	±$XXX	

Category	Recommended %	Recommended $	Your Actual $	Difference	Status
					🟢/🟡/🔴

Color Coding: - Green (✅): Within ±5% - Yellow (⚠️): 5-15% off - Red (🔴): >15% off

Validation: - All amounts ≥ $0 - Warn if total spending > net income (red alert) - Flag negative cash flow prominently - Auto-save all inputs

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FEATURE 6: Navigation & Progress

Requirements:

FR-6.1: Progress Tracking - Progress bar: "Section X of 4" - Visual percentage: (X/4) × 100% - Section completion badges (✅ Complete) - "Back to Home" button on every page

FR-6.2: Section Navigation - "Next" button (bottom right) - "Previous" button (bottom left, except Section 1) - "Cancel" button (returns to home without saving) - "Submit Section X" button (primary action)

FR-6.3: Auto-Save - Save data every 2 minutes in background - Visual indicator: "Saving..." → "Saved ✓" - Timestamp: "Last saved: 2 minutes ago" - "Save Progress" button (top right) for manual save

FR-6.4: Form Validation - Real-time validation on blur - Error messages below field in red - Specific error messages (not generic "Error") - Required fields marked with red asterisk (*) - Disable "Next" button if validation fails - Scroll to first error on submit

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FEATURE 7: Gap Analysis & Recommendations

Requirements:

FR-7.1: Financial Health Score

Calculation (0-100):

```
Retirement (40 pts):
  - 40 pts: On track or surplus
  - 30 pts: Small gap (<$500K)
  - 20 pts: Medium gap ($500K-$1.5M)
```

```
    - 10 pts: Large gap ($1.5M-$3M)
    - 0 pts: Critical gap (>$3M)

College (20 pts):
    - 20 pts: Fully funded
    - 15 pts: 75%+ funded
    - 10 pts: 50%+ funded
    - 5 pts: 25%+ funded
    - 0 pts: Nothing saved

Life Insurance (15 pts):
    - 15 pts: Fully covered (DIME method)
    - 10 pts: 75%+ covered
    - 5 pts: 50%+ covered
    - 0 pts: <50% covered

Emergency Fund (10 pts):
    - 10 pts: 6+ months expenses
    - 7 pts: 3-6 months
    - 3 pts: 1-3 months
    - 0 pts: <1 month

FBAR Compliance (10 pts):
    - 10 pts: Compliant or N/A
    - 0 pts: Non-compliant

Debt Management (5 pts):
    - 5 pts: DTI < 36%
    - 3 pts: DTI 36-43%
    - 0 pts: DTI > 43%
```

Display: - Large score: "62/100" - Color coding: - 80-100: Green (Excellent) - 60-79: Yellow (Good) - 40-59: Orange (Needs Attention) - 0-39: Red (Critical) - Progress bar visualization - Breakdown by category with individual scores - Status message based on score range

FR-7.2: Retirement Gap Analysis

Calculations:

```
// Future income need at retirement
futureIncomeNeed = annualNeedToday × (1.03)^yearsToRetirement

// Required savings at retirement (4% rule)
retirementTarget = futureIncomeNeed ÷ 0.04
```

```
// Current balance growth
currentGrowth = currentBalance × (1.07)^yearsToRetirement

// Future contributions with compound interest
monthlyContribution = (all retirement contributions) ÷ 12
contributionsGrowth = monthlyContribution × [(1 + 0.07/12)^(years×12) - 1] ÷ (0.07/12)

// Projected total at retirement
projectedTotal = currentGrowth + contributionsGrowth

// Social Security offset
socialSecurityAnnual = (selfSS + spouseSS) × 12
needFromSavings = futureIncomeNeed - socialSecurityAnnual
adjustedTarget = needFromSavings ÷ 0.04

// Final gap calculation
retirementGap = adjustedTarget - projectedTotal

// When money runs out
if (retirementGap > 0) {
  yearsMoneyLasts = projectedTotal × 0.04 ÷ futureIncomeNeed
  ageMoneyRunsOut = retirementAge + yearsMoneyLasts
  yearsToWorkExtra = lifeExpectancy - ageMoneyRunsOut
}
```

Display: - What you'll need at retirement: $X,XXX,XXX - What you're on track for: $X,XXX,XXX - SHORTFALL/SURPLUS: $X,XXX,XXX (red/green) - Age money runs out: XX (if shortfall) - Years to work extra: X years (if shortfall) - Timeline visualization showing money running out

FR-7.3: College Funding Gap

Calculations:

```
// Per child
yearsToCollege = 18 - currentAge
costPerYear = selectedAmount × (1.05)^yearsToCollege // 5% education inflation
totalCost = costPerYear × 4

// If 529 exists
currentSavings = child529Balance || 0
monthlyContribution = child529Monthly || 0
futureValue = currentSavings × (1.07)^yearsToCollege +
              monthlyContribution × [(1 + 0.07/12)^(years×12) - 1] ÷ (0.07/12)
```

```
// Gap
gap = totalCost - futureValue

// Student loan scenario if gap > 0
loanAmount = gap
loanInterest = loanAmount × 0.06 × 20 // 6% for 20 years
totalDebt = loanAmount + loanInterest
monthlyPayment = totalDebt ÷ (20 × 12)
ageWhenPaidOff = 22 + 20 // Graduate at 22, pay for 20 years
```

Display: - Per-child breakdown with name - Total needed for all kids - Currently saved - Gap amount (red if > 0) - Student loan scenario: - Total debt with interest - Monthly payment - Years paying - Age when paid off - Impact: "Can't afford first home, delayed family planning"

FR-7.4: Life Insurance Gap (DIME Method)

Calculations:

```
// DIME Method
debt = mortgage + creditCards + carLoans + studentLoans + otherDebt
incomeReplacement = (selfIncome + spouseIncome) × 10 // 10 years
mortgage_DIME = 0 // Already in debt
education = collegeGapChild1 + collegeGapChild2 + ... // All children

totalNeed = debt + incomeReplacement + education

// Current coverage
currentCoverage = selfLifeInsurance + spouseLifeInsurance

// Gap
insuranceGap = totalNeed - currentCoverage

// Estimated premium (rough calculation)
estimatedPremium = insuranceGap ÷ 1000 × 0.50 // ~$0.50 per $1,000 coverage
```

Display: - Breakdown of need: - Debt to pay off: $XXX,XXX - Income replacement (10 years): $X,XXX,XXX - Kids' education: $XXX,XXX - **TOTAL NEED:** $X,XXX,XXX - Current coverage: $XXX,XXX - **GAP:** $X,XXX,XXX (large red if > $1M) - "If tragedy strikes today" scenario: - "What family would receive: $XXX,XXX" - "What family would need: $X,XXX,XXX" - "What would happen:" - ❌ Forced to sell house - ❌ Kids can't afford college - ❌ Spouse needs to work 2 jobs - ❌ Financial devastation - Recommended coverage split (self/spouse) - Estimated monthly premium: $XXX

FR-7.5: FBAR Compliance Alert

Logic:

```
foreignAssets = totalForeignAssetsUSD
fbarRequired = foreignAssets > 10000
fbarFiled = userFBARStatus // Yes/No from Section 3

if (fbarRequired && !fbarFiled) {
  // Estimate years non-compliant
  yearsNonCompliant = Math.min(6, currentYear - immigrationYear)

  // Penalties
  nonWillfulPenalty = 10000 × yearsNonCompliant
  willfulPenalty = foreignAssets × 0.50

  // Risk level
  if (foreignAssets > 100000) riskLevel = "CRITICAL"
  else if (foreignAssets > 50000) riskLevel = "HIGH"
  else riskLevel = "MODERATE"
}
```

Display (only if applicable): - 🚨 URGENT: LEGAL VIOLATION DETECTED - Foreign assets: $XXX,XXX - FBAR threshold: $10,000 - Status: NOT FILED - Potential penalties: - Best case (non-willful): $XX,XXX - Worst case (willful): $XXX,XXX + criminal charges - Deadline: Within 30 days - Cost to fix: $2,000 (accountant fees) - **Action button:** "Find FBAR Accountant"

FR-7.6: Tax Inefficiency Analysis

Calculations:

```
// Current tax situation
currentIncome = grossIncome
current401k = self401k + spouse401k
currentHSA = hsaContribution || 0
currentDeductions = 29200 // Standard deduction 2025

currentTaxableIncome = currentIncome - current401k - currentHSA - currentDeductions
currentFederalTax = calculateFederalTax(currentTaxableIncome, 2025)
currentStateTax = calculateStateTax(currentTaxableIncome, state)
currentTotalTax = currentFederalTax + currentStateTax

// Optimized tax situation
```

```
optimized401k = 23500 + 23500 // Both max (2025)
optimizedHSA = 8300 // Family max (2025)
optimizedTaxableIncome = currentIncome - optimized401k - optimizedHSA - currentDeduction
optimizedFederalTax = calculateFederalTax(optimizedTaxableIncome, 2025)
optimizedStateTax = calculateStateTax(optimizedTaxableIncome, state)
optimizedTotalTax = optimizedFederalTax + optimizedStateTax

// Waste
annualTaxWaste = currentTotalTax - optimizedTotalTax
lifetimeTaxWaste = annualTaxWaste × yearsToRetirement
```

Display: - Current annual taxes: $XX,XXX - Optimized annual taxes: $XX,XXX - **Annual overpayment:** $XX,XXX (red) - **Lifetime waste over career:** $XXX,XXX (large red) - Breakdown of missed opportunities: - Not maxing 401k: $X,XXX/year - Not using HSA: $X,XXX/year - Not using Roth IRA: Future tax on growth - Visual comparison (current vs optimized)

FR-7.7: Total Loss Summary

Calculation:

```
totalLoss = {
  retirementShortfall: retirementGap,
  collegeLoanInterest: sum(all children gaps) × 0.06 × 20,
  taxOverpayment: annualTaxWaste × yearsToRetirement,
  fbarPenaltyRisk: fbarRequired && !fbarFiled ? 30000 : 0,
  lifeInsuranceGap: insuranceGap > 0 ? insuranceGap : 0,
  creditCardInterest: ccDebt × 0.20 × yearsToRetirement,
  total: sum of all above
}
```

Display: - Large highlighted box - Line items: - Retirement shortfall: $X,XXX,XXX - College loan interest (if no savings): $XXX,XXX - Tax overpayment: $XXX,XXX - FBAR penalty risk: $XX,XXX - Life insurance gap (if tragedy): $X,XXX,XXX - Credit card interest: $XX,XXX - Separator line - **TOTAL EXPOSURE:** $XX,XXX,XXX (huge red) - Simple explanation: "This is what you stand to lose"

FR-7.8: Before vs After Comparison

Calculations:

```
// Path 1: Do Nothing (Current Trajectory)
doNothingPath = {
```

```
    retirementSavings: projectedTotal,
    moneyRunsOutAge: ageMoneyRunsOut,
    collegeDebt: sum(all children gaps + interest),
    insuranceShortfall: insuranceGap,
    fbarPenalty: fbarPenaltyRisk,
    taxWasted: lifetimeTaxWaste,
    netWorthAt65: calculateNetWorth(current path),
    qualityOfLife: "Stressed, working into 70s"
}

// Path 2: Implement Recommendations
takeActionPath = {
    retirementSavings: adjustedTarget,
    moneyLasts: "Entire life + legacy",
    collegeDebt: "$0 - Fully funded",
    insuranceCoverage: totalNeed,
    fbarCompliant: "Yes",
    taxOptimized: "Maximized savings",
    netWorthAt65: calculateNetWorth(optimized path),
    qualityOfLife: "Comfortable, retire on time"
}

// Difference
difference = takeActionPath.netWorthAt65 - doNothingPath.netWorthAt65
```

Display:

Metric	Path 1: Do Nothing	Path 2: Take Action
Net worth @ 65	$2.8M	$8.2M
Money lasts	Runs out age 78	Entire life
Kids' college debt	$950K	$0 (fully funded)
Insurance protection	$560K (gap $4.2M)	$5M (fully covered)
FBAR status	⚠️ At risk	✅ Compliant
Taxes	Overpaying	Optimized
Retirement age	72 (forced)	65 (choice)

Difference: +$5.4M Gain 🚀

- Two-column layout
- Path 1 styled in red/warning
- Path 2 styled in green/success
- Clear visual differentiation
- Mobile responsive (stacks vertically)

FR-7.9: Action Plan

Prioritized Actions:

IMMEDIATE (This Month): 1. Fix FBAR (if applicable) - What: File FBARs for last 6 years - Why: Avoid $30K-$145K penalty - Cost: $2,000 (accountant fees) - Saves: $30,000 - $145,000 - Timeline: Within 30 days - Difficulty: ⭐⭐ Medium - **[FIND ACCOUNTANT]** button

1. Get life insurance
    - What: Purchase $X,XXX,XXX term life insurance
    - Why: Protect family from $X.XM financial disaster
    - Cost: $XXX/month
    - Protects: $X,XXX,XXX
    - Timeline: This week
    - Difficulty: ⭐ Easy
    - **[GET QUOTES]** button

2. Pay off credit cards
    - What: Pay $X,XXX in high-interest debt
    - Why: Save $XX,XXX in interest
    - Cost: $X,XXX one-time
    - Saves: $XX,XXX over lifetime
    - Timeline: This month
    - Difficulty: ⭐⭐ Medium

HIGH PRIORITY (Next 3 Months): 1. Open 529 college savings plans - What: Open 529 for each child, contribute $X,XXX/month - Why: Avoid $XXX,XXX in student loan interest - Cost:

$X,XXX/month - Saves: $XXX,XXX in loan interest - Timeline: This quarter - Difficulty: ⭐⭐ Medium

1. Max out 401k contributions

    ◦ What: Increase to $X,XXX/month (add $X,XXX)

    ◦ Why: Close $X.XM retirement gap

    ◦ Cost: $X,XXX/month additional

    ◦ Grows to: $X,XXX,XXX by retirement

    ◦ Timeline: Next paycheck

    ◦ Difficulty: ⭐ Easy

2. Open HSA account

    ◦ What: Start contributing $XXX/month to HSA

    ◦ Why: Triple tax advantage, save $X,XXX/year

    ◦ Cost: $XXX/month

    ◦ Saves: $XX,XXX in taxes over lifetime

    ◦ Timeline: 30 days

    ◦ Difficulty: ⭐ Easy

MEDIUM PRIORITY (6-12 Months): - Estate planning documents ($2,000) - Build emergency fund to 6 months ($XXX/month) - Rebalance investment portfolio (0% cost) - Refinance mortgage (save $XXX/month) - Get LTC insurance quotes ($XXX/month)

Display: - Each action in expandable card - Priority color coding - Progress tracker (optional) - Checkboxes to mark complete - "Download Action Plan PDF" button

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FEATURE 8: Consultation Booking

Requirements:

FR-8.1: Call to Action - Large prominent section after Gap Analysis - Heading: "Ready to Turn This Around?" - Summary of choice: - Do Nothing → List consequences - Take Action → List benefits - **Large button:** "Schedule Your Free Consultation" - Meeting details: - Duration: 60 minutes - What's covered (bullet points): - Review complete financial picture - Discuss personalized action plan - Answer all your questions - Identify quick wins - Create implementation roadmap - Cost: FREE / Included - Value: $9M+ in optimization - Secondary CTAs: - "Download Action Plan PDF" - "Email Results to Myself"

FR-8.2: Meeting Link - Opens in new tab - URL: `https://docs.google.com/spreadsheets/d/19x0VCz9hQU0KYF3Hg5k0aYA3dJ_4VCX3/edit?gid=251887272` - Track click-through analytics - Store timestamp in database

---

FEATURE 9: Export & Download

Requirements:

FR-9.1: Download as JSON - Button: "Download Data (JSON)" - Filename: `financial_data_{username}_{date}.json` - Contains all questionnaire responses - Formatted, indented JSON

FR-9.2: Download as CSV - Button: "Download Data (CSV)" - Filename: `financial_data_{username}_{date}.csv` - Mapped to EFA Template structure - Compatible with Google Sheets import

FR-9.3: Generate PDF Report - Button: "Download Comprehensive Report (PDF)" - Filename: `Financial_Report_{username}_{date}.pdf` - Contains: - Cover page with client name and date - Financial health score - All gap analysis sections - Before/After comparison - Complete action plan - Charts and visualizations - Professional formatting - File size: < 5MB - Generation time: < 5 seconds

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FEATURE 10: Advisor Dashboard

Requirements:

FR-10.1: Client List View - Table columns: - Client name - Email - Submission date - Completion status (%, Complete/Incomplete) - Financial health score (0-100 with color) - Meeting scheduled (Yes/No) - Actions (View, Download, Delete) - Sortable by any column - Search by name or email - Filter by: - Status (Complete, Incomplete, Meeting Scheduled) - Score range (Critical, Needs Attention, Good, Excellent) - Submission date range - Pagination (20 per page) - Total count displayed

FR-10.2: Client Detail View - All sections displayed in tabs - Gap analysis summary at top - Auto-calculated metrics highlighted: - Net worth - Retirement gap/surplus - College funding needed - Life insurance gap - FBAR compliance status - 30/30/20/20 analysis - Red flags prominently displayed: - 🚨 FBAR non-compliance - 🔴 Critical insurance gap - 🔴 Retirement shortfall > $2M - 🔴 No emergency fund - Notes section for advisor comments -

"Save Notes" button - "Download EFA Template (CSV)" button - "Download PDF Report" button - "Email Client" button

FR-10.3: Bulk Export - "Select All" checkbox - Individual checkboxes per client - "Export Selected (X clients)" button - Export generates ZIP containing: - Individual CSV per client - Master CSV with all clients - Summary statistics Excel file - Download progress indicator - Success message with download link

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4.2 Non-Functional Requirements

NFR-1: Performance

- Page load time: < 2 seconds
- Form submission response: < 1 second
- Gap analysis calculations: < 1 second
- PDF generation: < 5 seconds
- Database queries: < 500ms
- Auto-save latency: < 100ms

NFR-2: Security

- All data encrypted in transit (HTTPS/TLS 1.3)
- All data encrypted at rest (AES-256)
- Passwords hashed with bcrypt (12 rounds)
- JWT tokens expire after 24 hours
- Rate limiting: 100 requests/minute per IP
- SQL injection prevention (parameterized queries)
- XSS prevention (input sanitization)
- CSRF protection (tokens)
- No sensitive data in logs
- GDPR compliant (data export, deletion, consent)

NFR-3: Scalability

- Support 1,000 concurrent users
- Handle 10,000 total users

- Database: PostgreSQL with indexing

- Horizontal scaling capability

- CDN for static assets

- Database connection pooling

NFR-4: Reliability

- Uptime: 99.5% (downtime < 3.6 hours/month)

- Data backup: Daily automated backups

- Disaster recovery: < 4 hour RTO

- Graceful error handling

- No data loss on crash

NFR-5: Usability

- Mobile responsive (works on 320px+ screens)

- Touch-friendly buttons (44×44px minimum)

- Clear error messages

- Progress indicators for all actions

- Accessibility: WCAG 2.1 Level AA

- Browser support:

  - Chrome (latest 2 versions)
  - Safari (latest 2 versions)
  - Firefox (latest 2 versions)
  - Edge (latest 2 versions)

NFR-6: Maintainability

- Code documentation

- API documentation (Swagger/OpenAPI)

- Database schema documentation

- Environment variables for configuration

- Logging for debugging

- Error tracking (Sentry or similar)

5. USER INTERFACE REQUIREMENTS

5.1 Design Principles

- **Clean & Professional:** Financial services aesthetic
- **Trust-Building:** Use of blue color scheme (#2563eb)
- **Clarity:** Simple language, no jargon
- **Progressive Disclosure:** Show complexity gradually
- **Visual Hierarchy:** Important info prominent

5.2 Color Palette

- **Primary:** #2563eb (Blue - Trust, Stability)
- **Success:** #10b981 (Green - Good status)
- **Warning:** #f59e0b (Yellow/Orange - Attention needed)
- **Error:** #ef4444 (Red - Critical issues)
- **Neutral:** #6b7280 (Gray - Secondary text)
- **Background:** #f9fafb (Light gray)

5.3 Typography

- **Headings:** Playfair Display (elegant, trustworthy)
- **Body:** Inter (clean, readable)
- **Numbers:** Tabular figures for alignment

5.4 Components

- **Cards:** Shadow: 0 2px 10px rgba(0,0,0,0.1), border-radius: 8px
- **Buttons:** Padding 12px 30px, border-radius: 5px
- **Inputs:** Padding 12px, border-radius: 5px, border: 1px solid #d1d5db
- **Progress Bar:** Height 8px, rounded, animated transitions

5.5 Responsive Breakpoints

- Mobile: 320px - 640px
- Tablet: 641px - 1024px

• Desktop: 1025px+

5.6 Key Screens

Landing Page: - Hero section with tagline - 3 assessment cards (Goals, Growth, Defense) - Completion badges - Schedule consultation CTA - Resources section

Questionnaire Sections: - Progress indicator at top - Section title and description - Form fields grouped logically - Auto-calculated fields highlighted in blue - Back/Next navigation at bottom - Auto-save indicator in top right

Gap Analysis: - Financial health score (large, prominent) - Individual gap cards (color-coded) - Total loss summary (large red box) - Before/After comparison (two columns) - Action plan (expandable cards) - Schedule consultation CTA (large button)

Dashboard (Advisor): - Client list table - Search and filters - Quick stats (total clients, completion rate, avg score) - Client detail modal/page

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6. DATA REQUIREMENTS

6.1 Database Schema

Users Table:

```
CREATE TABLE users (
    user_id SERIAL PRIMARY KEY,
    full_name VARCHAR(255) NOT NULL,
    email VARCHAR(255) UNIQUE NOT NULL,
    password_hash VARCHAR(255) NOT NULL,
    phone VARCHAR(20),
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Questionnaire Data Table:

```
CREATE TABLE questionnaire_data (
    id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES users(user_id) ON DELETE CASCADE,
    section_number INTEGER NOT NULL,
    section_name VARCHAR(100) NOT NULL,
```

```
    data JSONB NOT NULL,
    is_complete BOOLEAN DEFAULT FALSE,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    UNIQUE(user_id, section_number)
);
```

Gap Analysis Table:

```
CREATE TABLE gap_analysis (
    id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES users(user_id) ON DELETE CASCADE,
    health_score INTEGER,
    retirement_gap DECIMAL(15, 2),
    college_gap DECIMAL(15, 2),
    insurance_gap DECIMAL(15, 2),
    fbar_penalty_risk DECIMAL(15, 2),
    tax_waste DECIMAL(15, 2),
    total_exposure DECIMAL(15, 2),
    calculated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    UNIQUE(user_id)
);
```

Meetings Table:

```
CREATE TABLE meetings (
    meeting_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES users(user_id),
    scheduled_time TIMESTAMP,
    meeting_link VARCHAR(500),
    status VARCHAR(50) DEFAULT 'scheduled',
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Advisor Notes Table:

```
CREATE TABLE advisor_notes (
    note_id SERIAL PRIMARY KEY,
    user_id INTEGER REFERENCES users(user_id),
    advisor_id INTEGER REFERENCES users(user_id),
    note_text TEXT,
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

Admin Users Table:

```
CREATE TABLE admin_users (
    admin_id SERIAL PRIMARY KEY,
    email VARCHAR(255) UNIQUE NOT NULL,
    password_hash VARCHAR(255) NOT NULL,
    role VARCHAR(50) DEFAULT 'advisor',
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);
```

6.2 Data Storage

- **User Data:** Encrypted JSONB in PostgreSQL

- **File Storage:** AWS S3 or similar for PDFs

- **Session Data:** Redis cache (optional for scale)

- **Analytics:** Separate analytics database or service

6.3 Data Retention

- **Active Users:** Indefinite

- **Inactive Users (no login 2 years):** Data archived

- **Deleted Accounts:** Soft delete for 30 days, then hard delete

- **Backups:** Retained for 1 year

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7. TECHNICAL STACK

7.1 Frontend

- **Framework:** React 18+ with TypeScript

- **Styling:** Tailwind CSS

- **State Management:** React Context or Zustand

- **Forms:** React Hook Form with Yup validation

- **Charts:** Recharts or Chart.js

- **Animations:** Framer Motion

- **HTTP Client:** Axios

7.2 Backend

- **Runtime:** Node.js 20+
- **Framework:** Express.js
- **Language:** JavaScript/TypeScript
- **Authentication:** JWT with bcrypt
- **Validation:** Joi or Yup
- **Email:** Nodemailer or SendGrid
- **PDF Generation:** jsPDF or Puppeteer

7.3 Database

- **Primary:** PostgreSQL 15+
- **ORM:** Prisma or Sequelize
- **Migrations:** Managed via ORM

7.4 Infrastructure

- **Hosting:** Vercel (frontend) + Railway/Render (backend)
- **Database:** Managed PostgreSQL (Supabase, Railway, or similar)
- **CDN:** Cloudflare or Vercel Edge
- **SSL:** Let's Encrypt (auto-managed by host)

7.5 Development Tools

- **Version Control:** Git + GitHub
- **Package Manager:** npm or yarn
- **Code Quality:** ESLint + Prettier
- **Testing:** Jest + React Testing Library
- **API Documentation:** Swagger/OpenAPI

8. IMPLEMENTATION PHASES

Phase 1: MVP (Weeks 1-4)

Goal: Working prototype with core features

Sprint 1 (Week 1): - User authentication - Section 1: Financial Goals - Basic navigation and progress tracking

Sprint 2 (Week 2): - Section 2: Growth Strategy - Section 3: Defense Strategy - Auto-save functionality

Sprint 3 (Week 3): - Section 4: Savings vs Spending (30/30/20/20) - Gap analysis calculations - Financial health score

Sprint 4 (Week 4): - Gap analysis UI - Before/After comparison - Action plan - Consultation booking CTA - PDF export

Deliverable: Functional MVP ready for beta testing

Phase 2: Beta Testing (Weeks 5-6)

- Onboard 10 beta users
- Collect feedback
- Fix critical bugs
- Refine UX based on user testing
- Performance optimization

Phase 3: Production Launch (Weeks 7-8)

- Advisor dashboard
- Bulk export
- Email notifications
- Final security audit
- Performance testing
- Launch marketing campaign

Phase 4: Enhancements (Weeks 9-12)

• Advanced visualizations

• Mobile app (optional)

• Integration with CRM

• Advanced reporting

• A/B testing different CTAs

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9. SUCCESS CRITERIA

9.1 Launch Criteria (Must Have)

• ✅ All 4 sections functional

• ✅ Gap analysis calculations accurate

• ✅ Auto-save working

• ✅ PDF export working

• ✅ Consultation booking tracking

• ✅ Security audit passed

• ✅ Performance metrics met

• ✅ Beta tested with 10+ users

9.2 Success Metrics (Post-Launch)

Month 1: - 50 completed questionnaires - 80%+ completion rate - 85%+ consultation booking rate - 4.0/5+ user satisfaction

Month 3: - 200 completed questionnaires - 90%+ booking rate - 4.5/5+ user satisfaction - 10+ advisor testimonials

Month 6: - 500 completed questionnaires - Advisor handling 5x more clients - Case studies published - ROI documented

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10. RISKS & MITIGATION

Risk 1: Low Completion Rate

Risk: Users abandon questionnaire midway

Probability: Medium

Impact: High

Mitigation: - Auto-save progress - Allow resume later - Progress bar to show how close to done - Gamification (completion badges) - Email reminders

Risk 2: Calculation Errors

Risk: Financial calculations incorrect

Probability: Low

Impact: Critical

Mitigation: - Extensive unit testing - Manual verification with sample data - Financial advisor review - Disclaimers on all calculations - Version control for formula changes

Risk 3: Poor Mobile Experience

Risk: Forms don't work well on mobile

Probability: Medium

Impact: High (60% traffic mobile)

Mitigation: - Mobile-first design - Touch-friendly inputs - Test on real devices - Progressive enhancement

Risk 4: Security Breach

Risk: User data compromised

Probability: Low

Impact: Critical

Mitigation: - Encryption at rest and in transit - Regular security audits - Penetration testing - Rate limiting - Monitoring and alerts

Risk 5: Advisor Adoption

Risk: Advisors don't use dashboard

Probability: Low

Impact: Medium

Mitigation: - Train advisors before launch - Demonstrate time savings - Provide support documentation - Collect and implement feedback

11. OPEN QUESTIONS

1. **Integration with existing CRM?**
   - Do advisors use specific CRM software?
   - Need API integration or manual import?

2. **Payment processing?**
   - Will app charge fees in future?
   - Need payment gateway (Stripe)?

3. **Multi-language support?**
   - Only English or Spanish/other languages?

4. **White-labeling?**
   - Will other advisors license this?
   - Need customizable branding?

5. **Compliance requirements?**
   - Any financial advisor regulations?
   - Need specific disclaimers?

6. **Data migration?**
   - Existing client data to import?
   - Format and volume?

12. APPENDICES

Appendix A: Glossary

- **401k:** Employer-sponsored retirement account (pre-tax)
- **DIME Method:** Debt + Income (10 years) + Mortgage + Education

- **DTI:** Debt-to-Income ratio
- **FBAR:** Foreign Bank Account Report (FinCEN Form 114)
- **FICA:** Federal Insurance Contributions Act (Social Security + Medicare)
- **HSA:** Health Savings Account
- **IRA:** Individual Retirement Account
- **LTC:** Long-Term Care
- **Roth IRA:** After-tax retirement account (tax-free growth)
- **30/30/20/20 Rule:** Budget framework (30% housing, 30% lifestyle, 20% retirement, 20% short-term savings)

Appendix B: Tax Brackets 2025 (Estimated)

To be updated with actual 2025 brackets

Appendix C: Calculation Formulas Reference

Detailed formulas documented in separate technical spec

Appendix D: Sample Case Studies

- Sarah's Budget Transformation (included in PRD)
- Raj & Priya Retirement Gap Analysis
- College Funding Success Story

END OF PRODUCT REQUIREMENTS DOCUMENT

Document Approvals:

Role	Name	Signature	Date
Product Owner	Hemanth Garnapally		
Lead Developer			
Financial Advisor	Anand		

Next Steps: 1. Review and approve PRD 2. Develop technical specification 3. Create UI/UX mockups 4. Begin Sprint 1 development 5. Schedule weekly status meetings

Document History:

Version	Date	Author	Changes
1.0	2024-12-20	Claude AI	Initial draft