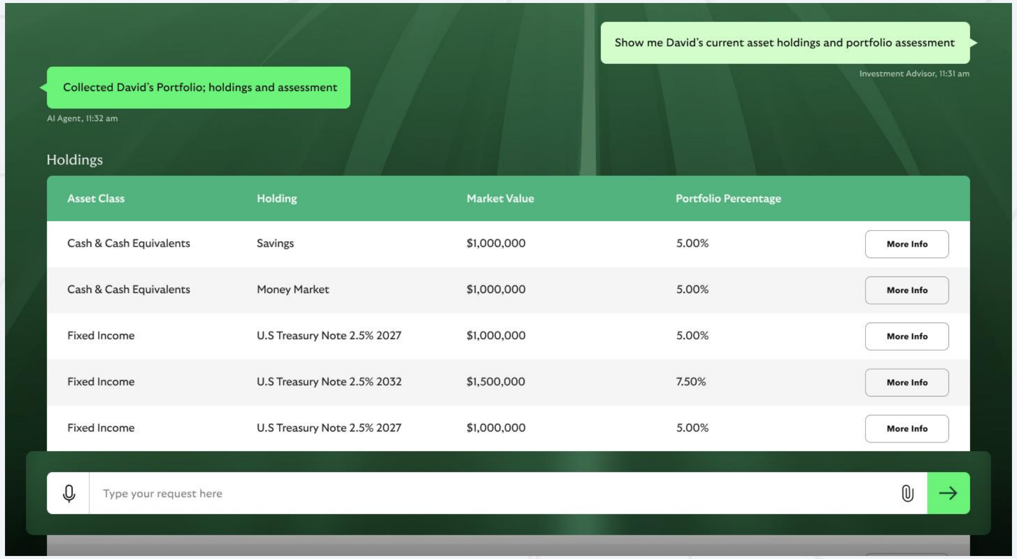
FS Portfolio

Gen AI powered Investment Portfolio Creation and Optimization

Gen AI powered Investment Portfolio Creation and Optimization - Overview

FS Portfolio integrates Gen AI and an Agentic framework to automate market analysis, assess risk, to create and optimize client investment portfolios in real time. It enables dynamic portfolio management with a human-in-the-loop (portfolio advisor) approach, enhancing decision-making and improving client outcomes in fast-changing markets.



Showcase App	Use Case 2 - Gen AI powered Investment Portfolio Creation and Optimization
Why is this use case relevant for FS Enterprises?	Targeted to have a direct impact on Revenue generation and optimisation in the Wealth Management / Private Banking space. Aims to use AI for better portfolio visibility and personalised investment strategies
Targeted Personas	Investment Portfolio Advisor
Usage of AI / Gen AI	For market analysis, documentation summarisation, documentation reviews, strategy content curation
Usage of Agentic AI	Across the lifecycle – from market research, to client profiling, portfolio creation, optimisation and recommendations – multiple agents at play
Hyperscaler compatibility	Azure hosted – compatible with all major hyperscalers
LLM compatibility	Azure Open AI model family with flexibility to toggle LLMs as they evolve
Other technologies used	Llama index, chroma db, flask, web socket
Business Value	20-30% efficiency in portfolio creation, up to 50% increase in adoption of recommended portfolios due to better alignment

The Stakeholders And Their Current Challenges

Persona - David is a young professional seeking a bank's wealth management service aimed at wealth accumulation and retirement planning.

Ask – He requires a wealth management specialist to assist him in building a portfolio and adjusting it for optimal returns.

Persona - Jason is a banker with extensive experience as a Wealth Management Consultant. For the past 20 years, he has been overseeing a range of portfolios.

Ask – He requires a solution that enables him to efficiently access information from both internal and external sources to analyse and develop the appropriate portfolio, as well as to make necessary adjustments.

Present Challenges

- **Difficulty in tailoring services to client requirements because of extensive manual data analysis**
- **Handling extensive financial data from various sources**
- **Elevated operational expenses resulting from manual labour**
- **Prolonged decision-making processes and lengthy update cycles**
- **Delayed reactions to market changes could result in potential losses**
- **Increased learning curve necessary to develop skills for the IC position**

The Basic Process Flow And How AI Can Enhance Each Step

	Client Onboarding & Risk Assessment	Portfolio Construction & Asset Allocation	Market Analysis & Monitoring	Portfolio Review	Compliance & Risk Management
AS IS	• Collect client financial data, investment goals, and risk tolerance • Manually categorize clients into predefined risk buckets	• Employ historical data along with established allocation models to recommend asset distribution. • Investment strategies tend to be fixed and are modified rarely.	• Consultants examine financial statements, economic developments, and market updates manually • Choices are based on human judgment and past outcomes.	• Modify allocations in response to overarching economic trends. • A slow reaction to market fluctuations can result in lost opportunities or heightened risks.	• Consultants perform manual reviews of portfolios to ensure they meet regulatory standards. • Risk evaluations tend to be reactive instead of proactive.
TO BE	• AI and Generative AI analyse client information to create an investor profile and • Behavioural AI models adapt risk assessments.	• The Portfolio Optimization AI Agent analyses investment situations to develop a customized asset allocation that aligns with the objectives of the client.	• The AI Research Agent conducts ongoing research by monitoring household reports, research papers, market trends, news articles, and updating its database.	• The AI-Driven Agent monitors shifts in market outlook and risk exposure, continuously suggesting adjustments to the portfolio to optimize performance.	• AI engine validates the output against compliance guidelines and KYC checks and calls out any deviations

Transforming the Process with AI Agents in Collaboration

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Agents working in collaboration to create and optimize a client's investment portfolio proposal for an advisor

Supervisor Agent

1 — Research

Analyze research reports data, web crawling and create Vector DB

Input : Research Reports, House View

Output : Analyzed Data in Vector DB

2 — Client Data

Client Data Extraction-Demographics, Risk Preference, Current Portfolio,

Data Preparation for Analysis

Input : Client ID

Output : Client Profile

3.A — Portfolio Creation

Create a model portfolio based on client preferences

Identify the right investment instruments for the asset classes for model portfolio

Input : Client Profile, Research Data

Output : Model Portfolio

3.B — Portfolio Optimization

Looks at client asset data and for each of the asset class, run it across research data and find relevant insights in the research data and then perform an assessment of the asset class

Input – Client Asset Details and Research

Output – Assessment Analysis

4 — Recommendation

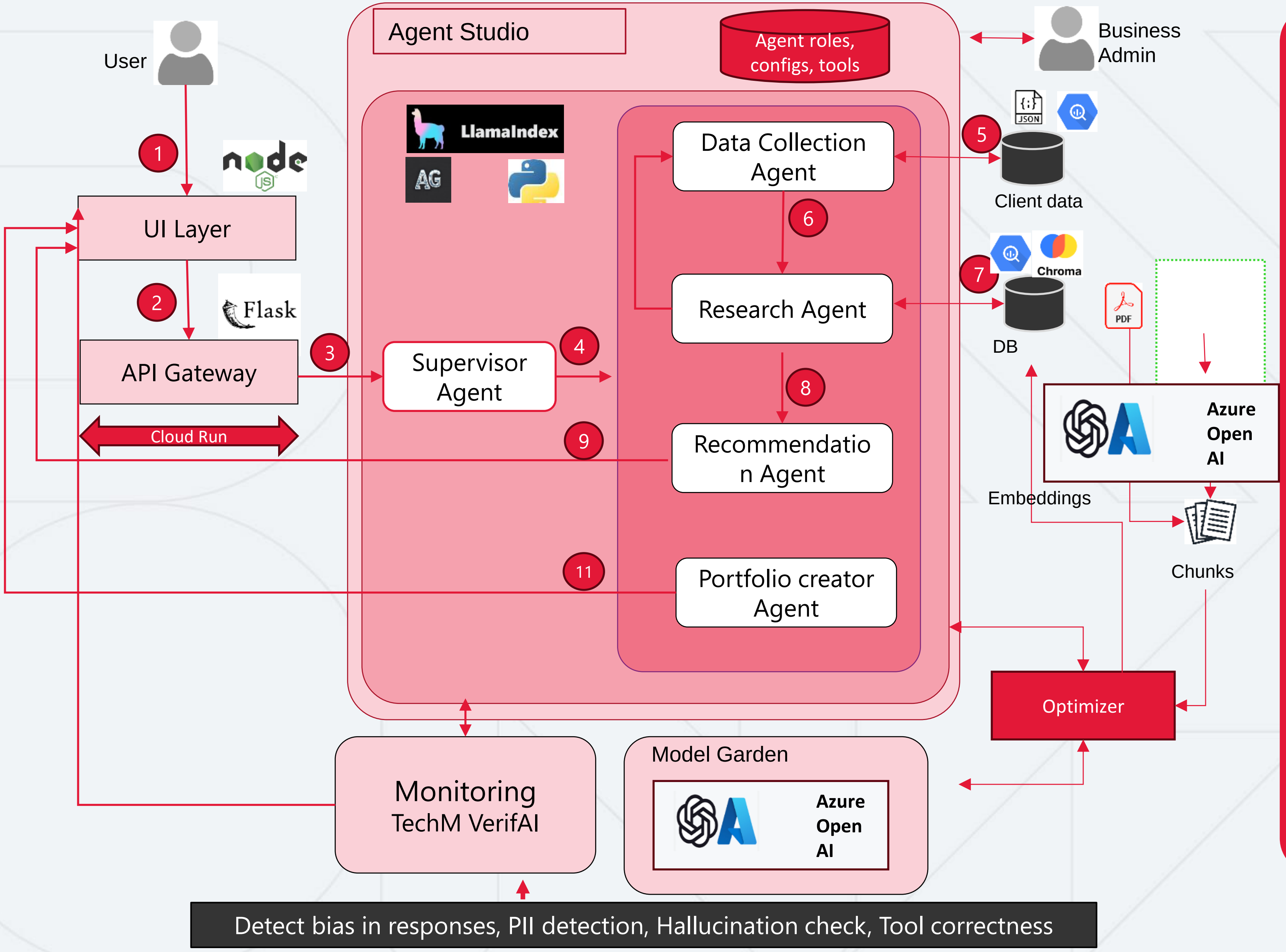
Analysis merged with risk preferences of the customer and generate recommendations.

Input – Client Profile, Assessment Analysis

Output – Investment Recommendations

Outcome: Enhanced investment strategies with improved returns.

Technical Solution Architecture and Flow diagram



1. User provides client ID
2. UI invokes backend API gateway
3. Assigns request to Supervisor agent
4. Submits request to data collection agent

Portfolio Optimization

5. Get client's current portfolio
6. Asset classes held with client
7. Analyze assets
8. Asset analysis results
9. Portfolio Assessment

Portfolio Creation

10. Top performing assets
11. Model Portfolio

Agent Studio – Interface to build, configure and monitor agents directly by business admin

*Note : The podcast ingestion is a possible extension scope

Solution Impact : Value & Benefits

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Business Outcome

Increased efficiency & cost savings

Automation of data extraction from the research documents resulting in reduction in manual work and **20-30% efficiency improvement**

Personalized investment strategies

More personalized investment options for clients as AI agents can analyze a large amount of data in Realtime and provide recommendation to the IC **(30-50% more precise)**

Faster decision-making

Automation of data collection and analysis results in faster and dynamic decision making for the investment consultants **(from 4-6 hours to less than 30 mins)**

Improved Risk Management

Improved risk managements as portfolio are rebalanced more often as per need and automated scanning and reminders for asset allocations **(10-20% better aligned)**


Scale at Speed™

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