Generative AI for Asset Managers
Fund Profile: Multi-Strategy Alpha Capital

OVERVIEW

Multi-Strategy Alpha Capital (MSAC) is a premier hedge fund with an AUM of $30 billion that specializes in generating consistent and attractive risk-adjusted returns across various financial markets. Established in 1991, the firm has built a reputation for excellence, innovation, and disciplined investment strategies. The Fund operates with a client-centric approach, aiming to maximize returns while carefully managing risks for its investors.

INVESTMENT PHILOSOPHY

MSAC believes that diversification is the key to success in today's complex and ever-changing financial landscape. Its investment philosophy revolves around the principle of multi-strategy diversification, where the Fund combines a range of complementary investment strategies to capitalize on diverse market opportunities. By blending different approaches, the Fund seeks to generate alpha in both bull and bear markets, delivering consistent results over time.

INVESTMENT STRATEGIES

The fund employs a dynamic mix of sophisticated investment strategies, which include but are not limited to:

Equity Long/Short: The Fund strategically invests in undervalued securities while simultaneously short-selling overvalued securities to capture both rising and falling markets.

Global Macro: Its team closely monitors global economic trends, geopolitical events, and macroeconomic indicators to identify potential investment opportunities across asset classes.

Event-Driven: The Fund seeks to profit from corporate events, mergers, acquisitions, and other special situations that can create price dislocations in the market.

Quantitative Strategies: Utilizing cutting-edge quantitative models and algorithms, the Fund identifies patterns and exploits statistical anomalies in financial markets.

ESG: Integration of ESG factors into the fixed income investment process is complementary with fundamental credit analysis and engagement activities with sovereign and corporate issuers.

Arbitrage: The Fund engages in various arbitrage strategies, including statistical arbitrage, volatility arbitrage, and merger arbitrage, to capitalize on market inefficiencies.

INVESTMENT PROCESS

MSAC's investment process is rigorous and data-driven. Starting with in-depth research and analysis to identify potential investment opportunities, a team of seasoned professionals conducts thorough due diligence to assess the risks and rewards associated with each strategy. Once selected, the Fund actively monitors and adjusts its positions based on changing market conditions.

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RISK MANAGEMENT

Preserving capital is paramount at MSAC. The Fund implements robust risk management practices to protect its client's investments. Its risk management framework includes strict position sizing, stop-loss mechanisms, and stress testing scenarios to gauge the fund's performance under adverse market conditions.

TRANSPARENCY AND COMMUNICATION

The Fund believes in fostering strong relationships with its investors built on transparency and open communication. Its clients receive regular updates on the fund's performance, portfolio holdings, and market outlook. Moreover, the Fund remains accessible to address any queries or concerns, ensuring a high level of trust and confidence in its partnership.

TEAM

The MSAC team comprises a diverse group of industry professionals with extensive experience across asset management, finance, economics, and quantitative analysis. Its collaborative approach fosters creativity, innovation, and a keen focus on delivering superior risk-adjusted returns for its clients.

DATA ECOSYSTEM

A high level architecture of the current data ecosystem of MSAC is shown below.
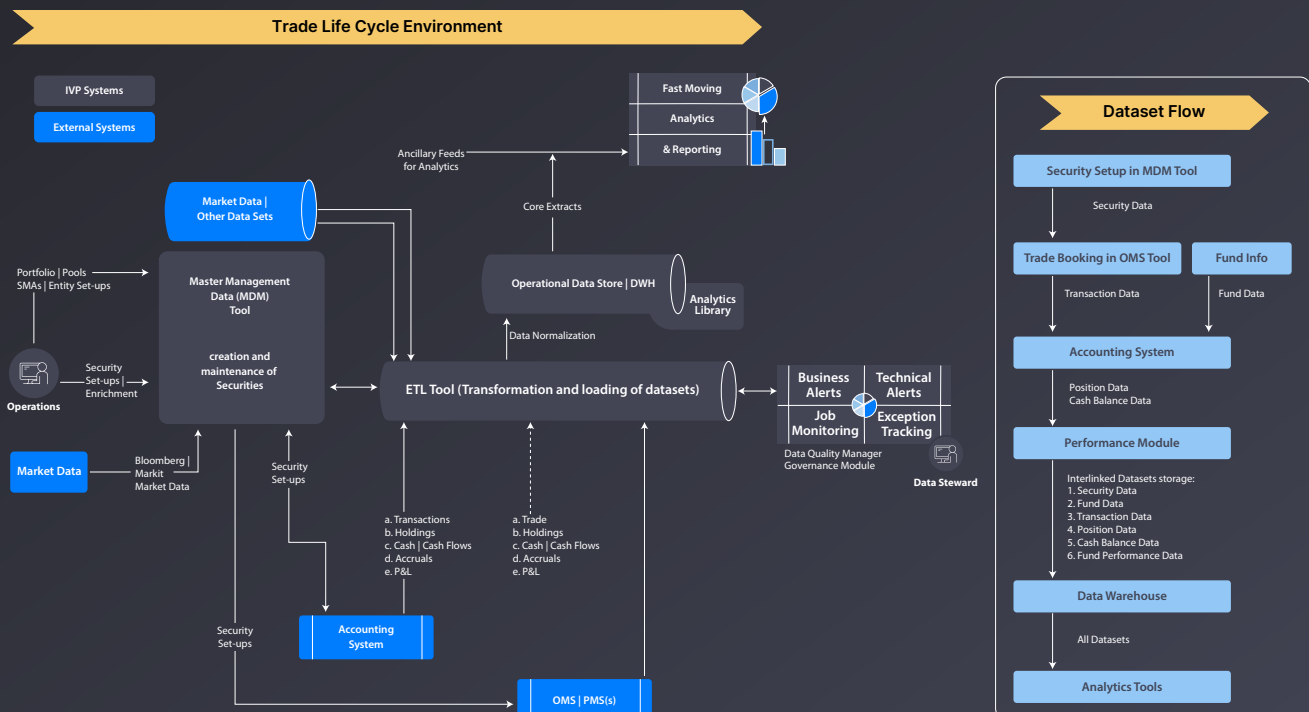
Some sample data files are also attached.
Note that the data ecosystem and the sample data are provided as guidance to the candidates.

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THE PROBLEM STATEMENT

MSAC has hired IVP to consult them on developing an LLM (Large Language Model) based solution which provides accurate insights in real time. IVP has suggested using an existing Generative Pre-trained Transformer (GPT) Model which is coupled with a Vector Database deployed on top of MSAC's internal database. Thus, the trained model will have access to the following data sources:

- The learnings from the Pre-trained Transformer model's training data.
- MSAC's internal database as well as a Vector Database built on top of that.
- Information on the World Wide Web.

Using the relevant details of the fund, data ecosystem and the LLM Requirement prepare a detailed approach on how this system should interact with the asset manager, solving at least 2 use cases.
Your task is to detail out the user flow for the solution as well as define touchpoints and interactions between the users and system. Further, preparing user flow diagrams, mockup user screen interfaces, step by step explanations, etc. are recommended.

In summary, your submission should include the following:

- Use case definition - What is being solved?
- User flow diagrams to describe the user journey - How is the user interacting with the system?
- Screen mockups / wireframes of the proposed solution - How is the system helping to solve the use case?

Please note that the solution will be evaluated on functional and user experience grounds. Technology usage and its implementation processes is not in scope for this case study.

SAMPLE USE CASES

A few sample use cases and user interactions are mentioned below. These are designed to provide guidance during the ideation process.

You are free to base your solutions on any other relevant use cases. Please note that the use case you choose should apply to the asset management industry.

USE CASE 1 - PORTFOLIO ANALYTICS

- Metrics on performance of a particular fund / strategy basis certain conditions e.g., what is the IRR for top five investments in the tech sector excluding non-US domiciled countries.

- Strategy-wise exposure as on date for an investment.

- In which investments can the stakes be increased to improve the odds for higher gains basis the payout conditions for these investments and current market factors.

- Which investment has covenants that are near the breach mark. Details of those investments, covenants, and suggestions to avoid the breach.

- Disinvesting from which investments will help improve the ESG scores significantly.

- New upcoming industries that are shaping up along with their risk profile.

- Summarization and key takeaways from voluminous research reports.

USE CASE 2 - CREDIT RISK ANALYTICS

- Read a contract(loan agreement, deal etc.) document and create the risk-return profile

- Gather Market sentiment to get outlook: Application should be able to read recent reports like fed or central bank policy documents, financial reports and answer questions based on that.

- Credit score/credit rating calculation based on financial statements, country analysis, industry analysis, etc.

- What-if analysis - Change in Risk profile by adding any new instrument / removing an instrument in the portfolio.

USE CASE 3 - PORTFOLIO MANAGEMENT

- Performance Monitoring - Suggestions on Key Performance Indicators to be tracked.

- Analysis of regulatory filings to highlight any compliance issues within the portfolio holdings

- Usage of ESG data to identify and manage environmental, social, and governance risks in the portfolio.

- Portfolio performance under different macroeconomic scenarios, such as inflation spikes or economic downturns.

- Diversification analysis and how it can be improved to reduce concentration risk.

USE CASE 4 - DATA QUALITY

- Trend based recommendation on data quality exceptions for snoozing or highlighting importance.

- Automatic DQ checks based on data trend and anomaly detection

- Insights into the root cause for data quality exceptions

- Recommendation on data correction based on trend analysis.