



## **Software Engineering project 2023/2024**

### **Ca' Foscari University of Venice**



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### Document History

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# Index

<b>1. Project Synopsis</b>	<b>4</b>
<b>1.1. Objective and Scope</b>	<b>4</b>
1.1.1. Overview	4
1.1.2. Objectives	4
<b>1.2. Project Deliverables</b>	<b>4</b>
1.2.1. Rapid Prototyping	4
1.2.2. Documentation	5
<b>2. Market and Feasibility Analysis</b>	<b>6</b>
<b>2.1. Targeted Users</b>	<b>6</b>
<b>2.2. Market Overview</b>	<b>6</b>
2.2.1. Competitive Landscape	7
2.2.2. Responsibilities and Main Activities	7
<b>2.3. SWOT Analysis</b>	<b>7</b>
2.3.1. Strengths	8
2.3.2. Weaknesses	8
2.3.3. Opportunities	8
2.3.4. Threats	9
<b>2.4. Project Feasibility Factors</b>	<b>9</b>
2.4.1. Conclusions	9



# 1. Project Synopsis

## 1.1. Objective and Scope

In the modern age, as the financial landscape becomes increasingly complex, the need for informed and strategic investment decisions has never been more paramount. With the proliferation of financial instruments, global markets, and real-time data, individuals often find themselves overwhelmed, unable to keep pace with the rapid changes in the market. This proposal outlines the inception of a toolset designed to bridge this information gap and empower individuals to make informed financial decisions.

*The stock market is filled with individuals who know the price of everything, but the value of nothing.*

*Philip Fisher.*

### 1.1.1. Overview

The proposed project aims to create a comprehensive suite of digital financial tools, leveraging advanced AI and real-time data analytics. This suite will offer a virtual financial advisor, real-time arbitrage monitoring, a user-centric news platform, a portfolio simulation tool, and an educational financial chatbot.

### 1.1.2. Objectives

- **Personalized Financial Advice:** Design an AI-driven virtual financial advisor that analyzes public financial data and provides tailored investment advice based on news insights.
- **News Tailored to User:** Introduce a platform that curates news based on users preferences and portfolio holdings, ensuring they remain updated on relevant financial events.
- **Portfolio What-If Analysis:** Allow users to simulate their portfolio's behavior using historical data and future projections, thereby helping them strategize better.
- **Financial Education:** Implement an interactive chatbot to answer user queries and offer lessons on financial topics, thereby fostering a deeper understanding of markets and investments.

In the heart of a bustling city, imagine James, a 30-year-old professional, juggling his job, personal life, and trying to make sense of his diverse investment portfolio. The tools we aim to develop would not only guide James in **optimizing his investments** but also **educate him** on market trends, potential risks, and growth opportunities. This project aims to be the **go-to platform** for James and millions like him, **ensuring they are always a step ahead in their financial journey**.

## 1.2. Project Deliverables

This project will yield two primary deliverables: a fully functional **application** and extensive **documentation** detailing both the project process and technical aspects of the application, alongside user guidelines.

### 1.2.1. Rapid Prototyping

The application, inherently multifaceted, will serve as a comprehensive suite encompassing various tools aimed at empowering users to make informed and strategic financial decisions. Each functionality within



the app will address distinct aspects of financial management and education. Here below there is a Rapid Prototyping on how we visualized it:

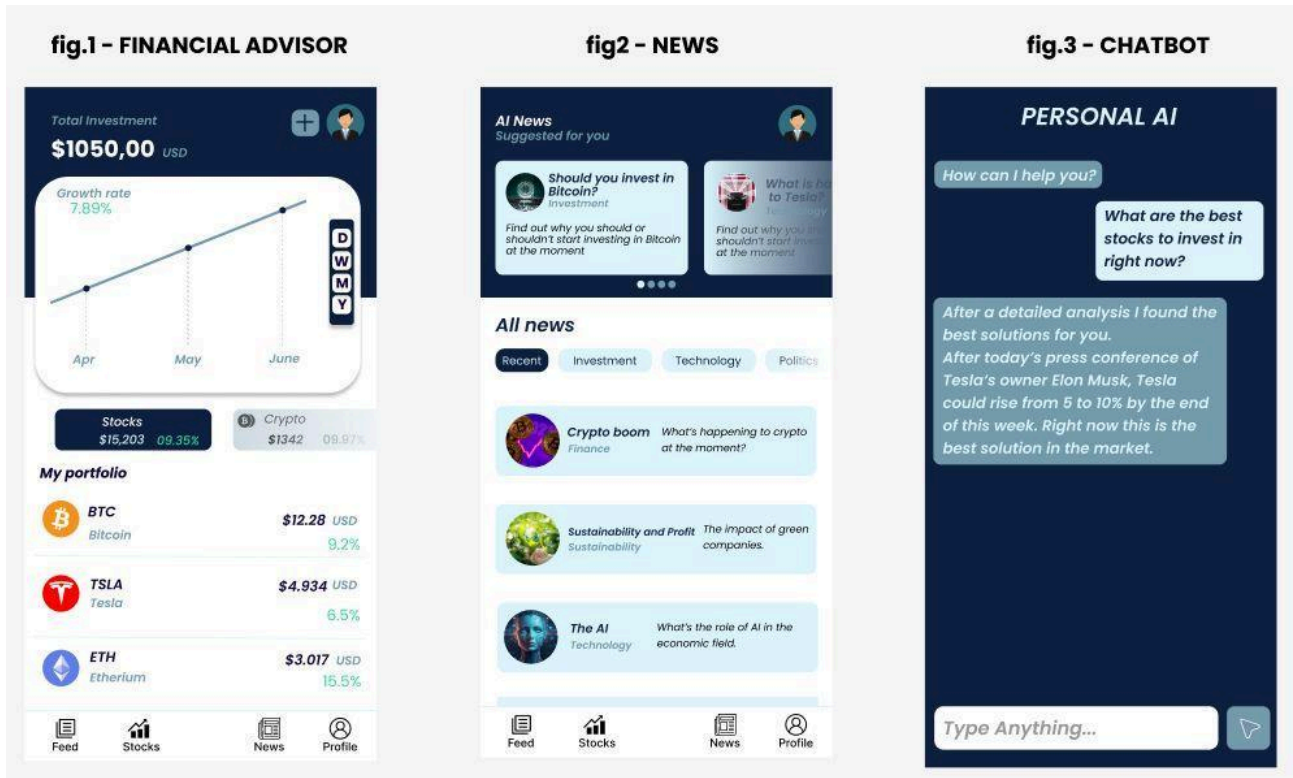


Figure 1.1: Figma - Rapid Prototyping

**Personalized Financial Advice (fig.1.1):** This tool will serve as a virtual consultant, providing individualized advice by analyzing a plethora of public financial data and real-time news insights, guiding users like James through the labyrinth of investment opportunities and strategies.

**News Tailored to User (fig.1.1):** This feature will curate news based on user preferences and portfolio, ensuring relevance and aiding users in staying abreast of the latest market trends and shifts that could impact their investment strategies.

### 1.2.2. Documentation

Comprehensive documentation will accompany the application, providing detailed insights into the project's developmental process, technical underpinnings of the application, and user operational guidelines. This documentation will serve as a valuable resource for both end-users and developers, facilitating seamless usage and future developmental endeavors.



## 2. Marked and Feasibility Analysis

### 2.1. Targeted Users

The intended users for this application are multifaceted, reflecting the diverse demographic that interacts with the financial market today. It targets individuals like James, who strive for a more nuanced understanding of their financial standing but not only.

Targeted Users identified are:

- **Young Professionals and Novice Investors:** Individuals embarking on their professional journey or those new to the investment realm will find the application particularly beneficial. The suite of tools will demystify financial complexities, enabling them to navigate investment landscapes with enhanced confidence and insight.
- **Seasoned Investors and Financial Enthusiasts:** Those with experience in financial markets will discover value in the advanced features and real-time data analytics, allowing them to refine their strategies, uncover new opportunities, and stay ahead of market trends.
- **Financial Advisors and Consultants:** Professionals in the financial advisory domain can leverage the application to augment their advisory capabilities, enriching their services with data-driven insights and personalized advice.
- **Academics and Students:** Individuals in academia, studying finance and related disciplines, will find the application to be a rich source of practical knowledge and a helpful companion for research and learning.
- **Ethically and Socially Conscious Investors:** For those who prioritize ethical and sustainable investing, the application's tailored news and advice will facilitate investment in alignment with their values, promoting financial growth without compromising on principles.

Envision a world where James, a young professional, the seasoned investor Mrs. Thompson, the financial consultant Mr. Smith, and the finance student Lisa are integral parts of the project right from the start. By actively engaging this diverse community, we aim to identify priority features and shape services to meet the unique needs and expectations of each individual. Through this collaboration, our app evolves into a tool that not only addresses specific needs but also guides and empowers individual financial journeys with newfound understanding, precision, and ethical alignment, taking the financial experience to unprecedented levels.

### 2.2. Market Overview

The financial tool sector is witnessing a paradigm shift, with the integration of AI and real-time analytics becoming the linchpin for innovation. The market is vibrant, with users yearning for solutions that offer not just data, but insights, not just information, but education.



### 2.2.1. Competitive Landscape

While platforms like **Bloomberg Terminal** and **Morningstar** dominate the landscape with their extensive financial data services, there exists a palpable gap. A gap for a platform that is not a mere aggregator but a personalized guide, not just a data provider but an educational companion, a platform that is a synthesis of **personalized AI-driven education, customized news, financial prediction, and portfolio simulation**. The market is evolving, with a growing emphasis on personalized and user-centric solutions. The integration of AI to deliver tailored educational content and news, predictive analytics based on historical data and real-time news, and advanced portfolio simulation is setting new benchmarks in the industry.

### 2.2.2. Responsibilities and Main Activities

The proposed project is a harbinger of change, aiming to offer a consolidated platform that seamlessly integrates diverse features. From a **customized educational chatbot** powered by AI to **user-centric news**, from a sophisticated **financial predictor** analyzing historical actions and current news to an intuitive **portfolio simulator**, the project is a symphony of advanced financial tools, each playing its unique tune to create a harmonious user experience.

The demand for a unified solution is burgeoning, especially among users like James, who seek a seamless and integrated experience. The project, with its diverse and interconnected features, caters to this unmet need, offering a one-stop solution for users with varying financial literacy levels and investment goals.

The proposed project is not just another addition to the financial tool market; it is a revolution. It is the realization of the dream of a unified platform, where diverse tools coexist, interact, and enrich. It is the companion for James, Mrs. Thompson, Mr. Smith, and Lisa, guiding them through the labyrinth of financial decisions with personalized advice, insights, and education.

## 2.3. SWOT Analysis

In the pursuit of creating a unified financial toolset, we delve deep into the strengths, weaknesses, opportunities, and threats that surround our ambitious endeavor. This analysis serves as a compass, guiding us through the intricate tapestry of challenges and prospects that lie ahead.



Figure 2.1: SWOT Analysis

### 2.3.1. Strengths

- **Innovative Integration:** Our project stands as a beacon of innovation, integrating diverse financial tools into a singular, cohesive platform. The amalgamation of *AI-driven personalized education*, *customized news*, *financial prediction*, and *portfolio simulation* sets us apart, offering unparalleled value to our users.
- **User-Centric Approach:** Our commitment to a user-centric approach ensures the delivery of tailored solutions, meeting the unique needs and preferences of our diverse user base. This approach fosters user engagement and satisfaction, enhancing the overall user experience.

### 2.3.2. Weaknesses

- **Limited Resources:** With a passionate but small team of four and a tight timeline of two months, the scope of our endeavor is indeed colossal. The limited human resources and time constraints pose significant challenges in realizing our vision to its fullest potential.
- **Extensive Scope:** The ambitious nature of our project, encompassing a wide array of features and functionalities, demands meticulous attention to detail and extensive efforts. Balancing quality and quantity within our constraints is a delicate dance, requiring strategic prioritization and efficient execution.

### 2.3.3. Opportunities

- **Unmet Market Needs:** The market yearns for a unified solution, a platform that is not just an aggregator but a guide, a teacher, a predictor. Our project, with its innovative integration and user-centric approach, is poised to fill this gap, addressing the unmet needs and exceeding user expectations.





- **Niche Market for Ethical Investing:** The growing emphasis on ethical and socially conscious investing opens new doors. Our project can cater to this burgeoning niche, offering tailored solutions and advice for users seeking to align their investments with their values.

#### 2.3.4. Threats

- **Market Competition:** The financial tool sector is highly competitive, with established players and emerging disruptors vying for market share. Staying ahead in this dynamic landscape demands continuous innovation, adaptability, and a deep understanding of user needs.
- **Data Security and Compliance:** In a domain where data is king, ensuring its security is paramount. Navigating the intricate web of regulatory compliance and safeguarding user data is a formidable challenge, requiring vigilance and adherence to the highest standards of data protection.

### 2.4. Project Feasibility Factors

As we stand on the brink of embarking on this ambitious journey, we reflect on the feasibility of our endeavor to create a unified, innovative financial toolset. The path is laden with challenges, but the beacon of our vision and the vigor of our spirits illuminate our way forward.

Our project is a symphony of innovation and user-centricity, a harmonious integration of diverse financial tools designed to empower and enlighten. The innovative amalgamation of features and our commitment to delivering tailored solutions are the pillars of strength that fortify our endeavor. These strengths are not mere advantages; they are the essence of our vision, the soul of our project.

The journey, though colossal in scope, is steered by a team of four individuals, each a reservoir of **passion, knowledge, and expertise**. Our small but mighty team is the engine that propels our project forward, the architects of the harmonious platform we aspire to create. The high capabilities of each member are the catalysts that transform our vision into reality, weaving the intricate tapestry of features, functionalities, and user experiences.

#### 2.4.1. Conclusions

In this intricate dance of innovation and aspiration, we find our rhythm, we find our purpose. **We are not just creating a platform; we are crafting a companion for James, a guide for Mrs. Thompson, a mentor for Mr. Smith, and a teacher for Lisa. We are building a world where the labyrinth of financial decisions becomes a journey of discovery, learning, and empowerment.**

As we step forward, we carry the hopes and aspirations of our users, the trust and expectations of our stakeholders, and the passion and commitment of our team. We step forward with the resolve to elevate financial journeys, to make a difference in the lives of our users, and to leave an indelible mark on the financial tool sector.