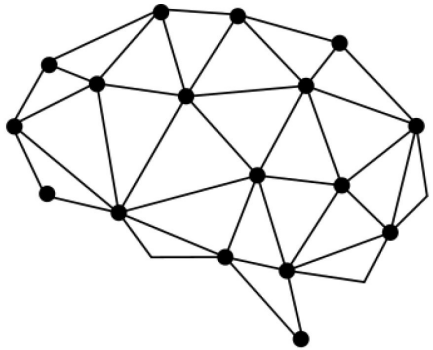
Client Change Request

By Josué Zepeda

Description

This project aims to develop an algorithmic trading program that allows users to design, test, and execute automated investment strategies in financial markets, with the goal of improving the efficiency and profitability of financial operations.



Context

HUMAN RESOURCES

For this project, we are considering hiring the following people:

- ➔ 1 UX/UI Designer (who will be in charge of designing the program and the user interface)
- ➔ 1 Database designer (in charge of the data capture module)
- ➔ 1 Data analyst (in charge of the analysis engine module)
- ➔ 1 Programmer with experience in APIs (in charge of the order execution module)
- ➔ 1 Programmer and 1 finance expert (in charge of the risk management module)
- ➔ 1 Project Manager (in charge of documentation, dealing with the client and in charge of the project in general)

In total 6 employees and the project manager.

Context

MONEY

- The 6 employees will receive the same salary of $1,000 USD monthly.
- The project manager will earn a percentage of the final project cost (40%). This percentage will be included in the project budget, and will serve as a margin for possible mistakes and incidentals that may come up throughout the execution of the project and that are not attributed to changes in specifications by the client. This margin will also be used to pay rent and other variable costs that are necessary.

Context

TIME

The estimated time at the beginning of the project is 6 months.

BUDGET

By having 6 employees with a monthly salary of $1,000 USD and an estimated time of 6 months, $36,000 USD will be required just to cover salaries.

6 x 1,000 = 6,000
6 x 6,000 = 36,000

$$\frac{36{,}000}{60\%} \times \frac{X}{40\%} = 24{,}000$$

The salaries ($36,000 USD) plus the risk percentage and the project manager salary ($24,000 USD) give a total of $60,000 USD as the project cost.

Changes

The client requests new functionality for trading in the real market and real-time assessing of the trader's decision. It includes an analysis with the timing of 1 minute and provides reasoning on if the trader's decision was good or wrong.

Configuration Identification:

- Code +Add a new function
- Design + Add a new screen with 1 minute analysis
- Documentation + Add the new specifications

Affected modules:

Four of the five modules will be directly affected by client changes.

User Interface (UI): The software could feature an intuitive user interface that allows users to configure and monitor strategies, view performance reports (real-time analysis will need to be implemented for 1-minute operations), and make adjustments as needed.

Data Capture Module: This module would be responsible for obtaining real-time data from multiple market sources, such as stock exchanges and data providers. It would use APIs to access this data.

Affected modules:

Analysis Engine: The analysis engine would process and analyze market data to identify relevant patterns and signals for trading strategies. (updates will need to be implemented in periods of 1 minute)

Order Execution Module: This module would connect to trading platform APIs to automatically execute buy and sell orders based on defined strategies. (A new type of market order will be implemented that allows the trader to operate manually)

Risk Management: A critical component would be the risk management module, which evaluates the risk associated with each trade and applies measures like loss limits and stop-loss to protect the investment. (A new function will be implemented that evaluates if the trader's decision was good or wrong)

Risk assessment:

These changes will imply an increase in time, and consequently in money. Therefore the budget must be updated.

- **Time.** It will be necessary to increase one month of work to the time that was contemplated.
- **Money & Budget.** By having 6 employees with a monthly salary of $1,000 USD and an estimated time of 7 months, $42,000 USD will be required just to cover salaries.

  6 x 1,000 = 6,000
  7 x 6,000 = 42,000

  $$\frac{42{,}000}{60\%} \rightarrow \frac{X}{40\%} = 28{,}000$$

  The salaries ($42,000 USD) plus the risk percentage and the project manager salary ($28,000 USD) give a total of $70,000 USD as the project cost.

- **Human resources.** For this particular client request it will not be necessary to hire more qualified workers.

Effort. Time and budget increased:

16.66%

Thanks!

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