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**Three Bar Pattern
Vision**

Version 1.1

Three Bar Pattern Search and Analysis Tool	Version: 1.0
Vision	Date: 10/April/22

Revision History

Date	Version	Description	Author
03/October/21	1.0	First Iteration of Vision for Three Bar Pattern Project	Full Team
11/18/2021	1.1	Cleaning it up a little	Kyle Conte

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Vision (Small Project)

1. Introduction

The purpose of this document is to collect, analyze, and define the business requirements, i.e., high-level needs, desired ultimate business outcomes and features of the three bar pattern search and analysis tool. It focuses on the capabilities needed by the stakeholders and the target users, and **why** these needs exist in the first place. The details of how the three bar pattern search and analysis tool fulfills these needs are detailed in the use-case and supplementary specifications.

1.1 Background

Day traders typically spend most of their day looking at graphs to try to find specific patterns and changes in the market. The chance of making a rewarding investment could be gone while traders try to figure out whether the pattern is good or bad. This tedious and time consuming job can be made easier and quicker.

1.2 References

2. Business Requirements

This project aims to develop a tool to real-time scan for a robust and highly significant signal, three-bar pattern, in the stock market. As to explore the significance and robustness of this signal, the historical data are statistically analyzed and the results are visually demonstrated along with the real-time scanning outcomes.

Using this tool, short-time or scalping traders in the stock market will benefit with faster response and abundance of the history information to help them make decisions which can hardly be achieved with currently available methods.

This project incorporates customizations of scanning criterias, visualization of the results and real-time notifications. Using a web-page based platform, it also offers the users with flexibility of searching domain and alternative algorithm for future updates.

2.1 Business Opportunity/Problem Statement

The problem of	security traders not having access to robust and reliable trading signals which can be easily customized by users
affects	the profitability of traders who are competing against institutions that have access to automated technical analysis tools
the impact of which is	a wider margin in competitive advantage in favor of institutions

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a successful solution would be	Developing a platform which automatically sends trade signals to users based on their specific parameters.
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2.2 Business Objectives

BO-1: *Develop a reliable and robust trading signals platform to enable users to make well informed trades.*

Scale: Cost of food thrown away each week by cafeteria staff

Meter: Examination of Cafeteria Inventory System logs

Past: 33% (2013, initial study)

Goal: Less than 20%

Stretch: Less than 15%

BO-2: *Increase the profitability of securities traders using our Three Bar Pattern Search and Analysis Tool.*

BO-3: *Develop a model which can predict down/up trends with at least 50% accuracy.*

2.3 Success Metrics

SM-1: *Be able to recognize patterns and notify the user immediately*

2.4 Vision Statement

For	<i>Securities Traders</i>
Who	<i>Need help identifying/predicting patterns in the market</i>
The (product name)	<i>web development</i>
That	<i>recognizes three bar patterns and possibly other patterns based on live trading data</i>
Unlike	<i>manual analysis of the market or expensive/inaccessible technical analysis software</i>
Our product	<i>will be open source, and able to recognize patterns with adjustable parameters</i>

2.5 Business Risks

RI-1: *Live data obtained from the data source may not be fast enough. Hence the advice given may be outdated. (Probability = 0.3; Impact = 6)*

RI-2: *Too few users might use the tool, leading to insufficient user experience reports and statistical data on accuracy of the product. (Probability = 0.5; Impact = 5)*

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2.6 Business Assumptions and Dependencies

AS-1: The platform will have a customizable Three Bar Pattern Search Tool with an intuitive user interface.

AS-2: The platform will receive live data and do the analysis for signals matching the parameters/criteria set out by the user.

AS-3: The team will proceed with the stocking knowledge and information given by Dr. Zhang. Dr. Zhang will deliver the major part of information needed within the financial aspect.

DE-1: Receiving live stock information to inform the trading signals.

3. Stakeholder Profiles and User Descriptions

3.1 Stakeholder Summary

- Dr. Thomas Zhang, Dr. Liran Ma and Dr. Wei
- The Software Senior Design Team
- The College of Science and Engineering (TCU)
- The Department of Computer Science (TCU)
- Users interested in stocks
- Economic Professors
- Improve efficiency of day to day human traders
- Make more effective trades on stock market

Stakeholder	Major value or benefit from this product	Attitudes	Major features of interest	Constraints	End user or not?
Dr. Thomas Zhang	Improve day to day trading, easier to analyze the stock	Strong commitment through release 2; support for release 3 contingent on earlier results	Analysis of three bar pattern	Does not know Software side	Yes
Dr. Liran Ma and Dr. Bingyang Wei	Advises the project/students working on the product	Useful resources for software	Dr. Liran Ma (web services), Dr. Bingyang Wei (back-end)	Does not know Economic side	No

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The Software Senior Design Team	Experience gained from developing a full stack application	Our team is dedicated to developing a fully functional product to meet the needs of our client.	Three Bar Pattern Search and Analysis Tool on Live Stock Data	Subject matter expertise	Yes
The College of Science and Engineering (TCU)	Reputation of product being a success	Interested in the success of our platform	Success of product	Involvement in product is very low	No
The Department of Computer Science (TCU)	Reputation of product being a success	Interested in the success of our platform	Success of product and involvement of students during process	Not directly involved	No
Users interested in stocks	Better understand stocks and helpful for understanding when to buy or sell	N/A, Consumers are unknown	Robust and reliable trading signals	Knowledge of relevant parameters to customize strategy profitably	Yes
Other Economic Professors	Improve day to day trading, want access to other patterns rather than just three bar	N/A, Unknown to other professors as of now	Analysis of three bar pattern and implementation of others	Not involved and probably does not understand Software side	Yes

3.2 User Environment

The users are educated and knowledgeable in the stock market, and in most cases own personal computers in their homes. The ability of bar pattern recognition would greatly improve the productivity of day traders.

3.3 Summary of Key Stakeholder or User Needs

- Software to identify and analyze three-bar pattern
- Alert user of pattern identified (advise to buy or sell)

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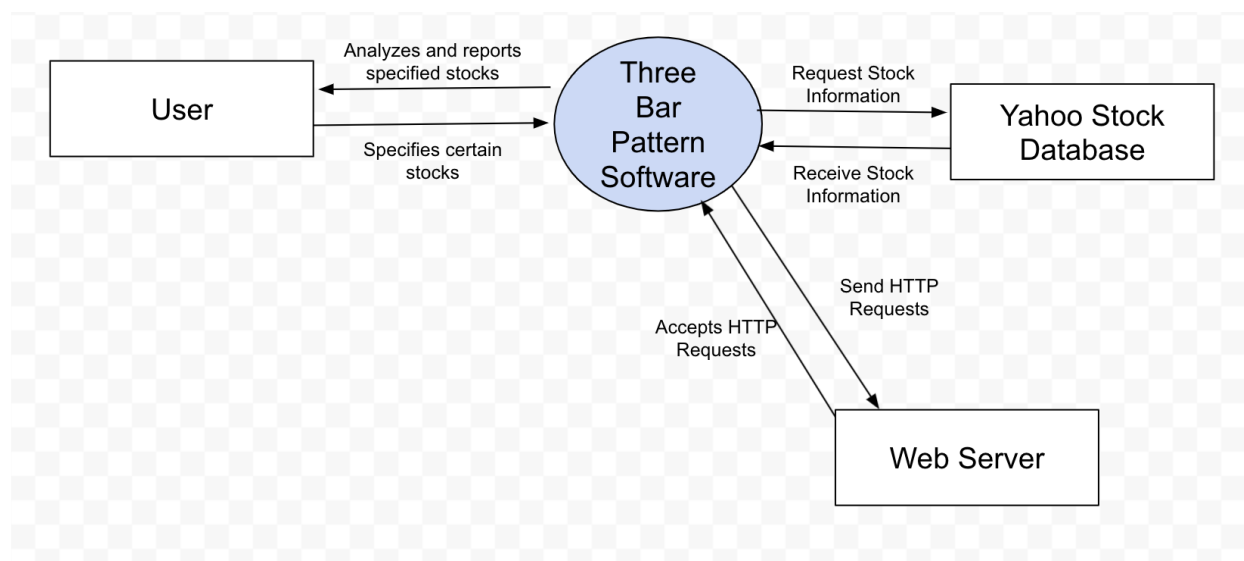
Need (Job to be done)	Priority (High, Medium, Low)	Concerns	Current solution	Proposed solution
pattern recognition	high	Zero data or incomplete stock data	Rigorous preprocessing	Stick with preprocessing
web server	medium	what to use	nginx	nginx

3.4 Alternatives and Competition

*Many stock analysis tools are available online but many require expensive subscriptions or only have limited functionality. Such softwares include ALLY Invest, Charles Schwab, E*TRADE, and Fidelity investment.*

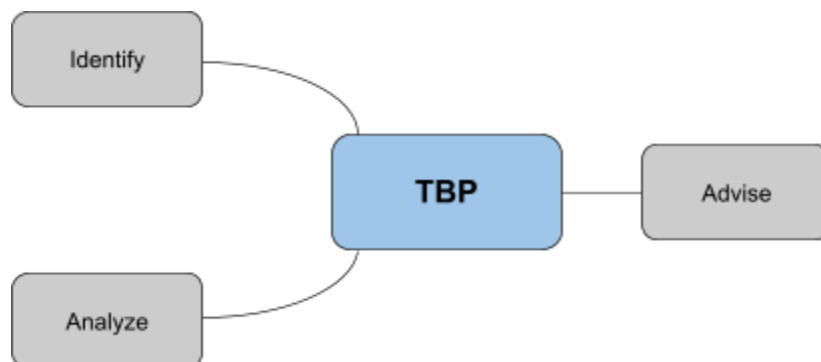
4. Scope and Limitations

4.1 Product Perspective



4.2 Major Features / Scope

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FE-1: Identify and analyze Three Bar Patterns based real time for selected stocks.

FE-2: Advise users to make investment decisions based on information obtained.

4.3 Deployment Considerations

A web server is needed since it is a web application.

5. Other Product Requirements

Access to Aplaca API and a computer with moderate computing power.