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Abstract

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A simulation model of stock exchange trading is used to test the impact of various stabilization policies on a stock's market performance characteristics (price volatility, the size of its bid-ask spread, and autocorrelation patterns in the security's returns). Market participants include large and small traders, a pure stabilizer, and a speculating stabilizer. The "market architecture" includes the arrival of market and limit orders the maintenance of a limit order book, and the handling of trade execution. Each type of stabilizer improves the operating characteristics of the market, with the speculating stabilizer having a bigger impact and realizing more profits than the pure stabilizer. Using the mechanism of simulation to eliminate other sources of the stabilizer's profit, we find that stabilization per se is an unprofitable activity. We then suggest additional ways in which the simulation model could be developed and further uses for it.

The objectives of this project were to research and explain the fundamentals of the stock market and to practice the skills necessary to make successful trades within the market.

Four member team investigated the creation of the modern stock market, the history of

NYSE and NASDAQ, and the political factors that affect the stock market. Members also

performed an eight-week stock market simulation, each specializing in a particular

trading strategy and sector of the market. One member used fundamental analysis

investing with a diverse portfolio; another used company history and projected growth to invest in the life science, the third member used historical analysis to invest in the

gaming industry, and the last member used the income and growth strategies to invest

specifically in shoe manufacturing and technology companies. Only the portfolio that

focused upon the gaming industry produced a profit, while the other portfolios lost

money. The results indicated that (a) companies that respond to customer feedback tend to succeed; (b) the gaming industry is running at full steam and that now is a good time to invest; (c) basing your trading decisions on the quality of a product or service is only useful in some sectors, like technology, while it is less useful in other sectors,like banking; and (d) finally, it was concluded that investing in the life sciences is a risky

venture, because developing technology is kept far from the investors’ evaluation and

loss of FDA approval can cause unpredictable and devastating losses in stock value.

Literature Review ::

# Members ::

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# Agenda :

## Creating a stock market simulation and predicting stock prices.

## **Definition :**

A stock market simulator is a program or application that attempts to reproduce or duplicate some or all features of a live [stock market](https://en.wikipedia.org/wiki/Stock_market) on a computer so that a player may practice trading stocks without financial risk.

## 

## **Domain :**

Open Source, Machine Learning, Web Development.

Deployment :

Docker - Docker is a set of platform-as-a-service products that use operating-system-level virtualization to deliver software in packages called containers.

OpenShift - OpenShift is a family of containerization software developed by Red Hat. Its flagship product is the OpenShift Container Platform—an on-premises platform as a service built around Docker containers orchestrated and managed by Kubernetes on a foundation of Red Hat Enterprise Linux.

Web Development :

Front-End :

**HTML**, or HyperText Markup Language, is used to create the basic structure and content of a webpage.

**CSS**, or Cascading Style Sheets, is used for the design of a webpage – where everything is placed and how it looks.

**JavaScript** is used to define the interactive elements of a webpage that help to engage users.

Front-End Framework :

React is a JavaScript library for building user interfaces. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications, as it is optimal for fetching rapidly changing data that needs to be recorded.

Machine Learning : Various functions, libraries will be used to predict future stock prices based on the results of analyzing the past stock growth.