

# Software Self Adaptation

## Digital Beginner Stock Trading

Pelican Innovations

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## Investment Analytics

Investment feedback is given to the user through our application's Analytics tab. The Analytics tab displays a user's trade history of stocks, as this data is stored within a MySQL server. The user's trade history updates whenever they purchase or sell a stock, and it displays metrics such as the stock symbol, quantity purchased/sold, and the profit obtained. Additionally, it displays information about a user's best and worst trades, which dynamically updates whenever a user sells a stock. For these reasons, our software is self-adaptive.

## Stock prices

Stock prices are actively displayed on our application in **real-time** using a stock API (Finnhub.io), which makes our software self-adaptive and constantly changing as the stock prices are constantly changing. As a result, users are able to interact with our application in dynamic ways with different outcomes each time, as the stock prices are variable and dependent on the NASDAQ market index.

## Stock information

When a user looks up a stock, **real-time** data about that stock is generated from our stock API (Finnhub.io), such as the open price, day high, day low, current price, previous close, price change, and percent change. Additionally, a graph of this real-time stock data is generated by a graph API (plotly.com/python). Therefore, users are able to view all important metrics of stocks in real-time with a graph generated, with proper error handling for invalid stock names because our software is constantly adaptive to the current stock information.

## News Feed

Our investment training application actively displays news articles from a news API (NewsAPI.com) to help users adapt and stay up to date with current market trends and knowledge, resulting in our software being self-adaptive to current news around the world. We hope users will utilize this feature to actively make decisions on buying or selling certain stocks in order to make a profit.