

# StockViz: 3-D Visualization of Stock Data



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## Abstract

StockViz is an interactive financial analytics tool that allows a user to analyze a stock in relation to its past performance as well as in relation to other stocks. It provides a 3-D representation along with a stylized approach to analyzing the large range of prices and volumes across multiple stocks.

## Goals

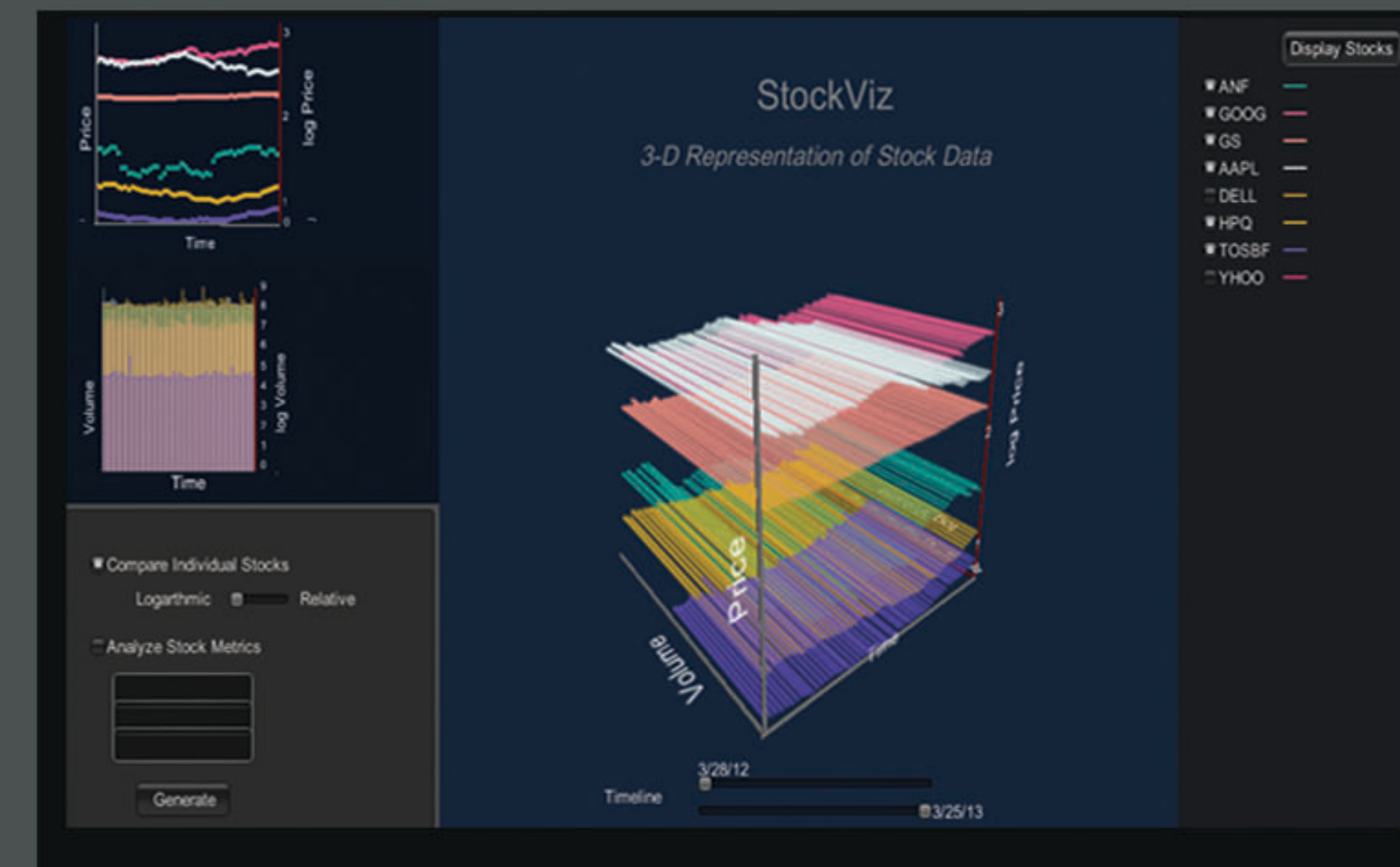
Develop a stock analysis tool that achieves the following:

- Allows the user to observe the apparent differences between multiple stocks
- Displays the large ranges of price/volume values across stocks without compromising on details within a stock
- Provides an intuitive user interface that allows the user to interact with the data

## Technology

This tool is built on the Unity game engine with C# and uses historical prices from Yahoo! Finance.

## Interface

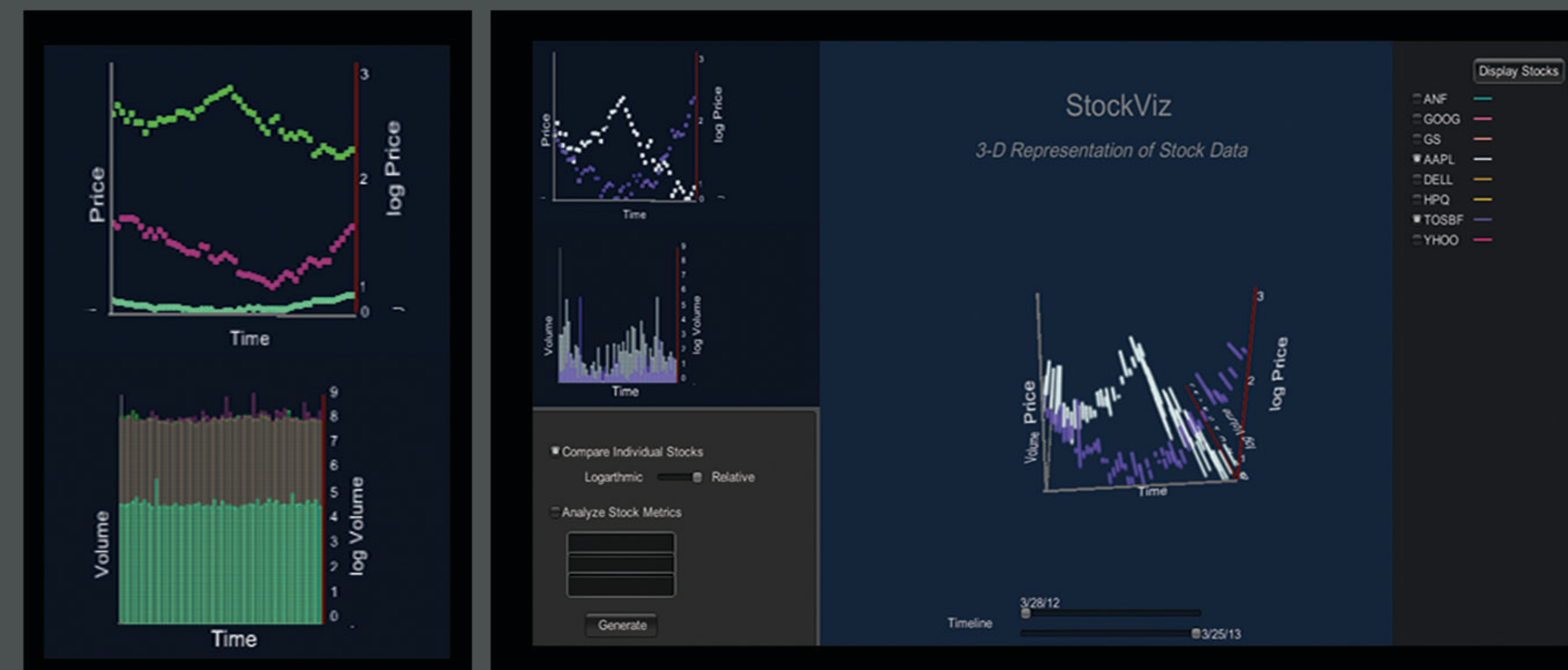


## Features

- Zoom/Rotate around graph
- Orthographic 2D representations
- Ability to alter timeline
- Relative and Logarithmic representations

## Logarithmic vs. Relative

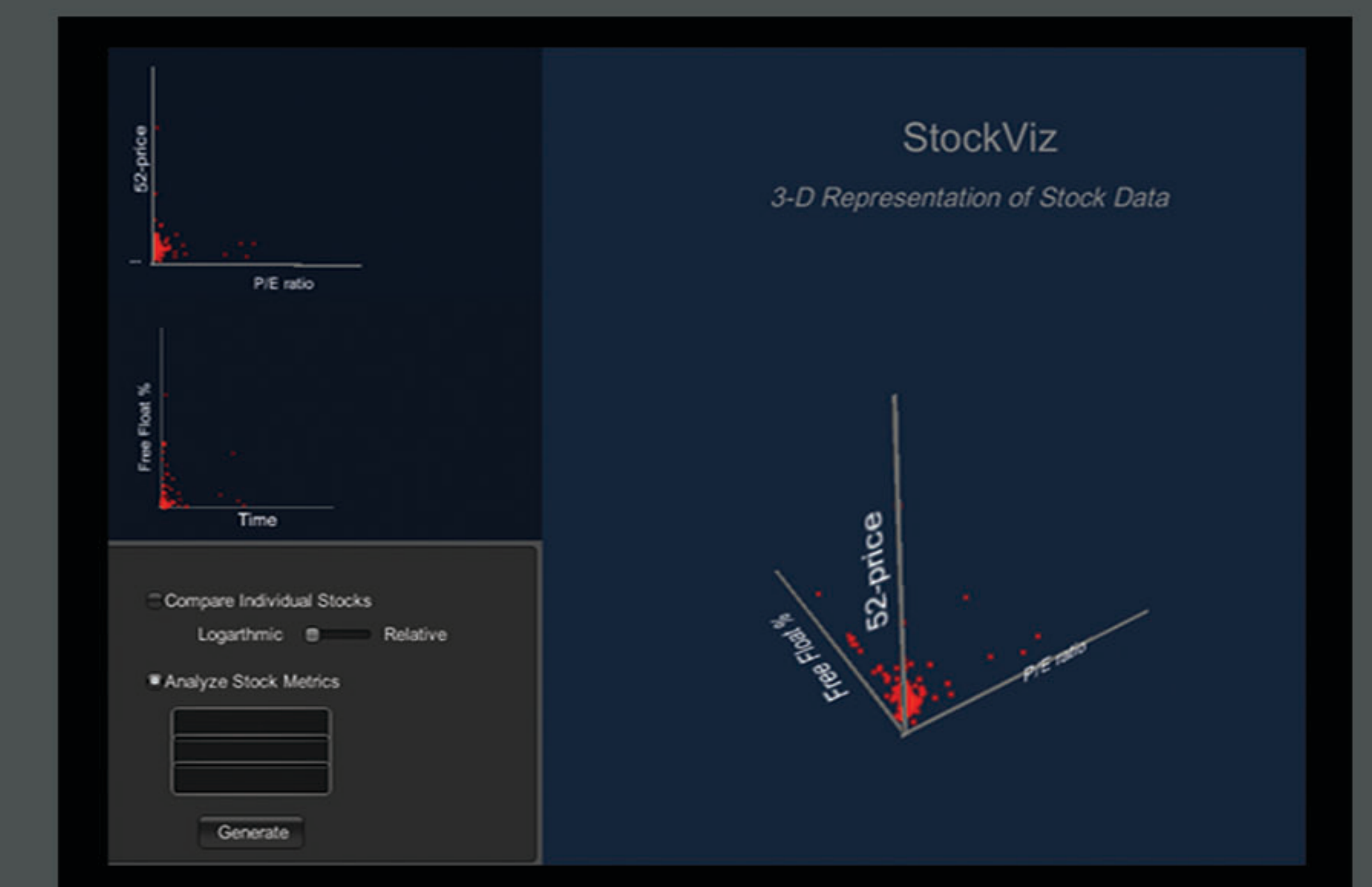
StockViz is a stylized tool because of the scale it adopts. In the Logarithmic mode, stocks are placed in sections depending on the degree (base 10) of their prices/volumes. Once they are placed in a section, the graph is plotted relative to all the stocks in that section. This technique incorporates large ranges yet does not compromise on the details of a stock that can be observed when comparing it with stocks within its section. The Relative mode allows the user to observe changes of a stock with respect to its past performance.



## Evaluation

Analyzing stock data in relation to one another is a challenge. Although the logarithmic scale gets close to solving the problem, there may be confusion when interpreting both the logarithmic and absolute scale. The user interface focuses on the interactions specific to a financial analyst.

## Future Work



- Understanding the relationships different stock metrics have with each other. In the example above we have P/E ratio, 52 price change average and free float.
- Discover interface techniques a stock analyst would be familiar with