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IFN666 Stocks Web APP – Client Side



Replace image with one with some relevance to your application here

IFN666

Stocks Web APP – Client Side

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*This template is adapted from one created for a more elaborate application. The original author spends most of his professional life talking to clients and producing architecture and services reports. You may find this a bit more elaborate than you are used to, but it is there to help you get a better mark*

*This report should be around 10 pages or so including screenshots*

## Introduction

Video demo link

## <https://youtu.be/N3WqB3OE-jk>

### Purpose & description

This react application is developed to deliver a website that allows users to view stock market data in a more visualized way. In this website, users can view, search, filter stock information and analyze the stock trend from the chart.

As stated, this website allows user to find a particular company by searching for the symbol that represents the company, or filter by the industry category. Once filtered, users are able to see the stock company with its symbol, name, and industry. Also, by clicking on the row of a particular company, user can access to the price history page to view stock information in details. In the price history page, there displays a data table and a chart beneath the table. From the table, users can acquire all the information regarding “time”, “open”, “high”, “low”, “close”, “volume”, and the chart below will display the value correspondingly. If the user wishes to check a certain period of the stock info, there is a time filter function on the top left beneath the price history title that allows user to select the starting time to current date. And upon time filtered, the data table and the chart below will change dynamically to display required info.

### Completeness and Limitations

I have successfully implemented all required functions shown as below:

Graphical user interface, text, application, email

Description automatically generated

Figure 1

Graphical user interface, application

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Figure 2

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Figure 3

Graphical user interface, text, application, email

Description automatically generated

Figure 4

Graphical user interface, text, application, email

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Figure 5

Graphical user interface

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Figure 6

Graphical user interface, text, application, email

Description automatically generated

Figure 7

Graphical user interface, text, application, email

Description automatically generated

Figure 8

Chart, histogram

Description automatically generated

Figure 9

Table

Description automatically generated

Figure 10

Chart, line chart

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Figure 11

## Use of APIs

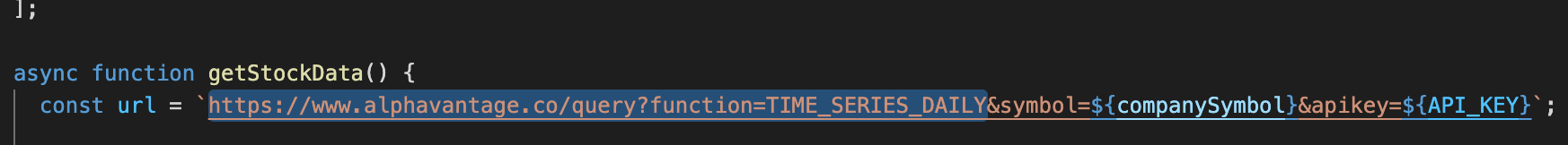
#### FinancialModeling

Text

Description automatically generated with medium confidence

https://financialmodelingprep.com/api/v3/nasdaq\_constituent?apikey=

#### Alpha Vantage



https://www.alphavantage.co/query?function=TIME\_SERIES\_DAILY

### Modules used

#### Bootstrap grid layout

Module to modify the layout

<https://getbootstrap.com/docs/4.0/layout/grid/>

#### React Icons

React-icons/ai

Used to display stock icon in the homepage

<https://react-icons.github.io/react-icons/>

#### Ag-grid-react

Module to provide fully-featured table components, including sorting and filtering.

<https://www.ag-grid.com/react-grid/>

## Application Design

### Navigation and Layout

Unlike what the assignments required, I have deleted the quote page and displayed the stock information of current date to the top of the data table. Also, I have modified the structure where the website only had two links to the Home and the Stocks. As the price history can not stand on itself without a specific company, I have deleted the Price History from the nav bar and made it accessible by clicking on the data table of the Stocks page.

Other than the structure, the layouts of each page use the assignment specification as examples with slight fixes. The industry filter is changed from input box to a drop-down selection as there only exists 8 industry types. The UI design is fairly simple due to time consumption of the functionalities. As this is my first ever react project, and it is done individually, I chose to focus more on the functionalities rather than the looks. However, the UI is straightforward to interact with the users.

## Technical Description

### Architecture

A screenshot of a computer

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In the src folder, I created two folders named “components” and “pages”. In component folder, there are SearchStock.js and StockChart.js where SearchStock.js accepts the search function passed by Stock.js then return the filtered result in a data table, also it uses useNavigate Hook to navigate the row data to PriceHistory upon click. StockChart accepts the data passed by PriceHistory and renders a chart using Chart.js to represent the data.

Under pages folder, there are 3 major pages of the website. Home displays a simple description of the website. Stock has all the functions such as acquiring companies data from financialmodellingprep api (Nasdaq of 100), and search and filtering. PriceHistory handles the navigation from SearchStock, then renders the data into a table. Also, it uses default functions from ag-grid to filter the time.

### Test plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Task** | **Expected Outcome** | **Result** | **Screenshot(s)** |
| **Checking home page** | | | |
| Home page shows on http://localhost:3000/ | Home page displayed, with table populated | PASS | Figure 1, |
| Check page title is “Stock Market”  & “{symbol} Price History” | Page title is “Stock Market”  & “{symbol} Price History” | PASS | Figure 2,3 |
| Type into Symbol to filter by Symbol | Stocks filtered by Symbol | PASS | Figure 5 |
| Select Industry to filter industry | Stocks filtered by industry | PASS | Figure 6 |
| Type into Symbol and Industry to filter by both | Stocks filtered by both name and industry | PASS | Figure 7 |
| Search by “invalid” symbol | Table of invalid symbol will not display | PASS | Figure 8 |
| **Checking the detailed stock information** | | | |
| Detailed stock details shown at http://localhost:3000/stocks | Detailed stock dashboard shown. | PASS | Figure 2 |
| Click on rows to access to prices history of selected row | Price history of selected row will display | Pass | Figure 9 |
| Select timestamp to filter data by time | Data within the selected time range will display in data table &  Chart will be dynamically changed | Pass | Figure 11 |
| Display Chart | Dynamic Chart displayed | Pass | Figure 9 |

Difficulties / Exclusions / unresolved & persistent errors /

Sometimes there will appear an error showing data.map is not a function, but it’s resolved by refreshing the page. I failed to fix this because this happens rarely (1 in 20 times). Maybe it’s the internet lags as the data is fetched slowly.

Graphical user interface, text, application

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## Extensions (Optional)

Due to time inefficiency, the UI of this website is unfortunately simple as I did not use css to modify the layout. Also, I believe that some of my codes/functions can be improved to reduce space and runtime cost.

## User guide

Click on the “Stocks” link above to proceed to the “Stock Market” page.

Graphical user interface

Description automatically generated with medium confidence

Click on the input box labelled with “Search by Symbol” to search company.

Graphical user interface, application

Description automatically generated with medium confidence

Click on the “Select Industry” beside the Search box to select industry of a particular company.Graphical user interface, text, application, email

Description automatically generated

Click on the rows of data table to access the “Stock History” of selected company.



Scroll down the “Stock History” page to view stock graph. Click on labels to select/deselect values of the graphA picture containing table

Description automatically generated

Click on time icon underneath “Stock History” to filter time A picture containing text

Description automatically generated

## References

## Appendices

#### Appendix A – self-checking against CRA

|  |  |  |
| --- | --- | --- |
| Marks | Grade level (in 1- 7 scale) my work belongs to (delete the ones not suitable) | Marks I think I should get |
| **Overall Functionality**  **(30 marks)** | 1-2, 3, 4, 5, 6, 7 | 27 out of 30 |
| **Application performance**  Note: balance between client and server processing  **(10 marks)** | . 1-2, 3, 4, 5, 6, 7 | 8 out of 10 |
| **Application Robustness**  **(10 marks)** | 1-2, 3, 4, 5, 6, 7 | 9 out of 10 |
| **Application UI Design**  Note: this is purely based on function and usability. There is no direct assessment of the quality of the graphic design.  **(10 marks)** | 1-2, 3, 4, 5, 6, 7 | 5 out of 10 |
| **Application architecture and Code Quality**  **(10 marks)** | 1-2, 3, 4, 5, 6, 7 | 6 out of 10 |
|  |  |  |
| **Report and Reflections**  **(20 marks)** | 1-2, 3, 4, 5, 6, 7 | 17 out of 20 |
|  |  |  |
| **Video demo**  **(10 marks)** | 1-2, 3, 4, 5, 6, 7 | 10 out of 10 |
|  |  |  |
| **Overall Marks (100)** |  | 82 out of 100 |

#### [Appendix B – Screenshots of test plan results](#_Toc22385)

#### Other Appendices as you require them