

P2 Screen Sketches

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Actors

1. Base User: Have the privilege to:
 - Has unique username and ID
 - View Stocks
 - Buy and Sell Stock
 - Follow Users
 - View own profile
 - View other user's profiles
 - Check the leaderboard
 - Allows sorting
 - Starts from their own position
2. Guest User: Have the privilege to:
 - Has shared username, password, and ID
 - View Stocks
 - Unable to buy and sell stocks
 - Unable to follow users
 - Cannot view own profile
 - View other user's profiles
 - Check the leaderboard
 - Allows sorting
 - Starts at the top position
 - Cannot sort from their own position
3. Admin User: Have the privilege to:
 - Do everything the base user can
 - Manage Users
 - Ban Users
 - Kick Users
 - Grant or Decline Money Requests from Users

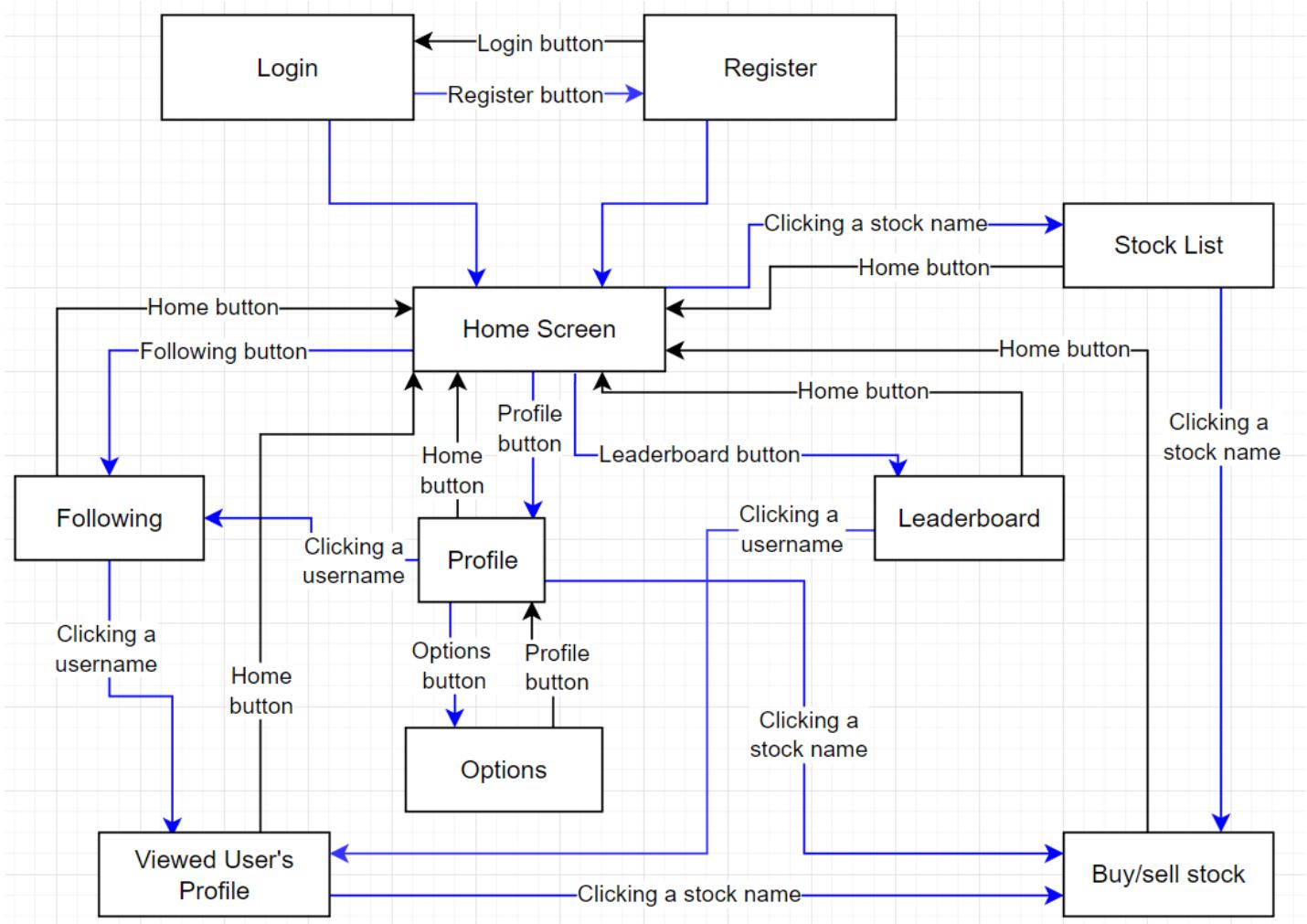
Non-Functional Requirements

- Backend queries for databases should have a runtime under two seconds.
- Response time for frontend actions such as loading times should be under a second each. This includes refresh buttons and buttons to a new screen. If querying is required, then three seconds is granted.
- The application must support a minimum of 8 active users.
- The users must be able to choose from a list of 25 stocks.
- Multiple users can buy multiple different stocks.
- The leaderboard must have at least 20 users to navigate through.
- Each stock must have a change in price value to indicate if the stock increased, decreased, or stays the same.
- A user can follow multiple different people.
- The application should be programmed to be easily expandable, both in backend and frontend.

Tables & Fields

- Person:
 - PID - Primary Key
 - Username
 - Password
 - Stock List - foreign key to Stock table
 - Following List - foreign key to Following table
 - User Type
- Stock:
 - SID - Primary Key
 - Ticker
 - Current Price
 - Change in Price
- Following:
 - Following ID - PID
 - Following username - foreign key to Person table
 - current user - foreign key to Person table
- Owning stock
 - Owning ID - Primary Key
 - Quantity
 - Username - foreign key to Person table
 - Stock ticker - foreign key to Stock table

Screen Flow Diagram



Screen Sketches

Joey - Followers Page, Viewed User's Profile
(Figure 1 & 2)

Sam - Home Page, Leaderboard
(Figure 3 & 4)

Ben - Personal Profile, Stock list
Figure (5 & 6)

Figure 1: Followers Page

Description: This page is summoned by click “Following” from the Home Page. This page serves the purpose to display who the user is currently following. Additionally, they can click a particular user’s name and they will be brought to their profile page where they can see their portfolio and performance.

Buttons:

- Search bar: This will allow the user to follow new users. Upon clicking “enter” on their keyboard they will be prompted with a success pop-up saying that they could follow the user, or a failure to follow user pop up.
- Refresh: Clicking this button will refresh the user’s following feed. After following a user, they can hit this button and see the new follower appear.
- Home: This will bring the user back to the Home Page.

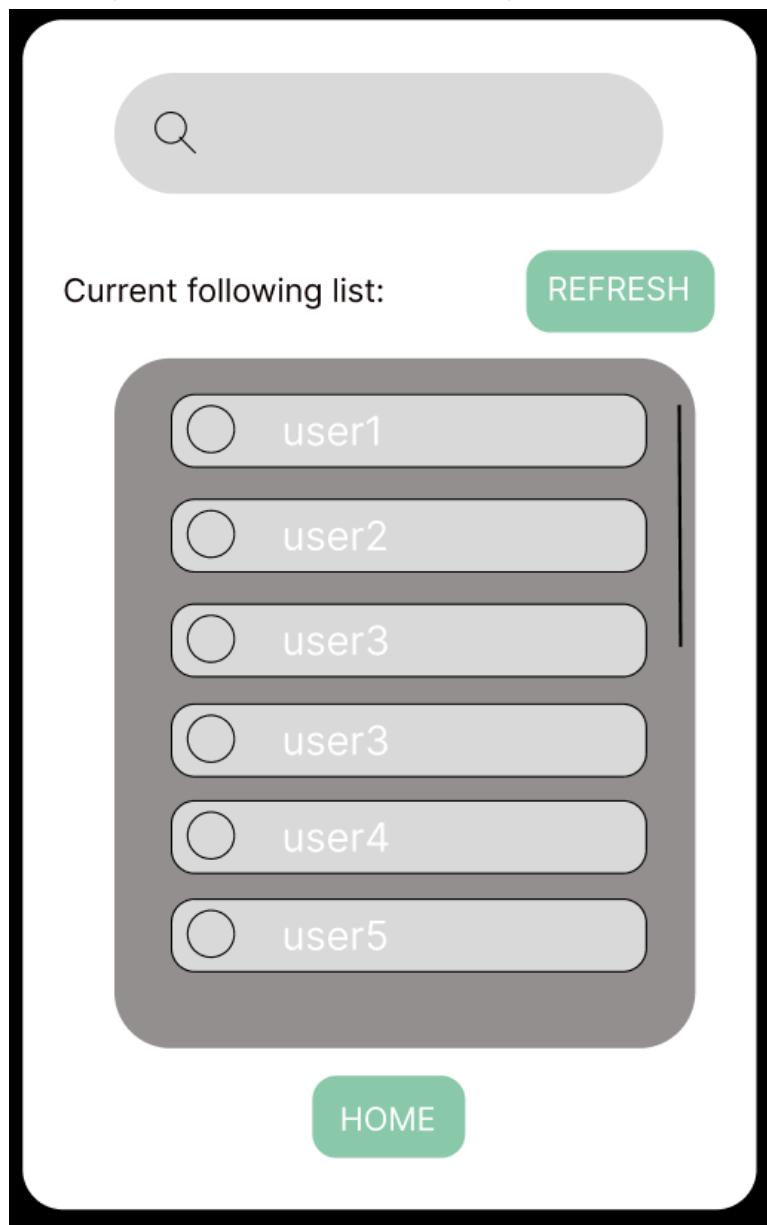


Figure 2: Viewed User's Profile

Description: This page is summoned by clicking a particular user's username. This page will act as a visual to show what a certain user is holding in terms of stock, quantity, and the total valuation of their portfolio.

The page will display the username of the user who you clicked on. Under that will be the total valuation of their portfolio, which is the sum of all stocks values (quantity * price) in the list plus the amount of cash holdings.

The information being displayed will be ranked with the first stock being shown has the highest value, value is calculated by (price * quantity). Information about a stocks ticker and price are given. Additionally, the number of owned shares is shown under quantity.

Buttons:

- Home: This will bring the user back to the Home Page.

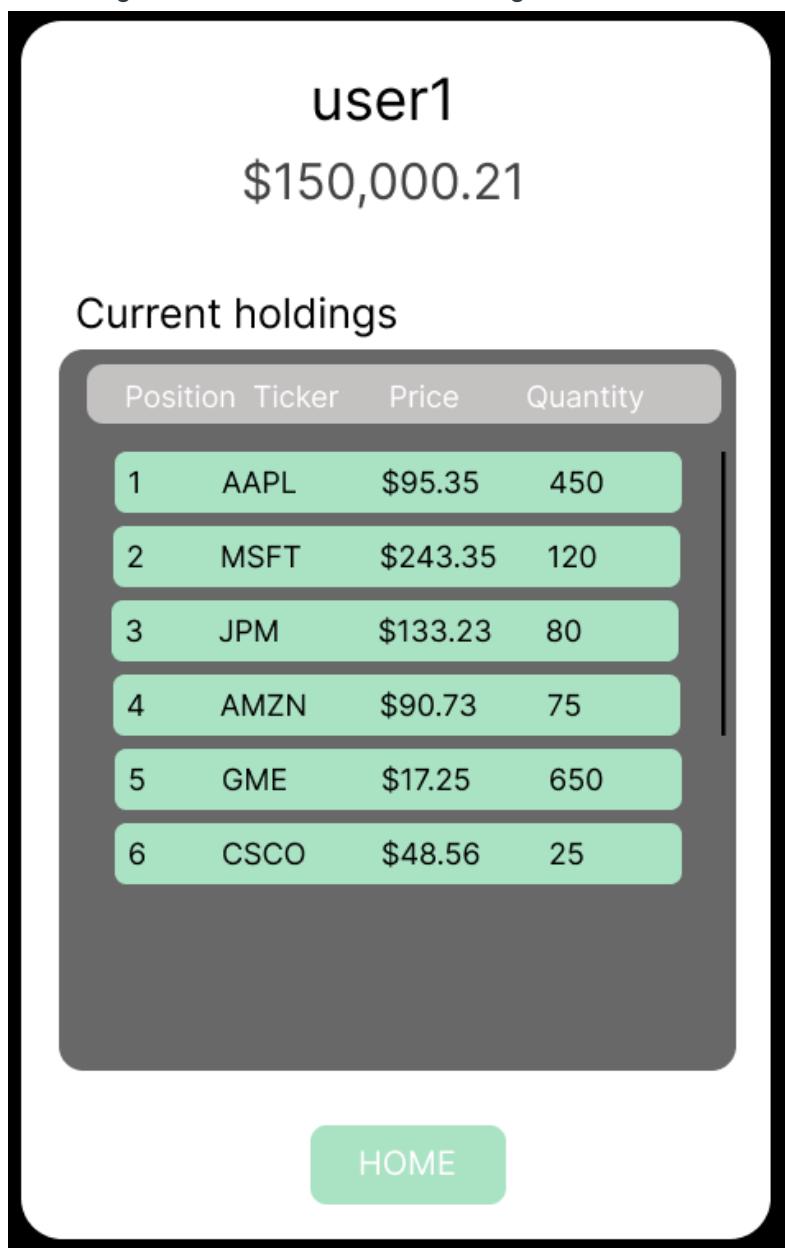


Figure 3: Home Page

Description: This page is summoned by logging in on the login page or registering on the register page. This page is a main hub of all the activities users can participate in.

The page will display the current user's username and current holdings at the top of the page. Under that will be two buttons labeled "Following" and "Profile".

Below that is two scrolling lists labeled "Trending Stocks" and "Trending Players". The Trending Stocks list is a list that categorizes each stock from its highest change in price. The Trending Players list is a list that categorizes each player from its highest valuation in price. Each list has a refresh button. Lastly, below these are 2 more buttons labeled "Stocks" and "Leaderboard".

Buttons:

- Following: This will bring the user to the Following Page.
- Profile: This will bring the user to the Profile Page.
- Stocks: This will bring the user to the Stock list Page.
- Leaderboard: This will bring the user to the Leaderboard Page.
- Refresh Button (Trending Stocks): This will refresh the Price and Change data for each Stock and update the list in order of highest change.
- Refresh Button (Trending Players): This will refresh the Valuation for each user and update the list in order of highest valuation.

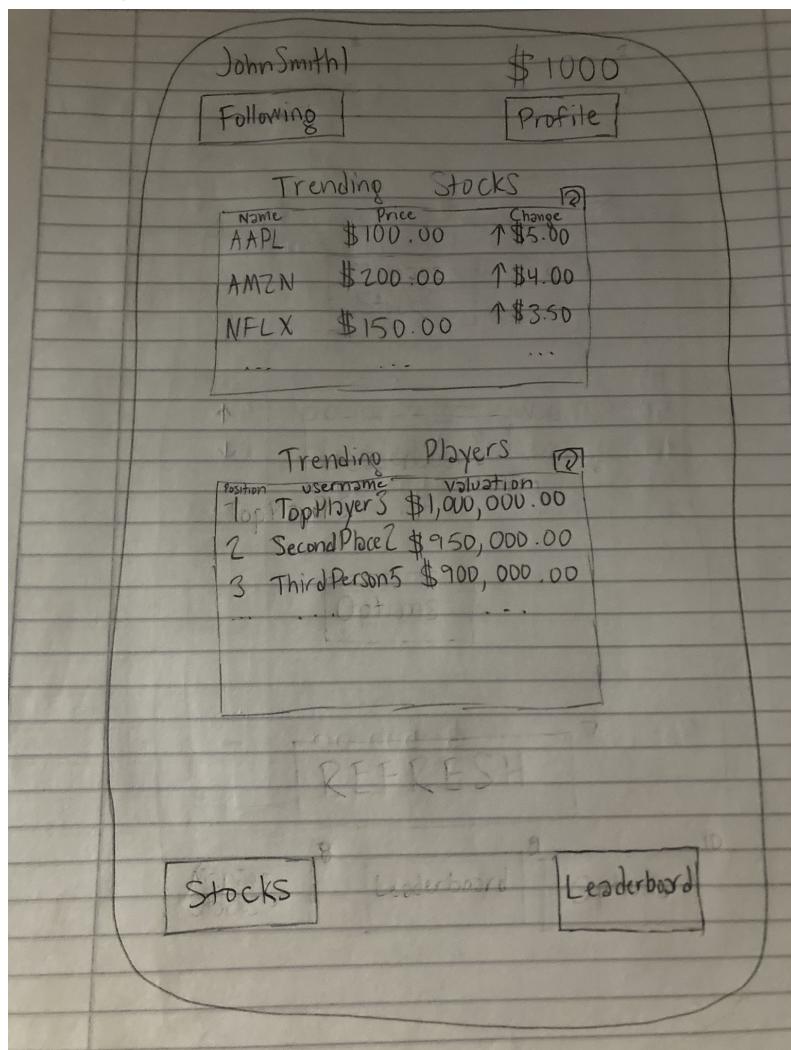


Figure 4: Leaderboard Screen

Description: This page is summoned by pressing the Leaderboard button on the Home Page.

The page will display a table of users in some order. The default order for this page will be starting from your account and adding users who are 10 positions above you and behind you based on your current valuation. For example, if you are in Position 51, you will be able to see users who are below Position 41 and above Position 61.

This table can be filtered based on Position. Clicking “Position” in the list opens a carat list of fields to sort by labeled: “Current”, “First-Last”, and “Last-First”. The option labeled current is the default sorting option which is defined above. The option labeled First-Last organizes the users by smallest position starting with the user in Position 1 to the user in Position 21 and vice versa for Last-First.

This table can be filtered based on Username. Clicking “Username” in the list opens a carat list of fields to sort by labeled: A blank space, “A-Z”, and “Z-A”. The blank space is the default and does not sort the list by usernames. The option labeled A-Z organizes the users in alphabetical order by username. The option labeled Z-A organizes the users in reverse alphabetical order by username.

When one field is added in one list, all other fields are set to their default position. This is because having more than one field would be considered a filter and wouldn’t be fit for a leaderboard.

Buttons:

- Home: This will bring the user to the Home Page.
- Refresh: This button refreshes the valuation, position, and username for each user. It then updates the table based on these new values.

A hand-drawn sketch of a mobile application's Leaderboard screen. The screen has a rounded rectangular top. At the top left is a "Home" button with a back arrow. In the center is a "Leaderboard" title. Below the title is a table with columns: Position, Username, Valuation, and Change. The table contains the following data:

Position	Username	Valuation	Change
41		\$ 500,000	-
49			
50	PatrickDoe4	\$ 1500.00	5↑
51	JohnSmith1?	\$ 1000.00	6↓
52	JoeJohnson5	\$ 500.00	-
53			
61		\$ -500.00	-

On the left side of the table, there is a vertical menu with the following options: Position v, Current, First-Last, and Last-First. On the right side, there is another vertical menu with the following options: Username v, A-Z, and Z-A. There are also small arrows pointing up and down next to the sort buttons.

Figure 5: Personal Profile Page

Description: This is the screen where the user can view their own profile. This can be accessed from the home page by clicking on the “Profile” button. On this page a user will be able to view a list of all the stocks they own as well as a short list of the users they are following. In the “Your Stocks” table each line will act as a button that will direct the user to a buy/sell page for that specified stock. The following table does not show all of the users that they are following. This table will act as a button that will direct the user to their following page where they can see a full list of all users they follow.

Buttons:

- Home: This will bring the user back to the home page.
- Gear: This will bring the user to a profile settings page.
- Stock: Each line in the “Your Stocks” table is a button that will bring the user to a buy/sell page for that specific stock.
- Following table: This is a static short list of users that when clicked will bring the user to the following page.

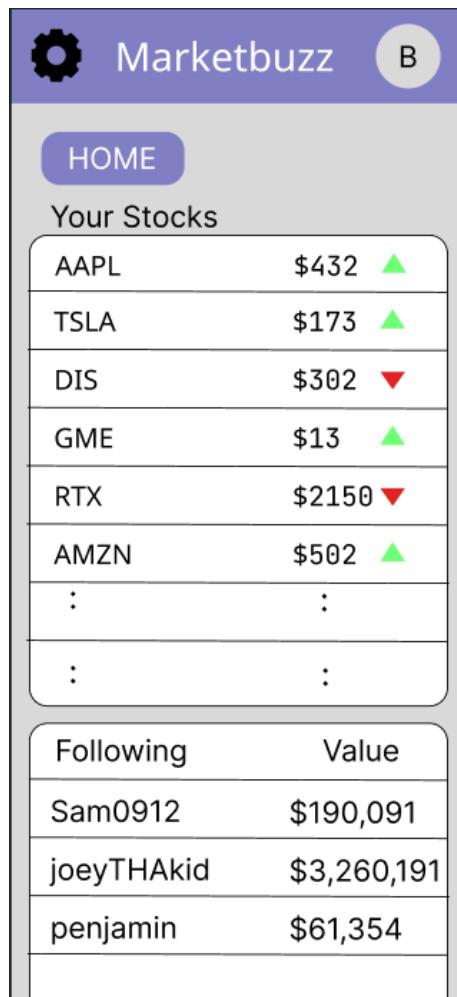
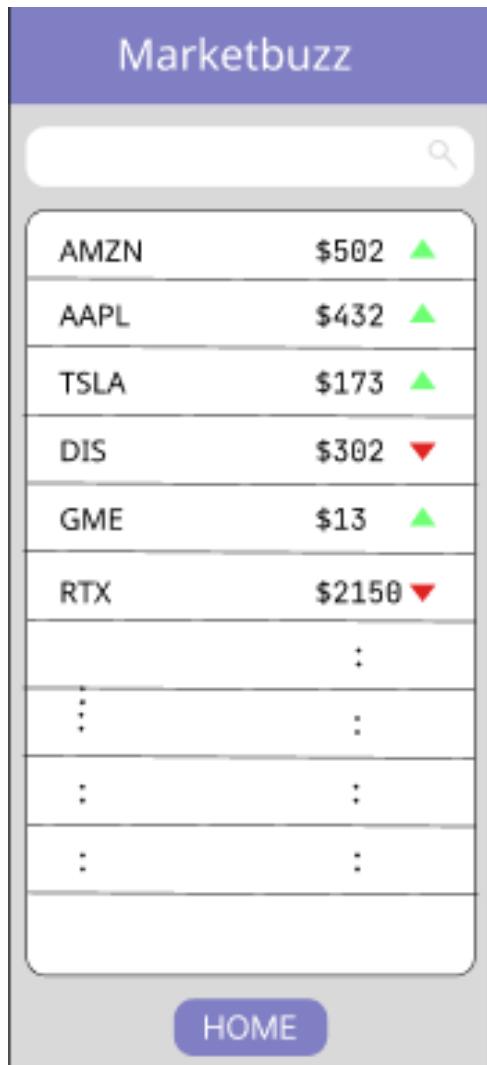


Figure 6: Stocks Table

Description: The stocks table will act as a list of all stocks that the user can look through when wanting to buy or sell a specific stock. This page shows all stocks as well as their current value, and a green up arrow for an increase in price, and a down arrow for a decrease in price.

Buttons:

- Home: This will bring the user back to the home page.
- Stock: Each line in the table is a button that will bring the user to a buy/sell page for that specific stock.
- Search: This will be a search to look through the stocks table by stock name.



A mobile application interface titled "Marketbuzz". At the top is a purple header bar with the title "Marketbuzz" in white. Below it is a light gray search bar containing a magnifying glass icon. The main content area is a table with a white background and thin gray borders. It lists six stocks: AMZN (\$502, green up arrow), AAPL (\$432, green up arrow), TSLA (\$173, green up arrow), DIS (\$302, red down arrow), GME (\$13, green up arrow), and RTX (\$2150, red down arrow). Each row has a thin gray border. Below the table are three vertical ellipsis dots. At the bottom is a purple footer bar with the word "HOME" in white capital letters.

AMZN	\$502	▲
AAPL	\$432	▲
TSLA	\$173	▲
DIS	\$302	▼
GME	\$13	▲
RTX	\$2150	▼
⋮	⋮	⋮
⋮	⋮	⋮
⋮	⋮	⋮