



## Sprint 2 Planning Document

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### **Sprint Overview**

In Sprint 2, we will be focusing on expanding our stock tracking features and begin building our personal finance tracking system. We will add support for the user to save their specific stocks and view these stocks in a list for easier access. The budgeting feature will allow users to create budgets per month and add transactions and income to that budget. Our budgeting system will also allow users to classify transactions and view a breakdown of how much they have spent in each category. All of these features will be integrated with our database so that users can save this information and view it during later sessions.

**Scrum Master:** Hugh Bromund

**Meeting Plan:** MWF @ 12:00

### **Risks and Challenges**

The largest challenge with this sprint will be the increased workload. Since we worked hard during Sprint 1 to build a strong foundation, we believe that we can take a large load for this sprint. Executing this larger workload will be challenging, but we believe that the work we put in during Sprint 1, will allow us to complete this sprint successfully.

## Current Sprint Details

### User Story #1

As a user, I would like to be able to switch between dark mode and a light mode so that I can have an easier time viewing the application

Description	Estimated Time	Owner
Create UI toggle allowing the user to switch between light and dark mode	1 hr	Aditya
Handle toggle in CSS for all pages	1 hr	Aditya
Allow the site to store light and dark mode on refresh	2 hrs	Aditya
Make request to backend to update dark vs. light	1 hr	Aditya
Update from the backend to the database for dark vs. light	1 hr	Niyati
Test to detect light and dark mode change for each page	0.5 hrs	Aditya, Niyati

#### Acceptance Criteria:

- Given that the toggle is flipped, when the user clicks the toggle, then the default colors change conditionally
- Given that the CSS is correctly wired for each page, when the toggle is flipped, then the associated colors should visually update for the current client
- Given that the user loads into the page for the first time, when they view the pages, then the default colors should be in light mode
- Given that the user refreshes the page, when they view the site, then the page should be in the same mode prior to the refresh

### User Story #2

As a user, I would like the application to be aesthetically pleasing.

Description	Estimated Time	Owner
Create color selector on the frontend for the user	5 hrs	Nate

Post to the backend a change in the color	1 hr	Nate
Handle the color change and edit the database from the backend	2 hrs	Niyati

#### Acceptance Criteria:

- Given that the user is able to login to the application, the application will be pleasing to the eye and customizable
- Given that the user is able to login to the application, the application will be customizable by color
- Given that the user is able to login to the application, the user will be able to choose a theme that appeals to them
- Given that the frontend works, the database will be updated by the backend

### User Story #3

As a user, I would like to be able to save the stocks I'd like to watch so that I can quickly access the stocks that I have interest in.

Description	Estimated Time	Owner
Create a page for users to choose and view saved stocks	3 hrs	Aditya
Allow a user to save a stock by clicking a button and saving the stock ID to the database	2 hrs	Niyati
Allow a user to un-save a stock that they no longer want to track	2 hrs	Niyati
Setup routing so the user can navigate to the saved stocks from the navigation bar	1 hr	Aditya
Testing	1 hr	Aditya, Niyati

#### Acceptance Criteria:

- Given that the user is able to view a stock they searched for, they can choose to save it to view at a later time
- Given that the database is communicating with backend code effectively, saving a stock will add its ID to the user's database entry.
- Given that the user saved a stock, they can visit a page to click on any saved stock and view its graph and analysis

- Given that a user has stocks saved, they can remove stocks from their saved list when they are no longer interested in viewing the stock

## User Story #4

As a user, I would like to be able to create a monthly budget

Description	Estimated Time	Owner
Create a UI Page/Form that allows users to set up their monthly budget	8 hrs	Hugh
Setup routing so that the User can navigate to the budget page from the Navigation Bar	1 hr	Hugh
Integrate with the backend so that the User's budget is stored in the database	3 hrs	Niyati
Handle Logic to ensure that only valid budgets can be created by the User	2 hrs	Peyton
Include Unit Tests for frontend and backend	1 hr	Hugh, Niyati

### Acceptance Criteria:

- Given that the Budget page is routed correctly, the User can navigate to the page from Navigation Bar
- Given that the Budget Page is built correctly, the User is able to select how much they would like to spend in a month
- Given that the Budget Page is built correctly, the User is able to create limits for different budget categories for the month
- Given that the Budget Page is integrated correctly when the User submits their budget, all relevant information is stored in the database

## User Story #5

As a user, I would like to be able to reset my password if I forget it

Description	Estimated Time	Owner
Create a form on the frontend to reset the password	3 hrs	Hugh
Handle routing to this component	1 hr	Hugh

Send notification to the backend	1 hr	Hugh
Backend handles logic and sends an email to update the password	4 hrs	Peyton
Password is updated in the database	1 hr	Peyton
Testing	0.5 hrs	Peyton

#### Acceptance Criteria:

- Given the user submits a reset password request, they should receive an email with a temporary password
- Given the user resets their password, the database should be updated with the newly generated temporary password
- Given the database is updating correctly, the user should be able to use their new password to login

## User Story #6

As a user, I would like to be able to edit my personal information

Description	Estimated Time	Owner
Create a form on the frontend to input updated personal information	3 hrs	Hugh
Handle routing to this component	1 hr	Hugh
Send information to backend	1 hr	Hugh
Backend handles routing and logic	1 hr	Peyton
Information updated in the database	1 hr	Peyton
Testing	1.5 hrs	Peyton

#### Acceptance Criteria:

- Given the user submits new information, the database should then update their relevant account information
- Given the database is updating correctly, the user should be able to quickly view their updated information
- Given incorrect JSON is sent, the server will return an appropriate error message
- Given an error occurs while processing the data on the server, the user should be notified of an error

## User Story #7

As a user, I would like to be able to have a dashboard of all of my personal finances.

Description	Estimated Time	Owner
Create a UI page/form that allows the user to see their personal finances	8 hrs	Hugh
Create routing from Navigation Bar to this component	1 hr	Hugh
Integrate this page with the backend so data is pulled from the database	4 hrs	Peyton
Routing for backend	1 hr	Peyton
Create unit tests for frontend and backend	1 hr	Hugh, Peyton

### Acceptance Criteria:

- Given that the dashboard page is routed correctly, the User is able to navigate to the dashboard from the navigation bar
- Given that the dashboard is integrated with the backend, the user is able to view their current monthly budget and the status of their spending relative to that budget
- Given that the dashboard is integrated with the backend, the user is able to view their recent budget entries and spending totals for their budget categories
- Given that the page is built correctly, the user sees the option to add a new budget if no budget is made for that month

## User Story #8

As a user, I would like a monthly analysis of where I am spending the most money (food, transportation, rent, etc.)

Description	Estimated Time	Owner
Create a form allowing user to input a category for the transaction	5 hr	Nate
Create page allowing user to view monthly analysis of spending	2 hr	Hugh

Store category data in the database	2 hr	Niyati
Create test to ensure that category data is correctly stored	1 hr	Hugh, Niyati

#### Acceptance Criteria:

- Given that a user has a transaction they wish to enter, when they view the form, then there should exist a form for them to input a category
- Given that a user has entered a transaction, when they submit it, the associated category should be stored in the database
- Given that a user enters the page to view a monthly summary, when they enter the page, they should be able to view a graphical representation of spending between categories

## User Story #9

As a user, I would like to keep track of my actual spending as compared to my projected budget plan

Description	Estimated Time	Owner
Create a separate budgeting page that shows the user's actual and projected spending	3 hrs	Aditya
Create a pie chart and transaction table for the user's projected budget plan and actual spending	5 hrs	Aditya
Allow user to navigate to a page, allowing them to enter more budget information	1 hr	Aditya
Allow users to navigate to a page to create their budget plan	1 hr	Aditya
Allow users to change their timeframe of budgeting	2 hrs	Aditya
Pull applicable transactions from the database	3 hrs	Peyton
Routing for transactions from the database	1 hr	Peyton

#### Acceptance Criteria:

- Given that the user sets a budgeting time frame, they can view the relative budget for that timeframe
- Given that the user inputs a new transaction into the table, it reflects in the appropriate pie chart
- Given that the user inputs a new transaction, its ID gets added to the appropriate places in the database
- Given that the budgeting time frame is over, the user can clear and restart their budgeting plan

## User Story #10

As a user, I would like the server to support fast server-client communication

Description	Estimated Time	Owner
Ensure that the frontend application will not crash on error on calling the backend	3 hrs	Aditya, Nate, Hugh
Ensure that the backend application will not crash on incorrect call from the frontend	5 hrs	Peyton
Ensure speed on calls from frontend to the backend with no blockers	2 hrs	Everyone

### Acceptance Criteria:

- Given the user submits some request on the frontend, they should receive a response shortly.
- Given an error occurs on the backend, it should not cause unhandled errors on the frontend
- Given an error occurs on the frontend, it should not cause unhandled errors on the backend
- Given the frontend is waiting for a response, the fields should display an appropriate temporary value.

## User Story #11

As a user, I would like to be able to view stock data in variable timeframes

Description	Estimated Time	Owner
Support endpoints for accessing data from different timeframes and different amounts	5 hrs	Daniel



Support Standardized JSON output across all API requests	10 hrs	Daniel
Display information on stock page from parsed JSON	5 hr	Nate
Create buttons to allow users to toggle between graphs	5 hr	Nate
Testing	3 hrs	Daniel

#### Acceptance Criteria:

- Given that the graph is displayed, the user should be able to toggle between different timeframes
- Given that a user selects a timeframe, the correct scale is displayed on the stock graph
- Given that there is an error with the Alpha Vantage API, a JSON error object is returned to the frontend
- Given that the user selects a stock to view, the backend will execute several API requests to get the necessary data

## User Story #12

As a user, I would like to be able to view a cryptocurrency's current price

Description	Estimated Time	Owner
Add a page on the frontend to connect with the stock page to display information on cryptocurrencies	3 hrs	Nate, Aditya
Add routing for this component to other components	1 hr	Aditya
Integrate component with backend	4 hrs	Daniel
Create form with dropdown to search for cryptocurrencies	1 hr	Aditya
Backend autocomplete for searched crypto names	2 hrs	Peyton
Handle backend logic to get the cryptocurrency price	3 hrs	Daniel

#### Acceptance Criteria:

- Given the user types in the name of a cryptocurrency, matching cryptocurrencies should be displayed
- Given that a user searches for a cryptocurrency, when they submit the search, then a summary should be displayed of the cryptocurrency's price
- Given that a cryptocurrency page is built and entered, when a user loads the page, data from the backend should be requested from the front end via a GET request
- Given that the API supports the given cryptocurrency, when backend receives a request from the frontend, then the appropriate data should be loaded and sent to the frontend

### User Story #13

As a user, I would like to be able to add transactions to my finances so that I can manage my budget effectively.

Description	Estimated Time	Owner
Add a form so the user can input transactions to the budget	5 hr	Nate
On submit, send information to the backend	1 hr	Nate
Handle routing to this component	1 hr	Nate
On backend, update the database so that the budget is correct.	2 hrs	Niyati

#### Acceptance Criteria:

- Given that the frontend is built correctly, the user is able to enter the amount of the transaction and classify it
- Given that backend is built correctly, invalid input is rejected and the user is prompted to fix the problem on the frontend
- Given that frontend routing is built correctly, the user is able to navigate to the add transaction page from the personal finance overview page
- Given that the database is integrated correctly when the user submits an transaction, it is stored in the database

### User Story #14

As a user, I would like to be able to add income to my finances so that I can manage my budget effectively.

Description	Estimated Time	Owner
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Add a form so the user can input income to the budget	5 hr	Nate
On submit, send information to the backend	1 hr	Nate
Handle routing to this component	1 hr	Nate
On backend, update the database so that the budget is correct.	2 hrs	Niyati

#### Acceptance Criteria:

- Given that the form is built correctly, the user is able to enter any amount of money they want and classify it
- Given that the backend is built correctly, an invalid entry is rejected
- Given that the frontend is routed correctly, the user is able to navigate to the add income page from the personal finance overview page
- Given that the database is integrated correctly, when the user submits their income, it is stored in the database

## User Story #15

As a user, I would like to be able to view deep analytics on a stock so that I can better make buying and selling decisions

Description	Estimated Time	Owner
Support endpoints for accessing analytical data	4hrs	Daniel
Algorithms to determine analytical scores	8hrs	Daniel
Display information on stock page from parsed JSON	4 hrs	Aditya, Hugh
Create unit tests to ensure functionality	3hrs	Daniel
Testing	12 hrs	Daniel

#### Acceptance Criteria:

- Given that the backend returns a JSON result, the data is displayed on the stock page
- Given that there is an error with the api request, it is printed out to the user
- Given that the user wants to change the stock they are looking at, the data will change to reflect that

- Given that the Alpha Vantage API returns malformed JSON or fails to return, the router will return a JSON error object

## Sprint 1 - Incomplete User Stories, Acceptance Criteria

### User Story #1

As a user, I would like to be able to register for an account

Description	Estimated Time	Owner
Handle registration logic and validate the request	3hr	Hugh

#### Acceptance Criteria:

- Given that the frontend UI is implemented correctly, when the User types in a weak password, then the frontend will alert the user and suggest ways to make the password stronger.

### User Story #2

As a user, I would like to be able to login to my account

Description	Estimated Time	Owner
Integrate the login page with the rest of the application	3hr	Hugh
Handle login logic and validate the request	5hr	Peyton, Niyati

#### Acceptance Criteria:

- Given that the backend logic is implemented correctly, if the user repeatedly fails login attempts to the same account, the user will be locked out.

### User Story #7

As a user, I would like to be able to view a stock's trend/range

Description	Estimated Time	Owner
Display information on stock page from parsed JSON	2hr	Aditya

## Acceptance Criteria:

- Given that a stock is trending upward or downward, when the user looks up that stock, then the UI will change color to match the current trend.

## Remaining Backlog

## Functional Requirements

1. User Account
  - ~~a. As a user, I would like to be able to register for an account.~~
  - ~~b. As a user, I would like to be able to login to my account.~~
  - ~~c. As a user, I would like to be able to reset my password if I forget it.~~
  - ~~d. As a user, I would like to be able to edit my personal information~~
  - ~~e. As a user, I would like to be able to change my associated email address~~
  - f. As a user, I would like to be able to sign in with my social media accounts so that I can have other ways of creating an account
  - g. As a user, I would like to be able to add a profile picture
2. Budget Tool
  - ~~a. As a user, I would like to be able to create a monthly budget~~
  - b. As a user, I would like to be able to get personalized financial budgeting information
  - ~~c. As a user, I would like to be able to add income to my finances so that I can manage my budget effectively.~~
  - ~~d. As a user, I would like to be able to add transactions to my finances so that I can manage my budget effectively.~~
  - ~~e. As a user, I would like to be able to have a dashboard of all of my personal finances.~~
  - f. As a user, I would like to view commonly used budgets from other users
  - g. As a user, I would like to be able to view personalized advice on how to manage my money so that I can make informed decisions.
  - h. As a user, I would like to generate a savable document of my finances so that I can access the information offline
  - ~~i. As a user, I would like to keep track of my actual spending as compared to my projected budget plan~~
  - ~~j. As a user, I would like a monthly analysis of where I am spending the most money (food, transportation, rent, etc.)~~
  - k. As a user, I would like to view my overall financial summary so that I can track my budgeting more closely
  - l. As a user, I would like to be able to be educated on how to create a budget so that I can make more responsible decisions in my daily life
3. Stock Tool
  - ~~a. As a user, I would like to be able to search for a stock~~

- ~~b. As a user, I would like to be able to view information about a stock~~
  - ~~c. As a user, I would like to be able to view a stock's volume~~
  - ~~d. As a user, I would like to be able to view a stock's volatility~~
  - ~~e. As a user, I would like to be able to view a stock's trend/range~~
  - f. As a user, I would like to be able to save the stocks I'd like to watch so that I can quickly access the stocks that I have interest in.**
  - ~~g. As a user, I would like a graphical representation of stock prices and how they are changing over time.~~
  - ~~h. As a user, I would like a list of the top 5-10 stocks that increased most in value on a day-to-day basis~~
  - i. As a user, I would like to be able to change the time frame on stocks I'm viewing**
  - ~~j. As a user, I would like to be able to compare one stocks data to another's~~
  - k. As a user, I would like to be able to view a cryptocurrency's current price**
  - ~~l. As a user, I would like to view the exchange rate between various currencies so that I can better estimate the financial impact of certain purchases~~
  - ~~m. As a user, I would like to change the timeframe over which my financial summary applies so that I can track the effectiveness of changes I am making~~
4. Analytics and Education
- a. As a user, I would like to be educated on building a strong stock portfolio so that I can make more informed purchases
  - b. As a user, I would like to be informed of the risks involved in financial investments so that I can make informed decisions.
  - c. As a user, I would like to be educated on risk management for investing so that I can make safer decisions
  - d. As a user, I would like to be educated on common stock trend graphs so that I can make more informed decisions
  - e. As a user, I would like to be able to simulate stock investments so I can see how much net gain or loss I would incur before investing in the actual market
  - f. As a user, I would like to receive recommendations on what stocks to buy and sell
  - g. As a user, I would like to be able to view breakout boundaries on the stock's graph
  - h. As a user, I would like to be able to view predictions of a stock's future price so that I can better make buying and selling decisions**
  - i. As a user, I would like to be able to learn more about cryptocurrency so that I can understand different aspects of the financial markets
5. Communication and Sharing

- a. As a user, I would like to receive email or text notifications when the stocks I am following increase or decrease in price beyond a certain threshold
- b. As a user, I would like to be able to share my stocks to social media outlets
- c. As a user, I would like to email a document containing my finances so that I can move my information
- d. As a user, I would like to be able to share stocks with another user.
- e. As a user, I would like to be able to share my budget plan with other users

## Non-Functional Requirements

### 1. Usability

~~a. As a user, I would like to be able to switch between dark mode and a light mode so that I can have an easier time viewing the application~~

- b. As a user, I would like to be able to use the application on a tablet
- c. As a user, I would like to be able to view the website on my phone and have it format correctly so that I can view my information from multiple devices
- d. As a user, I would like to be able to get help on how to use specific features of the application.
- e. As a user, I would like the application to have an easily navigable UI
- f. As a user, I would like the application to be aesthetically pleasing**

### 2. Security

- ~~a. As a developer, I would like user password and personal info to be encrypted to protect the privacy of the user.~~

### 3. Server

- a. I would like the server to support fast server-client communication**
- ~~b. I would like the server to be able to store users data in a database~~