CS 407 - Software Engineering Senior Project

Sprint One Planning Document

Team 5:

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Sprint Overview

Our Sprint One is dedicated to implementing many of the core features and structure of our project. At the end of sprint one, there will be a unique page for all user budgeting information, investment information, and billing information. Users will be able to create, edit, and view their data on each respective page in different formats like graphs for data visualization, and we will also have basic login/account features developed. This means basic data persistence will also be worked upon so that when a user logs out and back into the application, their previously entered data is where they left it.

Scrum Master

Wesley Turnbull

Meeting Schedule

Sunday 4:30pm
Tuesday 5:30pm
Thursday 8:30pm

Risks and Challenges

The risks and challenges for the first Sprint mostly come from the newness of most of the project. We are trying something new in using Flutter, so there will likely be several unforeseen headaches in the near future. They will all be necessary headaches, though, in that it will help us in the future as we will know Flutter when we get to more difficult things to implement. The only other challenge I foresee is coordinating the project’s setup and each piece that will go into the first Sprint.

Current Sprint Detail

User Story #1 (Backlog #12)

As a user, I would like to generate graphs to see my percentages of spending within my budget in a new way.

#	Description	Estimated Time	Owner
1	Create a basic dashboard widget with donut graphs	3 hours	Wes
2	Build up a system to update the graph's % filled with different inputs	2 hours	Wes
3	Set up framework to easily integrate with SQLite once we have SQLite implemented with Flutter	1 hour	Wes
4	Create a testing input and data store to quickly check if the basic graph functionality works	2 hours	Wes
User Story #1 Total Hours -		8 hours	

Acceptance Criteria:

- Given the graph is built and the budget is made, when the user clicks on the "open dashboard" button, then a donut graph should display.
- Given the graph is built properly, when the graph displays, then it should show different categories of spending.
- Given the framework for integration is set up, when new inputs are entered correctly, then the temporary data structure should be updated.
- Given the framework for integration is set up, when the new inputs are entered incorrectly, then the webpage should not allow the page to move forward

User Story #2 (Backlog #13)

As a user, I would like to be able to create a new budget with a custom name and categories.

#	Description	Estimated Time	Owner
1	Design/Implement a button to create a new budget	1.5 hours	Wes
2	Create a budget popup with sliders to build out a new budge	2.5 hours	Wes
3	Add in user input for the name and custom categories	1 hour	Wes

4	Validate the user inputs	1 hour	Wes
5	Create a list of different test cases and test with Flutter Unit tests	1.5 hours	Wes
User Story #2 Total Hours -		7.5 hours	

Acceptance Criteria:

- Given the user clicks on the "Create New Budget" button, when the button is clicked, then a popup should appear on the screen with sliders to build a new budget.
- Given the user is in the budget creation popup, when the user enters a custom name for the budget and custom categories using the sliders, then the name and categories should be visually reflected within the popup as the user inputs them.
- Given the user submits the budget creation form by confirming their choices, when the user submits valid data, then a new budget should be created with the custom name and categories.
- Given the user submits the budget creation form by confirming their choices, when the user submits invalid data (e.g., missing name or categories), then the system should prevent the creation of the budget and provide clear error messages explaining what needs to be corrected.

User Story #3 (Backlog #14)

As a user, I would like to see the percentage and exact amounts I have spent in each category.

#	Description	Estimated Time	Owner
1	Design a category expenses display	2 hours	Wes
2	Implement calculation logic to see percentage of the budget spent and how much in each category	2 hours	Wes
3	Integrate the calculations with the display and the backend	2.5 hours	Wes
4	Set up display customization to show the pie chart in different ways and with different levels of abstraction	2 hours	Wes
5	Test the functionality by inputting expenses	1 hour	Wes
User Story #3 Total Hours -		9.5 hours	

Acceptance Criteria:

- Given a user is on the budget management page, when the user navigates to the category expenses section, then the user should see a clear and visually appealing representation of the percentage and exact amounts spent in each category.

- Given a user has expenses in multiple categories, when the user views the category expenses display, then the display should accurately show the percentage and exact amounts spent for each category.
- Given the user selects a different graph type, when the user customizes their category expenses display preferences, then the system should apply the chosen settings (e.g., chart type) to the category expenses display.

User Story #4 (Backlog #16)

As a user, I would like to see each transaction in the budget section in an itemized list/table format.

#	Description	Estimated Time	Owner
1	Design the UI element of the table of transactions	2.5 hours	Wes
2	Implement the spending data from the database into the table	3 hours	Wes
3	Add sorting into the table organization	1.5 hours	Wes
4	Create different test inputs and test	1 hour	Wes
User Story #4 Total Hours -		8 hours	

Acceptance Criteria:

- Given a user is on the budget section page, when the page loads, then the user should see a table of transactions in an itemized list format.
- Given the table of transactions is displayed, when the user interacts with it, then the table should provide a clear and organized view of each transaction, including details such as date, description, category, and amount.
- Given the table of transactions is displayed, when the user sorts the transactions by date or category (or any other applicable criterion), then the table should rearrange the transactions to reflect the selected sorting order
- Given the table of transactions is displayed, when the user adds a new transaction or updates an existing one, then the table should automatically update to include the new transaction or reflect the changes made to existing transactions.

User Story #5 (Backlog #27)

As a user, I would like to be able to add/omit any spending data from the budget tracking

#	Description	Estimated Time	Owner
1	Design UI for adding/omitting spending data	3 hours	Wes

2	Integrate user input for adding spending data	1.5 hours	Wes
3	Add a button on the budget tracking page to delete an expense	1.5 hours	Wes
4	Integrate the adding and deleting a new or old spending data with the backend	2 hours	Wes
5	Create testing inputs and test with Flutter Unit tests	1 hour	Wes
User Story #5 Total Hours -		9 hours	

Acceptance Criteria:

- Given the user is on the budget tracking page, when the page loads, then the user should see an intuitive and accessible interface for adding or omitting spending data.
- Given the user wants to add spending data to the budget tracking, when the user provides the required information (e.g., expense amount, category, date), then the system should successfully add this data to the user's budget tracking.
- Given the user wants to omit spending data from the budget tracking, when the user selects the spending data they want to omit using the designated interface, then the system should successfully remove this data from the user's budget tracking, ensuring it accurately reflects the change.
- Given the user has added or omitted spending data, when the user views their budget tracking, then it should dynamically reflect the changes made, showing the updated budget values, category balances, and spending history.

User Story #6 (Backlog #6)

As a user, I would like to be greeted with an overview of my finances.

#	Description	Estimated Time	Owner
1	Create a basic homepage	3 hours	Patrick
2	Add preview blocks for budgets, bills, and investments	4 hours	Patrick
3	Add interactivity functionality	3 hours	Patrick
4	Test interactive parts of the page	1 hours	Patrick
User Story #6 Total Hours -		11 hours	

Acceptance Criteria:

- Given the homepage is complete, when I access it I should see some basic personal information.

- Given the preview blocks are complete, I should see data about my budgets and bills on the homepage.
- Given the homepage is functional, when I click on a button I should be brought to the page that the button corresponds to (budgets, bills, investments).

User Story #7 (Backlog #9)

As a user, I would like there to be a dedicated page for tracking bill deadlines and other important dates.

#	Description	Estimated Time	Owner
1	Create a basic tracking page	2 hours	Patrick
2	Add a button to return to the homepage	1 hour	Patrick
3	Add a way for user to view bill deadlines and important dates	3 hours	Patrick
4	Test homepage button and that dates show up	1 hour	Patrick
User Story #7 Total Hours -		7 hours	

Acceptance Criteria:

- Given that the tracking page is functional, I should be able to navigate to it and see it.
- Given that the home button works as intended, when it is clicked it should return me to the homepage.
- Given that the tracking page contains the correct information, I should be able to see bill deadlines on it.

User Story #8 (Backlog #11)

As a user, I would like to be able to add new bills and their deadlines to the project and see them on the tracking page.

#	Description	Estimated Time	Owner
1	Implement database calls to save and retrieve bills	4 hours	Patrick
2	Add a button to add bill data on the tracking page	2 hours	Patrick
3	Test that bill data can be saved to database and removed from it	1 hour	Patrick
4	Test that button saves bill data to database and allows it to be viewed on the tracking page	1 hour	Patrick
User Story #8 Total Hours -		8 hours	

Acceptance Criteria:

- Given that the tracking page is functioning as intended, there should be a button that allows a user to add a bill.
- Given that the database calls are functioning as intended, an added bill should appear on the tracking page.
- Given that the database calls are functioning as intended, there should be a way to remove a bill from the tracking page.

User Story #9 (Backlog #28)

As a user, I would like to customize the dashboard to prioritize the information that matters most to me.

#	Description	Estimated Time	Owner
1	Add a customization mode to the homepage	3 hours	Patrick
2	Add the ability to change what data appears on the home dashboard	4 hours	Patrick
3	Test customization mode	1 hour	Patrick
4	Test that changes are made successfully and persist	2 hours	Patrick
User Story #9 Total Hours -		10 hours	

Acceptance Criteria:

- Given that the homepage customization works, there should be an button that allows a user to customize their homepage.
- Given that the homepage customization works, a user should be able to alter things about their homepage.
- Given that the homepage settings persist properly, a user should be able to view their altered homepage whenever they log in.

User Story #10 (Backlog #4)

As a user, I want to be able to delete my FinanceFriend account.

#	Description	Estimated Time	Owner
1	Add a button in the user’s profile for account deletion	2 hours	Patrick
2	Add database functionality for account deletion	3 hours	Patrick
3	Test database functions and data	1.5 hours	Patrick

	persistance/removal		
4	Test that user can delete account using button	0.5 hours	Patrick
User Story #10 Total Hours -		7 hours	

Acceptance Criteria:

- Given that account deletion has been implemented, a user should see a button to delete their homepage.
- Given that account deletion is functional, a user should be able to delete their account by clicking the account deletion button.
- Given that a user's count has been deleted, it should no longer exist in the database.

User Story #11 (Backlog #8)

As a user, I would like there to be a dedicated page for investment information.

#	Description	Estimated Time	Owner
1	Create a basic page for investments	2 hours	Henry
2	Have a button to go back to the home page	1 hour	Henry
3	Have a button to select which investments you wish to track	6 hours	Henry
4	Test that after selecting an investment, you see it on the page	2 hours	Henry
User Story #11 Total Hours -		11 hours	

Acceptance Criteria:

- Given the investments page is complete, when I visit/load the page I can create an itemized list of currently tracked investments and an indicator letting me know I'm on the investments page.
- Given the home page button works, when I click it while on the investments page, I am then redirected back to the home page.
- Given the investment tracking button works, when I click on it, I will have the capability to select a desired stock and see it appear in my itemized list.

User Story #12 (Backlog #10)

As a user, I would like a calendar interface on the tracking page so I can easily see how many days I really have left.

#	Description	Estimated Time	Owner

1	Create a calendar interface accessible on the tracking page	2 hours	Henry
2	Be able to see bills and due dates appear on the calendar	3 hours	Henry
3	Be able to click on a day of the calendar and add new bills or dates	3 hours	Henry
4	Test that after entering dates and bills manually, they appear in the calendar.	2 hours	Henry
User Story #12 Total Hours -		10 hours	

Acceptance Criteria:

- Given the calendar works, by clicking on a day on the calendar an interface will appear to allow users to add additional bills/dates to that calendar day.
- Given the calendar interface works, you will be able to navigate to different months of the year by clicking a button to go forward or backward.
- Given the calendar works, users will be able to see the bills/dates on the correct calendar day.

User Story #13 (Backlog #17)

As a user, I would like to track the prices of my investments in the investments section.

#	Description	Estimated Time	Owner
1	Have a button to see relevant information about each investment	2 hours	Henry
2	Be able to see the current price of the investment	3 hours	Henry
3	Be able to see or add the price and amount you bought the investment for if purchased.	2 hours	Henry
4	Test that when you see more information about an investment, a dedicated user interface appears.	1 hours	Henry
User Story #13 Total Hours -		8 hours	

Acceptance Criteria:

- Given the see more information button works, then when I click on it, a dedicated interface appears to display the relevant information.
- Given the interface works, then I will be able to see the current market value price of an investment.

- Given the interface works, then I will be able to add the price and quantity of the investment I bought in the interface.

User Story #14 (Backlog #18)

As a user, I would like to generate graphs to see the percentages of my total investment portfolio.

#	Description	Estimated Time	Owner
1	Have a button on the investments page to start the graph-making process	1 hour	Henry
2	Have a user interface to select the type of graph to generate	3 hours	Henry
3	Have a dedicated view on the investments page to see the graph and percentages/weights of each investment in your portfolio.	3 hours	Henry
4	Test that after creating a graph, you can access it on the investments page	1 hour	Henry
User Story #14 Total Hours -		8 hours	

Acceptance Criteria:

- Given the generate graph button works, when I click it, a user interface appears on the screen.
- Given the user interface works, when I view it there is an option to select a type of graph.
- Given the user interface works, after I click on the pie chart button, I can see it on the investments page.

User Story #15 (Backlog #19)

As a user, I would like to see how my investment prices have changed over time and see the percentage growth.

#	Description	Estimated Time	Owner
1	Have a section on the “see more information” interface to add the date you bought the investment	1 hour	Henry
2	Be able to see depending on when you bought an investment, the price history over a week, quarter, or year	3 hours	Henry
3	Be able to see depending on when you bought an investment, the percentage increase or decrease in	3 hours	Henry

	price		
4	Test that the percentage growth changes depending on which price history you look at.	2 hours	Henry
User Story #15 Total Hours -		9 hours	

Acceptance Criteria:
- Given the “see more information” interface works, you can manually add the date that you bought an investment.
- Given the price history works, you can see the stock market price of a stock either 1 week, 1 quarter, or 1 year prior to the current viewing date.
- Given the growth feature works, you will be able to see the percentage growth of your investment depending on the time you are looking at (1 week, quarter, or year).

User Story #16 (Backlog #1)

As a user, I would like to be able to create a FinanceFriend account

#	Description	Estimated Time	Owner
1	Design create account page with fields for the user to fill out	2 hours	John
2	Implement user registration logic with an authentication service i.e. firebase authentication	3 hours	John
3	Handle user navigation on success or error	2 hours	John
4	Test that correct is stored and incorrect account creation throws errors to the user to try again	1 hour	John
User Story #16 Total Hours -		8 hours	

Acceptance Criteria:
- Given the user can access the create account page, they can enter information into the provided text fields.
- Given that the user can enter information into text fields, the user can add a bio, a profile picture, and choose saving goals.
- Given that the user can create an account, the user is redirected to a new page.

User Story #17 (Backlog #2)

As a user, I would like to login to my Finance Friend account.

#	Description	Estimated Time	Owner

1	Add to the welcome page a login button	1 hour	John
2	Allow user to login to a previously created account after having exited the application	2 hours	John
3	Allow the user to change their email and password	2 hours	John
4	Test that the user can exit the application and log back in, even if they changed their email/password	2 hours	John
User Story #17 Total Hours -		7 hours	

Acceptance Criteria:

- Given the user has created an account, they can put in their username and password to use the application after it has been previously closed.
- Given that the user can login to their account, there is a page describing their profile info.
- Given that the user can login to their account, they can change their username and password.

User Story #18 (Backlog #7) -

As a user, I would like for my data to be saved for the next time I login to FinanceFriend

#	Description	Estimated Time	Owner
1	Implement storing the profile data into the database	3 hours	John
2	Implement a data save mechanism on exit	3 hours	John
3	Implement state save logic on exit	3 hours	John
4	Test that the user can logout/close the application and their data will be as they left it	2 hours	John
User Story #18 Total Hours -		11 hours	

Acceptance Criteria:

- Given the user can login and add data i.e. profile picture, username, bio, etc. they can login again and that data will be as they left it.
- Given the user can login and add data, there are save buttons that save the current state of data.
- Given the user can login on two separate devices, their user data will be up to date with their last exit from the application.

User Story #19 (Backlog #15) -

As a user, I’d like there to be a database for the data I enter into FinanceFriend.

#	Description	Estimated Time	Owner
1	Implement Authentication to store user authentication data	2 hours	John
2	Implement the database and its structure for user data	3 hours	John
3	Implement storage for larger files such as images	2 hours	John
5	Test that all user data can be stored on Firebase and received when fetched for	1 hour	John
User Story #19 Total Hours -		8 hours	

Acceptance Criteria:

- Given the user can upload a profile picture, it can be stored online
- Given the user can create an account, they are given a unique id for their data in the database
- Given the user can create an account, their authentication data (email, password), is stored in the authentication database.

User Story #20 (Backlog #26) -

As a user, I would like to be able to use FinanceFriend on multiple devices.

#	Description	Estimated Time	Owner
1	Make FinanceFriend runnable with at least two different devices	3 hours	John
2	Develop UI to be compatible on devices	3 hours	John
3	Add sync logic on backend	2 hours	John
4	Test that the application can be run on two different devices, update data on one device to then see the update on the other device	2 hours	John
User Story #20 Total Hours -		10 hours	

Acceptance Criteria:

- Given that the user has two devices, FinanceFriend can run on both of them.
- Given the user can run FinanceFriend on two devices, they can each access all of their pages (investment, budget, etc.) on both of the devices.

- Given the user can use FinanceFriend on two devices, if they change data on one device, it will eventually be shown on the other device without the user needing to logout and login again.

Sprint 1 Hours Breakdown

Name	Hours
Wes Turnbull	42
John Robinson	43
Henry Wellman	46
Patrick Spitzer	43
Total:	174

Backlog

L: Login
UI: UI/UI Elements
B: Backend (Database, website functionality)
F: Part of a feature
If time allows

ID	Function Requirement	Category
1	~~As a user, I would like to be able to create a *FinanceFriend* account~~	L
2	~~As a user, I would like to login to my Finance Friend account.~~	L
3	As a user, I want to be able to reset my password.	L
4	~~As a user, I want to be able to delete my *FinanceFriend* account.~~	L
5	As a user, I want to be able to update my login information.	L
6	~~As a user, I would like to be greeted with an overview of my finances.~~	UI
7	~~As a user, I would like for my data to be saved for the next time I login to *FinanceFriend*~~	B
8	~~As a user, I would like there to be a dedicated page for investment information.~~	UI
9	~~As a user, I would like there to be a dedicated page for tracking bill deadlines and other important dates.~~	UI
10	~~As a user, I would like a calendar interface on the tracking page so I can easily see how many days I really have left.~~	UI
11	~~As a user, I would like to be able to add new bills and their deadlines to the project and see them on the tracking page.~~	F
12	~~As a user, I would like to generate graphs to see my percentages of spending within my budget in a new way.~~	UI
13	~~As a user, I would like to be able to create a new budget with a custom name and categories.~~	F
14	~~As a user, I would like to see the percentage and exact amounts I have spent in each category.~~	F

15	~~As a user, I would like to create a target spending amount in each category and see how close I am to the target as new spending information is added.~~ As a user, I'd like there to be a database for the data I enter into FinanceFriend.	~~F~~ B
16	~~As a user, I would like to see each transaction in the budget section in an itemized list/table format.~~	UI
17	~~As a user, I would like to track the prices of my investments in the investments section.~~	F
18	~~As a user, I would like to generate graphs to see the percentages of my total investment portfolio.~~	UI
19	~~As a user, I would like to see how my investment prices have changed over time and see the percentage growth.~~	F
20	As a user, I would like to be able to create spending goals and have a system notify me if I achieved the goals or not.	F
21	As a user, I would like to be able to see a history of the places I visited.	UI
22	As a user, I would like the option to get notified at a time of my choosing when to enter my expenses at stored locations.	F
23	As a user, I would like to enter how much I spent at the places I visited in my location history.	F
24	As a user, I would like the option to get notified to enter my expenses whenever I leave a location.	F
25	~~As a user, I would like to be able to use *FinanceFriend* on multiple devices.~~	B
26	As a user, I would like to get specific feedback on my spending and areas where I can save	F
27	~~As a user, I would like to be able to add/omit any spending data from the budget tracking~~	F
28	~~As a user, I would like to customize the dashboard to prioritize the information that matters most to me.~~	UI
29	As a user, I would like to see how my spending would look on multiple different credit cards	F

30	As a user, I would like to be able to set specific saving goals for big purchases	F
31	As a user, I would like to receive warning alerts if my spending has reached a certain threshold for the different categories	F
32	As a user, I would like the option to enable or disable push notifications for the app.	F
33	As a user, I would like to be able to personalize push notifications based on category and how much my budget has been exceeded.	F
34	As a user, I would like the option to see my expected future costs for certain categories based on data from previous periods.	B
35	As a user, I would like tips on how to use a credit card to keep my credit score from getting low	F
36	As a user, I would like to highlight certain transactions in the itemized list that were not planned.	F
37	As a user, I would like there to be different colors for spending categories shown in the generated graphs	UI
38	As a user, I would like to see different colors for investments based on overall ROI results.	UI
39	As a user, I would like to be able to request my friends to see their calendars.	F
40	As a user, I would like to generate graphs based on the expected future spending reports.	F
41	As a user, I would like to see tips on what stocks to invest in based on my level of risk.	F
42	As a user, I would like to be able to request my friends to see their budgets.	F
43	*As a user, I would like my budget to be exportable to a CSV-type format*	B
44	*As a user, I would like an encouraging summary at the end of the month telling me about my spending habits*	F
45	*As a user, I would like there to be a social hub where I can*	UI

	share my spending goals with my friends on the app	
46	*As a user, I would like to add fellow users as friends*	F
47	*As a user, I would like to be able to comment on my friend's goals and their progress*	F
48	*As a user, I would like to be able to make posts on the social hub that my friends can see*	F
49	*As a user, I would like there to be a dedicated page for creating budgets.*	UI
50	*As a user, I would like the ability to direct message users that are my friends.*	F
51	*As a user, I would like the ability to block other users.*	F
52	*As a user, I would like to be able to see what money-saving challenges my friends are participating in.*	F
53	*As a user, I would like to be able to export an overview of my spending suggestions and analytics to a PDF format*	F
54	*As a user, I would like to see a color indicator for how effectively I am managing my budget.*	UI
55	*As a user, I would like to see cohesive branding across the app in the form of images, stylized text, and quality logos.*	UI
56	*As a user, I would like to see animations when switching pages.*	UI
57	*As a user, I would like to see a loading animation when logging in.*	UI
58	*As a user, I would like to see a list of challenges for me to join based on what I need to save money on*	F
59	*As a user, I would like to join a challenge to save money with other users*	F
60	*As a user, I would like to add a short description to my account describing what my financial goals are*	F
61	*As a user, I would like to add a profile picture to my account*	F