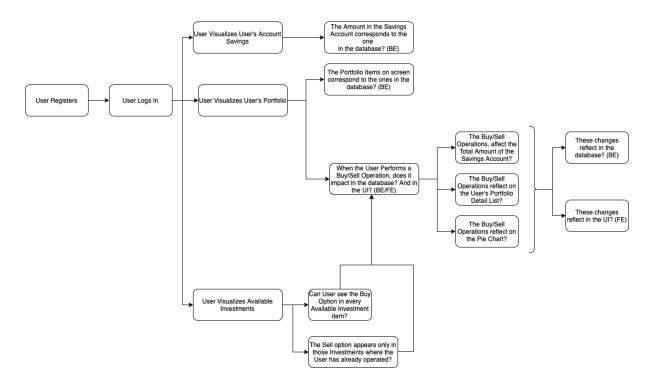
Project Details

Project Name	Show me the money!
Designed By	Ken Adams
Environment	macOS Version Big Sur 11.5.2
	Wi-fi Network
Delivery Date	25 th April, 2022

Show me the money! Workflow Brainstorming (considering things that cannot be actually tested in this instance, as the Registration process or Database storing)



Please, notice that in order to make this task a little bit more robust, I have included extra features that I could not actually test. Therefore, the Test Cases steps and results are obviously fictitious.

Test Scenario Set#1 - Login

Description

User should be able to log in successfully into the Show me the Money! website. User should be able to reset Password by email if necessary.

Required Data

User must provide these mandatory fields:

- E-mail Address
- Password

Valid Scenarios

- Verify Login using valid e-mail Address and Password.

- Verify Login using invalid e-mail Address and Password.
- Verify Login using invalid e-mail Address and valid Password.
- Verify Login using valid e-mail Address and invalid Password.
- Verify Login using an unregistered e-mail.
- Verify Login with empty e-mail Address and Password.
- Verify Login with empty e-mail field.
- Verify Login with empty Password field.

Test Cases for Scenario Set#1 - Login

Test Environment	macOS Big Sur 11.5.2 - Chrome - V	Vi-fi Network					
Pre-Conditions	User must have already been registered.						
Test Case 1	Log in with a valid e-mail Address a	Log in with a valid e-mail Address and Password.					
Test Steps	Expected Results	Expected Results Actual Result Status Notes					
 Enter valid e-mail Address Enter valid Password Click on Sign in 	User is logged in successfully. User is redirected to Home page.		Pass				
Test Case 2	Log in with an invalid e-mail Address	s and Password.					
Test Steps	Expected Results	Actual Result	Status	Notes			
 Enter invalid e-mail Address Enter invalid Password Click on Sign in 	Error message "Incorrect e-mail or password".		Pass				
Test Case 3	Log in with an invalid e-mail Address	s and valid Pass	word.				
Test Steps	Expected Results	Actual Result	Status	Notes			
 Enter invalid e-mail Address Enter valid Password Click on Sign in 	Error message "Incorrect e-mail or password".		Pass				
Test Case 4	Log in with a valid e-mail Address a	nd invalid Passw	ord.				
Test Steps	Expected Results	Actual Result	Status	Notes			
 Enter valid e-mail Address Enter invalid Password Click on Sign in 	Error message "Incorrect e-mail or password".		Pass				
Test Case 5	Log in with an unregistered e-mail.						
Test Steps	Expected Results	Actual Result	Status	Notes			
 Enter unregistered e-mail Address Enter invalid Password Click on Sign in 	Error message "Username or e-mail was not found".		Pass				

Test Case 6	Log in with empty e-mail field.			
Test Steps	Expected Results	Actual Result	Status	Notes
 Leave empty e-mail field Enter valid Password Click on Sign in 	Error message "Incorrect e-mail or password".	Same as Expected.	Pass	
Test Case 7	Log in with empty Password field.			
Test Steps	Expected Results	Actual Result	Status	Notes
 Enter valid e-mail Leave empty Password field Click on Sign in 	Error message "Incorrect e-mail or password".		Pass	
Test Case 8	Show/Hide Password button Function	nality.		
Test Steps	Expected Results	Actual Result	Status	Notes
 Enter a valid e-mail Enter a valid Password Click on Show button Click on Hide button 	Show button: The password is shown to the User. Hide button: The password is encrypted to the User.		Pass	
Test Case 9	Reset Password Functionality using e	-mail		
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Reset Password Enter a valid e-mail Click on Send by e-mail Open the e-mail in the inbox Use the Password that is sent in the e-mail to log in Log out and log in using the old Password 	Message informs that e-mail will be sent. User can correctly log in with new Password. Login is not successful and user is informed the password has changed.		Pass	
Test Case 10	Log in with an unregistered e-mail.			
Test Steps	Expected Results	Actual Result	Status	Notes
4. Enter unregistered e-mail Address5. Enter invalid Password6. Click on Sign in	Error message "Incorrect e-mail or password".	Same as Expected.	Pass	

Test Scenario Set#2 – User Portfolio (Buy and Sell Operations)

Description

User should be able to perform Buy and Sell Operations of those products which are already part of the User Portfolio. The Buy and Sell Operations should reflect in the User Portfolio section and in the Pie Chart showing the updated information.

Pre-requirements

User must have already been registered.

User must be logged in.

User must have already operated through the Website.

Required Data

User must provide Bond/Stocks quantity through Increment/Decrement button only with Integers.

Valid Scenarios

- Verify Buying Operation is available providing Integers with the Increment/Decrement button only and correctly executed when hitting the "Buy" button.
- Verify Selling Operation is available providing Integers with the Increment/Decrement button only and correctly executed when hitting the "Sell" button.

- Verify Buying Operation is available providing Decimals.
- Verify Selling Operation is available providing Decimals.
- Verify Buying Operation with no quantity provided.
- Verify Selling Operation with no quantity provided.
- Verify Buying Operation with a non-numeric quantity provided.
- Verify Selling Operation with non-numeric quantity provided.

Test Environment	macOS Big Sur 11.5.2 - Chrome - Wi-fi Network					
Pre-Conditions	User must have already logged in.					
Test Case 1	Buying Operation providing quantities (I	ntegers) with the li	ncrement/Decre	ment button.		
Test Steps	Expected Results	expected Results Actual Result Status Notes				
 Click on Portfolio Item Enter Integer to Buy with the increasing/decreasing button. Click on "Buy" 	"Processing Operation" message appears. "Successful Operation" message appears.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 2	Selling Operation providing quantities (I					
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Portfolio Item Enter Integer to Sell with the increasing/decreasing button. Click on "Sell" 	"Processing Operation" message appears. "Successful Operation" message appears.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 3	Buying Operation providing quantities (II	ntegers) with Keyb	oard Text Input.			
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Portfolio Item Enter Integer to Buy with keyboard. Click on "Buy" 	Field should not allow User to enter Integer values with the keyboard. Buy button should not appear.	Field allows User input with the keyboard and the Buy button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 4	Selling Operation providing quantities (In	ntegers) with Keyb	oard Text Input.			
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Portfolio Item Enter Integer to Sell with keyboard. Click on "Sell" 	Field should not allow User to enter Integer values with the keyboard. Sell button should not appear.	Field allows User input with the keyboard and the Sell button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 5	Buying Operation with decimal quantity provided.					
Test Steps	Expected Results	Actual Result	Status	Notes		

 Click on Portfolio Item Enter Decimal in quantity Click on "Buy" 	Field should not allow User to enter decimal values with the keyboard. Buy button should not appear.	Field allows User decimal input with the keyboard and the Buy button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 6	Selling Operation with decimal quantity provided.					
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Portfolio Item Enter Decimal in quantity Click on "Sell" 	Field should not allow User to enter decimal values with the keyboard. Sell button should not appear.	Field allows User decimal input with the keyboard and the Sell button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 7	Buying Operation with no quantity provided.					
Test Steps	Expected Results	Actual Result	Status	Notes		
Click on Portfolio Item Enter no value in the quantity field.	Buy button should not be enabled.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 8	Selling Operation with no quantity provide	led.				
Test Steps	Expected Results	Actual Result	Status	Notes		
Click on Portfolio Item Enter no value in the quantity field.	Sell button should not be enabled.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 9	Buying Operation with a non-numeric qu	antity provided.				
Test Steps	Expected Results	Actual Result	Status	Notes		
Click on Portfolio Item Enter non-numeric value in the quantity field.	Field should not allow User to enter non- numeric values with the keyboard. Buy button should not appear.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 10	Selling Operation with a non-numeric qu					
Test Steps	Expected Results	Actual Result	Status	Notes		

 Click on Portfolio Item Enter non-numeric value in the quantity field. 	Field should not allow User to enter non- numeric values with the keyboard. Buy button should not appear.		Pass	All Portfolio Items were tested. Input boxes are not aligned.			
Test Case 11	Savings Account Total updates after Buy	Savings Account Total updates after Buying Operation.					
Test Steps	Expected Results	Actual Result	Status	Notes			
 Click on Portfolio Item Enter Integer in quantity field. Click on "Buy" 	"Processing Operation" message appears. "Successful Operation" message appears. Total amount in Savings Account decreases accordingly.		Pass	All Portfolio Items were tested.			
Test Case 12	Savings Account Total updates after Sel	ling Operation.					
Test Steps	Expected Results	Actual Result	Status	Notes			
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Sell" 	"Processing Operation" message appears. "Successful Operation" message appears. Total amount in Savings Account increases accordingly.		Pass	All Portfolio Items were tested.			
Test Case 13	Portfolio Item quantity (units) updates a	fter Buying Opera	tion				
Test Steps	Expected Results	Actual Result	Status	Notes			
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Buy" 	"Processing Operation" message appears. "Successful Operation" message appears. Portfolio Item quantity in User Portfolio increases accordingly.		Pass	All Portfolio Items were tested.			

Test Case 14	Portfolio Item quantity (units) updates a	Portfolio Item quantity (units) updates after Selling Operation			
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Sell" 	"Processing Operation" message appears. "Successful Operation" message appears. Portfolio Item quantity in User Portfolio decreases accordingly.		Pass		
Test Case 15	Pie Chart updates after Buying Operatio		1		
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Buy" Click the Refresh browser button 	"Processing Operation" message appears. "Successful Operation" message appears. Buying Operation Dialog should have a Closing X button and redirect User to the Home page where the Pie Chart should be updated.	Once the Operation is processed, the dialog stays open and there is no option to close or return to the previous screen. When refreshing the website, updates are not reflected in the Pie Chart.	Fail	Closing X button should be added for the operation dialog and redirection to the home page too.	
Test Case 16	Pie Chart updates after Selling Operatio	n			
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Sell" Click the Refresh browser button 	Processing Operation" message appears. "Successful Operation" message appears. Selling Operation Dialog should have a Closing X button and redirect User to the Home page where the Pie Chart should be updated.	Once the Operation is processed, the dialog stays open and there is no option to close or return to the previous screen. When refreshing the website, updates	Fail	Closing X button should be added for the operation dialog and redirection to the home page too.	

		are not reflected in the Pie Chart.			
Test Case 17	Total Market Position updates after Buying Operation				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Portfolio Item Enter Integer in the quantity field. Click on "Buy" Click the Refresh browser button 	Processing Operation" message appears. "Successful Operation" message appears. Buying Operation Dialog should have a Closing X button and redirect User to the Home page where the Total Market Position should be updated.	Once the Operation is processed, the dialog stays open and there is no option to close or return to the previous screen. When refreshing the website, updates are not reflected in the Total Market Position.	Fail	Closing X button should be added for the operation dialog and redirection to the home page too.	
Test Case 18	Total Market Position updates after Sell	ing Operation			
Test Steps	Expected Results	Actual Result	Status	Notes	
 5. Click on Portfolio Item 6. Enter Integer in the quantity field. 7. Click on "Sell" 8. Click the Refresh browser button 	Processing Operation" message appears. "Successful Operation" message appears. Selling Operation Dialog should have a Closing X button and redirect User to the Home page where the Total Market Position should be updated.	Once the Operation is processed, the dialog stays open and there is no option to close or return to the previous screen. When refreshing the website, updates are not reflected in the Total Market Position.	Fail	Closing X button should be added for the operation dialog and redirection to the home page too.	

Test Scenario Set#3 – Available Investments (Buying Operations)

Description

User should be able to perform Selling Operations with only those products of the Available Investments list he has already invested in.

Pre-requirements

User must have already been registered.

User must be logged in.

Required Data

User must select the Product he wants to buy.

User must provide Bond/Stocks quantity through Increment/Decrement button only with Integers.

Valid Scenarios

- Verify Buying Operation is available providing Integers through Increment/Decrement button.
- Verify that Buying Operation is correctly executed when hitting the "Buy" button.

- Verify Buying Operation is available providing quantity values through input with keyboard.
- Verify Buying Operation is available providing Decimals.
- Verify Buying Operation with no quantity provided.
- Verify Buying Operation with a non-numeric quantity provided.

Test Cases for Scenario Set#3 - Available Investments (Buying Operations)

Test Environment	macOS Big Sur 11.5.2 - Chrome - Wi-fi Network			
Pre-Conditions	User must have already been logged in.			
Test Case 1	Buying Operation providing quantities (Integers) with the Increment/Decrement button.			
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter Integer quantity value. Click on Buy button 	"Processing Operation" message appears. "Successful Operation" message appears.		Pass	All Portfolio Items were tested. Input boxes are not aligned.
Test Case 2	Buying Operation providing quantiti	es (Integers) with Keybo	oard Text Input	•
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter Integer quantity with keyboard. Click on "Buy" 	Field should not allow User to enter Integer values with the keyboard. Buy button should not appear.	Field allows User input with the keyboard and the Buy button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.
Test Case 3	Buying Operation with Decimal qua	ntity provided.		
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter Decimal in quantity Click on "Buy" 	Field should not allow User to enter decimal values with the keyboard. Buy button should not appear.	Field allows User decimal input with the keyboard and the Buy button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.
Test Case 4	Buying Operation with no quantity p	rovided.		
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter no value in the quantity field. 	Buy button should not be enabled.		Pass	All Portfolio Items were tested. Input boxes are not aligned.

Test Case 5	Buying Operation with non-numeric of	Buying Operation with non-numeric quantity provided.				
Test Steps	Expected Results	Actual Result	Status	Notes		
Click on Available Investment item. Enter non-numeric value in the quantity field.	Field should not allow User to enter non- numeric values with the keyboard. Buy button should not appear.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		
Test Case 6	Savings Account Total updates after	Buying Operation.				
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Available Investment item. Enter Integer in quantity field. Click on "Buy" 	"Processing Operation" message appears. "Successful Operation" message appears. Total amount in Savings Account decreases accordingly.		Pass	All Portfolio Items were tested.		
Test Case 7	Portfolio Item quantity (units) updat	es after Buying Operati	on			
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Available Investment item. Enter Integer in the quantity field. Click on "Buy" 	"Processing Operation" message appears. "Successful Operation" message appears. Portfolio Item quantity in User Portfolio increases accordingly.		Pass	All Portfolio Items were tested.		

Test Case 8	Pie Chart Updates after Buying Oper	ation		
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter Integer in the quantity field. Click on "Buy" Click the Refresh browser button 	"Processing Operation" message appears. "Successful Operation" message appears. Buying Operation Dialog should have a Closing X button and redirect User to the Home page where the Pie Chart should be updated.	Once the Operation is processed, the dialog stays open and there is no option to close or return to the previous screen. When refreshing the website, updates are reflected in the Pie Chart.	Block	Closing X button should be added for the operation dialog and redirection to the home page too.
Test Case 9	Total Market Position updates after	Buying Operation		
Test Steps	Expected Results	Actual Result	Status	Notes
 Click on Available Investment item. Enter quantity value. Click on "Buy" Click the Refresh browser button. 	"Processing Operation" message appears. "Successful Operation" message appears. Total Market Position should be updated.	The Total Market Position only reflects the unitary value of each Share/Bond and not the total amount of the User Portfolio.	Fail	

Test Scenario Set#4 – Available Investments (Selling Operations)

Description

User should be able to perform Selling Operations only with those Products part of the User Portfolio.

Pre-requirements

User must have already been registered.

User must be logged in.

User must have already invested in the product he wants to sell.

Required Data

User must select the Product he wants to sell.

User must provide Bond/Stocks quantity through Increment/Decrement button only with Integers.

Valid Scenarios

- Verify that Selling Operation is only available for those products under the User's Portfolio.
- Verify Selling Operation is available providing Integers through Increment/Decrement button.
- Verify that Selling Operation is correctly executed when hitting the "Buy" button.

- Verify Selling Operation is available providing quantity values through input with keyboard.
- Verify Selling Operation is available providing Decimals.
- Verify Selling Operation with no quantity provided.
- Verify Selling Operation with a non-numeric quantity provided.

Test Cases for Scenario Set#4- Available Investments (Selling Operations)

Test Environment	macOS Big Sur 11.5.2 - Chrome - Wi-fi Network					
Pre-Conditions	User must have already been logged in.					
Test Case 1	Selling Operation available only for p	roducts under User's P	ortfolio.			
Test Steps	Expected Results	Expected Results Actual Result Status Notes				
 Click on Available Investment item appearing also under User's Portfolio. Enter total amount of unit products in stock. Click "Sell" Click again on the same Available Investment item of step 1. 	"Processing Operation" message appears. "Successful Operation" message appears. User is redirected to home page where changes in total amounts and pie chart should be reflected. Selling Option should now be disable for the Available Investment item.		Pass			
Test Case 2	Selling Operation providing quantitie	s (Integers) with the Inc	crement/Decrer	nent button.		
Test Steps	Expected Results	Actual Result	Status	Notes		
 Click on Available Investment item. Enter Integer quantity value. Click on "Sell" 	"Processing Operation" message appears. "Successful Operation" message appears.		Pass	All Portfolio Items were tested. Input boxes are not aligned.		

Test Case 3	Selling Operation providing quantities (Integers) with Keyboard Text Input.				
Test Steps	Expected Results	Actual Result	Status	Notes	
Click on Available Investment item. Enter Integer quantity with keyboard. Click on "Sell"	Field should not allow User to enter Integer values with the keyboard. Sell button should not appear.	Field allows User input with the keyboard and the Sell button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.	
Test Case 4	Selling Operation with Decimal quantity provided.				
Test Steps	Expected Results	Actual Result	Status	Notes	
Click on Available Investment item. Enter Decimal in quantity Click on "Sell"	Field should not allow User to enter decimal values with the keyboard. Sell button should not appear.	Field allows User decimal input with the keyboard and the Sell button was enabled.	Fail	All Portfolio Items were tested. Input boxes are not aligned.	
Test Case 5	Selling Operation with no quantity provided.				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Available Investment item. Enter no value in the quantity field. 	Sell button should not be enabled.		Pass	All Portfolio Items were tested. Input boxes are not aligned.	
Test Case 6	Selling Operation with non-numeric quantity provided.				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Available Investment item. Enter non-numeric value in the quantity field. 	Field should not allow User to enter non- numeric values with the keyboard. Sell button should not appear.		Pass	All Portfolio Items were tested. Input boxes are not aligned.	
Test Case 7	Savings Account Total updates after Selling Operation.				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Available Investment item. Enter Integer in quantity field. Click on "Sell" 			Pass	All Portfolio Items were tested.	

Test Case 8	"Processing Operation" message appears. "Successful Operation" message appears. Total amount in Savings Account increases accordingly.	on after Calling Operat	ion		
Test Steps	Portfolio Item quantity (units) updates after Selling Operation Expected Results Actual Result Status Notes				
Click on Available Investment item. Enter Integer in the quantity field. Click on "Sell"	"Processing Operation" message	Actual Result	Pass	All Portfolio Items were tested.	
	appears. "Successful Operation" message appears. Portfolio Item quantity in User Portfolio decreases accordingly.				
Test Case 9	Pie Chart Updates after Selling Operation				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Available Investment item. Enter Integer in the quantity field. Click on "Sell" 	"Processing Operation" message appears.		Pass		
	"Successful Operation" message appears. User is redirected to Home page and Pie Chart is updated.				
Test Case 10	Total Market Position updates after Selling Operation				
Test Steps	Expected Results	Actual Result	Status	Notes	
 Click on Available Investment item. 		The Total Market Position only reflects	Fail		

2. Enter quantity value. 3. Click on "Sell" "Processing Operation" message appears. "Successful Operation" message appears. Total Market Position should be updated.	the unitary value of each Share/Bond and not the total amount of the User Portfolio.	
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TASK 1: (B) SMOKE TESTING

For a Smoke Testing instance, I would suggest applying the following Test Cases which I consider tackle the main issues a Buying/Selling application may have:

Test Cases for Buying Operations with valid input data functionality:

- Savings Account Total updates after Buying Operation.
- Portfolio Item quantity (units) updates after Buying Operation.
- Pie Chart updates after Buying Operation
- Total Market Position updates after Buying Operation

Test Cases for Selling Operations with valid input data functionality

- Savings Account Total updates after Selling Operation.
- Portfolio Item quantity (units) updates after Selling Operation.
- Pie Chart updates after Selling Operation
- Total Market Position updates after Selling Operation

TASK 2: (A) FIND A BUG AND REPORT

Total Market Position --> Total amount only reflects the addition/subtraction of the unitary value of a Bond/Share when Buying or Selling but it does not reflect the number of Bond/Shares that were traded for the result. (High priority)

Reproduce by:

- 1. Click on Available Investment item (Aluar)
- 2. Enter Quantity value (15)
- 3. Click on "Sell" button.

Expected Result:

Account Savings increased from \$42.000,00 to 43.471,50.

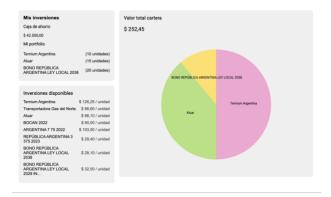
Total Market Position decreased \$1.471,50.

Actual Result:

Account Savings increased from \$42.000,00 to 43.471,50.

Total Market Position decreased \$98,10 (the unitary value and not the total amount).

Test Environment: macOS Big Sur 15.11.2 - Chrome - Wi-fi Network.



TASK 2: (B) SUGGEST IMPROVEMENTS

- 1. Add Close X buttons in dialogs after performing any operation.
- 2. Align input boxes.
- 3. Improve Pie Chart representation: texts clearly pointing at chart parts and display percentages.

TASK 3: APIs

Postman Collection can be found in the GitHub repository.