

Project Description: QuickFin" is an app designed to make financial management simple and accessible for everyone. The app streamlines key financial tasks, such as calculating tips, estimating mortgage payments, converting currencies, projected investment returns, applying discounts, and planning savings. Our goal is to provide an intuitive tool that saves time and reduces the complexity of everyday financial decisions, empowering users to manage their money more effectively.

Overall Design Approach: Our overall design approach follows the Agile process, ensuring iterative progress and continuous improvement throughout the project. Each team member is assigned specific tasks to work on individually, contributing to iterative progress. We meet twice a week to collaborate, review completed work, and adjust our plans to maintain alignment and address challenges promptly.

Function 1: Menu:

- Allow users to navigate the menu.
- Portray calculator options.

Function 2: Tip Calculator:

- Input Bill Amount: User enters the total bill amount
- Tip Percentage: User chooses a tip percentage (preset options like 15%, 18%, 20%, or a custom percentage).
- Calculate Tip: App calculates the tip based on the bill amount and selected tip percentage.
- Total Amount: App shows the total bill amount including the tip.

Function 3: Mortgage Calculator:

- Prompt user for Loan Amount and Down Payment: User inputs the loan amount and down payment to calculate the total loan amount.
- Interest Rate: User enters the annual interest rate (APR).
- Loan Term: User selects the loan term for a certain amount of years.
- Monthly Payment: App displays the monthly payment based on total loan amount (after deducting the down payment), interest rate, and loan term.

Function 4: Currency Converter:

- Input Amount: User inputs the amount they wish to convert.
- Select Currencies: User selects the currency they are converting from and the currency they want to convert to (for example, USD to EUR).
- Fetch Exchange Rate: The app uses the current exchange rate for the selected currencies to use the selected amount they want to convert (for example, 1 USD = 0.90 EUR in Sept 2024).
- Converted Amount: The app multiplies the input amount by the

exchange rate to display the converted value.

Function 5: Investment Return:

- Initial Investment: User enters the starting amount they are investing.
- Expected Annual Return Rate: User enters expected annual return.
- Investment Duration: User chooses how long in years they plan to keep the investment.
- Calculate and Display Growth: App calculates and display the investment's future value using the compound interest formula

Function 6: Discount Calculator:

- Original Price: User input the original total price of the item they are purchasing.
- Discount Percentage: User inputs the discount percentage offered.
- Discount Amount: App calculates the discount amount by multiplying original price by the discount percentage.
- Final Price: App subtracts the discount amount from the original price and displays the final price after the discount.

Function 7: Savings Advisor:

- Monthly income: User inputs amount of monthly income.
- Monthly Savings Goal: User inputs the desired monthly savings goal.
- Expenses: User inputs the amount of expense, and it's description, then click the "add expense" button. Expenses are shown to the user in a list format.
- Calculates Savings: After all expenses are added, the app allocates the expenses and determines whether the savings goal has been achieved or not. Based on that, the app displays a recommendation message.

Use Case Diagram



