

Task:5

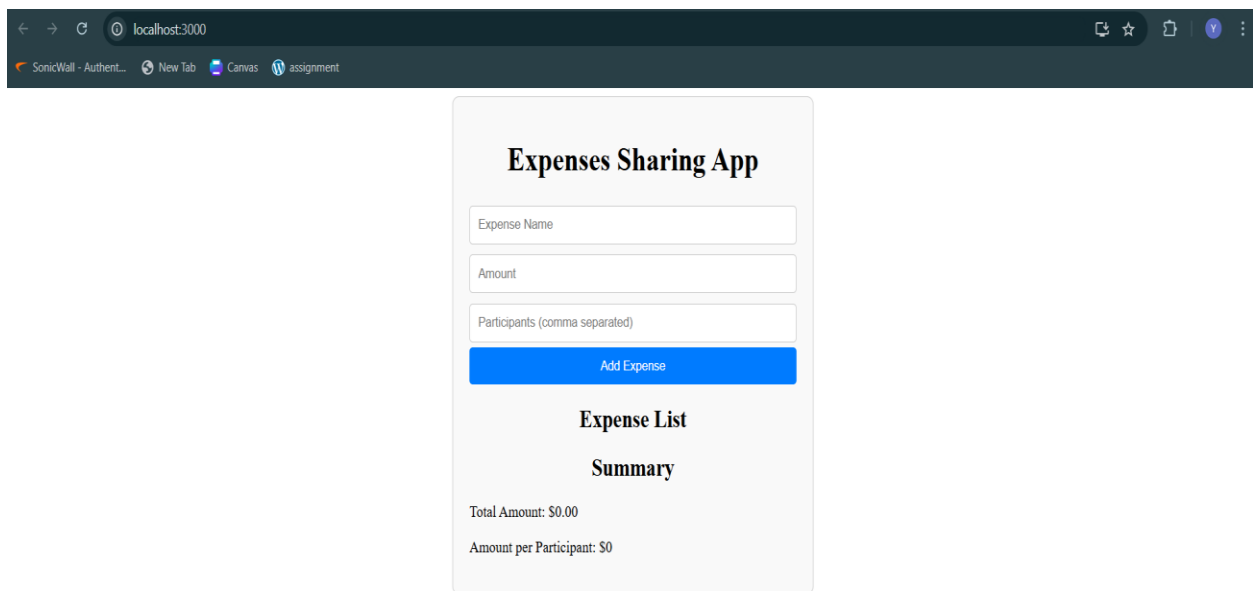
Task Name: Expense sharing app

Project Name: expenses-sharing-app

1. Task Description

The task involves creating an app that allows users to split and track shared expenses among a group of people. Users can add expenses, assign the amount each person owes, and track the total balance. The app should provide a clear breakdown of who owes whom, and allow users to settle balances. This app should store expense data and provide real-time updates when expenses are added or settled.

2. Task Output Screenshot



The screenshot shows a web browser window with the address bar displaying 'localhost:3000'. The browser's tab bar includes 'SonicWall - Authent...', 'New Tab', 'Canvas', and 'assignment'. The main content area displays the 'Expenses Sharing App' interface. It features a form with three input fields: 'Expense Name', 'Amount', and 'Participants (comma separated)'. Below these fields is a blue button labeled 'Add Expense'. Underneath the button, the text 'Expense List' and 'Summary' are displayed. The summary section shows 'Total Amount: \$0.00' and 'Amount per Participant: \$0'.

Expenses Sharing App

groceries, shopping, lunch

1750

yash, kunjan, vrut

Add Expense

Expense List

Summary

Total Amount: \$0.00

Amount per Participant: \$0

Expenses Sharing App

Expense Name

Amount

Participants (comma separated)

Add Expense

Expense List

groceries, shopping,lunch: \$1750.00 (Shared by: yash, kunjan, vrut)

Summary

Total Amount: \$1750.00

Amount per Participant: \$583.33

3. Widget/Algorithm Used In Task

- **Form Inputs:** For users to add details of an expense (e.g., description, amount, payer, participants).
- **Expense List:** A component to display all shared expenses.
- **Balance Tracker:** To show how much each person owes or is owed.
- **Settlement Button:** To mark expenses as settled and update balances.
- **Real-time Update Feature:** To update the balance dynamically after each transaction.

4. Algorithm explanation

- **Expense Entry:** Users enter the details of the shared expense using input fields (description, amount, payer, participants).
- **Expense Calculation:** Once an expense is added, the app calculates the amount each participant owes by dividing the total amount equally or based on custom input for each person's share.
- **Expense Tracking:** Store the expense and the calculated amounts in a data structure (like an array of expense objects).
- **Balance Calculation:** Continuously update each user's balance (how much they owe or are owed) by iterating through the expense list.
- **Settle Balances:** When a user settles a balance, update the respective balances and mark the expense as settled.
- **User Interface:** Display the current status of expenses and balances in a user-friendly list or card format, with filters for viewing settled and pending expenses.

5. How to start:

Install Node Module in frontend and backend folder: Go to terminal "npm install" How to Start: Go to terminal "npm run server" OR "npm start".