Smart Group Financial

Project Proposal

CS 157A by Team 31

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Project Overview

Problem Statement: When you're on a trip with a group of friends, Person A spends $95 on food, Person B spends about $50 on gas, Person C spends $100 on amenities. Then, it will take a lot of time to figure out who should pay back an amount of money to the right person. Some groups use Excel, but they have to create their own formula, which might result in mistakes and take even more time to fix and re-calculate again, or there is a possibility that they may request the wrong amount of money. This can lead to problems with trust issues, misunderstandings, or uneven money distribution.

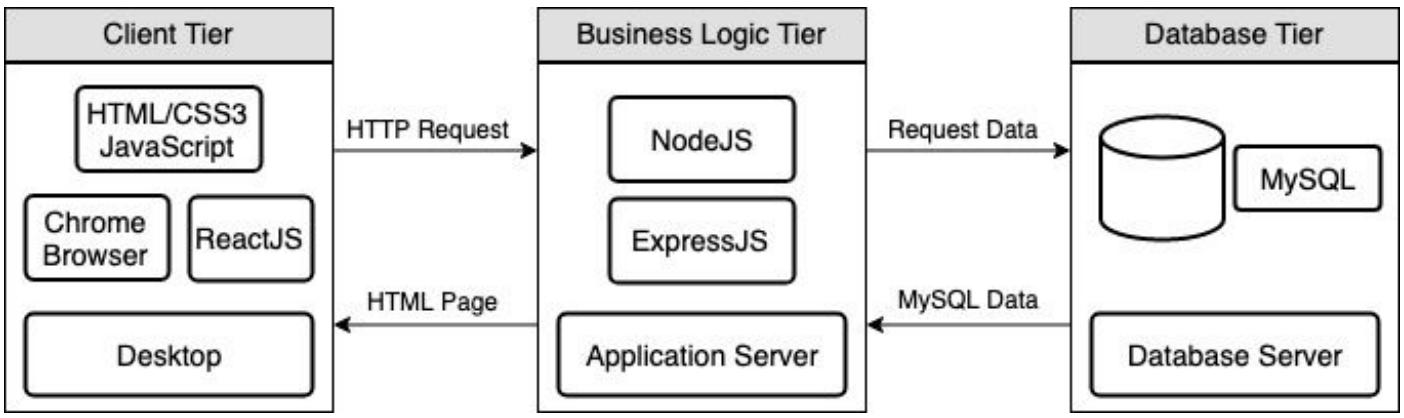
Stakeholders: This app focuses on any travel group

Solution: The app will allow users to create different parties/trips/planners, enter the amount of money that each person pays. Finally, the app will help to do a calculation and generate the amount of money that one person in the group may owe another.

Possible Data Model (can be developed later)**:**

1. User (first name, last name, like a profile, etc., 1 user can create/own many events/trips)
2. Events: id, name, location, time, 1 event will contain a list of users participate in that specific event, multiple categories, a history of who changes the price
3. Categories: (Title, amount of money)
4. Groups: store a list of users, can store many events
5. History of events: List of users, and event's information

System Environment



Functional Requirements

- Any user is able to login/register/logout an account
    - Goal: new user can register an account with our app or log in with Facebook/Google
    - Functional Processes:
        - Input: Email/Password
        - Output: Redirect to the user dashboard/homepage
- User is able to create any events
    - Goal: Registered user clicks a “Create Event” button to create a new event/trip
    - Functional Processes:
        - Input: User will log in to the web app, and click on the “Create Event” button. Fill in the form with the event: name, date, location, and description.
        - Output: The page will be redirected to the new event page where they can start adding users and money they spend on the trip
- User is able to create groups and add other users
    - Goal: User can click on “Create Group” and add other users within that group for an event/trip
    - Functional Processes:
        - Input: User logs into the application, clicks on the button to create a group, and inputs other usernames to add within the group.
        - Output: An invitation to others will be sent which they can accept and join the group.
- User is able to see a history of changes in the events
    - Goal: User can refer back to details (group members, total, location) of past or favorite events
    - Functional Processes:
        - Input: User presses the “History” button
        - Output: List of all user’s past events and that event’s info
- User is able to add a category that he/she pays within those events

    - Goal: User enters the category of what they pay for, then the app will calculate and display the right amount for each person in the events.
    - Functional Processes:
        - Input: The category that they pay for (food, gas, etc.) and the amount of money they pay. Users can input specifics, such as locations, restaurant names, etc.
        - Output: A real-time update to display the charges for each person.

Non-functional Requirement

- Support on major internet browsers such as Google Chrome.
- Respond to the user's action and query data within 5 seconds.
- The application shall be displayed in English.
- Develop a responsive web application in HTML/CSS/JavaScript, and ReactJS library for real-time update
- Use JWT to authenticate and check for the user's identity to protect users' privacy
- Host and language the database/application server on Google Cloud Platform