ExpenShare - A budget tracking app

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Introduction

This project is a budget tracking web application meant to allow its users to easily keep an eye on their expenses while group traveling. It's based on categories that are chosen by users to add all kinds of expenses in it whenever they want. It allows one user to have as many travels as wanted. It also implements dynamic navigation through the application in order to access all the needed features.

App Description

ExpenShare allows users to create travels, selecting all of the parameters including name, trip members, expenses categories, budget and additional comment.

Then, users would be able to visualize charts specific to each trip, showing them the expenses per category in the trip overview page, and the detail of each user's expenses per category in the specific category page.

Coming along with the expenses system, trip members have the possibility to see who owes them money, and who they have to pay, the idea being that the trip costs the exact same amount to each of his members at the very end. Also, when users have paid their debt to other trip members, then they can remove it from the list.

Moreover, the three latest expenses are shown on the trip overview. Adding an expense means that one user inputs the total amount he paid for. Then the price is divided per trip members for them to pay back, and get an overview of how much was spent by each user.

Users and Roles

Users would be able to have different roles. The user that creates the trip will be considered admin and will have more rights. He will be able to have access to the debt page of the other users through his own account. In that sense, his debt page will be different. At the bottom of the page, the icon of the other trip friends will be seen. The admin will be able to click on them and see their debt page. The admin can keep track of whose page he is looking at by looking at the icon that indicated it on the top right corner. Being able to have access to everyones' information will allow him to have an overview of how the travel is going and if someone is not paying back.

The other users will be able to choose roles through their profile page. The roles can vary from one trip to another. These roles are purely indicative and are made for a fun touch but they don't bring any different permissions.

Everyone can see the roles of the trip friends through the friends page of each trip.

Views Information

To begin with, the user will be asked to login. If the user doesn't have an account yet, he can create one. When creating the account, the user can choose a profile picture from a list of possible icons.

Once the user is logged in, he can see the list of trips he created or is part of. Next to these is a delete button that allows him to delete the related trip for him and all members. He can also access his profile page by clicking on his profile picture. On this welcome page, the user can also create a new trip.

My Profile

ahenryl

Bali

🛢️ 6.25$

🏪 133.25$

🎫 79.25$

🎆 117.50$

🚣 16.75$

Tanzania

🛢️ 115.67$

📷 330.33$
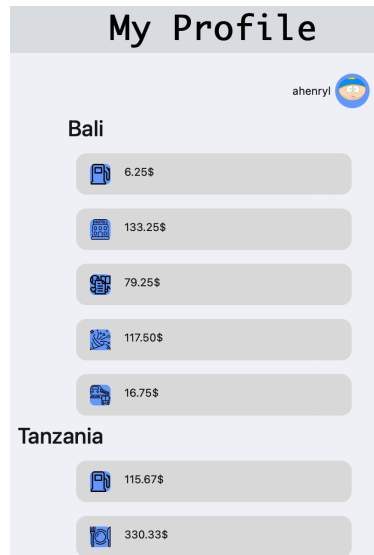
In this profile page, he can see a sum up of how much was spent per category per person for every travel he has in his account.

New Travel

<

Travel -

travel name

Dates -

Start: 13/12/2023   End: 13/12/2023

Group Members -

Categories -

Maximum Budget -

0

add a comment about this trip

Add

He will then have to input the information such as destination, dates, budget per person, comment, categories chosen from a list and friends chosen from a list.

ExpenShare   Home   Trip Friends   Add an Expense   Balance

Bali

Overview -

🟥 Fuel   🟨 Hotel   🟦 Activities   🟩 Party   ⬛ Transports

Fuel: 25

1413.87 /no limit

Add Expense

Latest Expenses -

🎆 267.99 $ Pool Party   2023-12-13

🎫 230 $ Boat Escape   2023-12-14
WE SAW DOLPHINS

🎆 2 $ candies   2023-12-04
some sugar
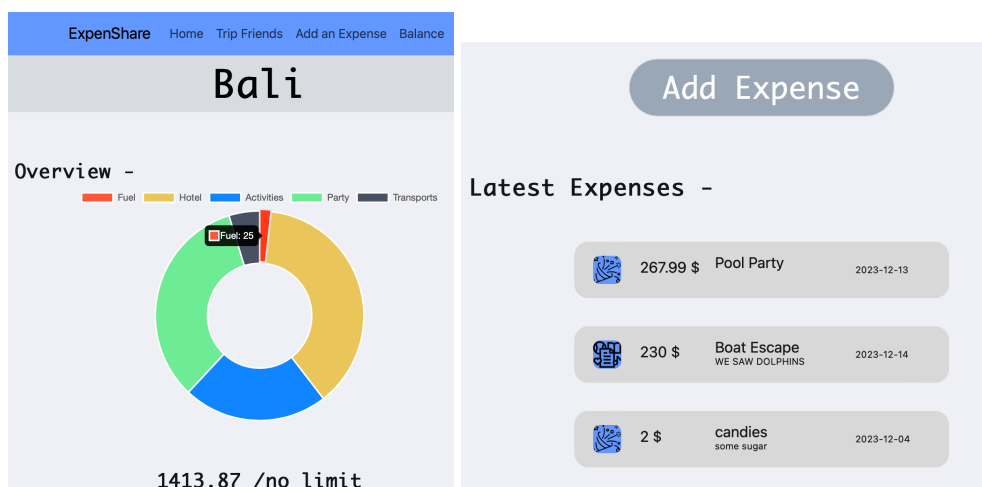
Once a trip is selected, the user can see the main page of the corresponding trip. On this page, there is a graph to visualize the expenses per category. This graph gives an easy and fast overview of the expenses. He can also see the last three expenses. This way, because the people will not always say how much they spend on grocery shopping for example to everyone, the users can follow what is being entered in the system and check the expenses.

In this page, the user has access to a menu bar leading to pages having specific information about the travel and helping them to navigate. Through it, the user can go back to the home page, go to the friends page, add an expense or see the balance page.
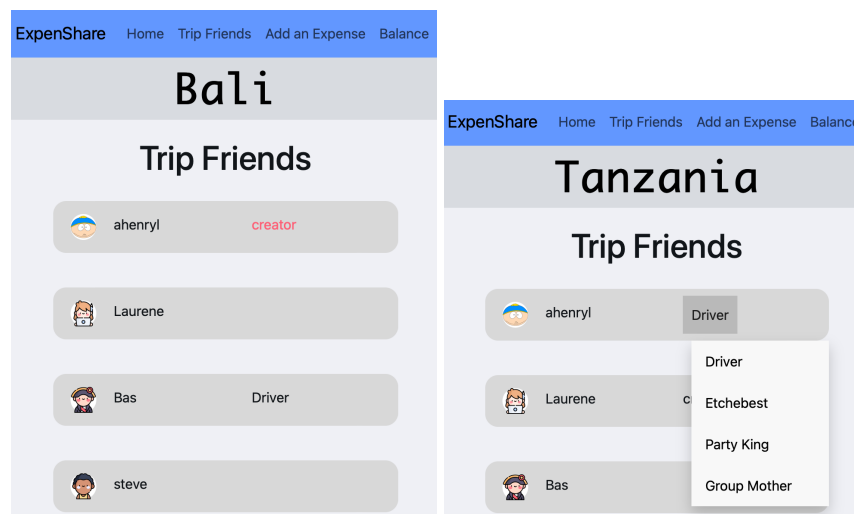
The friends page allows you to see the people that are part of the trip as well as their role. Through this page, he can also see the roles he assigned himself for every trip. If his role is not creator, then he can change when he wants.

To add an expense, you can go on the page of the same name. The user will have to fill in the name of the expense, the amount, the date, the category and he can add a comment.
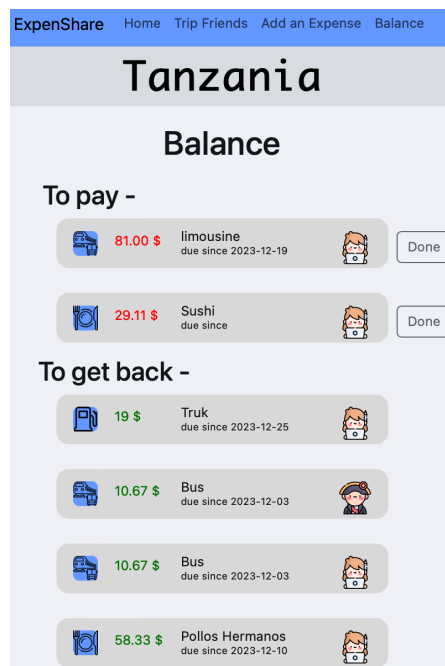
When an expense is added, people can see through their balance page who they need to pay back or from whom they need to get the money back. Once the payment is made, they can click on a button to specify it as done and to update the page.

Data Information

The expenses are handled in three different json files. The main file is called "expenses" and stores all of the expenses made, organized per trip and per category. It contains the user that paid, the date, the amount, the name of the expense and the comment.

Every time an expense is added to our main expense json file, it is added in the json file called debt. In addition to the previous information, this file also stores the list of people that need to reimburse the user that paid. At first, we just put all of the trip's friends and when everybody marked the expense has paid, the expense is removed from the file.

Finally, we have a file that stores the last three expenses only, for every trip, to be able to display them easily on the main page. Everytime a new expense is added, the oldest one of the list (which is the first one) will be removed and the new expense will be added to the list.

In order to make the information fetching easier, we have decided to create a current.json file that would contain the logged user and the travel that has been selected. Then when coming back to the main page, the trip is deleted from the json file.

Also, we are storing all of the trips information inside of one dedicated json, being a list with all the trips attributes.

The same principle was applied for the users, storing all of their needed information inside of the users.json file, listing their name, the list of the trip they're involved in, and finally the icon they have initially chosen.

Functioning Graph
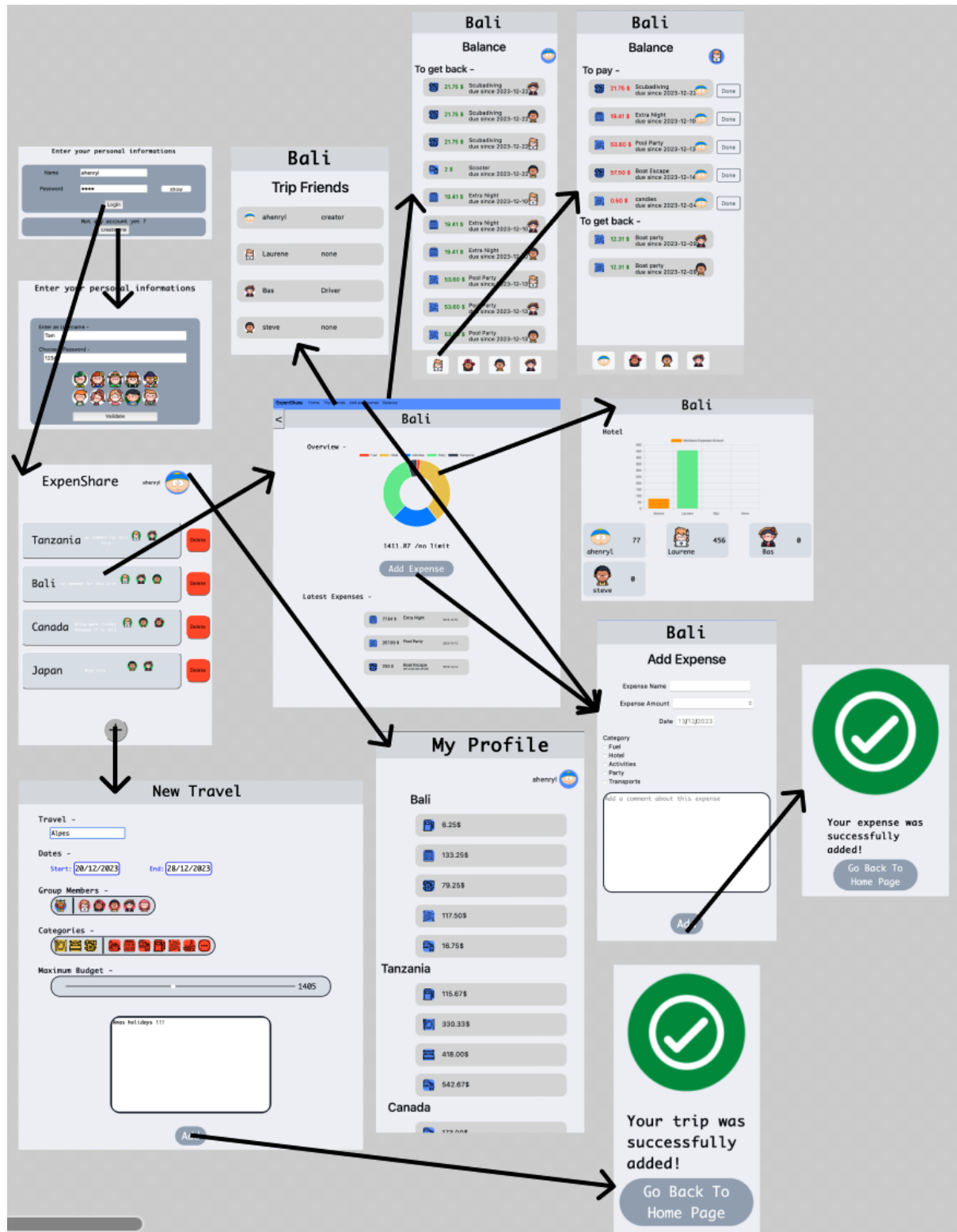
Issues & Limitations

There are few issues inside of the project's code, things that could have been better implemented, for example, the delete button in the main user view is absolute, it deletes the trip for all the users that are in it, which can be risky…

Another small issue is that the roles are not unique, which isn't that bad because except the creator, roles aren't used anywhere else.

Other problems we could mention are some we have encountered during the development of this project, especially with navigation, which in some cases was duplicated, but we managed to fix it in the final version.

Improvements

Several ideas could be implemented if we were to continue further with this project.

One of our limitations is that the user can not change the trip settings after the creation, meaning he can't add a new user or a new category. For this, we could implement two things: being able to add new friends and being able to add new categories. For the first one, an add button could be placed in the friends page, that will allow to easily add new users. For the second one, we could add it in the main page of the travel. Another possibility would be to add a 'settings' icon inside of the travel view, leading to the trip's parameters page, allowing the user (creator only) to modify the information.

Some overview of the expenses per category are offered in our project as well as the three latest expenses. However, there is no page where the users can see all of the expenses, one by one. Adding a page like this could be useful if people want to look into the details. It can also serve if people put in the comment the address of places or information that they would like to retrieve later as for now this comment is only accessible for the three latest expenses.

At the moment, when creating a trip, a list of all the users of the system is presented. This makes sense for now as there are not a lot of users. However, if we were to develop this project further, we should have a friend system, like on social media, where you can add people via their username, and only your friends will be displayed.

To go further, we could do personalization, such as adding new personalized categories or adding a trip picture for the example we thought of.