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Splitwise

Target Audience

The software is intended for individuals or groups of people who need to split expenses and manage shared finances. This can include:

1. Friends or roommates sharing living expenses such as rent, utilities, and groceries.
2. Colleagues splitting costs for work-related activities such as business trips or team outings.
3. Family members dividing expenses for household bills, vacations, or special events.
4. Students managing shared expenses for school projects, group trips, or social activities.
5. Anyone involved in joint financial arrangements who needs a convenient way to track, settle, and manage shared expenses.

In summary, the software is designed to facilitate collaborative expense management and simplify the process of splitting bills and managing shared finances for various groups of people.

Providing an example and justifying how the software is not accessible for someone who has a disability in any of the following areas • Sensory, Physical, Cognitive

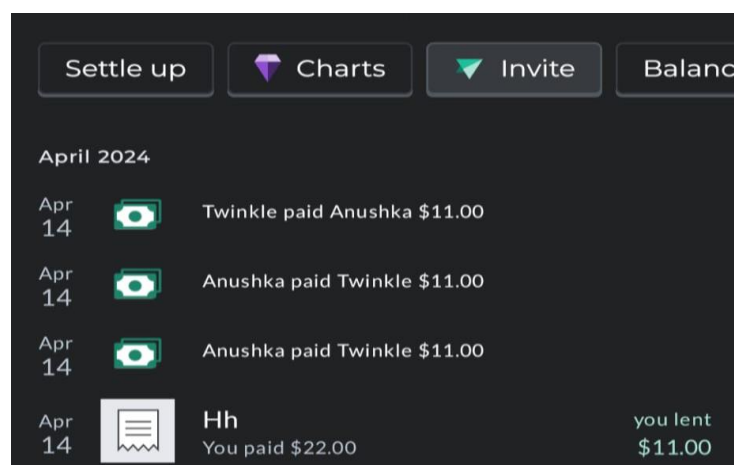
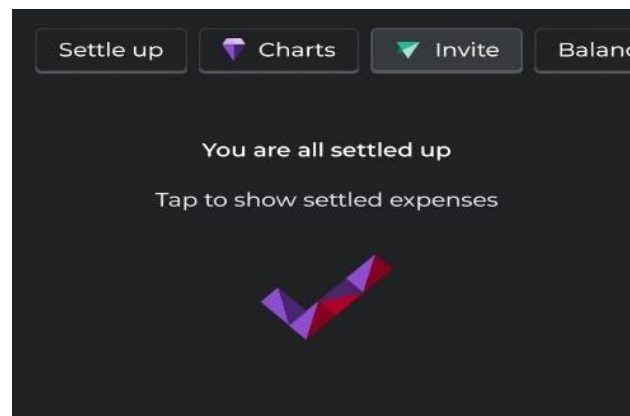
Sensory:

Is not accessible: Splitwise may be inaccessible to users with visual impairments if it heavily relies on color-coded visual elements without alternative text descriptions. For example, the app uses some colour patterns to everyone. But if there are two people with same name the colour pattern seems confusing as it is not totally different and it's hard to remember the pattern. Instead, there can be assorted colour for the name of everyone. And splitwise doesn't have a text-to-speech converting functionality such the people with blindness can access the modules inside the app.

	Trivarna OSU	no expenses
	Twinkle	settled up
	Twinkle	you owe \$10.75

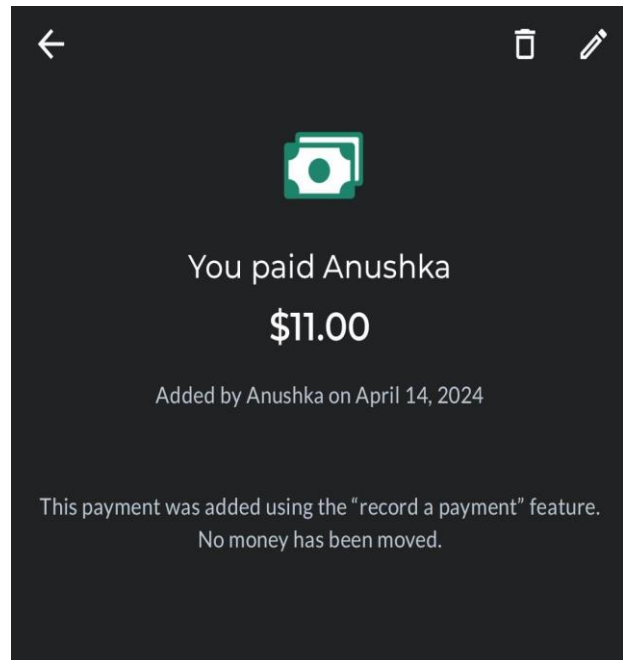
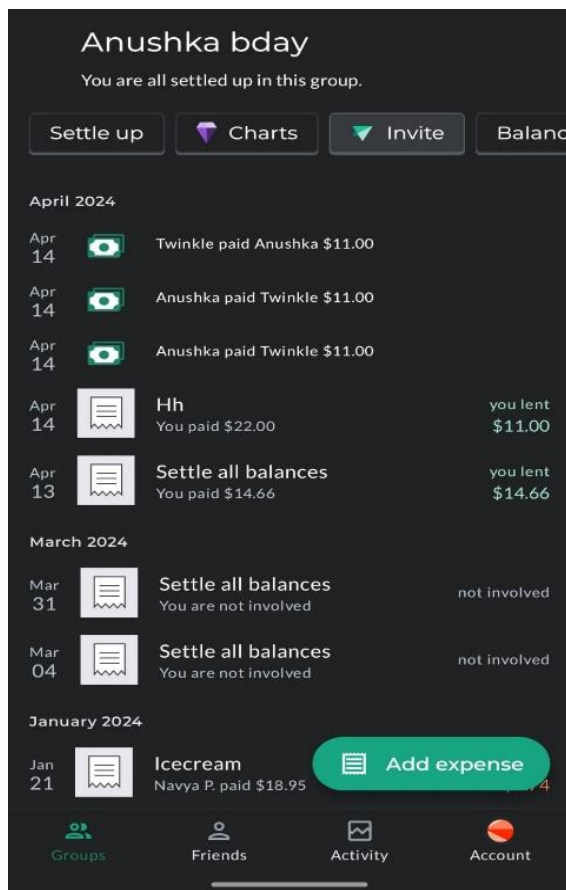
Physical

Is not accessible: Splitwise's app requires users to perform multiple swiping actions to navigate between different sections, such as viewing expenses, settling debts, and managing groups. However, the swiping gestures may be sensitive or require precise movements, making it difficult for users with motor impairments or limited dexterity to perform these actions accurately. For example, a user with a physical disability may struggle to swipe between sections due to shaky hands or difficulty maintaining a steady gesture, leading to frustration and potential errors in navigation. Here, the person can try to move on the modules above but their touch result to show the activities of that group which is not their concern now.



Cognitive

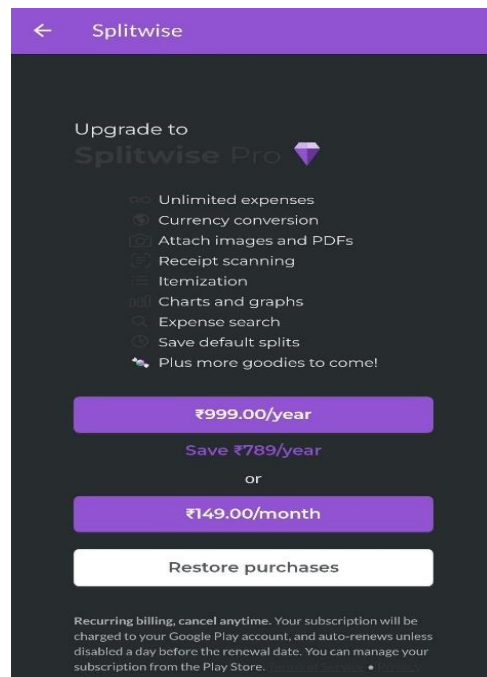
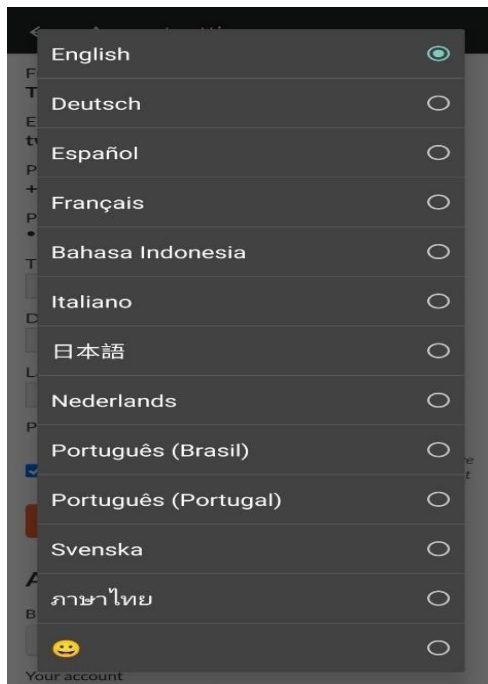
Is not accessible: In Splitwise, there's no direct feature to unsettle balances settled by mistake. Users must manually navigate to settled balances and delete them, which can be confusing, especially for those with cognitive disabilities. This lack of clear instructions creates a barrier, as users must recall specific steps without explicit guidance. Consequently, individuals may become frustrated when attempting to correct errors, reducing usability and satisfaction with the app. In the below picture, you can see that the unsettle is not shown directly, you need to redirect much and then unsettle which may require a prior knowledge on the features of the app.



Providing an example of how the software is not accessible for people from certain demographics, such as income, gender, race, etc.

Inaccessibility:

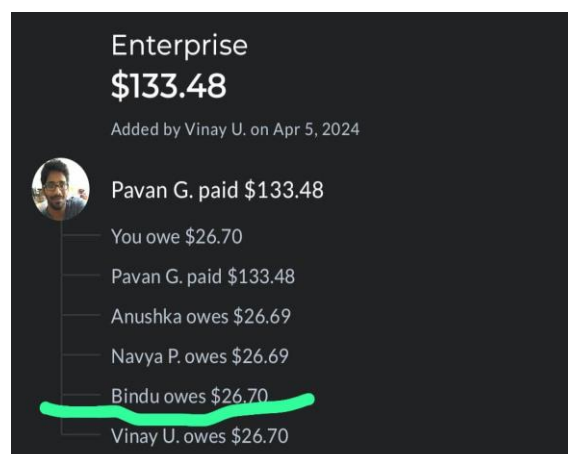
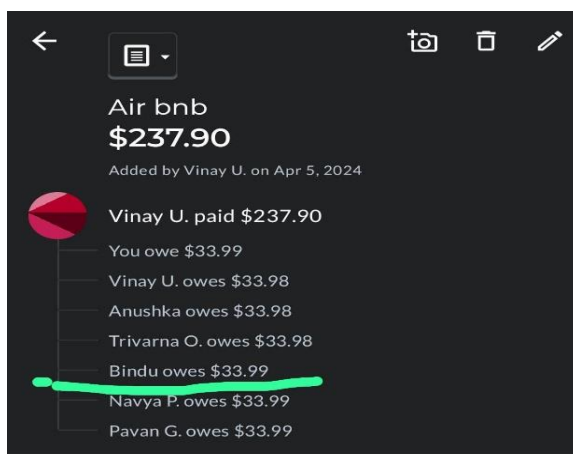
Splitwise has limitations on language options, offering only a limited selection of languages (e.g., 12-15), may hinder accessibility for users who speak languages not supported by the app. Similarly, the restriction on the number of expenses users can add in a day, with only 3-5 expenses allowed before requiring a subscription to Splitwise Pro, creates financial barriers for users who rely on the app for managing numerous transactions but cannot afford the premium version. These limitations restrict access to essential features and may disproportionately affect users from certain demographics, hindering their ability to fully utilize Splitwise for expense management.

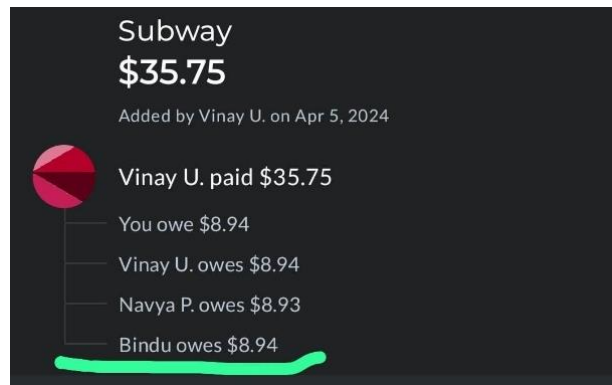


For each usability goal, providing an example and explanation of how this software violating the usability goals

Effectiveness:

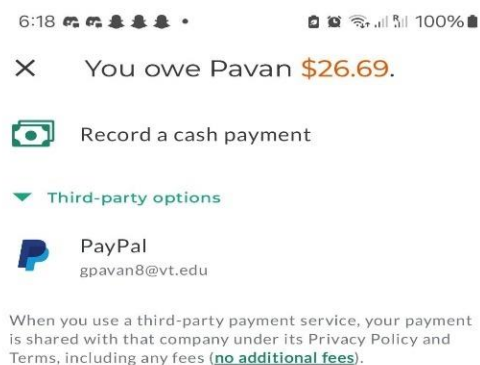
In Splitwise, the expectation is that expenses are divided accurately among group members. However, there's an issue where an additional 0.01 cent is occasionally added due to the rounding in math calculations. This extra charge tends to be consistently added to the same person's share rather than being distributed evenly among different group members each time. This results in inaccuracies in expense calculations. Instead of each person paying their fair share, one individual ends up shouldering a slightly higher burden repeatedly. Consequently, Splitwise fails to accomplish its primary function of accurately splitting expenses among group members, which undermines its effectiveness in managing shared finances.





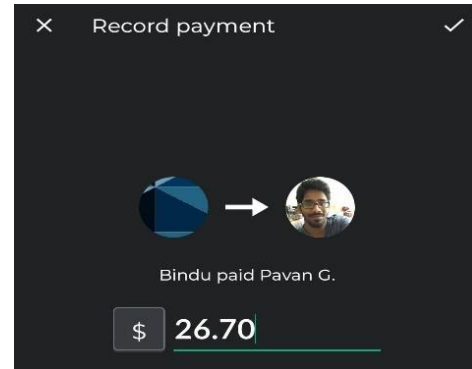
Efficiency:

When a user needs to settle a balance in Splitwise, they encounter a process that requires multiple steps and may lead to confusion. For instance, if a user opts to settle a balance without an actual cash transaction, such as through Zelle, they are still required to record the settle as a cash payment within Splitwise. This lack of flexibility in payment recording options can slow down the settlement process and create unnecessary complexity for users. Consequently, users may find it inefficient to navigate through these extra steps and inaccurately label transactions, hindering the overall efficiency of managing expenses within the application. Providing more diverse and intuitive payment recording options would streamline the settlement process, enhancing the efficiency of the user experience in Splitwise.



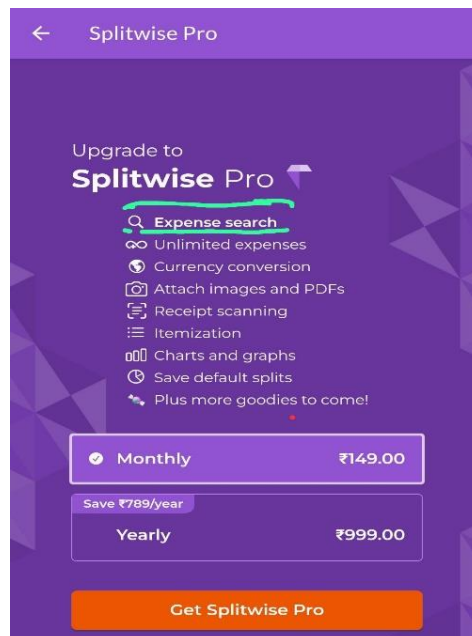
Safety:

In Splitwise, there are safety concerns revolving around the settlement of balances and deletion of settled-up balances. Firstly, users can settle other users' balances without the payment being effectively settled, potentially leading to confusion or disputes among users regarding outstanding balances. Additionally, users have the ability to delete settled-up balances, which could be done maliciously or accidentally, causing confusion for the user who settled up and potentially leading to them making duplicate payments. These safety issues compromise the integrity of settled transactions and could result in financial misunderstandings or conflicts among users. Providing safeguards or additional confirmation steps for settling balances and deleting transactions would help mitigate these safety concerns, ensuring the security and accuracy of financial transactions within Splitwise.



Utility:

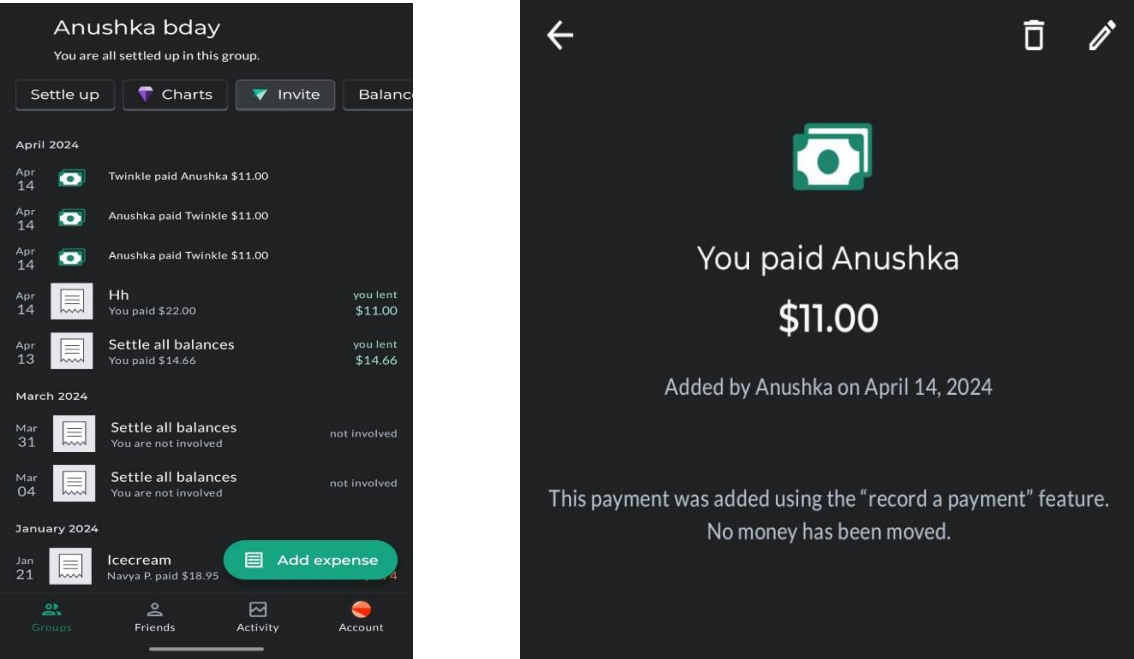
The lack of search functionality in the basic version of Splitwise, which requires users to upgrade to Splitwise Pro to access advanced search features, represents a potential violation of the utility principle. Without built-in search capabilities in the standard version, users may find it challenging to efficiently locate specific transactions or expenses, hindering their ability to effectively manage their finances. This limitation reduces the overall utility of Splitwise for users who rely on search functionality to navigate their transaction history and track expenses.



Learnability:

In Splitwise, the process of performing an "unsettle" action can be confusing for users who mistakenly settled up a balance. Unlike more prominent features, such as adding expenses or settling debts, the unsettle feature may not be immediately apparent to users who are not familiar with all aspects of the application. This lack of discoverability violates learnability because it makes it challenging for users to understand and utilize the unsettle feature effectively. As a result, users may struggle to correct their mistakes or manage settled balances efficiently, leading to frustration and potential errors in their financial records. By

improving the visibility and accessibility of the unsettle feature, Splitwise could enhance learnability, empowering users to navigate the application more confidently and make use of its features with ease.



Memorability:

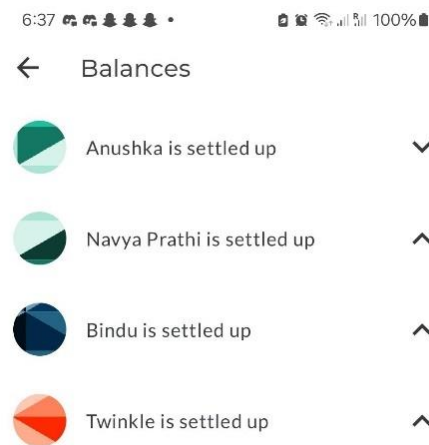
In Splitwise, individuals are distinguished by colour patterns within the app. However, if two people share the same name, the colour patterns assigned to them might not be distinct enough. This lack of differentiation can lead to confusion for users, making it difficult for them to remember and recognize which expenses belong to which individual, especially in groups with multiple users. As a result, users may struggle to recall and differentiate between individuals based solely on the colour patterns assigned to them, hindering their ability to accurately track expenses and settle debts. This violation of memorability undermines the user experience in Splitwise by introducing unnecessary cognitive load and making it harder for users to navigate the app efficiently.

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For each design principle, provide an example of how the software violates that principle

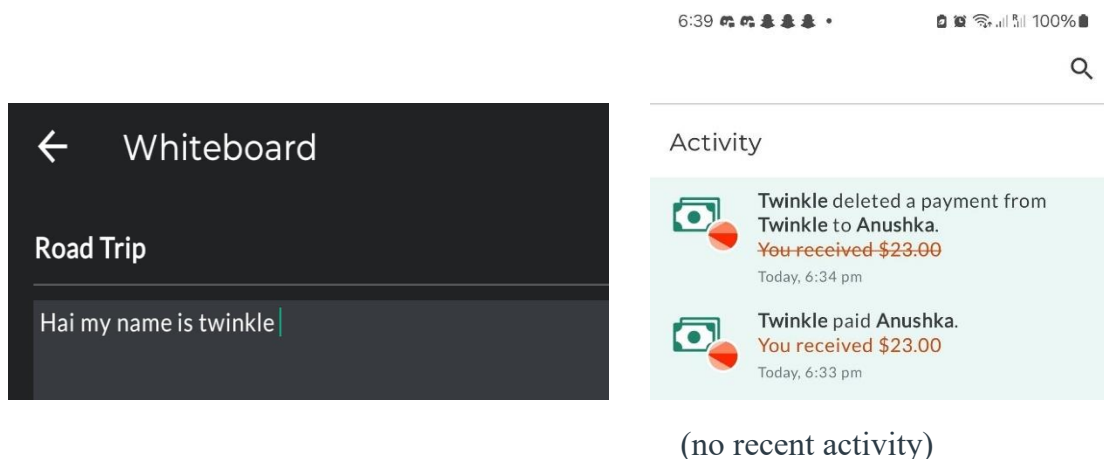
Visibility:

In Splitwise, when all balances in a group are settled up, there's no clear indication in the "balances" section that everything is settled. Users need to navigate to the activity section and go through all dates to verify when all the balances are settled. This lack of a straightforward way to see if everything's settled makes it inconvenient for users, as there is no clear indication of when those balances were settled and how much was settled up. So, in this case, Splitwise's visibility function falls short because it doesn't make it easy for users to quickly check the status of settled balances, making the process unnecessarily cumbersome.



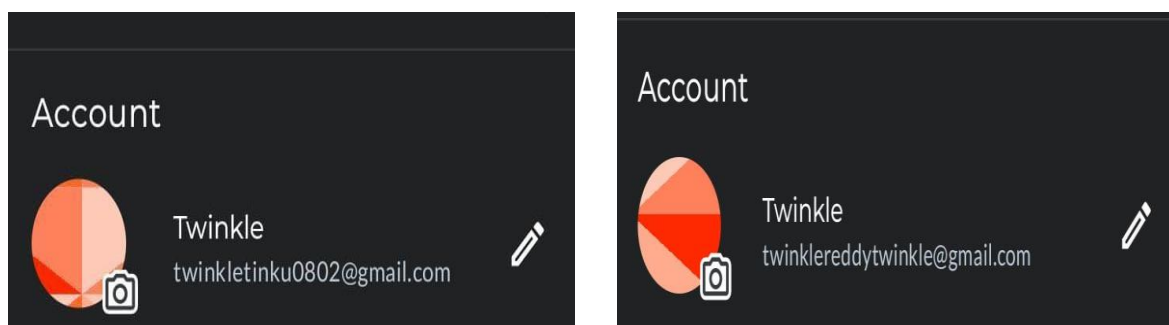
Feedback:

In Splitwise, the feedback principle could be violated if users do not receive notifications when another user adds notes or updates content on the whiteboard feature within a group. For example, if one user adds essential information or updates to the whiteboard, such as reminders or expense details, but other users in the group do not receive timely notifications about these changes, it could lead to miscommunication or missed information. Ensuring that users receive timely notifications for all relevant activities within the app would enhance user feedback and improve overall user experience. In the following the left picture indicates that a user has sent some notes to a group, and the right picture shows that the remaining members of group hasn't received any notification of that note in activity.



Constraints:

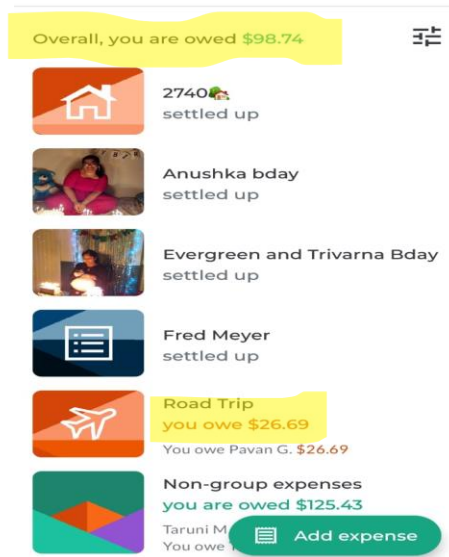
When a user attempts to register with a username that is already in use by another user, the system should provide a constraint to notify the user that the username is unavailable or already taken. However, in this case, Splitwise does not enforce this constraint. Instead, it allows multiple users to register with the same username without providing any indication that the username is already in use. This lack of constraint can lead to confusion and identity ambiguity within the platform, compromising the integrity of user accounts. To address this issue, Splitwise should implement constraints to ensure that each username is unique, thereby preventing duplicate registrations and enhancing the overall user experience.



Consistency:

Users might expect the home screen to show separate sections for overall group balances and individual outstanding balances, with toggling options available. However, the current display combines both concepts, leading to confusion. For instance, when users see a total amount owed in green, they may assume it's money owed to them, not realizing it includes amounts they owe as well. This inconsistency in how information is presented misguides users' understanding of their financial obligations, impacting their experience. Consequently, users might think there is no need to pay by them, but actually, they might owe. To improve, Splitwise could refine the toggling options or clearly categorize balances, ensuring users can easily differentiate and reducing confusion.

In the following picture the user owed overall amount, but there is an amount which the user has to pay for another user.



Affordance:

In Splitwise, when users add an expense individually to people who are part of a group, the expense is not automatically added to that group. This inconsistency violates the affordance principle because users expect expenses added to group members to update the group's expenses. This lack of clear affordance can lead to confusion as users may assume expenses are being added to the group when they're not. Improving affordances in this scenario would involve providing clearer guidance or options for users to easily include expenses in the relevant groups, enhancing usability and aligning with user expectations.

In the following picture there are 4 members in a group, and again when a user among them tries to add an expense for all 4 splitwise is not taking that group to consideration and it is adding that expense individually.

