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A3 Design Critique

Project Description

The design analyzed in this report is from my own team project.

This project aims to offer a software and hardware-based solution (see fig 8 of appendix for concept) to the identified problem of “unequal”/unaddressed cost distributions/payments within shared households as due to the nature of the problem space, especially within households that have little experience or inefficient practices surrounding sharing expenses, disputes and issues of this kind do very well exist as hurdles when maintaining trust between residents. The project and subsequent design, aims to provide a form of financial management and communication support for the residents of such households as well as similar living environments by providing a clearer and more convenient outlet for tracking, communicating, and settling debts and expenses.

The design of the product comes in two parts as stated before, though more specifically it is delivered in the form of an app, and a physical lighting component with the main setting of use for both being within a household.

The app segment (see Figs 1-7 in the appendix) primarily acts as a sort of accountability tracker, essentially making it easier for its’ users to manage and most importantly communicate their shared financial obligations. The key interaction and features are mainly displayed and accessed through the app’s dashboard functionally boil down to:

- Users being able to see the repayment statuses of other members through a “credit score” system, which goes from 5 max to 0 min, going down one point every time a bill becomes overdue, and recovering points as overdue bills are paid off. Additionally, there is an associated color for every stage, e.g., blue for 5 points, red for 0 points.
- Users being able to create expense records specifying how much money they owe for a particular “bill” of which a type and description is also able to be assigned, be it for a communal household expense like rent, or person-to-person expense, like favors (buying food for another member).
- Users being able to see how much money they owe/are owed.
- Users being able to “tick off” bills they’ve resolved.

Despite the main setting related to the app being that of household, these features can be and are encouraged to be used in any setting relevant to the bills that are created. E.g., Using the app at a cinema when creating a bill for the favor of purchasing a movie ticket.

The physical lightning components take the form of simple LED lights that would be connected to the credit score of each household member, displaying their credit score through its’ color. These lights would be ideally placed as a collection (e.g., 3 members with 3 LEDS each corresponding to each member) in a central area, to where every household member could see each other’s statuses, as well as individually (1 member, 1 corresponding LED), in each member’s bedrooms.

These lights would essentially act as a physical notification system for the individuals, with regards to the LEDs in their rooms, and the others in the household, as all members would be able to physically see one another’s statuses (within their communal area) in terms of overdue payments without having to check their app, prompting communication and interactions among members outside of the app’s digital environment.

Positive Design Aspects

There are variety of positive design aspects to be gleaned from the presented prototype and design, some of the most prevalent being:

Design Element	Positive Aspect
Credit score system (Software)	The fact that users can view their housemate's statuses in terms of repayments prompts much needed communication and promotes transparency between one another. It allows members to broach the subject of overdue payments and financial accountability with much more confidence and foundation. The presence of a credit score itself also acts as an incentive to maintain timely payments.
Credit score system (Hardware) (See fig 8)	The representation of the credit score through a physical LED and color provides users with a visual cue, a tangible representation of their credit scores which can make it easier for some people to remember compared to abstract numbers. This physical component also, most notably increases awareness as users would be more inclined to pay attention to their score if it's displayed physically. This also works hand in hand with facilitating conversations surrounding the topic of accountability and managing finances.
Personal expense tracking	The system underlying the credit score being that of bill creation and expense tracking provides users with a structured process of tracking shared expenses, allowing users to record, organize and settle debts more easily. Allowing users to view how much money they owe/are owed, and with who, again promotes transparency, serving as a constant reminder of the division of expenses between household members, reducing the potential for financial misunderstandings.
Navigation	The interaction flow of the app side seems to have a clear and logical layout, ensuring that users can easily find and access the features or information they need adding to the app's convenience. There aren't many steps that need to be executed to complete the tasks presented in the app itself.

	The app's core features are essentially all accessible and viewable from its' dashboard screen. From the dashboard, users can see their credit score, house members and simplified expense breakdowns, as well as access bill creation and bill history. All these components make up the core functionalities of the app are all are accessible, one way or another through this central page. Aside from that, the app does also have typical but effective design convention of a navigation bar for the access of other pages.
Aesthetics (See fig 1)	The app's dark mode dashboard aesthetics (which is most complete with regards to the final aesthetic design) are also easy to look at and contrast well when needed. There are no major color conflicts, with all the app's colors, font sizes, etc. being consistent and laid out in a balanced manner. The question mark for details however could be placed in a better location. The colors of the credit score levels also provide a simple, yet easily understandable gradient, with blue denoting 5, red denoting 0 scaling between the two colors as the score decreases. (Some other pages need to maintain more color consistency however, like the top banners during bill creation being white where it's black in the Dashboard.)

Aspects that can be improved

There are also various points to which the design could be improved upon to streamline or elevate the experience users will have when trying to manage and communicate their household finances:

Problem	Suggestion and Reasoning
Decrementing of the credit score might be too negative	The system itself, with the credit score only ever decreasing or recovering, in a way, relies on user's fear of being perceived as "the odd one out" or "the weakest link" within their household to spur them towards paying their debts and expenses. This exploitation of fear and reputation can either be seen as a necessary or unnecessary evil depending on perspective and household, though it's clear the system is primarily negatively charged. It might, however, be prudent to attempt to adjust the score system to provide aspects of positive reinforcement when users do pay bills, etc., so that the experience isn't entirely focused on negativity, or even change the system to purely positive reinforcement outright, both methods can be effective depending on how they are handled.
Bill system doesn't have confirmations	Anyone can create OR potentially delete a bill between anyone else with no confirmation between other members. This could lead to complications when the parties involved with a bill are not aware of the actions being taken upon them. Thus, adding some sort of system or way to confirm whether the creation/deletion of bills is approved by the involved users would be helpful
No notifications for due dates	There aren't any notifications to the user regarding impending due dates for bills. Adding one would help when trying to remind users to pay their expenses on time as currently they're only actively notified of a bill's due date by their credit score changing color and going down, etc., WHEN the bill is already overdue.
App doesn't suggest ways to distribute costs	Aside from trying to influence users to pay their inputted expenses in a timely manner as well as trying to facilitate financial communication between them, the app doesn't really do anything to explicitly find optimal cost distributions for its' users, though it would be complicated and would depend on various factors for each person in a household.

	The app could benefit from trying to implement features to help users distribute or manage their household funds in various ways, like adding some sort of emergency fund system (which also helps with addressing some extenuating circumstances).
Bill categories are locked to “food”, “rent” and “other”	Some households may have different categories of bills/expenses they’d prefer to have listed in the dashboard of the app, which, in the design’s current state if not falling under either “rent” or “food” would be moved to “other”, with the only way to highlight the specifics being to look at the bill’s description. Thus, the design could benefit from a system that allow users to create their own bill categories to add upon what is already presented to further cater to the variety of habits that can be found across different households.

Appendix

Fig 1.

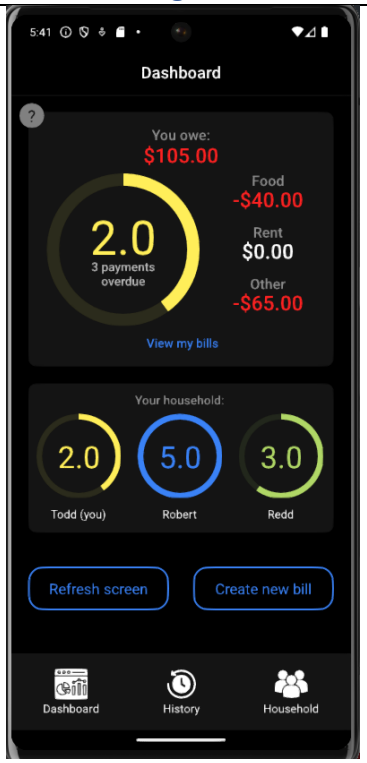

Fig 2.

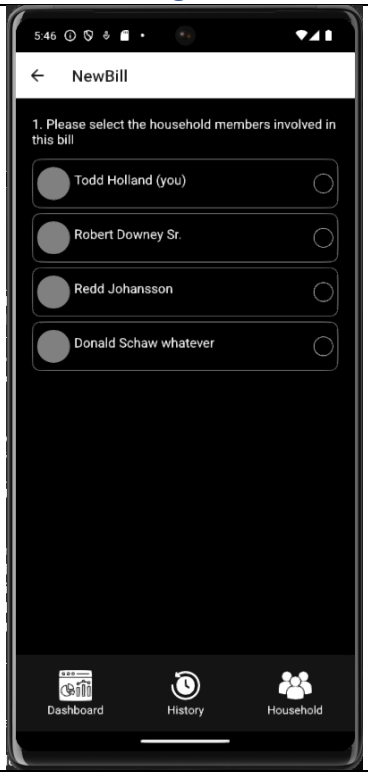

Fig 3.

Fig 4.

Fig 5.

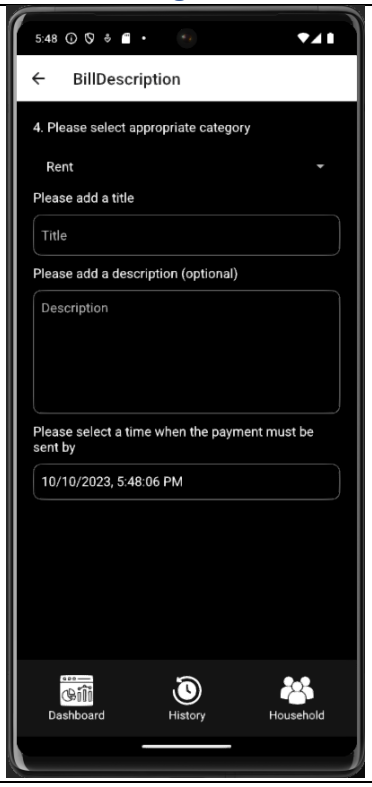

Fig 6.

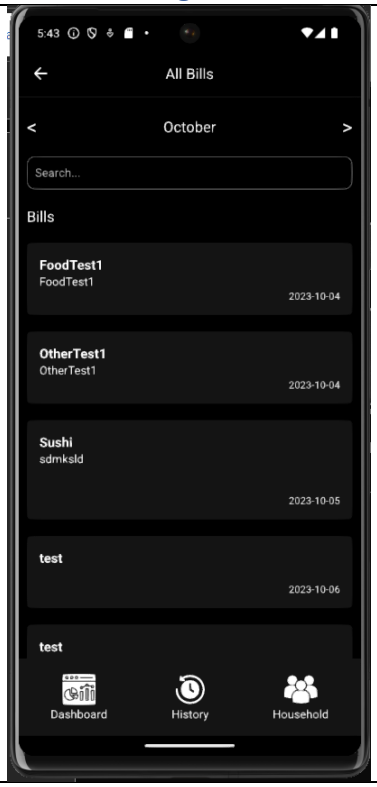

Fig 7.

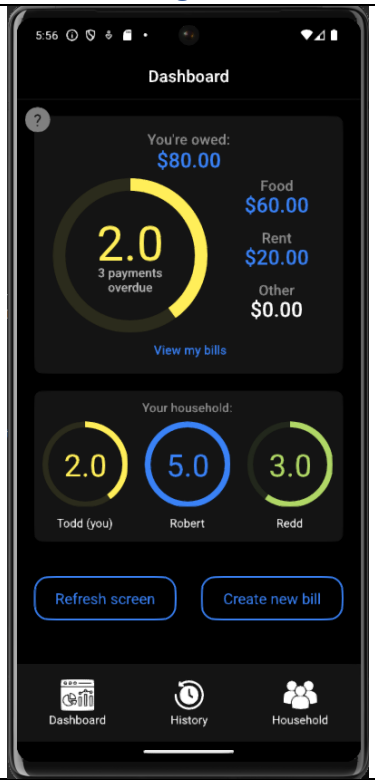

Fig 8.

Todd
Robert
Reidd
Donald
Dashboard
September
$0.00 / $35.40
5.0
Tick off bills
Create new bill