

# Heuristic Evaluation of [BudgBuds]

## 1. Problem/Prototype Description

We evaluated the medium-fidelity prototype of BudgBuds, which is an app that allows people to collectively budget for activities that require shared expenses among members of the group.

## 2. Violations Found

### H1: Visibility of System Status

- “Budget” and “remaining” on each one of the cards on the home page is a bit confusing. For example, “\$100 budget, \$20 remaining” gives no indication of whether it’s the amount for the group or for the user. Other information like how much the user has spent, or what is their individual budget as part of the bigger budget, could be useful too. (A, D) (Severity: 2)
  - Fix: Provide this information if you think it’s useful. Otherwise, just make it more clear on the home page whether “budget” and “remaining” refers to the user or the group.
- On a related note, on a group budget page, we was not sure what “remaining” was referring to again. (A, D) (Severity: 2)
  - Fix: Perhaps you could more explicitly have a budget and a remaining for both the group and the user for each sub-budget.
- On the group page, there is no visual indication of which members are part of the group and there is nowhere to be able find that information, except in “expenses breakup” where we can find some of the group members. (A, B, C, D) (Severity: 2)
  - Fix: One option is to have the members of the group listed on that page as rounded headshot icons just beneath the group name. Another option is to navigate to a list of the group members on clicking the group name.
- If an item demands action, for example the need to enter a personal budget amount into a group budget that was created, there is no way to know about it unless the user decides to go to that budget. (A, D) (Severity: 3)

- Fix: there could either be a new notification tab for all such notifications, or the specific budget could have some sort of attention sign to indicate that an item demands attention there.
- The leaderboard system lacks clarity on how it's tracked/what is being tracked. Is it the amount of money saved by each individual? Is it some sort of point system? Users may not know or understand how exactly to climb the leaderboards if they want to compete with their friend (C, B, A) (Severity: 3)
  - Fix: Add units to the leaderboard numbers or make it explicit on how the leaderboard is determined
  - I would implement this somehow in the leaderboard section with your position in the rankings somewhere near the top (so it's most visible and you immediately know where you stand).
- On the Friends leaderboards, the top three don't have correlating scores/values so it isn't visible on how users can compete to get the top three places. (C, B, A, D) (Severity: 2)
  - Fix: Adding number values to the first three places, either below the users or a click and reveal interface.
  - The current user can't see their own points as well. we would implement this somehow in the leaderboard section with your position in the rankings somewhere near the top (so it's most visible and you immediately know where you stand). (C)

## **H2: Match b/w System & World**

- On the profile settings, users can fill in their "Info", as well as "Telephone". Users may find that confusing on what to fill in, as it could mean contact information or personal information. (C, B, D) (Severity: 2)
  - Fix: Rename "Info" to "Email address" or "Bio", whichever is intended from the developers.
- The "Add Expense" button on the home page is a bit confusing. The user cannot tell whether that button is adding an expense to what budget. Furthermore, the button is right next to the user's total budget, so we would believe that button should read "Add Budget" instead. (A, C, D) (Severity: 3)
  - Fix: If the purpose is to add an expense to the user's individual budget, we would suggest placing the button right next to "Individual". If it is to add a budget, we would suggest changing the text on the button to "Add Budget".
- When the user clicks through Individual -> Add Expense, the pop-up screen seems to give them the option to add to their individual budget or another budget

through the drop down menu. This could again be a bit confusing since we was on the Individual budget page. (A, B, D) (Severity: 3)

- Fix: If the user is on the Individual page and clicks Add Expense, they should only be able to add to the expense to their Individual budget to avoid confusion.
- When we tried to do the complex task of encouraging Whitney, we found that the default text for Whitney's expense is "Good Job!", "Wow!" etc. That does not seem like a typical encouragement when someone makes an expense. (A, C, D) (Severity: 2)
  - Fix: we would change the default text for an expense to something like "Don't forget to budget!"
- Similarly for the complex task, we couldn't tell whether we simply needed to click on the provided text to send the encouragement or also needed to click on the "comment icon" to send it. (A, C, D) (Severity: 1)
  - Fix: the way we would avoid this confusion is that when the user presses on the provided or types in the text box, the "comment icon" could change to a "send icon". We believe that is the convention for most apps that involve any form of commenting.
- Only after we started a new sub budget within a group that we realized a full red circle or a full red progress bar meant that we did not spend any money yet. (A, C, D) (Severity: 3)
  - Fix: for more consistency with noms, we would change that color to green since green indicates something positive while red indicates that something needs my attention. Another option is to make the circles / progress bars start from empty and complete / fill up with red as you go. The color of the text "remaining" could vary between red and green depending on how much money is remaining.

### **H3: User Control & Freedom**

- Users can not unfriend or delete friends. Could be useful for when adding a stranger by mistake or mis-spelling when you add. (C, A, B, D) (Severity: 3)
  - Fix: Adding an unfriend or delete button to your friends
- The profile page lacks a back button. For example, if the user is on any page and they click the profile button on the top right corner, they'll have to click through a bunch of buttons to go back to where they were. (A, C, D) (Severity: 2)

- Fix: Have a back button on the profile page, that goes back to where the user was previously at.
- When the user tries to add a group and they're in the middle of it, e.g. on the "Add group sub budgets", there is no way for them to leave this task completely. (A, C, D) (Severity: 2)
  - Fix: Have a button that says "Cancel" at the bottom of the page and brings the user back to the home page.
- Under "sharing systems" in the profile page, there is only one option for sharing, which is "all groups". (A, D) (Severity: 1)
  - Fix: By providing options of which groups such information will be shared with, the user will have more freedom to tailor their sharing preferences.
- The user has no way to remove a group from their list of groups. This can be a problem if the user wants to quit a group, or created a group by accident. (A, B, C, D) (Severity: 3)
  - On the Home page, there could be a delete button right next to each one of the groups.
- Usernames are not clickable throughout the application. Clicking a user on the leaderboard should take you to their profile. (D, C, A) (Severity: 3)
  - Make every time a user is mentioned a clickable item.
- When looking at sub budgets, the information icon presents up a pullup tab (example: Spending History, Adjust Budget). we would recommend an exit button on all the slideup tabs so the user can clearly perform this action. (C) Severity: 2

#### **H4: Consistency & Standards**

- In the Profile settings menu, there is a slider for "budget update" and "budget changes". Users could be confused on what these two represent and how they differ and wonder whether these two synonyms mean the same thing. (B, D) (Severity: 2)
  - Fix: Making the words more clear and definitive, combining the two, adding a sub-category sliders under a "Notifications" slider
- Clicking on the user's own profile on the top-right corner causes the "home page" tab to be lit up. (A, D) (Severity: 1)
  - Fix: Either have none of the tabs lit up when the user clicks on their profile, or the tab they were previously in could stay lit up.

- When we go to a specific budget of a group, say “food” budget of “Stanny Squad”, I’m presented with two options, “Spending History” and “Expense Breakup”. I’m a bit confused by those options, especially since clicking on either of them pops up a page entitled “Stanny Squad Spending History”. (A, D) (Severity: 3)
  - Fix: First, we would think of renaming the pop-up pages to “Stanny Squad Spending History” and “Stanny Squad Expense Breakup” respectively. Second, we would recommend renaming “Spending History” to “Group Spending History” since you use “Spending History” for both individual budget and group budget, and this might cause some confusion to users as to what they should expect when they click it.
  
- The “Friends” tab at the bottom is not exactly consistent with what is shown to me when we first click on it, as we expect to see a list of friends instead of a sort of feed. (A, C, D) (Severity: 3)
  - Fix: we suggest changing the tab name to “Social” or “Activity”, or first show the friends list when we click on the tab.
  
- The “sharing systems” in the profile page is overall a bit confusing. For example, we initially thought the options were about what type of information we wanted to share within groups I’m part of, but then “share only with close friends” made me rethink that. I’m also not sure who my “close friends” are since this is the only place that references it. (A, B, D) (Severity: 2)
  - Fix: Restructure this part, e.g. first ask what groups to share with and then what kind of information to share. This could also improve on flexibility. Moreover, the friends tab could have another sub tab of all the user’s “close friends”.
  
- After commenting on someone’s activity, the app brings the user back to the leadership board. (A, D) (Severity: 1)
  - It would be convenient and logical to keep the user on the same page after commenting. This is also another convention on most apps.
  
- Usually the title of the section would not be next to the toggle buttons. we would make the sections consistent following the example of “Leaderboard,” where the toggle buttons are below the section title. (C) Severity: 1
  
- The way the budget icons fill up with color is really confusing to me. we don't understand what the colors are representing in relation to the budget. To

complicate matters, it appears that when you click the individual budgets the pie chart on the budgets page seems to use a different standard. (C, D) (Severity: 2)

- Make them look like a loading bar instead or represent a percentage.

#### **H5: Error Prevention**

- The “Adjust Budget” screen lacks error prevention for the amount of money that the user can change for a sub-budget. To the user, it appears that there is no limit on the amount. The user may enter a value greater than the total budget. (D, B) (Severity: 2)
  - Fix: Add a line of text around the data entry box that communicates the amount of money that is allocated to the total budget
- There seems to be no error prevention when the user enters a weekly total. (A, C) (Severity: 1)
  - Fix: Make sure the integer enters a positive number.
- Just before the creation of a new group and its budgets, the user has no way to confirm that all the information is correct. This could lead to potential errors that take a lot of time to fix after creation. (A, C, D) (Severity: 2)
  - Fix: One solution could be to bring the user to a summary page that has the group name, description, friends, sub budget details, and asking the user to press confirm before creating this new group.

#### **H6: Recognition not Recall**

- In the sub-budget menu, as well as the leaderboard top three, you can only see the Profile picture of the other users, but no names. Users might not remember who the user is, especially if their profile picture is not their face (B, C, D) (Severity: 3)
  - Fix: Make profile pictures clickable and expandable or display names under their pictures
- The “Add group sub budgets” page does not indicate to which group the user is adding a budget. (A, D) (Severity: 1)
  - Fix: Change the word “group” to the name of the group itself.

#### **H7: Flexibility & Efficiency of Use**

- Users are not allowed to edit group names and group members after a group has been created. This can be in-efficient, especially if users make a very large group, then want to change names/members. They would need to make the group all over again and add each member manually (B, D, A, C) (Severity: 3)

- Fix: Allow users to edit groups they have created or add streamlined ways of adding the same group members
- In the Add Expense menu, the entry for Date is empty and asks the user to fill in the complete date. This might be a bit inefficient, as most users will be adding expenses from that current day. (B, D) (Severity: 2)
  - Fix: Have a default value for date, it being the current date. Adding a sliding date would also make it easy to use, since users will be adding expenses a lot.
- Once the user clicks into a certain budget group and clicks “Add expense”, we have to pick which budget it is for again. It will be inefficient for users to pick which budget it’s for again, after clicking into it. (B, D) (Severity: 3)
  - Fix: Automatically add the expense into the budget that users click into or have only one expense button for every expense and have users choose the budget.
- When creating a new budget, the user has to fill in all the parts by themselves. Users might have typical names and descriptions that they usually use. (A, D) (Severity: 2)
  - Fix: when the text boxes are clicked, those frequently used names and descriptions can be provided as options to speed up the budget-adding process for regular users.
- Same as above happens when creating a sub-budget for a group. (A, D) (Severity: 2)
  - Fix: load frequently used sub budgets as options, such that the user can just select one (and edit it if needed) to speed up the process.
- In “Total Budget Breakdown,” we would present the information in a table (like Microsoft Excel). The current format makes it difficult for the user to access the needed information right away. we would also add a total of all the budgets at the bottom. (C) (Severity: 3)
- The “Friend List” does not seem to have any particular order of displaying friends. Furthermore, it might be hard to find a friend if the user has lots of them. (A, B, C, D) (Severity: 3)
  - Fix: Either display the friends by alphabetical order of their names or closest friends at the top. A search bar can be added to facilitate searching in long lists of friends.
- When adding a budget, the user can only enter their weekly total. This could cause some frustration to users who budget more on a monthly or daily basis. (A, D) (Severity: 2)

- Have the option to change that time period to “daily”, “weekly”, “monthly” or even “yearly” if needed.

## **H8: Aesthetic & Minimalist Design**

- In the Friends Activity Feed, each activity has a title of “Whitney added an expense”, as well as a description right below that says “Whitney added an expense for Denny’s.” Furthermore, we also have comments, likes, pre-made responses all in the same element. (B, C) (Severity: 1)
  - Fix: We can make this less redundant and more minimalist by having a brief overview with maybe a small icon, then users can click into them for more information, liking, and commenting.
- In the Friends menu, the group associated with each friend is displayed below each friend. Although this is a good idea for remembering which friends are friends, we think that it would clutter especially once you have a lot of friends and you are trying to navigate through it. Also, if there were friends with no mutual groups, it would be very inconsistent because they would have no group display. (B, C) (Severity: 1)
  - Fix: Add the mutual groups into the profiles of friends and make the friends’ list single-lined or add a searching/sorting mechanism to make the friends’ list more organized.
- Right next to each sub budget, there is an info button and a delete button. They seem to be a bit redundant. For the info button, the same action is performed by clicking on the sub budget card which we believe is intuitive enough. The delete button is unnecessarily big, (A, C, D) (Severity: 2)
  - Fix: Get rid of the info button and make the delete button just a small red cross at the top of the sub budget card.
- On adding a weekly total, the text box seems a bit far from the ‘\$’ sign. (A, C) (Severity: 1)
  - Fix: put them closer together to make sure the user knows that they accompany each other
- Color Scheme lacks contrast and could pose an issue to those with bad vision or color blindness. (C, D) (Severity: 2)
  - Fix: use a color scheme with a dark color and a pale color as opposed to two pale colors.

- The arrow pointing to each subsection is cute but unnecessary. It also may look like the section is minimizable. we would recommend getting rid of it. (C) (Severity: 1)
- I don't seem to understand what the extra medals are for in the leaderboard section, and we can't seem to click on them. The rankings seem sufficient enough. Possibly an explanation or getting rid of the medals/ribbons completely would be nice. (C) (Severity: 2)

### **H9: Help Users with Errors**

- After creating a new group, there seems to be no way to edit the group members if say some of them were accidentally added or some are missing. (A, C, D) (Severity: 3)
  - Fix: provide an edit group option, possibly with a "pencil icon" button right next to the group name.

### **H10: Help & Documentation**

- All the text boxes are empty for the Expenses, Group, and Budgets menus. These could be confusing for inexperienced users, not knowing how to structure their answers (B, C) (Severity: 2)
  - Fix: Adding a grey background text in the inputs, showing high-level examples
- While the piggy bank icon at the top of every screen is very cute, there's no way for a first time user to know what its purpose is. After understanding its purpose, we still think it is a bit redundant since it serves the same purpose as the home button. (A, C, D) (Severity: 2)
  - Fix: One option would be to describe its purpose to the first-time user through some onboarding tutorial. Another option is that since it serves the exact same purpose as the home button, you could just completely get rid of it.
  - Another option: The BudgBuds logo without the squircle background OR "BudgBuds" would be sufficient in terms of visual design. The "shortcut" would probably be more inefficient because the user would have to press the button at the top of the screen, rather than just pressing the home button to see the total budget. Too distracting for not enough return. we would put the logo or name off to the top left side instead.
- There is no documentation page / FAQs page if the user does not understand a specific page, button, feature or how to complete some task. For example, "expense" and "budget" could be confusing for some users (A, B, C) (Severity: 3)

- Fix: Provide one through a help button at the top right of every page. This could provide either general or in-context documentation, or a tutorial on how to manage budgets and complete other tasks on the app.

### 3. Summary of Violations

Category	# Viol. (sev 0)	# Viol. (sev 1)	# Viol. (sev 2)	# Viol. (sev 3)	# Viol. (sev 4)	# Viol. (total)
H1: Visibility of Status	0	0	4	2	0	6
H2: Match Sys & World	0	1	2	2	0	6
H3: User Control	0	1	3	3	0	6
H4: Consistency & Standards	0	3	3	1	0	7
H5: Error Prevention	0	1	2	0	0	3
H6: Recognition not Recall	0	1	0	1	0	2
H7: Efficiency of Use	0	0	4	4	0	8
H8: Minimalist Design	0	4	3	0	0	7
H9: Help Users with Errors	0	0	0	1	0	1
H10: Help & Documentation	0	0	2	1	0	3
<b>Total Violations by Severity</b>	<b>0</b>	<b>11</b>	<b>23</b>	<b>15</b>	<b>0</b>	<b>49</b>

**Note: check your answer for the green box by making sure the sum of the last column is equal to the sum of the last row (not including the green box)**

## 4. Evaluation Statistics

Severity / Evaluator	Evaluator A	Evaluator B	Evaluator C	Evaluator D	Evaluator E
Sev. 0	0%	0%	0%	0%	
Sev. 1	55%	18%	64%	45%	
Sev. 2	57%	35%	61%	30%	
Sev. 3	87%	60%	87%	26%	
Sev. 4	0%	0%	0%	0%	
<b>Total (sevs. 3 &amp; 4)</b>	87%	60%	87%	26%	
<b>Total (all severity levels)</b>	65%	38%	71%	24%	

**\*Note that the bottom rows are *not* calculated by adding the numbers above it.**

## Severity Ratings

- 0 - not a usability problem
- 1 - cosmetic problem
- 2 - minor usability problem
- 3 - major usability problem; important to fix
- 4 - usability catastrophe; imperative to fix

## 5. Summary Recommendations

### Intro

Overall, we would say this is a pleasant looking app. It's very approachable and modern which is exactly what a user would want in a budgeting app. With a couple UI and UX fixes, we think BudgBuds would be an amazing app. We think you guys have done a really great job so far because it was hard to find violations.

### High-level questions

Your simple task is to create an individual budget. we initially thought you could create multiple individual budgets through the "Add Expense" button, but then realized that we had to create a sub budget under "individual" budget. One part of your medium task is about creating and editing a group budget, but there was no way to create a new group budget unless you meant creating a new group. Since we couldn't try doing the former, we do have some questions - does adding or removing or editing a sub-budget change the overall budget? Are other people in the group informed or need to agree on the change? Furthermore, does remaining refer to the amount that all the users are allowed to spend on something? How does other users' spending affect your own remaining amount on the group budget? If you can answer those questions and make it clear to the user, we believe your app will be very successful and something that we would use ourselves!

## **Application Flow**

The hierarchy of information is difficult to follow throughout the app because most of the text and information is the same size. For example, we would make the “Add Expense” button bigger than the “Weekly” filter. We would also recommend a vertical flow of information rather than a horizontal one because you wouldn’t have to worry about uneven white space and overemphasis on specific objects. Many of the buttons and toggles could be below the title of the section rather than beside it. We believe reorganizing would greatly improve how the app functions, especially since there are so many actions a user could do. In addition, we would make “Leaderboard” consistent with the rest of the sections in terms of the blue background because there is a stark contrast. We feel like the main fixes are to make the screens less overwhelming and make the most important actions more intuitive, which can be difficult. We think moving forward the biggest challenge will be implementing error detection and shortcuts.

Furthermore, since the task flows are somewhat long for creating a group and budget, we’d recommend having default presets or commonly used options provided to the user. This will largely increase the efficiency of use, especially for regular users.

## **Aesthetic Design**

We would collectively enjoy and use the app more if the social aspect was very aesthetically built out. We would also work on the social aspect of this app as well. If the user struggles with the social features which is BudgBud’s selling point, it would be difficult to keep the user’s interest in the app. For example, easy to understand leaderboards, accessible and interactive profiles, and an amazing Like & Comment system would be some things that would heavily convince me to use your app. We would also play around with quantitative notices that can inspire a user to save more money, such as “Gary beat his personal record and saved \$XX!” Otherwise, we would incorporate personal records for the user or notices that relate to that such as: “You are saving \$50 more than last week. Keep it going!” We really appreciate the implemented sharing settings. Finances are often a sensitive topic, and this feature would be useful. The changes mentioned beforehand would also support the important social accountability aspect of your app.

Furthermore, we think adding some pictures could make the app more attractive. We also think adding a little contrast to the color scheme might make your app more accessible to those with poor vision. A lot of what you do on your app happens on the same screens so there is not a lot of potential to have a recall problem however it might be nice to add some progress bars in the group creation screen to let people know how far along they are.

## **Miscellaneous**

We would definitely recommend a way for the user to have a deeper look at each budget, maybe even one at a time. When finance is involved, it’s easy to be quickly overwhelmed. Tinder-style cards for each budget would be an interesting avenue to explore. In

addition the spending history is only revealed after several taps, which we feel like is counterintuitive.

Looking forward, it would be nice to see empty states that also serve to concisely explain what an action does. We would recommend this for all prototypes. We're aware this prototype's imported data is part of the Wizard of Oz effect but we believe the initial onboarding/tutorial is the most important. The beginning is most susceptible to user drop off. If a user is confused about the functions and/or bombarded with information, they would not be willing to use it, no matter how beautiful or useful it is. They would not be able to maximize the usefulness of your app.

### **Conclusion**

Overall, you all did great work! We all thought this app was a challenge to implement but you fleshed it out well, especially for a med-fi prototype. We could definitely see this being used in everyday life, and we're excited to see what's next for BudgBuds.

## ***Heuristics***

### **H1: Visibility of System Status**

- Keep users informed about what is going on

### **H2: Match Between System & Real World**

- Speak the users' language
- Follow real world conventions

### **H3: User Control & Freedom**

- "Exits" for mistaken choices, undo, redo
- Don't force down fixed paths

### **H4: Consistency & Standards**

- Words, actions, and UI elements should be consistent across the entire platform
- Follow platform and industry conventions

### **H5: Error Prevention**

- Minimize error-prone conditions
- Remove memory burdens, support undoing, and warn your users when necessary

### **H6: Recognition Rather Than Recall**

- Make objects, actions, options, & directions visible or easily retrievable

### **H7: Flexibility & Efficiency of Use**

- Accelerators for experts (e.g., gestures, keyboard shortcuts)
- Allow users to tailor frequent actions (e.g., macros)

### **H8: Aesthetic & Minimalist Design**

- No irrelevant information. Focus on the essentials.

### **H9: Help Users Recognize, Diagnose, & Recover from Errors**

- Error messages in plain language
- Precisely indicate the problem
- Constructively suggest a solution

### **H10: Help & Documentation**

- Easy to search
- Focused on the user's task
- List concrete steps to carry out
- Not too large