

# Usability Report

## Project Information

### URL

<https://github.com/MoneyFox/MoneyFox>

### License

GPL-3.0 license

<https://github.com/MoneyFox/MoneyFox/blob/master/LICENSE.%20txt>

## Summary of Work Product

### Introduction

This paper provides the Usability Report of the MoneyFox mobile application. The usability test was conducted using the iOS and Android versions of the application. During the usability report, I observed whether the application performs well in usability and likability. The specific questionnaire that was utilized during the Usability testing is presented in the Appendix. During the research, the group of four participants was identified and obtained from a group of friends and coworkers. All participants gave verbal consent to participate in the usability testing. The interview with Participant 1 was conducted in the in-person format, and screenshots from Participant 1 were obtained. The interview with Participant 2 was conducted in an online format where I observed the Participant's reaction to performing certain tasks as well as their screen as they completed tasks. The interview with Participant 3 and Participant 4 was conducted in the in-person format.

### Participants Description

Participant 1, Female.

Participant 1 is a 24 years old female. Participant 1 displayed significant interest in using a budgeting application. Prior to the Usability testing, Participant 1 indicated that she has never used budgeting applications in the past. The participant's insight will help in determining the current state of the MoneyFox application,

Participant 2, Male.

Participant 2 is a 38 years old male. Participant 2 indicated prior experience using budgeting applications in the past. He stated that it was hard to stick to the previous application due to unresponsive user interfaces and a lack of reporting. The participant's response will be useful in determining the current state of the application based on his prior experiences using budgeting applications.

Participant 3, Male.

Participant 3 is a 24 years old male with prior experience using budgeting applications. According to Participant 3, he was never able to use budgeting apps for more than one month due to the limited functionalities provided. Participant 3 has been using Android for over ten years and feels comfortable navigating the operating system.

Participant 4, Male.

Participant 4 is a 38 years old male without prior experience using budgeting applications. Participant 4 indicated that he recently switched from iOS to Android, and is still getting used to the OS's mechanics. Participant 4 showed a strong interest in trying the budgeting application. He stated that depending on the functionality and offered features he might continue using it.

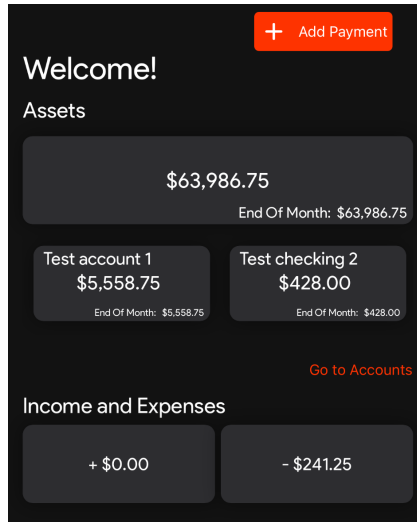
## **Test Results and Observations**

During usability testing, all participants were able to complete all tasks. All participants indicated that they were overall satisfied with how easy it was to accomplish some tasks. Users reported issues with creating new income and expense categories. More detailed overview of the results for each participant is presented below.

### **Participant 1 Results**

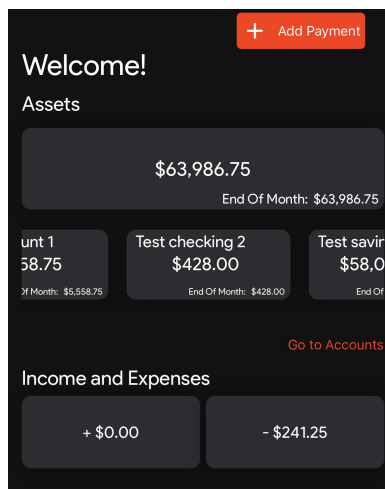
#### **- Adding Bank Accounts**

Participant 1 stated that adding a new bank account to the application was extremely easy. She did not run into any problems while performing this task. Participant 1 stated that on a scale from 1 to 5 adding a new bank account was 5, where 5 is easiest and 1 is hardest. Participant 1 stated that adding the third account resulted in inconsistencies on the main screen.



**Fig. 1** - Screen with three accounts added.

Participant 1 expressed concern that after adding the third account it did not appear on the main screen. After further investigation, it was determined that the third account was added but was off-screen and the current state of the UI does not indicate scrolling.

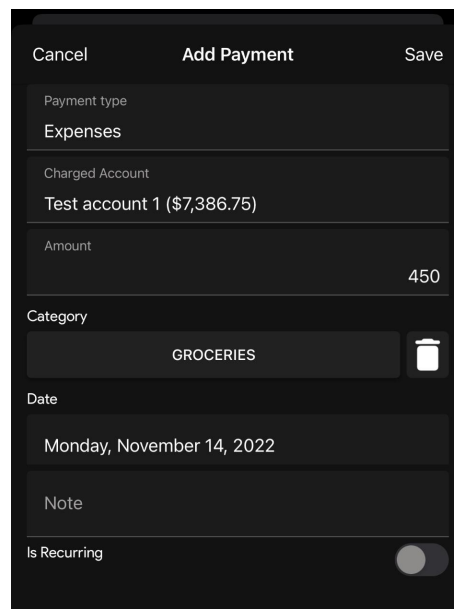


**Fig. 2** - Screen with 3 accounts added and the lack of indicators allowing the user to see the third account.

Participant 1 rated the satisfaction of performing this task on a scale from 1 to 5 as 4 (where 5 is the most enjoyable and 1 is not enjoyable at all).

## - Adding Income/Expenses

Participant 1 indicated that adding income and expenses did not cause any issues. However, the main screen confused Participant 1. Participant 1 stated that she assumed the section Income and Expenses on the main screen with “+” and “-” signs were, in fact, a button to add an income/expenses. However, after familiarizing herself with the user interface, Participant 1 determined that the red “Add Payment” button was designed to add income/expenses. Due to occurred confusion with the user interface, Participant 1 stated that on a scale from 1 to 5 the ease of accomplishing this task was 3 (where 5 is easiest, and 1 is hardest).

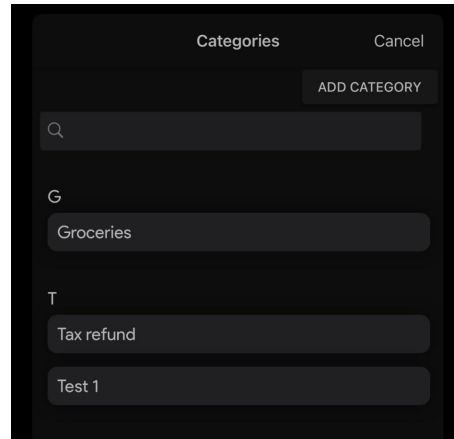
A screenshot of a mobile application's 'Add Payment' screen. The screen has a dark background with white text. At the top, there are three buttons: 'Cancel', 'Add Payment', and 'Save'. Below these is a 'Payment type' section with a dropdown menu currently showing 'Expenses'. The next section is 'Charged Account' with a dropdown menu showing 'Test account 1 (\$7,386.75)'. Below that is an 'Amount' field with the value '450'. The 'Category' section has a dropdown menu showing 'GROCERIES' and a trash icon to its right. The 'Date' section has a dropdown menu showing 'Monday, November 14, 2022'. Below that is a 'Note' field. At the bottom, there is a toggle switch for 'Is Recurring', which is currently turned off.

**Fig. 3** - Adding income/expenses.

Participant 1 rated the satisfaction of performing this task on a scale from 1 to 5 as 2 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to confusion with the UI elements.

#### **- Adding Income/Expenses Categories**

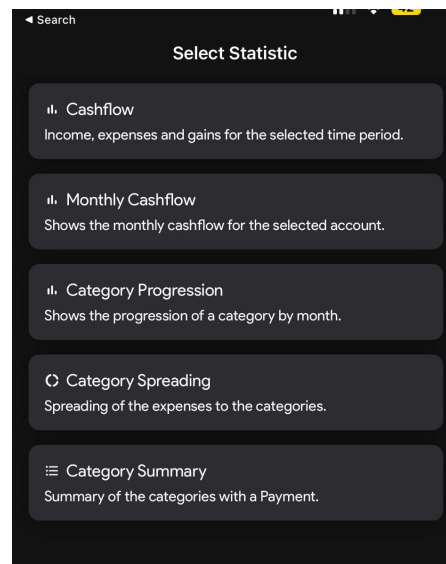
Participant 1 experienced significant problems when trying to create/modify the income/expenses categories. During the usability testing, the application froze and had to be restarted in order for the new category to be added. Participant 1 attempted to perform the similar task 2 more times with the same results.



**Fig. 4** - Categories screen which caused the application to freeze.

Due to the application crashing, Participant 1 rated this task difficulty on a scale from 1 to 5 as 1 (where 5 is easiest and 1 is hardest). Additionally, Participant 1 rated the satisfaction of performing this task on a scale from 1 to 5 as 1 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to the need to restart the application after adding a new category.

#### - **Viewing/Understanding Statistics**



**Fig. 5** - Statistics Screen

Participant 1 rated this task difficulty on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest). Participant 1 stated it was easy to find the needed charts, and

the information presented in them was clear and easy to follow. Participant 1 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Application Receptivity**

Participant 1 was not satisfied with the current state of the User Interface. According to Participant 1, due to confusion with the UI elements, and minor issues with the application performance, satisfaction with the application was not great. According to Participant 1, the likelihood of her using this budgeting application on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all) was 2. Using this application did not improve her feelings toward budgeting applications. Lastly, Participant 1 stated that on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all), the likelihood of her recommending this application to her friends or family is 3. According to Participant 1, illuminating bugs within the application and improving the user interface could potentially improve her ratings.

### **Participant 2 Results**

#### **- Adding Bank Accounts**

Participant 2 was successful in creating 4 different bank accounts. Once 4 accounts were added, Participant 2 was not able to notice that the Main screen of the application only displays the first two accounts. After pointing to him the lack of two other accounts on the Main screen, Participant 2 was quick to figure out that they are hidden on the screen and must be swiped left to be displayed. Even though Participant 2 was not able to notice that, after pointing it out, Participant 2 expressed concern that he cannot see all his accounts without performing additional steps. Participant 2 stated that on a scale from 1 to 5 adding a new bank account was 5 (where 5 is easiest and 1 is hardest). Participant 2 rated his satisfaction with performing the above action on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Adding Income/Expenses**

Similar to Participant 1, Participant 2 attempted to add income/expenses from the main screen by pressing the “+” and “-” buttons. After guiding Participant 2, they expressed concern that performing this task was confusing due to the UI elements looking like clickable buttons. Due to occurred confusion with the user interface, Participant 2 rated the ease of accomplishing this task on a scale from 1 to 5 as 2 (where 5 is easiest and 1 is hardest). Participant 2 rated the satisfaction of performing

this task on a scale from 1 to 5 as 2 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to confusion with the UI elements.

- **Adding Income/Expenses Categories**

Similar to Participant 1, Participant 2 encountered the same issue with creating and modifying income and expense categories. During the usability testing, Participant's 2 application got frozen when attempting to create a new category. Restarting the application solved the issue, and further attempts to perform such activities lead to similar results. Participant 2 rated the satisfaction of performing this task on a scale from 1 to 5 as 1 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to confusion with the UI elements. Participant 2 rated the ease of accomplishing this task on a scale from 1 to 5 as 1 (where 5 is easiest and 1 is hardest).

- **Viewing/Understanding Statistics**

Participant 2 was overall satisfied with the current ways the statistics were presented to users. According to Participant 2, the statistics were easy to follow and understand. Participant 2 did not find performing this task hard and rated the ease of accomplishing this task on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest). Moreover, Participant 2 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

- **Application Receptivity**

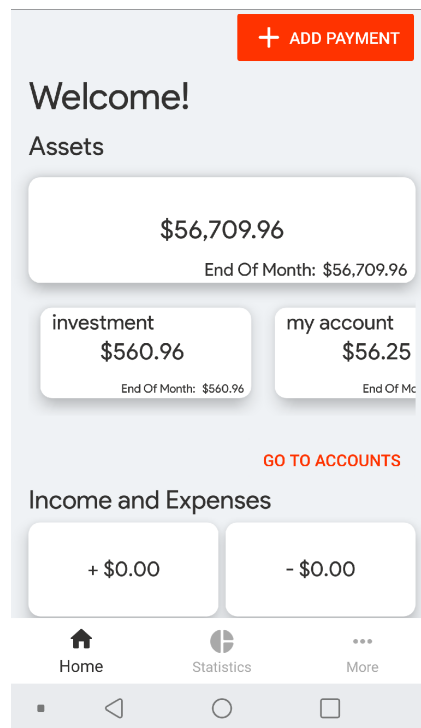
Participant 2 was somewhat satisfied with the current state of the application. Despite the confusion with adding income/expenses and the current bug when adding new expense categories freezes the app, Participant 2 found the application easy to use. According to Participant 2, the likelihood of him using this budgeting application on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all) was 3. Using this application did improve his feelings toward budgeting applications. According to Participant 2, he had a better experience using this application than his previous attempts to use budgeting applications. Lastly, Participant 2 stated that on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all), the likelihood of him recommending this application to her friends or family is 4.

### **Participant 3 Results**

- **Adding Bank Accounts**

Participant 3 did not find adding bank accounts to be difficult and did not run into any problems while performing the task. Participant 3 stated that on a scale from 1 to 5

adding a new bank account was 5, where 5 is easiest and 1 is hardest. Participant 4 stated that adding the third account resulted in inconsistencies on the main screen, similar to the iOS version of the application.



**Fig. 6** - Screen with 3 accounts added

Participant 3 noticed that some of his accounts were off the screen, but due to the second account being halfway visible, he understood the design choice for displaying accounts on the main screen. Participant 3 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Adding Income/Expenses**

Participant 3 could not perform this task easily due to the confusion with buttons like “+\$0.00” and “-0.00” symbols on the main screen. After pointing out to the participant that adding income and expenses is performed through the Add Payment button on the top of the screen, he was able to finish the task. Due to occurred confusion with the user interface, Participant 3 stated that on a scale from 1 to 5 the ease of accomplishing this task was 2 (where 5 is easiest, and 1 is hardest).



**Add Payment** CANCEL SAVE

Payment type  
Income

Charged Account  
my account (\$56.25)

Amount  
4500

Category  
TEST

Date  
Tuesday, November 29, 2022

Note

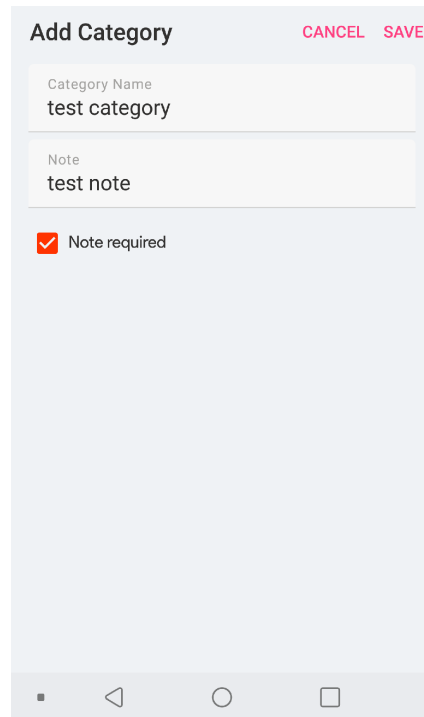
Is Recurring ☐

**Fig. 7 - Adding income/expenses**

Participant 3 rated the satisfaction of performing this task on a scale from 1 to 5 as 2 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to confusion with the UI elements.

- **Adding Income/Expenses Categories**

Participant 3 did not run into any issues when adding income and expenses categories. It appears that the application freezes while adding categories only on iOS.

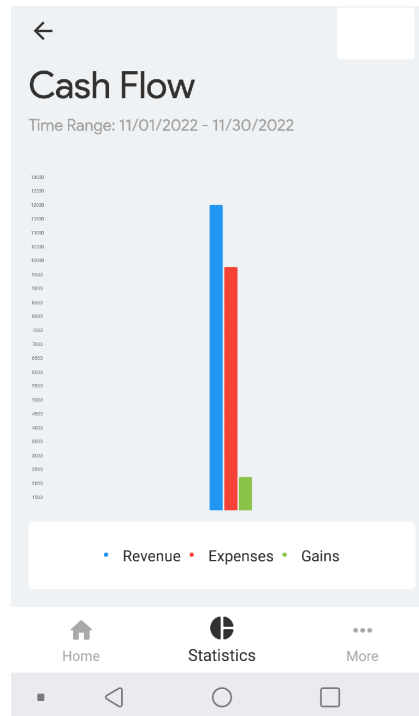


**Fig. 8 - Adding income/expenses categories**

Participant 3 rated this task difficulty on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest). Additionally, Participant 3 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to the need to restart the application after adding a new category.

#### **- Viewing/Understanding Statistics**

Participant 3 did not have any issues understanding and viewing statistics. According to Participant 3, the names of the charts and their representation make it easy to understand what they represent.



**Fig. 8 - Adding income/expenses categories**

Participant 3 noticed that the filtering icon is not displayed properly (Fig. 8 top right corner), and indicated that even though it does not create any issues, it “threw him off.”

Participant 3 rated this task difficulty on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest). Participant 3 stated it was easy to find the needed charts, and the information presented in them was clear and easy to follow. Participant 1 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Application Receptivity**

Participant 3 stated that he was satisfied with the overall performance of the application despite a few minor issues and inconsistencies with the user interface. According to Participant 4, the likelihood of him using this budgeting application on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all) was 4. Lastly, Participant 3 stated that on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all), the likelihood of her recommending this application to her friends or family is 4.

#### **Participant 4 Results**

#### **- Adding Bank Accounts**

Participant 4 did not run into any issues with adding bank accounts to the application. Additionally, Participant 4 was able to notice that the accounts on the main screen are scrollable. Participant 4 stated that it does not bother him that he cannot see all the accounts at the same time. According to Participant 4, one way to improve it can be by allowing users to select which accounts are displayed first. Participant 4 stated that on a scale from 1 to 5 adding a new bank account was 5 (where 5 is easiest and 1 is hardest). Participant 4 rated his satisfaction with performing the above action on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Adding Income/Expenses**

Participant 4 did not find it difficult to add income and expenses. Similarly to other participants, he attempted to click the “+” and “-” buttons at the bottom of the screen, but quickly determined that this action was performed by clicking the “Add Payment” button. Participant 4 rated the ease of accomplishing this task on a scale from 1 to 5 as 3 (where 5 is easiest and 1 is hardest). Participant 4 rated the satisfaction of performing this task on a scale from 1 to 5 as 4 (where 5 is the most enjoyable and 1 is not enjoyable at all) due to confusion with the UI elements.

#### **- Adding Income/Expenses Categories**

Participant 4 did not have any issues adding Income and Expenses categories. Application worked as expected, and no issues were recorded. Participant 4 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all). Participant 4 rated the ease of accomplishing this task on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest).

#### **- Viewing/Understanding Statistics**

Participant 4 found it enjoyable viewing the statistics. He stated that it gives a great breakdown based on categories and accounts. Participant 4 was not able to notice the missing image for the icon on the statistics screens. Lastly, Participant 4 did not find performing this task hard and rated the ease of accomplishing this task on a scale from 1 to 5 as 5 (where 5 is easiest and 1 is hardest). Moreover, Participant 4 rated the satisfaction of performing this task on a scale from 1 to 5 as 5 (where 5 is the most enjoyable and 1 is not enjoyable at all).

#### **- Application Receptivity**

Participant 4 was satisfied with the current state of the application. He stated that the likelihood of him using this budgeting application on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all) was 4. Lastly, Participant 2 stated that on a scale from 1 to 5 (where 5 is the most likely and 1 is not likely at all), the likelihood of him recommending this application to her friends or family is 4.

## **Results and Suggestions**

During the Usability test, the list of problems with the current state was identified. Among the most noticeable problems that significantly impact application usability and user experience was the issue of adding income/expense categories on the iOS platform. As a result of this discovery, a new Issue was reported in the GitHub repository. Additionally, users expressed concerns about viewing multiple accounts. According to participants, the ideal solution would be to see every account in the card-like view that would span in two columns and the number of rows according to the number of accounts added by users. Moreover, adding income and expenses cause confusion among participants. Moving the “Add Payment” button below the Account section, and clearly outlining clickable and unclickable UI elements can improve the user experience and avoid further confusion among users.

Among some other small issues observed during testing was the inconsistency of UI elements. Some screens use the arrow to indicate returning to the previous screen, while others use the “Back” button. Additionally, the application offers a Backup functionality that will allow users to access their data from different devices or restore their data in cases when the application is installed on a different device. However, this functionality is not easily accessible or visible to regular users. It is suggested that moving this functionality to the main screen or asking users to create an account/login during the application startup will improve the user experience and will allow users to retain their data without the need to perform additional steps.

## **Conclusion**

Based on the Usability testing, users seem to be overall satisfied with the current state of the user interface. However, in order to further improve the user experience it is recommended that additional usability testing be conducted on a larger scale to gain more feedback from different types of users of different backgrounds and different levels of computer literacy.

## **Appendix**

### **A. Usability Test Plan**

1. The following series of questions seeks to understand whether the application is easy to use for its intended purpose. I presented the user with an objective while paying attention to the user navigating from screen to screen.

<b>Add banking account</b>	<b>Add expenses</b>	<b>Add income</b>	<b>Add income /expenses categories</b>	<b>Viewing /understanding statistics</b>
How easy was it to accomplish the task? Give your answer with a rating from 1 to 5.				

2. I also seek to understand how enjoyable the various tasks made the user feel. The app must be enjoyable to use. A workflow that accomplishes the intending objective but causes user frustration is not ideal.

<b>Add banking account</b>	<b>Add expenses</b>	<b>Add income</b>	<b>Add income /expenses categories</b>	<b>Viewing /understanding statistics</b>
How enjoyable was it to accomplish the task? Give your answer with a rating from 1 to 5.				

3. I also seek to understand whether the following actions have changed the user's receptivity to using budgeting and finance managing applications in the future? Does the user want to use it as a primary tool to manage their finances? Does the user want to recommend the application to people in their social graph?

<b>Add banking account</b>	<b>Add expenses</b>	<b>Add income</b>	<b>Add income</b>	<b>Viewing /understanding statistics</b>
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			<b>/expenses categories</b>	
Does the action make you more likely to use a budgeting application? Give your answer with a rating from 1 to 5.				
Does the action improve your feelings towards budgeting applications in general?				
How likely are you to recommend this service to your friends and family? Give your answer with a rating from 1 to 5.				