

# Sprint 2 Document

## 1. Project Title and Authors

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## 2. Preface

The purpose of CASHew is an Android Budget Management App that helps users manage their spending habits. Everyone struggles with how to spend their money, and what to spend their money on. This app will help change that while making it interactive and fun for the user.

## 3. Sprint 2 backlog

- a. Sprint 1 Backlog: Email verification, fix UI and layout issues, create testing, save user data to Firebase, fix budget progress issues, create budget progress reset, allow user to schedule budget reset, create transactions class to tell user how much they spent, allow user to customize auto logout timer, make a delete account function, make a delete budget function and make a delete category function, make warning when user goes over budget, giving functionality to budget edit button.

## 4. Performance Improvement:

- a. Improvement 1
  - i. The user behavior suggested frustration when they added in the budget information, and we saw that the limit class was slowing down the program.

1. The files are located in the java/com/example/cs160cashew file directory and the files are called Limit.java and Budget.java.
2. We decided to do away with the class and make the limit for the budget a variable instead. This ended up improving the performance speed of our app.
  - a. Code before: Limit.java:

```
1 package com.example.cs160cashew;
2
3 public class Limit {
4
5     int amount = 0;
6
7     Limit(int i){
8         amount = i;
9     }
10
11     public int getAmount(){
12         return amount;
13     }
14 }
```

- b. Code after when limit became a variable in budget.java:

```
4 import android.os.Parcelable;
5
6 import java.util.ArrayList;
7 import java.util.List;
8
9 public class Budget implements Parcelable {
10
11     private String name;
12     private List<Category> categoryList = new ArrayList<Category>();
13     private int limit;
14     private double progress;
15     public static int monthDay;
16
17     public int didReset;
18     Budget(String n, Category c, int l, double p, int m){
19         name = n;
20         categoryList.add(c);
21         limit = l;
22         progress = p;
23         monthDay = m;
24     }
25
26     Budget(String n, int l, double p, int m){
```

- b. Improvement 2

- i. When we were adding transactions, we realized that the speed was really slow, and that the transactions weren't being added dynamically, but we changed that.
  1. The files are located in the java/com/example/cs160cashew file directory and the files are called Transaction.java and Budget.java and BudgetPage.java and categoryPage.java
  2. We decided not to do the transactions in BudgetPage but in CategoryPage so that way they do less actions in one activity.
- a. Before code Budget.java:

```
65
66
67 @Override
68 public void writeToParcel(Parcel dest, int flags) {
69
70     dest.writeString(name);
71     dest.writeTypedList(categoryList);
72     dest.writeInt(limit);
73
74     dest.writeDouble(progress);
75     dest.writeInt(monthDay);
76 }
77
78 @Override
79 public int describeContents() {
80     return 0;
81 }
82
83 public static final Creator<Budget> CREATOR = new Creator<Budget>() {
84     @Override
85     public Budget createFromParcel(Parcel in) {
86         return new Budget(in);
87     }
88
89     @Override
90     public Budget[] newArray(int size) {
91         return new Budget[size];
92     }
93 };
94
95 public void addCategory(Category c){
96     categoryList.add(c);
97 }
98
99 public void updateProgress(double newProgress){progress += newProgress;}
100
101 public String getName(){
102     return name;
103 }
104
105 public int getLimit(){
106     return limit;
107 }
108
109 public double getProgress(){
110     return progress;
111 }
112
```

- b. After code Transaction.java

example/cs160cashew/Transaction.java

```
2
3  import android.os.Parcel;
4  import android.os.Parcelable;
5
6
7  public class Transaction implements Parcelable {
8
9      String name = "untitled";
10     int value = 0;
11
12     Transaction(String s, int i){
13         name = s;
14         value = i;
15     }
16
17
18     protected Transaction(Parcel in) {
19         name = in.readString();
20         value = in.readInt();
21     }
22
23
24
25     public static final Creator<Transaction> CREATOR = new Creator<Transaction>() {
26         @Override
27         public Transaction createFromParcel(Parcel in) {
28             return new Transaction(in);
29         }
30
31         @Override
32         public Transaction[] newArray(int size) {
33             return new Transaction[size];
34         }
35     };
36
37     @Override
38     public int describeContents() {
39         return 0;
40     }
41
42     @Override
43     public void writeToParcel(Parcel parcel, int i) {
44
45         parcel.writeString(name);
46         parcel.writeInt(value);
47
48     }
49
50     public String getName() {
51         return name;
52     }
53
54
55     public int getValue() {
56         return value;
57     }
58
59     public void setName(String name) {
60         this.name = name;
```

## Scrum meetings:

- 4/25/2022
  - Start: 4:30
  - End: 4:52
  - Location: online
  - Summary of Performances:
    - Jason
      - Fixed issues regarding budget progress reverting back to default value, also got the budget progress to reset on the first of every month. Will research how to keep data when you leave/close the app. No impediments seen.
    - Aidan
      - Worked on code reviews, planning on doing more code reviews, no impediments seen.
    - Bernard
      - Researched the code and different ways to make the app better, going to work on code reviews, no impediments seen.
    - Minh
      - Working on password recovery feature. Exploring implementation for email verification feature.
    - Mina
      - Working on cashew app design. Will continue to work on these things. No impediments seen
    - Margaret
      - Working on implementation of full functionality for the category page. No impediments seen.
    - Andrei
      - Worked on code reviews, will continue to review code.
- 4/26/2022
  - Start: 4:30pm
  - End: 4:50pm
  - Location: Online
  - Summary of Performances:
    - Jason
      - Researched some ways to make the progress reset by potentially using a scheduler. Will continue to look into this. No impediments seen.
    - Aidan
      - Worked on code reviews and will start generating some new black-box tests to take into account changes of the app. No impediments seen.

- Bernard
    - Worked on code reviews and will start to work on layout issues. No impediments seen.
  - Minh
    - Worked on the password recovery feature and will continue to work on this feature. No blockage. Everything is on track.
  - Mina
    - Working on cashew app design. Will continue to work on these things. No impediments seen
  - Margaret
    - Started work on transaction class. No impediments seen.
  - Andrei
    - Looked on color schemes that would suit the app.
- 4/27/2022
  - Start: 4:38pm
  - End: 4:53pm
  - Location: Online
  - Summary of Performances:
    - Jason
      - Worked on researching how to let the user schedule the budget to reset. Will probably be done by the weekend. No impediments seen.
    - Aidan
      - Worked on code reviews and test cases, and will continue to do more. Will type in a couple of tests today to check results. No impediments seen.
    - Bernard
      - Worked on code reviews. Tried to fix the layout. Will see if layout needs to be improved, work on code reviews. No impediments seen.
    - Minh
      - Finished forget password feature. Working on email verification feature. No blockage.
    - Mina
      - Working on cashew app design. Will continue to work on these things. No impediments seen
    - Margaret
      - Finished transaction class. Integrating transaction class into category class to allow jumping back and forth. No impediments seen.
    - Andrei
      - Looked how to make transparent buttons with borders.
- 4/28/2022
  - Start: 4:40pm

- End: 4:55pm
- Location: Online
- Summary of Performances:
  - Jason
    - Reviewed some code and continued to work on fixing some issues regarding the budget resetting. Will take a bit longer than expected, no impediments seen.
  - Aidan
    - Worked on code reviews and test cases, and will continue to do more. Will type in a couple of tests today to check results. No impediments seen.
  - Bernard
    - Researched on navigation drawer. Will see if layout needs to be improved, work on code reviews. No impediments seen.
  - Minh
    - Working on verifying features. Will do research on implementation from Firebase.
  - Mina
    - Working on cashew app design. Will continue to work on these things. No impediments seen
  - Margaret
    - Creating a third adapter to use recyclerview to display the list of transactions. No impediments seen.
  - Andrei
    - Tried to implement the new buttons UI, but got conflicts.
- 4/29/2022
  - Start: 4:30pm
  - End: 4:50pm
  - Location: Online
  - Summary of Performances:
    - Jason
      - Worked on letting the user schedule the budget reset, however, running into difficulties in actually getting it to work. Should be done by Monday. No impediments seen.
    - Aidan
      - Worked on code reviews and test cases, and will continue to do more. Will type in a couple of tests today to check results. No impediments seen.
    - Bernard
      - Researched on email verification features. Will see if layout needs to be improved, work on code reviews. No impediments seen.
    - Minh
      - Still working on verifying features. Exploring best implementation for email verification feature.

- Mina
    - Working on cashew app design. Will continue to work on these things. No impediments seen
  - Margaret
    - Adding the ability to edit categories as well as progress updates using transactions.
  - Andrei
    - Added a new back ground picture on the main layout. Could not resolve cashew images problems (jpeg, not png).
- 5/02/2022
  - Start: 4:30pm
  - End: 4:50pm
  - Location: Online
  - Summary of Performances:
    - Jason
      - Progress reset issues have been fixed but some issues still persist, should be done by the end of the day. No impediments.
    - Aidan
      - Worked on code reviews and test cases, and will continue to do more. Will continue to test and review pull requests. No impediments seen.
    - Bernard
      - Finished working on email verification features. Did research on the navigation drawer. Will see if layout needs to be improved, work on code reviews.
    - Minh
      - Still working on verifying features. Exploring best implementation for email verification feature.
    - Mina
      - Working on implementing the overbudget feature, but nothing has been pushed yet.
    - Margaret
      - Working on sending information back and forth between categories and transactions using intents. No impediments seen.
    - Andrei
      - Worked on reviewing the pull requests.
- 5/03/2022
  - Start: 4:30pm
  - End: 4:50pm
  - Location: Online
  - Summary of Performances:
    - Jason



- Finished code for resetting progress and scheduling when the user resets. Will work on the user editing and deleting budget. No impediments.
  - Aidan
    - Worked on creating new black box tests using Espresso. Will continue to generate tests. Potential impediments in testing if layouts change too much.
  - Bernard
    - Researched on the delete account features. Will work on delete account features. Doing code review as well.
  - Minh
    - Doing code review. Exploring other features.
  - Mina
    - Fixed some layout issues and working on the overbudget feature to notified the user.
  - Margaret
    - Finished integrating categories, transactions, and the adapter to work together.
  - Andrei
    - Changed all layouts (margins, texts, spaces, fonts).
- 5/04/2022
  - Start: 4:30pm
  - End: 4:50pm
  - Location: Online
  - Summary of Performances:
    - Jason
      - User editing the limit and deleting the budget is done, need to make sure that the budget is also deleted from the category list as well. Will continue to see if user can be saved to firebase. No impediments.
    - Aidan
      - Worked on creating new black box tests using Espresso. Will submit a pull request to share new test cases. Potential impediments in testing if layouts change too much.
    - Bernard
      - Finished working on delete account feature. Worked on code reviews.
    - Minh
      - Adding user information to the firebase.
    - Mina
      - Worked on the overbudget feature to notified the user, and working on the auto logout time feature.
    - Margaret

- Worked on any merge conflicts to allow branch to be merged with main.
- Andrei
  - Looked through pull requests. Found how to add an app icon to the project. Finished the UI.
- 
- Sprint review: 5/05/22
  - Start: 4:30pm
  - End: 5:45pm
  - Location: Online
  - Summary of Sprint:
    - This sprint we were able to put in a functionality to delete the budgets and categories from our lists. We were also able to fix the issues regarding the progress being updated and the progress being reset. We now have a warning for when the user goes over budget. We were also able to have our app save multiple important values to the Firebase realtime database. Our app now has a different look and now has some more color and background images. Security features were enhanced and the app is now secure for the user. The user will also need to verify their email in order to continue. The budget edit button now has functionality to it. The user can also schedule when the progress for their budget resets. We also were able to let the user see their total transactions and fix the categories up a bit.
    - We had planned on getting the app to read data from Firebase, however, that was extremely difficult and we weren't able to figure it out by the end of the sprint. We also had some trouble with resetting the spending and transactions, so we will need to fix that a bit later.
    - We were able to solve issues regarding categories not doing anything and finally gave them something to do. We also were able to glamorize our app as well. User progress being saved between activities was figured out, but not when the user logs out. We planned on doing animations for the users progress in their budget, but that never got done.
    - We were able to add everything smoothly and we all communicated better than last time because we knew how to interact with each other better. Code reviews went smoothly.
    - We can improve on making sure that we are not working on similar things, because that can mess up the merging of files on GitHub. Some things could have been done a bit earlier to not cut it close to the deadline