

# YOUR MONEY YOUR WAY



## Unit P3

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# Executive Summary

## Problem Space:

Our team was tasked with developing a responsive website to address the financial management needs of users. The problem is to find a solution that would assist users in tracking their expenses and better understanding their finances. We focused on the individuals who either don't track their expenses at all or rely on manual methods, such as pen and paper, to manage their finances.

## Goal:

The goal of our project was to create a user-friendly and intuitive website that would empower users to track their expenses, payments, and purchases effectively. We wanted to provide users with a comprehensive understanding of their spending habits, enabling them to make informed decisions and optimize their financial well-being. By doing so, we aimed to help users avoid late payments, reduce unwanted charges, and identify areas where they could adjust their spending to align with their personal interests.

## Methods:

To begin our design process, we conducted thorough research utilizing various UX methods. We started by formulating assumptions and hypotheses, which served as a foundation for defining the problem statement. Next, we created a screening survey to identify suitable users for interviews. Our focus was on individuals who either did not track their expenses or do so manually. Based on the survey results, we selected a group of users to interview, totaling five participants between the ages of 25 and 45. Prior to the interviews, we prepared an interview guide with well-crafted questions to uncover valuable insights. During the interviews, we collected notes from each participant and later grouped common sentiments using the affinity mapping technique. This process led us to identify recurring themes, insights, and ultimately a persona. Combining it all we created a user journey map (visual) to gain a deeper understanding of the user's experience, and empathize with all their interactions throughout their money management process. We then used various design techniques to prioritize features which must be built in addition to the feasibility of developing them given our timeframe/budget. After a few rounds of paper prototyping we designed one mid-fidelity prototype which we tested. Usability tests were conducted with 5 users; we gave each 3 tasks to accomplish and recorded the results.

## Takeaways:

We found a need to provide users with a comprehensive solution that enables them to track all their expenses, payments, and purchases. The solution was designed to empower users with a deeper understanding of their financial patterns, allowing them to make adjustments that align with their personal interests while avoiding late payments and unwanted charges. Our design encompasses features

## Design / Features:

- Ability to set a reminder for upcoming charges
  - Addresses recurring theme of forgetting payments and when they will be charged
  - Can also address remembering subscriptions which was another common theme from interviews
- Ability to check overall spending broken down into categories
  - Addresses theme of wanting to know exactly where spending is going, and how that spending is comparing to their goals and budgets set
- Presentation and information of potential “issue” spending category
  - Allows user to address concerns on particular areas that they are near passing their goal on
  - Addresses issues about not realizing until it's too late when you've overspent in an area, and have to adjust budgeting later on
  - Viewable from home page so it is automatically brought to quick attention



# Problem Space

The space we wanted to explore was personal finances with a focus on budgeting and savings. We began with our assumptions, hypothesis, and initial problem statement.

## Assumptions

- Most people don't want to bother with tracking everything.  
People don't want to bother inputting information they want to track.
- People would want to keep track of their spending in general; monthly as well.
- Spending is too frequent to keep track of with all the other things to do in a day.
- Some people have a hard time minimizing expenses.
- Too many types of payment methods are used, have too many apps to check.
- People miss their payments, because they can't remember when is each payment due.
- Different bank accounts can be a pain to manage.
- There is frustrations when making different payments for various items with random due dates.
- People don't want to actually see anything about their spending at all.
- People would enjoy getting actionable insights from their spending habits to improve
- People want a way to track spendings and savings on demand (Location)

## Hypothesis

In today's busy world people often want to keep track of their spending habits but often don't bother with doing it because of how complex it can be, the time and effort it takes, and what changes it'll bring to their life.

## Initial Problem Statement

How might we provide a method for people to track their expenses in order to gain insights on spending trends while minimizing complexity and time invested on budgeting?

# USER RESEARCH

# 1

# Screeners Survey

## Goal

Our screener survey was designed to give us the ability to refine our candidate pool and ensure we interviewed users who could give us appropriate insights into our space.

## Methodology

We identified **two key traits** that we would look for in the survey results for potential candidates

- Do not track their finances at all
- Do track their finances, but on their own (manual, pen/paper, spreadsheet, etc)

As the screener was being sent out, we also began creating our **discussion guide**. This consisted of our opening section designed to create a welcoming environment for our interview subjects. From there, our questions worked from a high level initially, and as we established our line of questioning, they would get more specific. Our goal was to gather insights that would provide data about all of our initial assumptions and hypothesis.

We felt it would be necessary to interview at least **five separate users** over the course of two days. We aimed for each interview to last between 15-25 minutes each. Interviews were conducted in two formats; In-Person and over phone calls. Lastly, we recorded each conversation and later transcribed the results in order to have an accurate picture to refer back to if needed.

During the interviews, we had three roles for our team that we rotated between

- Lead Interviewer
- Lead Note Taker (detailed and specific notes)
- Secondary Note Taker (focused on behaviors, likes/dislikes, and quotes)

# User Interviews

## Goal:

After defining our problem statement, we set out to better understand the problem space and eventually be able to validate or invalidate our assumptions. We decided it would be most appropriate to our research to begin by conducting user interviews.

## Methodology:

We interviewed 5 people who filled out our screener survey and met the criteria we were looking for. Based on our problem statement, we identified it would be best to speak with users who either do not track their budget at all, or do so in a “manual” sense, and don’t currently use an app or digital service.

We conducted the interviews in-person, over zoom, and on the phone. All interviews lasted between 15-25 minutes each.

This process was broken into three parts:

1. Creation of a screener survey to select appropriate interview candidates
2. Creation of a discussion guide with questions designed to elicit the info we most needed to know and quantify
3. Conducting of interviews

## Takeaways:

After conducting our interviews, we were left with great data from which to move forward. Some key learnings we took were:

- All interviewees stated they were very hesitant to ever share financial data unless very necessary
- All interviewees tracked their budget, but the manner in which they did varied greatly
- Most subjects identified that primary bills like Rent, Car, Utilities were their most important concerns, but not always the ones they tracked the most as they rarely vary
- Four out of five subjects used autopay for most of their payments
- No subject stated they made more than 3-4 transactions on an average day
- No subject used more than two credit cards in general
- Most interviewees stated they primarily make all their purchases on a credit card and pay that off monthly
- Food and entertainment were often identified as the two categories that were both important to have extra money in, and where extra spending could be reduced if needed

# Interview Discussion Guide

## Script Introduction

Hi, thank you for taking some time to chat with us today. I'm \_\_\_\_\_, and I've got my research team here with me.

Today we just want to ask you a few questions related to personal budgeting and keeping track of your personal finances, we won't ask anything about your specific money, just very high level.

Before we get started, is it ok if we record the conversation? It will be confidential to us, just so we can go back if we need to later on.

Great, lets get started!

## Questions

Do you currently track your expenses? Can you walk me through what that looks like for you?

How do you know if you have enough to spend?

How important is it for you to keep up with your expenses?

- Which if any are most important to keep track of?
- Which are least important?

Did you ever go over your budget. Tell me about that

What, if anything, do you do to cut costs.

Are you saving up for anything. Tell me about that. {What are you doing about it.}

How many times do you make purchases on an average day?

Is there a certain type of thing you mostly spend this money on?

Is there a level of expense you do keep track of? (Certain threshold)

How many different payment methods do you use over a typical month?

Would you remember your purchases in say a month from now?

- Is there any reason that you can think of that it would be helpful to remember them?

Does anyone else help keep track of your expenses?

How comfortable do you feel about sharing your private information like SSN and financial data in different web platforms?

How do you go about paying bills? Where do you go to pay (car app; credit card company)

How many of these payments are set for auto pay?

Do you ever miss important payments?

Do you have any current subscriptions? {is that the whole list.}

- How frequent do you get charged for these?
- When's the last time you canceled a subscription? Tell me about that.

- Do you ever intentionally change how much you spend.
  - What informs those decisions?
- How much free time would you say you have in a typical day?  
How do you typically spend that time?
- Anything else you wanted to say?

## Close

- Well thank you \_\_\_\_\_, we really appreciate you taking the time to speak with us today.
- If we needed to reach out in the future about anything, would it be ok to get in contact?
- Great, again thank you for your time and have a good rest of your day!

INTERVIEWEE	INTERVIEWER	LEAD NOTE TAKER	SECOND NOTE TAKER	RECORDING	TRANSCRIPT
<b>Olia</b> 5/17 @ 5pm	Dan	Nick	Mia	<a href="#">Olia Audio</a>	<a href="#">Olia Transcript</a>
<b>Cicily</b> 5/18 @ 12pm	Mia	Miles	Dan	<a href="#">Cicily Audio</a>	<a href="#">Cicily Transcript</a>
<b>Sergine</b> 5/18 @ 1pm	Nick	Miles	Dan	<a href="#">Sergine Audio</a>	<a href="#">Sergine Transcript</a>
<b>Kevin</b> 5/18 @ 2:20pm	Dan	Miles	Mia	<a href="#">Kevin Recording</a>	<a href="#">Kevin Transcript</a>
<b>Chloe</b> 5/18 @ 2:50pm	Miles	Nick	Mia/Dan	<a href="#">Chloe Recording</a>	<a href="#">Chloe Transcript</a>

## Top 3 Observations

### Olia (25-34)

1. Writes down thoughts about spending habits in a journal to keep track
2. Would share private info if she benefits or trusts where it's going, but otherwise is very hesitant to
3. Has decent amount of time in her day but doesn't like the mental effort spent on keeping track of finances

### Cicely (45-54)

1. Heavily avoids giving personal info unless its credible AND necessary
2. Doesn't even know how many subscriptions she has
3. Feels confident she could remember big expenses in the past month, but not small ones

### Sergine (25-34)

1. Mentioned being in a savings group and her mom reminding her of a payment, but didn't feel like anyone helped her with her budget, at least consciously
2. Has a really good feel for what she's spending money on, but take action or feel its important to keep track of
3. Purposefully doesn't like to use autopay, doesn't exactly know why

### Kevin (35-44)

1. Very focused on savings for retirement, allocates extra to paying off mortgage early
2. Used an app to keep track of subscriptions and loose charges
3. Plans annually and tracks monthly to stay on track

### Chloe (25-34)

1. Changes spending habits dependent on events, so specific to particular situations not in general
2. Uses Excel to track her expenses
3. Uses autopay but can be messy for when she wants to make extra payments, doesn't know how that applies or interferes with autopay

# RESEARCH SYNTHESIS

# 2



# Affinity Mapping Overview

## Purpose

After conducting interviews with users, we utilized the affinity mapping technique to analyze and organize the collected insights.

## Methodology

To effectively manage and comprehend the extensive user research data obtained from the interviews. By grouping similar notes together, we aimed to identify recurring patterns, gain valuable insights, and pain points users encounter while budgeting and tracking their expenses.

## Results

From our affinity mapping process, we were able to draw a handful of themes from all of our observations. These themes represent common threads amongst our interview data and give us more consolidated points to reference as we move forward. We wanted to draw even more out of these themes and give them a voice, so we turned each Theme into an “I” statement. The “I” statement is meant to give a voice to this idea, something a real user might say. Distilling this info further, we turned each “I” statement into an Insight. The insight is a concise yet informative statement that encapsulates the essence of our research data. It’s from these insights that we can move ahead with crafting our persona, user journey, and revised problem statement.

## Takeaways

We discovered that tracking expenses is highly important to individuals. However, while users tend to monitor larger expenses such as bills and insurance, they often neglect to track smaller, daily expenses and subscriptions. This behavior can be attributed to forgetfulness or a desire to avoid constantly thinking about these expenses. Additionally, we learned that many users prefer utilizing autopay services to ensure they do not miss important payments, as this can sometimes result in over-budgeting.

# Affinity Mapping - Users

This map was generated by writing single observations from each individual interview on a post it. They could be things such as likes/dislikes, behaviors, quotes, etc.

## Sergine

"I don't like to see the money automatically leaving my account"	Doesn't use autopay, not sure why	Is in a sou-sou, savings group	Has 4-5 subscriptions	5-6 hours of free time daily	Has a debit card and one CC
Only writes down bills and payments, not transactions	Writes down bills and plan for month	Pays all bills at same time early in month	Mom reminded her about bill	"Going out with friends is expensive"	Most expenses are from going out
Would remember everything in month	Cancelled Hulu recently	About 2 transactions a day	Buys only food daily, lunch and dinner	Spurges with whatever is left at month end	Avoids sharing data unless necessary & credible

## Cicely

SAVE BY CUTTING COSTS	DONT BUDGET ENTERTAINMENT	IMPORTANT TO KNOW EXPENSES	WRITES ON PAPER	ONLINE SERVICES	WRITES DOWN PAYMENTS BUT MAY FORGET	SETS GOALS FOR SELF CARE SPENDING
"IT'S IMPORTANT TO KNOW WHERE MONEY'S GOING"	SAVE BY COOKING	SAVE BY COOKING AT HOME	AVG. 4 PURCHASES A DAY	HAS A GOAL OF \$ FOR ONCE IN A WHILE PURCHASES	SAVE FROM INCOME CHECK	WOULDN'T REMEMBER PACK OF GUM
WOULD LIKE TO TRACK MICROEXPENSES	USES DEBIT CARD, VENMO, PAYPAL	HAS 2 CC'S	COULD REMEMBER BIG EXPENSES NOT SMALL	DOESN'T KNOW AMOUNT OF SUBSCRIPTIONS	VERY STRONGLY AVOIDS GIVING OUT DATA	

## Olia

Likes to use credit card statistics	Tracking expenses is highly important	5 hours of free time per day	Has autopay on important payments like insurance, bills	Goes overbudget sometimes	Has two subscriptions
Keep track on less important expenses is priority	Likes to compare expenses to previous month	Has an anxiety that will miss payment	Uses her phone a lot	Saves money	Checks expenses 2-3 times per month
Amount of saving money depends on over budgeting	Don't like to spend money spontaneously	Keeps some payments reminders on her head	Would think about upcoming payment a lot	Has 1-2 transactions every day	
Wished not to think about payment she might forget of	Would like to save 10% from salary	Would go to bank app to see what expenses she can cut	Would do journaling on most/least important expenses	Don't feel comfortable sharing private info	

## Chloe

Uses Excel	Doesn't like apps	Uses autopay	Confused by autopay sometimes	Changes spending for upcoming events	Things charged off expected date	Would cut social/going to eat
Likes monthly app charge to cancel	Saving for house	Uses Debit primarily	Had past financial trouble	Recurring monthly most important	"Using CCs can snowball"	Buys grocery/dog/sandwich daily
Important are utility, rent, car	Won't recall charges of a week ago	Sharing data depends on cred.	1-3 purchases per day	Has 5 autopays set up	Cancelled service didn't watch	Manages by herself
"Don't need to track \$7 for streaming"	Uses CC then pays that off	5 hrs of daily free time				

## Kevin

"We don't have expensive tastes"	Uses pivot tables, formulas, equations	Uses spreadsheet to track	Tracks payments/bills, no ind. charges	Wife can access spreadsheet too	Makes annual plan, tracks monthly	Forgets minor expenses	Moves money around for best savings/rates
"wouldn't save a ton to not eat out one day"	3-4 daily purchases	Had past identity theft	Vets websites (reviews/search) before sharing data	Likes credit card rewards	Savings focused on retirement	Has 4 CC's	Has 4 monthly subs., 1 annual
Has 4 streaming services	Spends on CC and pays off monthly	Overspends on vacation/ holidays	Pays most attention to food/entertainment	Doesn't look at exp. that don't vary much	Looks at spending vs. budgeted and overages	Forgets trials or subs.	Missed big payment before autopay
Has missed payments	"I'm a forgetful person"	Daily exp. are food and groceries	Too tedious to track every single expense	Wouldn't remember every purchase	Weekly report would be helpful	Makes adjustments based on raises/extra income	Auto pay on majority of monthly exp.

# Affinity Mapping - Themes

We then took each observation and tried to group them by similarity, in whichever way we best interpreted that meaning. We then titled each section with a 'Theme' that best encompassed what was being represented.



<b>Theme</b>	<b>“I” Statement</b>	<b>Insight</b>
Payment Methods	<i>I don't like to use many ways to purchase.</i>	<i>People want to stay on top of purchases by using limited payment methods</i>
Spending Habits	<i>I could probably save some money by not going out as much</i>	<i>People think going out is the easiest place to reduce spending</i>
Over Budgeting	<i>I go over budget sometimes</i>	<i>Over budgeting is frustrating but “it happens”</i>
Savings	<i>I value savings very highly for a different personal reasons</i>	<i>Most people take actions to add to their savings</i>
Paying Bills	<i>I am deliberate about paying bills</i>	<i>People take strategic steps in order to pay their bills on time.</i>
Free Time	<i>I have about 5 hours of free time daily</i>	<i>People generally have a decent amount of free time</i>
Important to Track	<i>I only care to track the most important expenses</i>	<i>There are a lot of expenses but what's important to track is subjective</i>
Level of Tracking	<i>I think tracking micro-expenses is too tedious</i>	<i>It would be nice to keep up with every expense, but some take too much effort</i>
Remembering Bills	<i>I'm worried I will forget about bills</i>	<i>The mental effort required to remember bills is often stressful</i>
Privacy	<i>I'm hesitant to share my private data information</i>	<i>People will only share required personal data if beneficial to themselves or with reputable entities</i>
Tracking Method	<i>I think it's highly important to keep track of my finances</i>	<i>People find it valuable to keep track of their finances but the how and where varies greatly</i>
Daily Transactions	<i>I only make an average of 3 transactions a day</i>	<i>People make a limited amount of purchases daily mostly on necessities</i>
Remembering Transactions	<i>I wouldn't remember most transactions a month from now</i>	<i>People cannot rely on their memory to keep up with monthly transactions</i>
Subscriptions	<i>I might have about 4-5 subscriptions</i>	<i>People spend money on subscriptions they either don't remember or don't use</i>
Autopay	<i>I use autopay so I don't have to think about missing any payments</i>	<i>Autopay gives people peace-of-mind as a useful precautionary measure to pay bills</i>

# Persona

## Purpose

After conducting our interviews and synthesizing the data, we were able to draw key insights that began to give clarity to our user's problem space. In order to have a focused approach as we move forward into ideation, we created a Persona to give one single (Collective) voice to all of our research points. This persona encompasses the key insights from that we felt are most critical to our users and will give us a base with which to always refer as we move forward.

## Method

We wanted our Persona to represent all the traits and values that were identified through our research. So we have identified and listed Goals, Needs, and Pain Points as main features. In addition, our demographics are representative of our expected users. We created a quote that is a summation of feedback we received, and our bio/summary gives a high-level context of who our users are while adding some personality.



### JENNA

- 28
- Sales Associate
- Charlotte, NC
- Has a dog and cat
- Loves finding new shows

*"I like knowing what I'm spending, but it would be a full time job to track everything"*

Jenna enjoys watching new shows in her free time and hanging out with friends. While she values knowing her expenses, she finds it challenging to track everything and feels it would be a full-time job. Her main goals are to purchase a house in the next few years, maintain a good credit history, and maximize her income. She wants to find a balance between savings and being able to indulge in outings without worrying about overspending.

### Goals

To save for important aspects of her life

To have and maintain a good credit score

Have a worry-free time when going out with her friends

To get the most value from the money she has

### Needs

A way to decide how much to save based on her activities

A way not to make sure she never misses a payment

To keep track of her transactions and not go overbudget

To be informed of misallocated and unwanted spending

### Pain points

When changes in her spending impact her savings goals

When late or missed payments negatively affect her score

Realizes she spent too much and has to cut back on going out

When spends money on things she doesn't use or remember

## Takeaways

With this shared understanding, organizations can identify areas for improvement and initiate collaborative efforts to enhance the customer experience. The journey map serves as a catalyst for change, facilitating discussions on how to streamline processes, optimize resources, and better align our team to deliver a more seamless and satisfying journey for customers like Jenna.

- Clarification on different phases where we can address Jenna's frustrations
- Pain Points such as canceling plans to hangout with friends or reduced savings were visualized

Opportunities for improvement

- When & Where Jenna is evaluating cost in real time
- While viewing banking accounts
- When adding to her savings
- Canceling streaming services

## User Journey Map

### Purpose

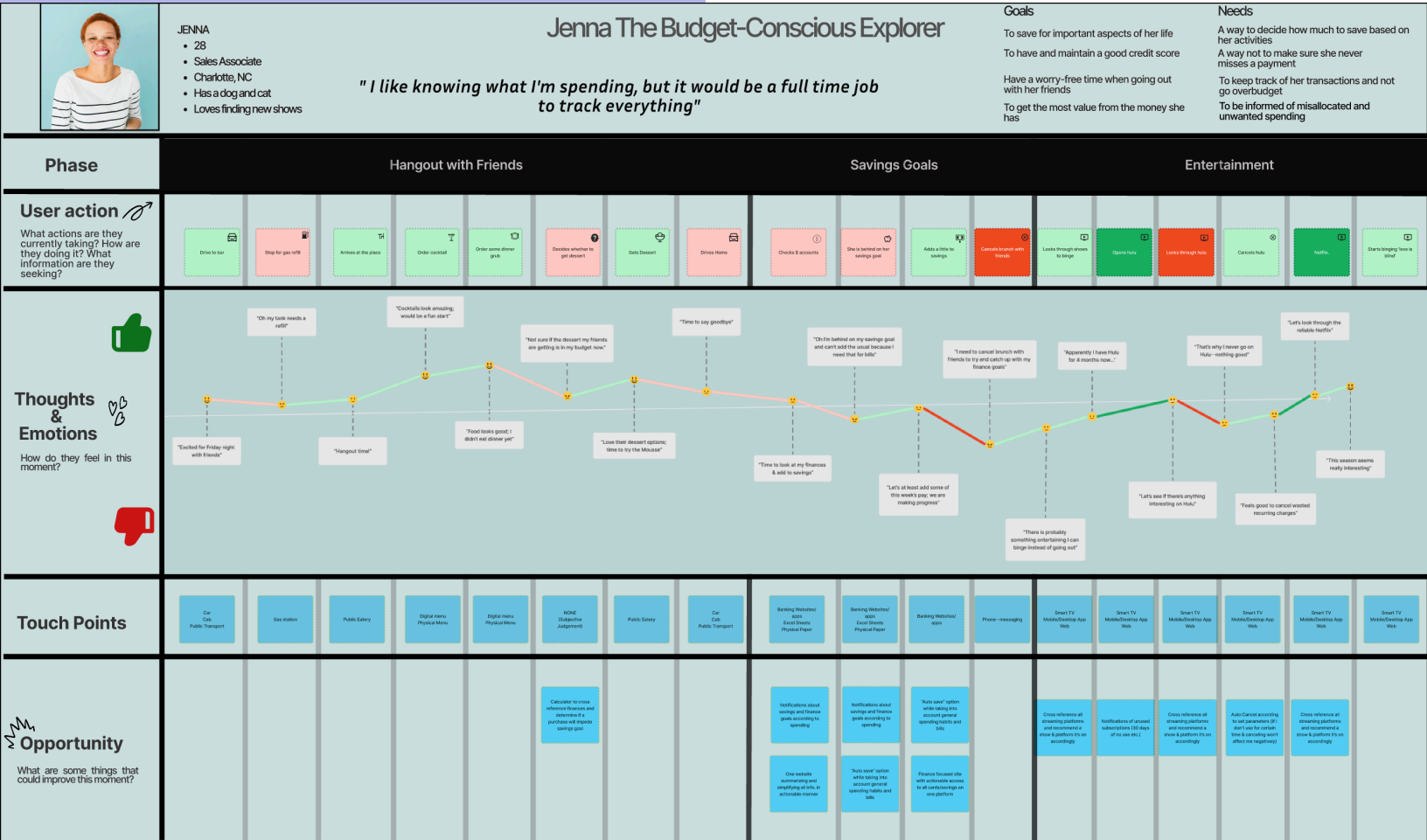
By bringing together disparate data points and visualizing the user journey empathetically we as a team can have collaborative conversations and drive meaningful change. The journey map provided a comprehensive understanding of Jenna's experience, highlighting key opportunities for improvement and decision-making moments.

### Methods

Journey mapping aims to establish a shared vision by creating a holistic view of the customer experience. We organized a journey our persona can take breaking it down step-by-step. Several Categories were used to describe each step such as, User Actions, their emotional state and internal thinking, what platforms/environments those steps are taken in, and lastly what improvement opportunities exist for each step throughout the journey.



# User Journey Map



## Takeaways

With this shared understanding, organizations can identify areas for improvement and initiate collaborative efforts to enhance the customer experience. The journey map serves as a catalyst for change, facilitating discussions on how to streamline processes, optimize resources, and better align our team to deliver a more seamless and satisfying journey for customers like Jenna.

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### Opportunities for improvement

- When & Where Jenna is evaluating cost in real time
- While viewing banking accounts
- When adding to her savings
- Canceling streaming services

# Revised Problem Statement

## Insight

People understand the importance of tracking their finances but often struggle to have a complete understanding of all their spending. They use methods that are helpful to them to get by, but rarely know how to go further and analyze deeper trends.

## Problem/ Persona

As a result, they find themselves trying to remember their payments in order to avoid being late, changing behaviors in order to not overspend, and missing opportunities to reduce unwanted purchases.

## Goal

How might we provide people with a way that they can track all of their expenses, payments, and purchases in order to have an understanding of key areas that they could adjust spending, to meet their personal interests, while avoiding late payments, and unwanted charges.



# FEATURE PRIORITIZATION

3

# MuShCoWo Overview

## Overview

Using the MuShCoWo (Must Should Would Won't) Method we were able to focus and prioritize features that are a must for our persona's problems. We started off writing all features that are possible and then sorted according to proximity to having a usable solution for our problem which is that users need a way to budget wisely for their finance goals.

## Methods

We started off by time-boxing the feature write up session into a total of 7min. We then each wrote all possible features for a budgeting app silently onto post-it-notes. Next, we assigned each note (feature) onto one of the 4 categories Must: all the features that without would simply not accomplish anything in relation to solving the problem. Should: would be next steps that follows the natural trajectory once the first steps are complete. Would: aka would be nice, are features that we saw as not essential to solving persona's problem but would increase the delightfulness of that experience. Won't: can happen but probably won't...once won't features are being built the product is at a very mature stage (not relevant in the near term). Finally, together as a team we ended up moving features into appropriate categories.





## Takeaways

The **must** category contained items such as:

- Navigation
- Menu (options located in nav; mainly for mobile web)
- Add Payment Methods
- Notifications
- Summarize Spending

All of which we believe are essential when solving for tracking budgets. Notifications for example is essential if we are solving for a lack of memory. For the **should** options we added feature such as Daily Goal Reminders and profile customization which are a natural enhancement in helping our users to budget for their goals. In the **could** section we added features such as calendars which could definitely aid our persona. **Won't** had features such as round off purchases (all differences will go to savings). Using this method we were able to focus on what to design.

# Feature Prioritization Matrix

## Overview

In our feature mapping, we utilized a matrix to categorize features based on their essentiality and the cost or time required for implementation. This approach allowed us to gain a comprehensive understanding of the feature landscape and make informed decisions as a team. By plotting features on the matrix and considering their cost and time implications, we were able to prioritize and discuss the necessary features for our website and problem-solving objectives.

## Methods

By mapping features onto a matrix with the y-axis representing essential and non-essential features and the x-axis representing the effort or time required, we got a clear understanding of the feature landscape. As a team we discussed and moved features we believe are necessary for the website and to solve the problem. We also placed items based on cost/time which we determined to be least to most.

## Takeaways

We had many of the essential easy ones such as sign-in, privacy requirements or connect to other apps (banking) placed on the top left quadrant while realizing less of a design process for that i.e. connecting to other banks would be more of a backend process. While,

- Navigation
- Menu
- Summarize Spending

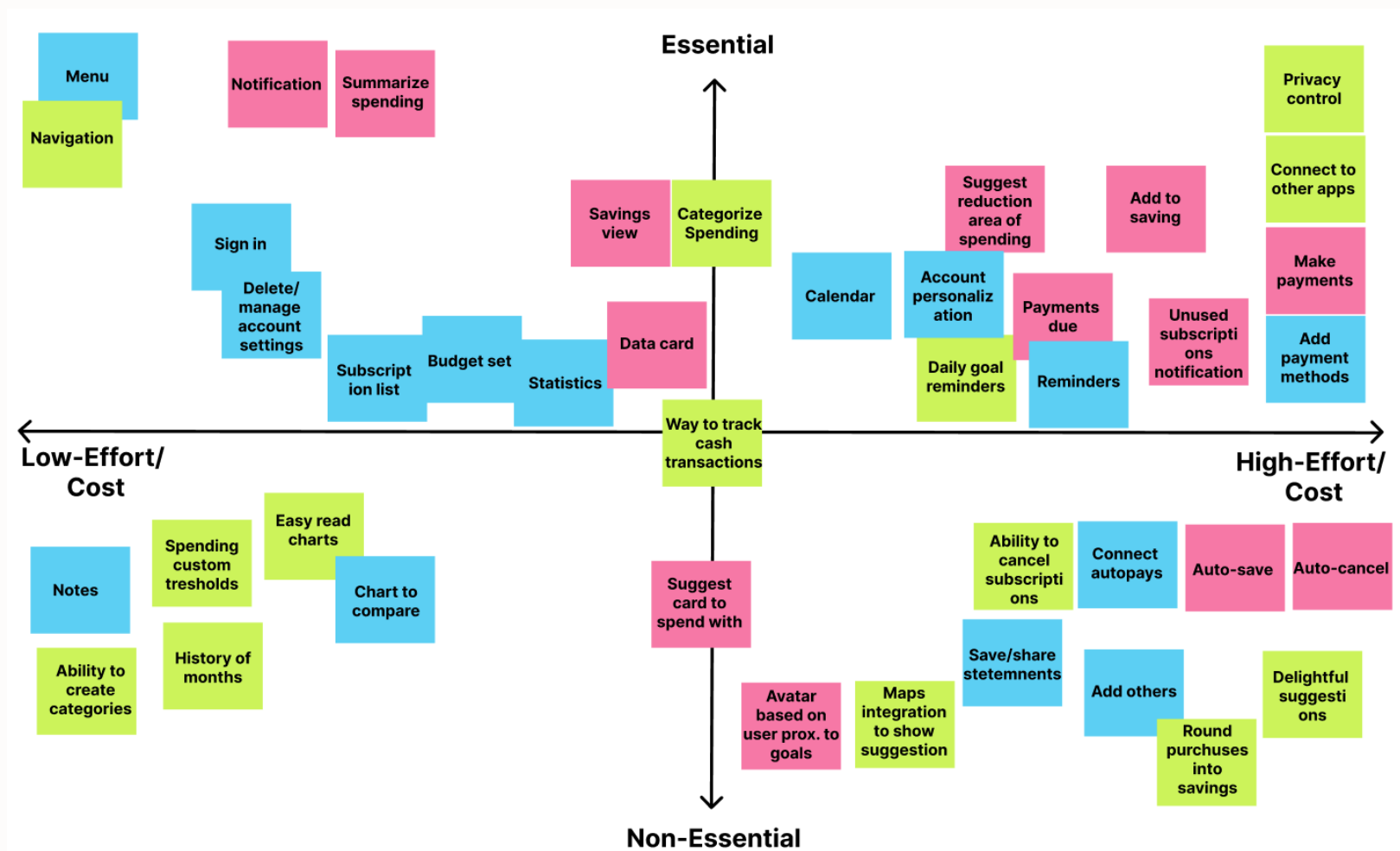
are all visuals and can be designed.

So we decided on essentials, in addition, some less essentials given their position in time/cost axis such as Set Budget and Calendar and their relative proximity to being essential..

Next stage is putting features to paper—design.

# Feature Prioritization Matrix

25



# BEGINNING TO DESIGN

4

# Design Studio

## Overview

After having a good foundation on features we moved into the design phase by running a design studio. We took into account the prioritization we had previously decided on, and now wanted to move into a creative mindset and individually see where the ideas flowed.

## Methodology

To do this, we set some following rules on exactly how the studio would be run, in order to use our time efficiently but also to ensure that the process didn't include bias and allowed everyone to ideate freely while still receiving helpful feedback that could propel us further as a group.

- 2 rounds of design iteration, which include: sketch, pitch, critique
- Each person acted individually and could either ideate off a single feature, a specific flow, or any combination of the two
- At the end of each sketch round, pitches were done without any overlapping feedback from group mates, instead allocating their time for feedback to the critique round. In critique (similar to pitch), the person who had sketched wasn't able to speak either.
- After the first round, we immediately iterated and entered the second round
- In the second round, we were able to take inspiration from our group mates designs if we wanted, continue upon our original path with feedback, or create brand new designs

After both rounds were complete, we converged for 30 minutes to finally discuss all our ideas and come up with key features we would begin to build out.

## Takeaways

From this process, we were able to gain valuable insight from our sketches and being able to visualize and converse on all the topics. We decided to focus on three features to build out in our prototype. We felt these three features would address multiple goals and needs from our Persona and potential users.

### 1. Ability to set a reminder for upcoming charges

- Addresses recurring theme of forgetting payments and when they will be charged
- Can also address remembering subscriptions which was another common theme from interviews

### 2. Ability to check overall spending broken down into categories

- Addresses theme of wanting to know exactly where spending is going, and how that spending is comparing to their goals and budgets set

### 3. Presentation and information of potential "issue" spending category

- Allows user to address concerns on particular areas that they are near passing their goal on
- Addresses issues about not realizing until it's too late when you've overspent in an area, and have to adjust budgeting later on
- Viewable from home page so it is automatically brought to quick attention

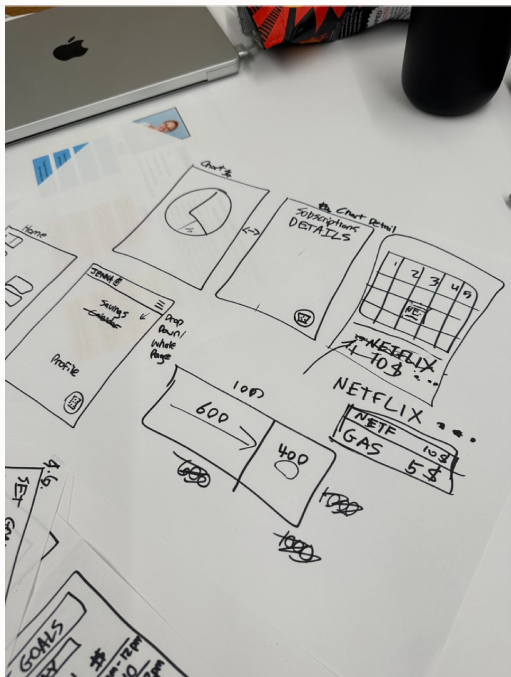




After we got our original ideas out and ran critique, we wanted to iterate the process one more time to see where the ideas would go



We timed everything, using a set time to sketch, pitch, and critique. And lowering that time for the second round



This represents some of our original ideas about our key features, the spending progress bar, calendar, and chart breakdown



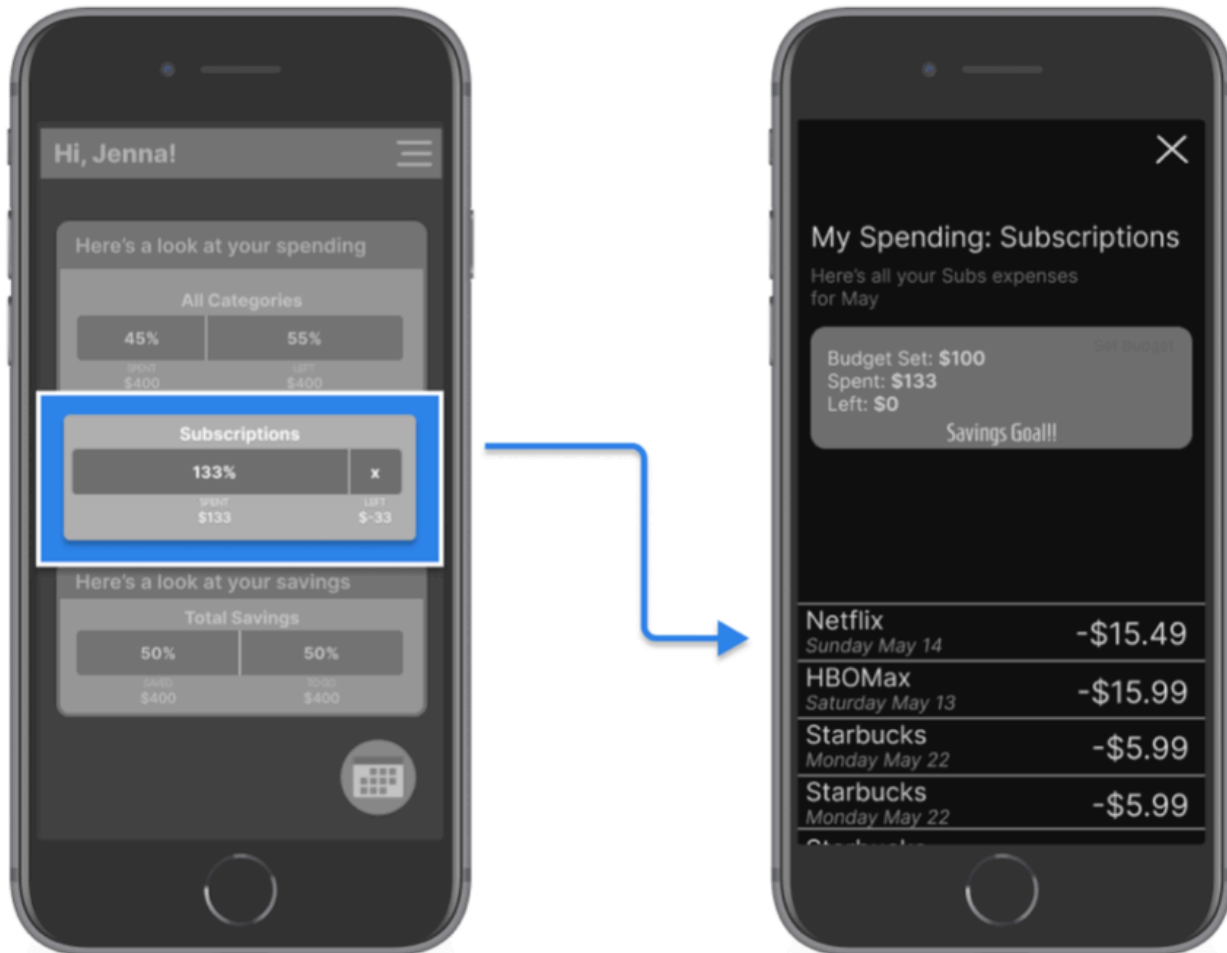
A variety of styles and sketch techniques, as well as amount of frames we went through



# Mid-Fi Mobile Wireframes

## Feature 1 - Category Detail

The downfall of having so many favorite shows is they're all on different networks.  
**Look into specifically how much you've paid for your steaming services.**



1. Click on Subscriptions spending bar

2. See breakdown of your subscriptions related spending

### Annotations

1

From home screen, one category will be presented that represents the most "urgent" category to pay attention to. This is chosen by the category that is closest to the goal on that given date.

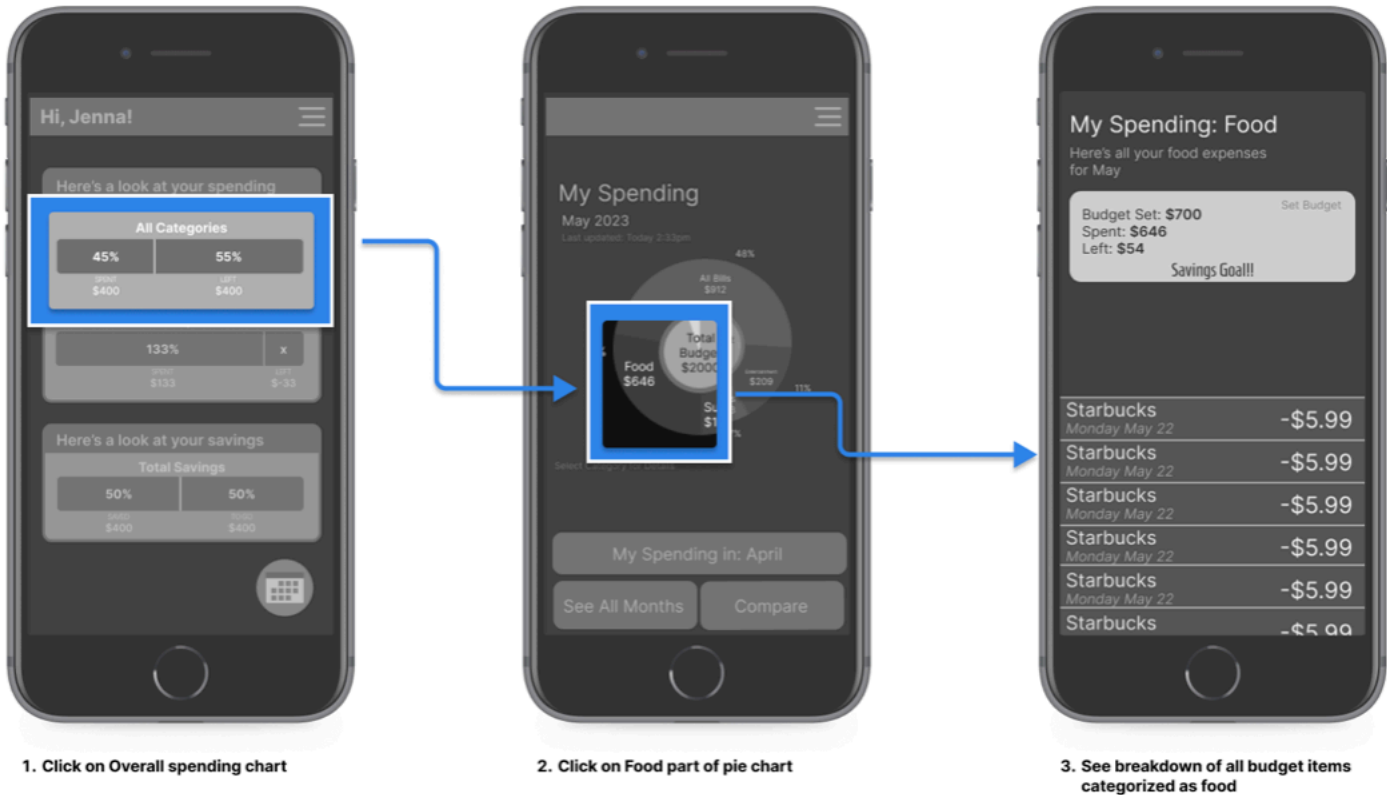
2

In this case of "Subscriptions", the path to the detail page for that category is directly accessible from home screen by clicking on the progress bar.

# Mid-Fi Mobile Wireframes

## Feature 2 - Spending Breakdown

Looks like you might be splurging a bit too much on lunch this month.  
Go see the breakdown of your dining habits.



### Annotations

- 1

User is able to select the "All Categories" view from the home screen in order to see more detail.
- 2

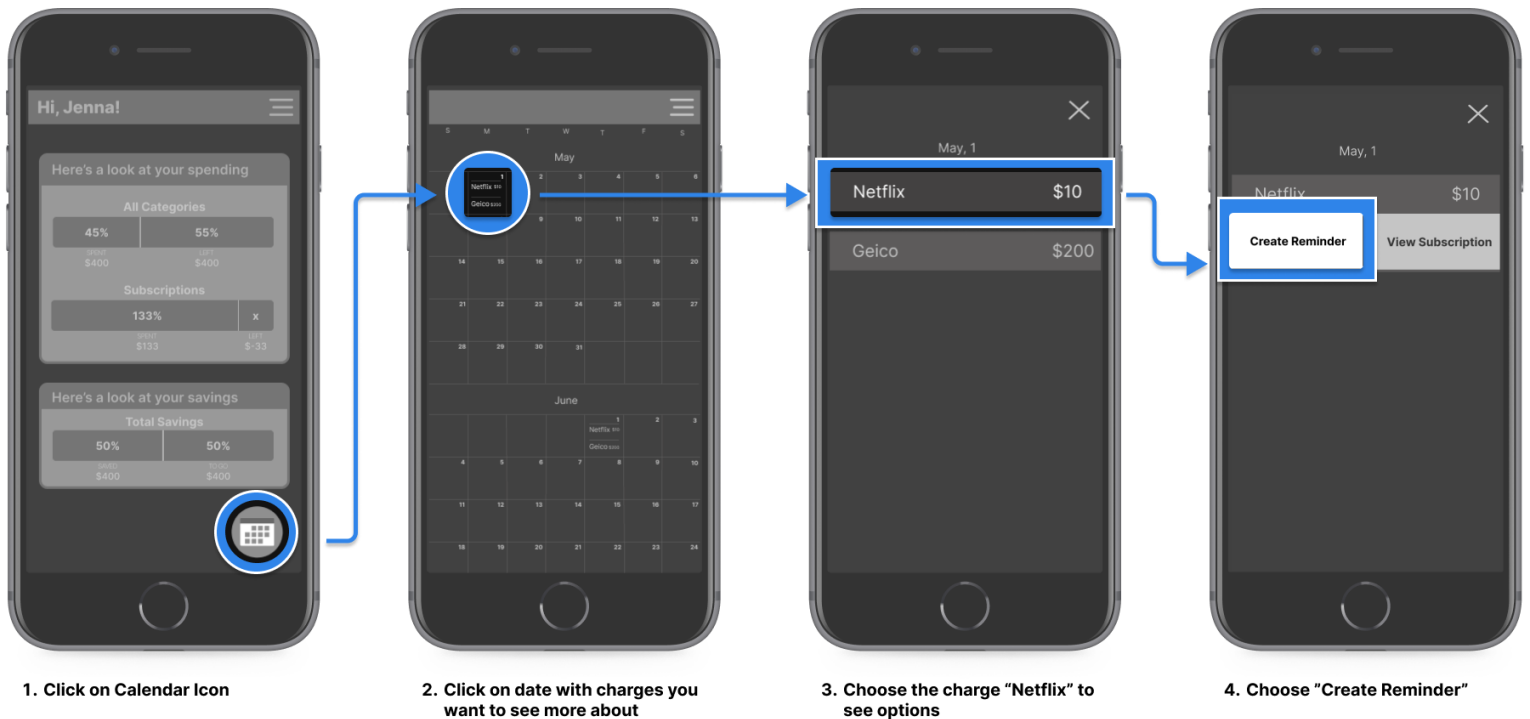
When presented with a pie chart featuring a breakdown of all spending categories, user is able to select any portion to view a further breakdown.
- 3

In category detail, all recent charges are presented along with budget goals and your specific progress with dollar amounts.

# Mid-Fi Mobile Wireframes

## Feature 3 - Reminders

You love watching Love is Blind, but you always forget when your next charge is.  
**Go set an alert, so you don't forget next time.**



### Annotations

1

Calendar icon is present on bottom right of home screen. Floats along with any scroll behavior so it is always present.

2

Each day in calendar view will populate with any charges that take place on that date. Each day is clickable for further detail.

3

Upon entering details for a given date. Names of specific charges will be listed in larger detail along with amount of charge.

4

Clicking on an option from detail will present options specific to that charge. User can "Create Reminder" or "View Subscription".

# Usability Testing Overview Round 1

## Overview

Once we completed our prototype, and decided on the features we wanted to test, we set out to run usability testing with real users. We felt this would give us the most accurate representation of how our design and interactivity would work in the real world. The tasks we gave participants were designed to test specific flows we built out to call attention to the core feature set.

## Methodology

We set out to run our test with 5 users, in order to gain a varied sample size. During the test we gathered four key pieces of data

- The time it took to complete each task
- An easiness rating, on a scale of 1-5, as judged by the participant themselves
- Directness of success rating, from Failure, Indirect Success, and Direct Success
  - (The corresponding values were 0, 50, 100 for averaging)
- Observational notes and feedback from each participant

Each task included a scenario to set the right mindset, and a specific task they were asked to accomplish. Participants were given little information about the test, other than they were to complete it as they would naturally do, with the mindset on that specific task.

## Takeaways
















Overall we found areas for improvement, as well as some positive feedback in others. Some key insights were

- On **Task 3**, most users intuitively navigated to the calendar. From there, it could be confusing what you wanted to click on.
- Some participants **did not associate** “streaming services” with “Subscriptions” and this lead to increased ToT for **Task 1**.
- **Task 2** experienced the most success overall, with the **lowest ToT average** and the **highest success rate**
- All three tasks averaged Easiness ratings between 3.4-3.8, indicating there is room for improvement across the board

For **Tasks 1 and 3**, when users intuitively understood the task, their times were very quick, while users that didn’t, had very high times. There was a **significantly large variance** between the **highest and lowest times**.

# Usability Testing Reports

## Usability Testing Scorecard - Round 1

	User 1	User 2	User 3	User 4	User 5	Avg. Easiness Rating	Avg. Time on Task	Avg. Success Rate
<b>Task 1</b>	 4/5 18 s	 2/5 2 min 8 s	 3.5/5 42 s	 3/5 18 s	 4/5 16 s	<b>3.5/5</b>	<b>44.4s</b>	<b>60%</b>
<b>Task 2</b>	 4/5 15 s	 4/5 9 s	 3/5 54 s	 5/5 46 s	 3/5 6 s	<b>3.8/5</b>	<b>26s</b>	<b>90%</b>
<b>Task 3</b>	 3/5 10 s	 3/5 10 s	 3/5 10 s	 3/5 10 s	 3/5 10 s	<b>3.4/5</b>	<b>53.2s</b>	<b>70%</b>

## Task Detail - Category Detail

The downfall of having so many favorite shows is they're all on different networks.  
Look into specifically how much you've paid for your steaming services.

### Test Summary

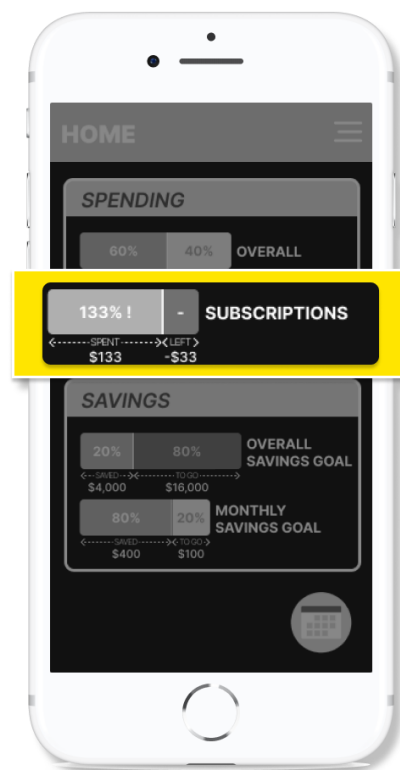
Overall we had an Easiness avg. of **3.5/5**, an avg. success rate of **60%** and avg. Time on Task of **44.4** seconds.

### Analysis of Testing Minor Issue

Many users had trouble associating the term "Subscriptions" as related to "Streaming Services". As a result, they often clicked into Overall Spending and found subscriptions from there.

### Recommendations

Our recommendation is to change "Subscriptions" on the home page to "Entertainment" to better reflect the goal of the task.



# Usability Testing Reports

## Task Detail - Spending Breakdown

Looks like you might be splurging a bit too much on lunch this month.

Go see the breakdown of your dining habits.

### Test Summary

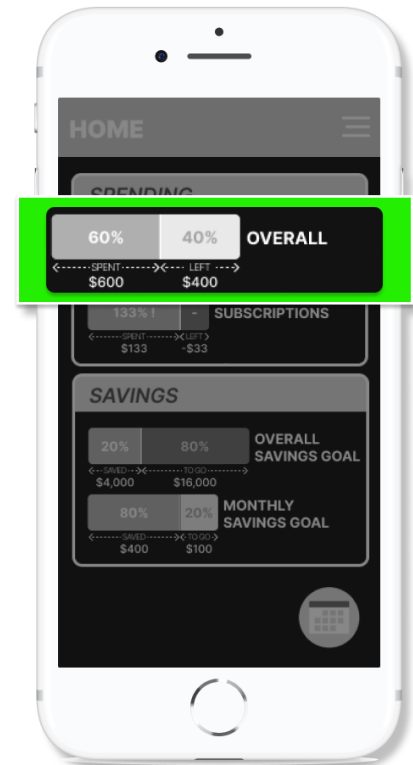
Overall we had an Easiness avg. of **3.8/5**, an avg. success rate of **90%** and avg. Time on Task of **26 seconds**.

### Analysis of Testing ● No Issue

We found most users to intuitively associate that their "Food" spending would be a category housed below "Overall Spending" and navigated this path with a high rate of success.

### Recommendations

We would not recommend making any changes to this task.



## Task Detail - Reminders

You love watching Love is Blind, but you always forget when your next charge is.

Go set an alert, so you don't forget next time.

### Test Summary

Overall we had an Easiness avg. of **3.4/5**, an avg. success rate of **70%** and avg. Time on Task of **53.2 seconds**.

### Analysis of Testing ● Moderate Issue

We found the core issue with this task to be if users directly associated setting a reminder as a function of time/date. If they did, they quickly recognized the calendar and navigated there. From there, some also did not recognize the charges on dates due to the calendar size.

### Recommendations

Our recommendation is to change the design of the calendar so there is no confusion as to what it is, as well as change the calendar layout style so that the dates and information housed beneath is more prominent.



# Usability Testing Round 1 Takeaways

## Summary of Recommendations

Overall, we felt that the features have a foundation of core elements allowing users to navigate and find information effectively. With that said, there are areas we have identified for improvement.

- Illustrate what exactly our calendar reminder feature could help to accomplish, and reflect this in the given task.
- Evaluate other calendar options for the icon to make it more intuitive.
- Alter wording on home page to indicate the progress bars are representative of more information if you go further
- Change the wording of 'Subscriptions' in home page into overspent signifier alert (*words* indicating that there is overspending in subscriptions)
- Introduce hover states to allow for intuitive understand of functionality
- Allow alternate paths to spending and calendar from the "Hamburger" menu in top right corner.
- Evaluate alternative designs for representing "Spending at a glance" on the home page.

Our suggestion is to implement these changes and bring our prototype to a high-fidelity design with colors, graphics, and true representations of numbers and wording.

Following that re-design, we would look to run another round of usability testing with the re-designed prototype, and gather further feedback.

# DESIGNING IN HI-FI

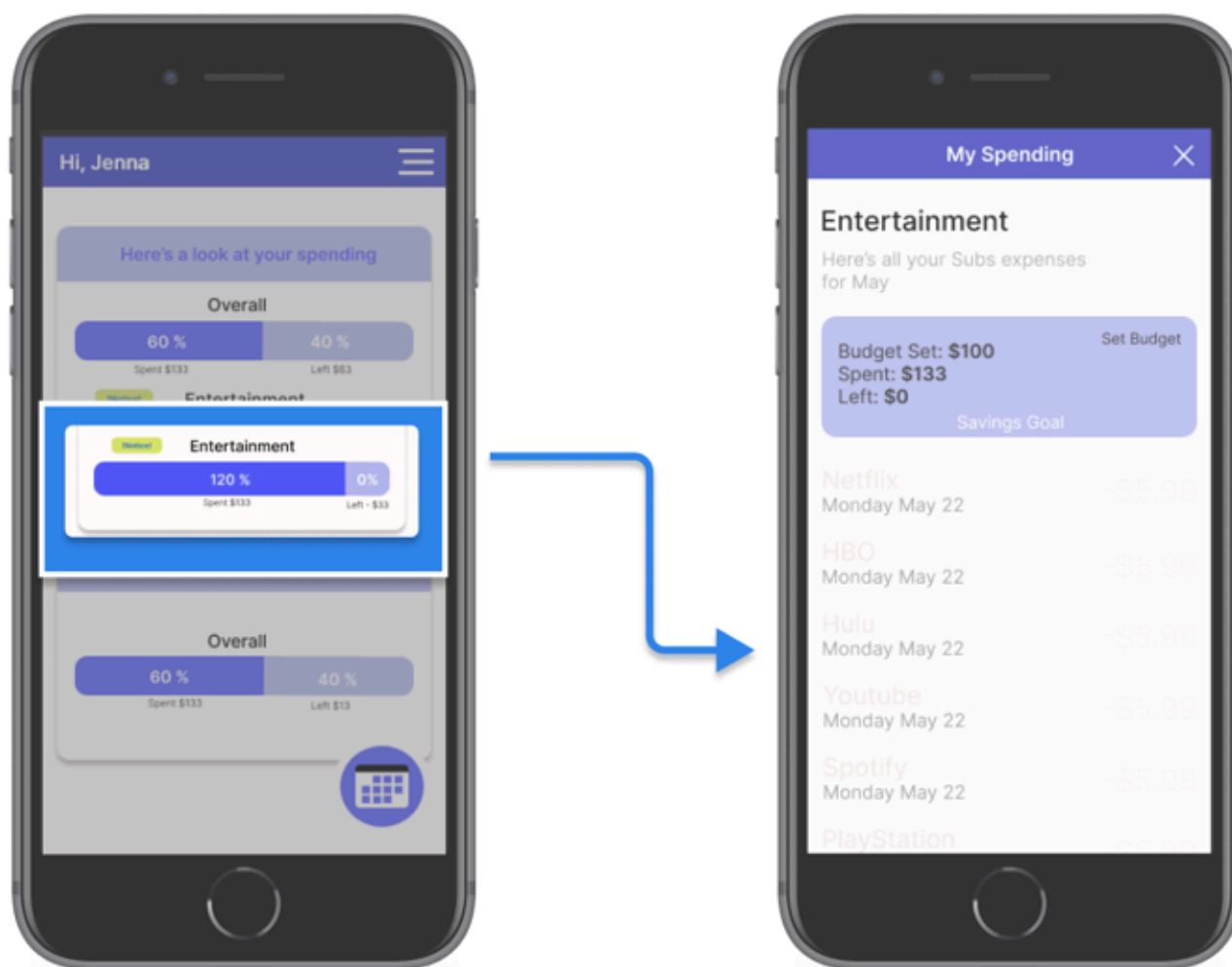
# 5



# Hi-Fi Mobile Web Design

## Feature 1 - Category Detail

The downfall of having so many favorite shows is they're all on different networks.  
**Look into specifically how much you've paid for your steaming services.**



1. Click on Entertainment spending bar. With "Notice" category indicator.

2. See breakdown of your Entertainment related spending charges

### Annotations

1

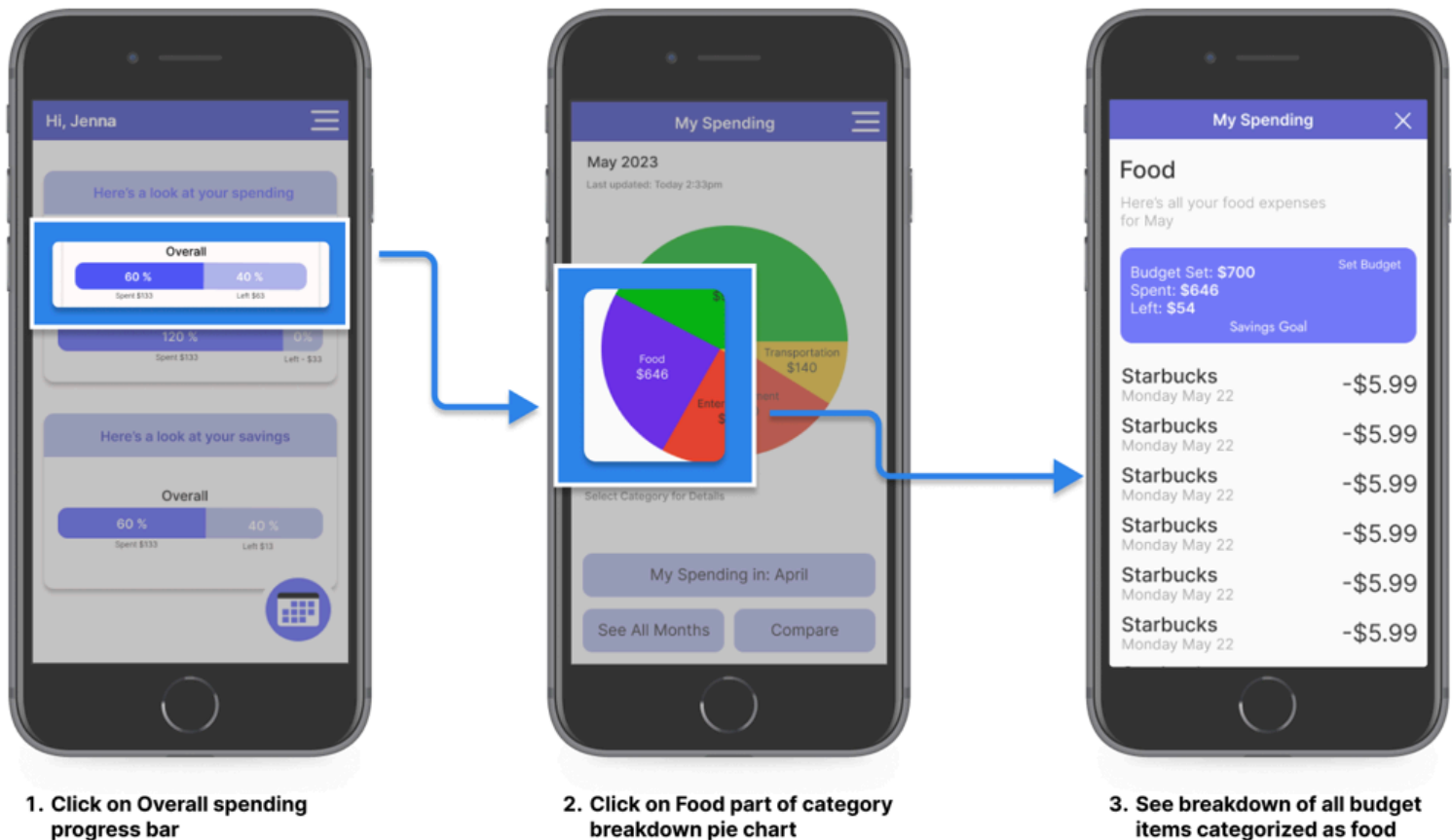
On the home screen, changed "Subscriptions" to "Entertainment" to better represent overall category. Added "Notice" icon to indicate why this category is being shown here.

2

When reaching Category Detail page, user is presented with same options as previously, but with "Entertainment" reflected in header title.

## Feature 2 - Spending Breakdown

Looks like you might be splurging a bit too much on lunch this month.  
Go see the breakdown of your dining habits.



### Annotations

1

Made progress bar wider to use more screen space. Did not change wording to "Overall" category.

2

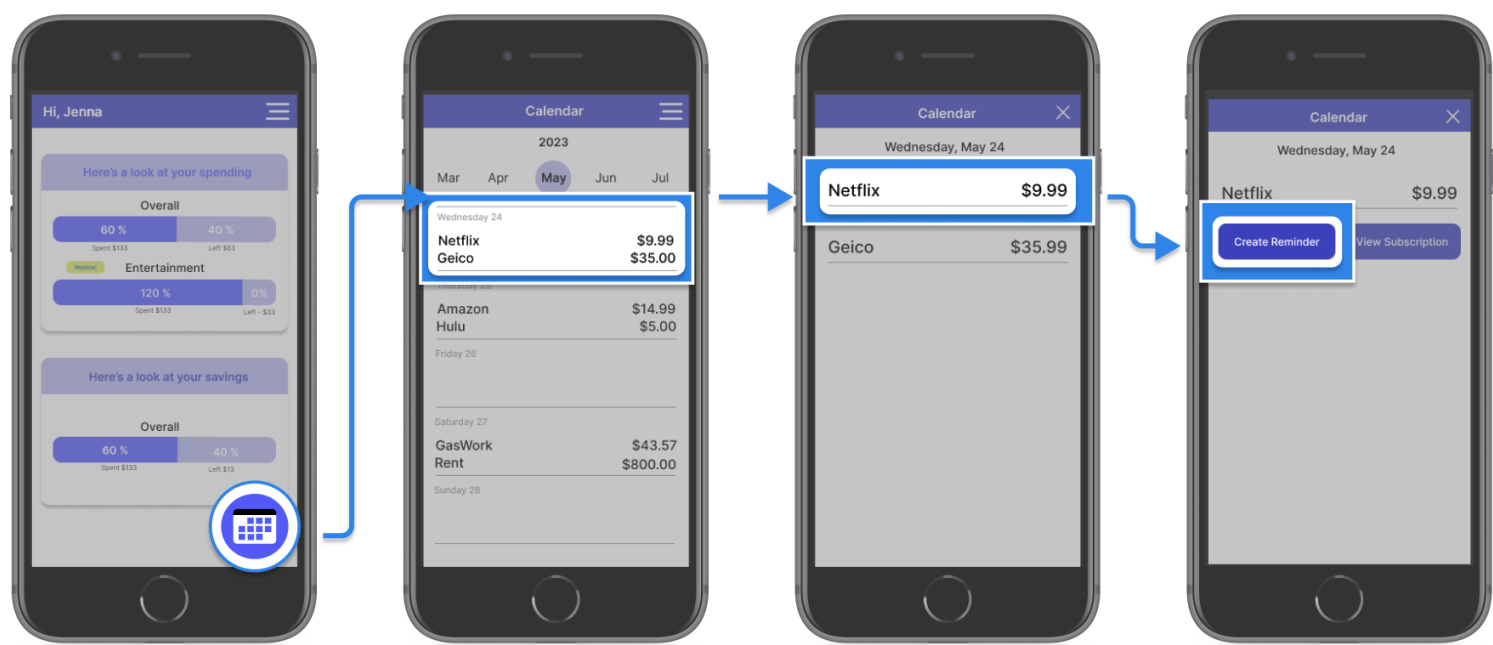
Increased size of pie chart and introduced color in high fidelity.

3

Food detail page remains largely the same aside from introduction of high-fidelity color scheme.

## Feature 3 - Reminders

You love watching Love is Blind, but you always forget when your next charge is.  
**Go set an alert, so you don't forget next time.**



1. Click on Calendar Icon in bottom right corner of screen
2. Click on date with charges you want to see more about
3. Choose the charge "Netflix" to see options
4. Choose "Create Reminder"

### Annotations

- 1

Altered colors of calendar to reflect high-fidelity scheme overall, did not adjust placement or icon design.
- 2

Changed overall calendar view to begin with month horizontal slider, and vertical daily layout. Changes were made as reflections of testing in previous round that calendar was too much information to read.
- 3

After clicking on individual date, the detail screen is represented the same aside from high-fidelity colors added.
- 4

Under reminders, similar to detail screen, no major changes made except to reflect color scheme and typography.

# Links to Prototypes

- [Desktop Prototype](#)
- [Link to Mobile Web Prototype](#)



# Usability Testing Overview Round 2

## Overview

Once we finished Round 1 of testing, we came up with our takeaways and recommendations to implement. We then built these into the design and ran a second round of testing. The tasks stayed identical and only changes were updated in the prototype. No other features were added for pathways changed as to not affect the results.

## Methodology

Once again, we recruited 5 **new users** so there was no previous knowledge from the prior set of participants. We kept track of:

- The time it took to complete each task
- An easiness rating, on a scale of 1-5, as judged by the participant themselves
- Directness of success rating, from Failure, Indirect Success, and Direct Success
  - (The corresponding values were 0, 50, 100 for averaging)
- Observational notes and feedback from each participant

We provided each participant with a scenario to set their mindset, and a specific task they were asked to accomplish. Participants were given little information about the test, other than they were to complete it as they would naturally do, with the mindset on that specific task.

























## Takeaways

Overall we found improvements as a result of our changes from Round 1

- On **Task 1**, more users associated “Entertainment” with streaming services. But many still looked into “Overall Spending” first.
  - Users stated they did not know why “Entertainment” was the only sub-category represented on the first screen
- On **Task 2**, we saw increased success as many users knew to look under “Overall Spending” first to find the “Food” subcategory.
- On **Task 3**, some users felt that they would look under “Entertainment” as a single home to perform any action associated with those services
  - The users who clicked the calendar quickly, were not sure about the changed “Calendar Detail” page. They often commented it “looked like a receipt or bill of charges” and that they didn’t know they could click on the charge names.

# Usability Testing Reports - Round 2

## Usability Testing Scorecard - Round 2

	User 1	User 2	User 3	User 4	User 5	Avg. Easiness Rating	Avg. Time on Task	Avg. Success Rate
<b>Task 1</b>	 4/5 18 s	 3/5 25 s	 5/5 8 s	 4/5 9 s	 2/5 2 min 2 s	3.6/5  +.1	36.4s  -.8s	70%  +10%
<b>Task 2</b>	 5/5 6 s	 5/5 13 s	 4/5 21 s	 5/5 12 s	 3/5 6 s	4.4/5  +.6	11.6s  -14.4s	80%  -10%
<b>Task 3</b>	 4/5 13 s	 2/5 47 s	 2/5 1 min 28 s	 3/5 1 min 16 s	 3/5 1 min	2.8/5  -.6	56.8s  +3.6	60%  -10%

## Task Detail - Category Detail

The downfall of having so many favorite shows is they're all on different networks.  
Look into specifically how much you've paid for your steaming services.

### Test Summary

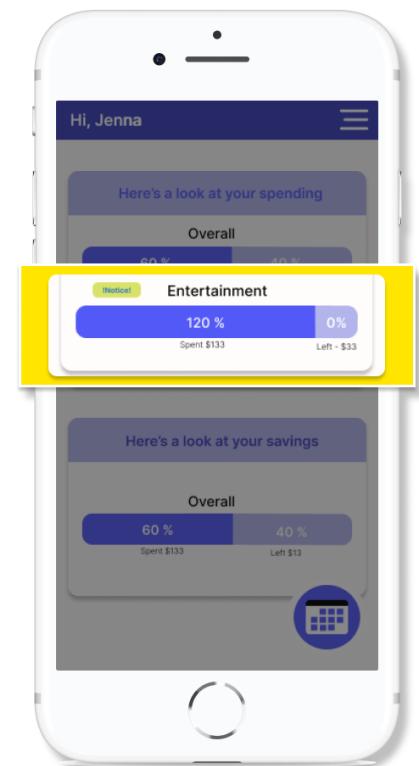
Overall we had an Easiness avg. of **3.6/5**, an avg. success rate of **70%** and avg. Time on Task of **36.4** seconds.

### Analysis of Testing Minor Issue

We saw most users understand the change in name to "Entertainment" and go down this path. The remained felt they didn't know why "Entertainment" was the only category represented on the home page.

### Recommendations

We changed the way cards are represented on the home page, to better separate them.  
In addition, we are adding addition descriptive wording and colors to signify this category is an "Issue" area and thats why its on the home screen.



# Usability Testing Reports - Round 2

## Task Detail - Spending Breakdown

Looks like you might be splurging a bit too much on lunch this month.  
Go see the breakdown of your dining habits.

### Test Summary

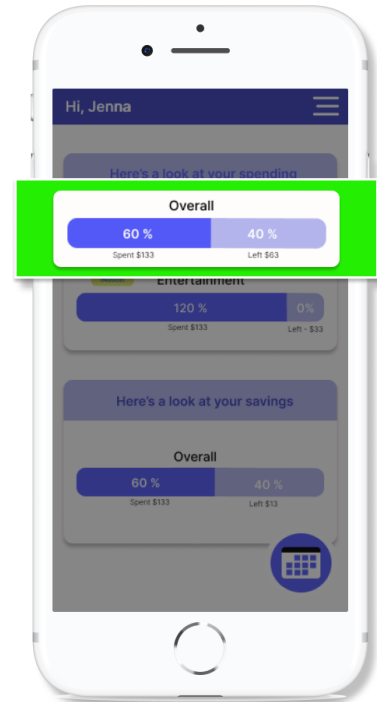
Overall we had an Easiness avg. of **4.4/5**, an avg. success rate of **80%** and avg. Time on Task of **11.6 seconds**.

### Analysis of Testing ● No Issue

We did not find significant changes from the first Round of testing. We did see improved success with new users.

### Recommendations

The changes from Mid to High Fidelity may have been responsible for increased success.



## Task Detail - Reminders

You love watching Love is Blind, but you always forget when your next charge is.  
Go set an alert, so you don't forget next time.

### Test Summary

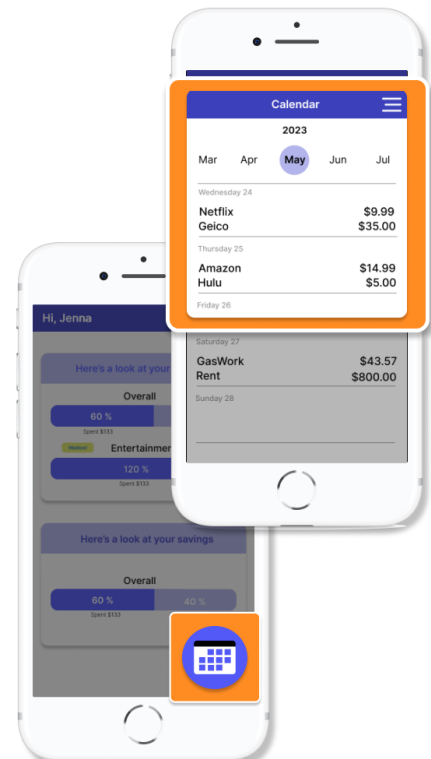
Overall we had an Easiness avg. of **2.8/5**, an avg. success rate of **60%** and avg. Time on Task of **56.8 seconds**.

### Analysis of Testing ● Moderate Issue

Our changes resulted in mixed success overall with the task, but we are encouraged as the issues we feel are fixable. We found that some users thought to make adjustments under the "Entertainment" category as a one-stop-shop. Others that went to calendar, didn't understand how the details by date were represented, and didn't think it was clickable information.

### Recommendations

We changed the detail view in the calendar home screen, and increased the size of detailed items and their breakdown. In addition, we changed the text to be purple and associate closer to a clickable link.



# Usability Testing Round 2 Takeaways

## First Round of Testing

Success

73 %

Easiest Rating

3,5 / 5

Time Taken

41.2 sec

## Seconf Round of Testing

Success

70 %

Easiest Rating

3.6 / 5

Time Taken

34.9 sec

3 %



0.1



6.3 sec



## Summary of Recommendations

The second round of testing proved to be more successful. We observed significant improvements in the time taken for users to find and complete each task. Task success rate remained at around 70%, and users found the website easier to use. However, there is still room for further improvements. Based on these findings, we applied the following changes:

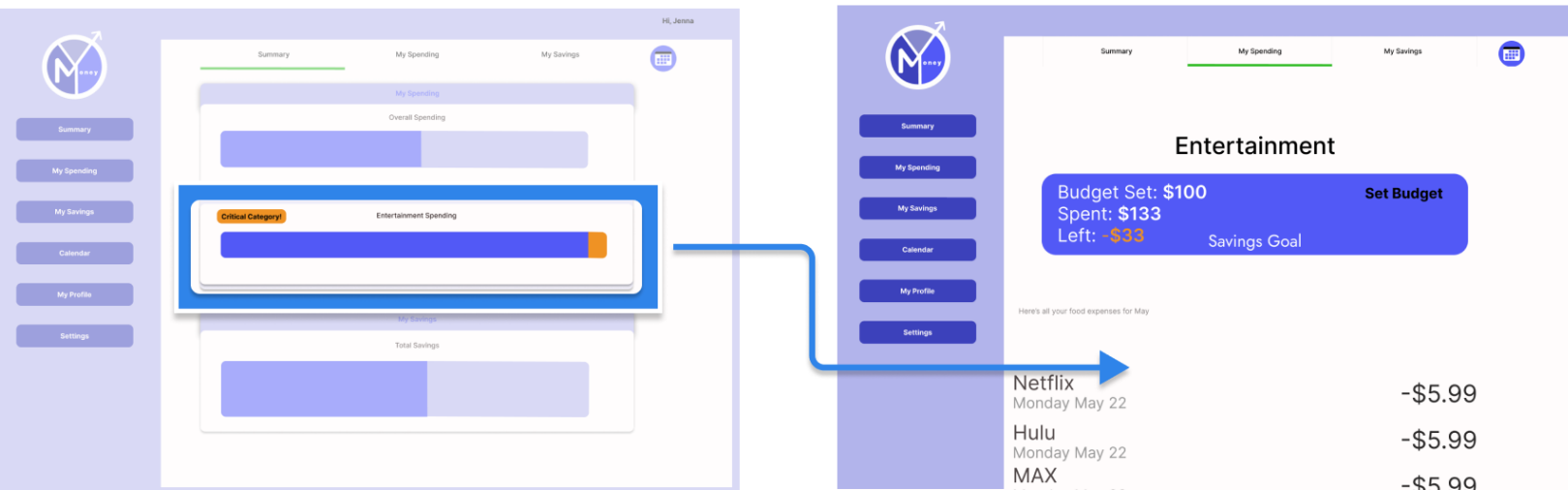
1. Addressing the issue of users not realizing that items in the calendar are clickable and editable: We have made improvements by highlighting the clickable text in blue and adding spacing between each subscription. This allows users to easily click on each item.
2. Enhancing the visibility of critical categories on the home page: We have added another card on top of the savings card, labeled as 'Critical Category,' and highlighted it. This ensures that users have a better understanding of what is important and prompts them to pay attention to it.
3. Adjusting the colors of the calendar icon to be lighter: We have made changes to make the calendar icon less dark, improving its visual appeal and clarity.
4. Enhancing communication and personalization: We have modified the terminology from "spending" to "my spending" and "saving" to "my saving." These changes aim to make the website more communicative and personalized for users while maintaining consistency.

By implementing these recommendations, we aim to further improve the user experience and address the identified usability issues.



## Feature 1 - Category Detail

The downfall of having so many favorite shows is they're all on different networks.  
**Look into specifically how much you've paid for your steaming services.**



1. Click on Entertainment spending bar. With "Notice" category indicator.

2. See breakdown of your Entertainment related spending charges

### Annotations



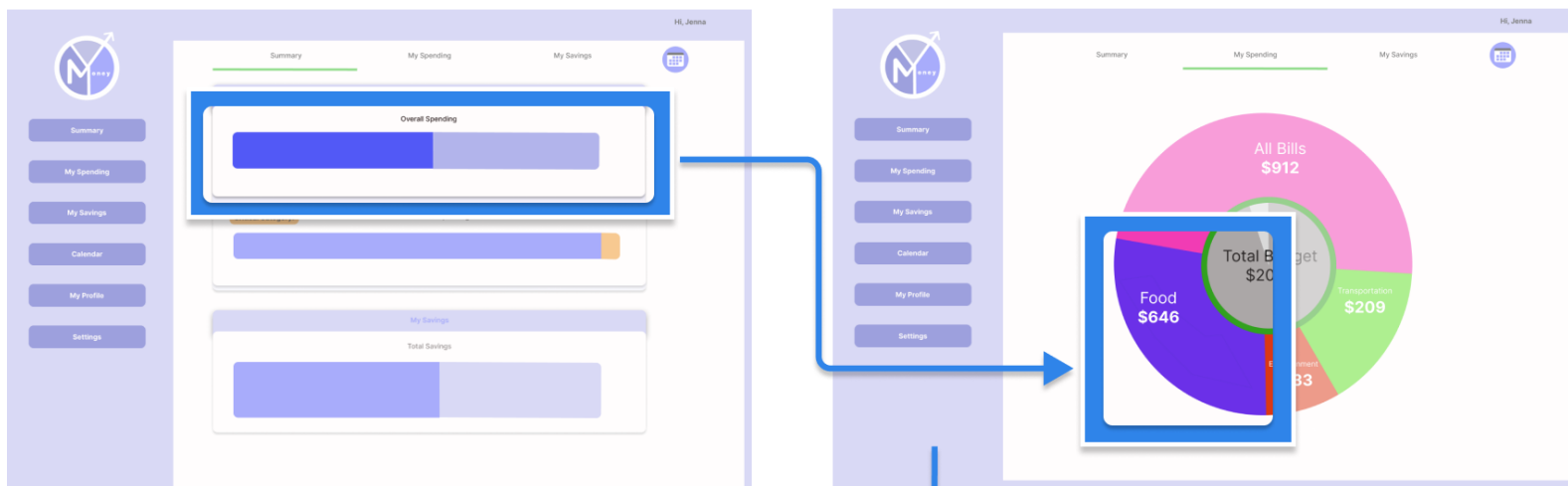
On the home screen, changed "Subscriptions" to "Entertainment" to better represent overall category. Added "Notice" icon to indicate why this category is being shown here. Desktop screen layout is similar to mobile in this view.



When reaching Category Detail page, user is presented with same options as previously, but with "Entertainment" reflected in header title. On Desktop, size of elements is increased.

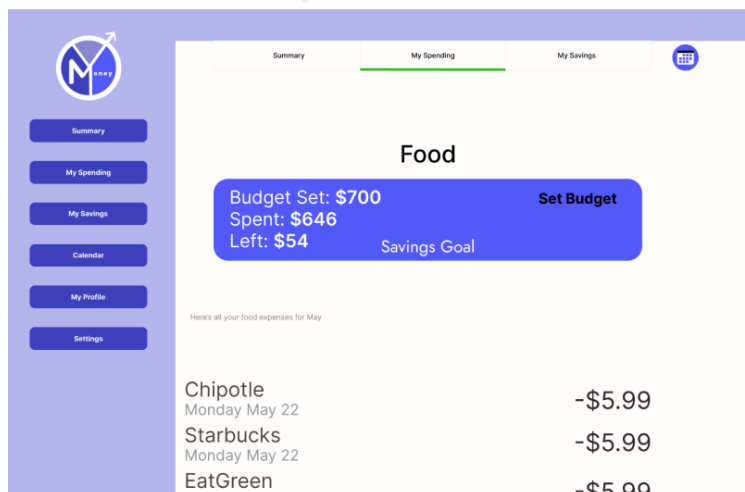
## Feature 2 - Spending Breakdown

Looks like you might be splurging a bit too much on lunch this month.  
**Go see the breakdown of your dining habits.**



1. Click on Overall spending progress bar

2. Click on Food part of category breakdown pie chart



3. See breakdown of all budget items categorized as food

### Annotations

1

Made progress bar wider to use more screen space. Did not change wording to "Overall" category.

2

Increased size of pie chart and introduced color in high fidelity.

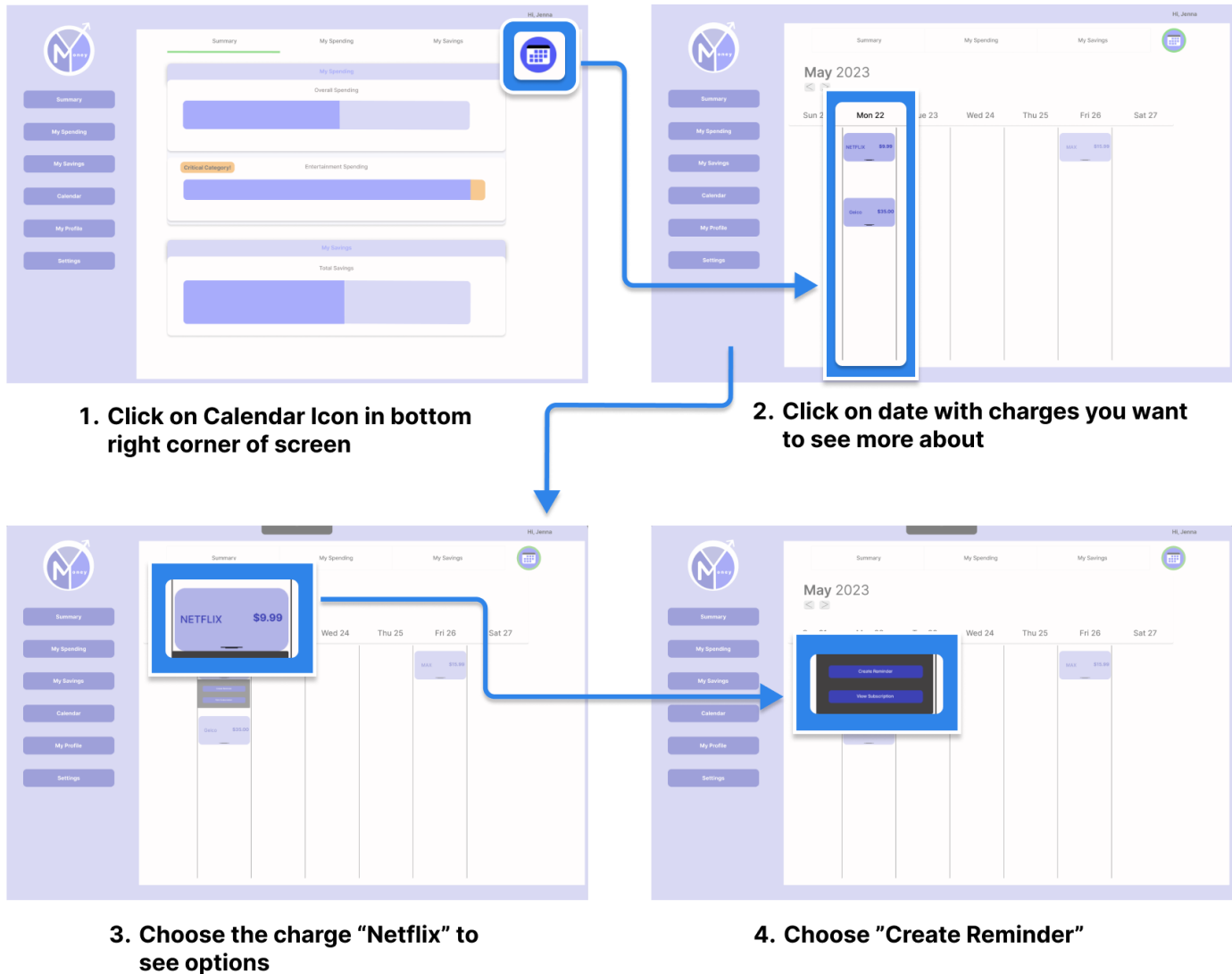
3

Food detail page remains largely the same aside from introduction of high-fidelity color scheme.

# Hi-Fi Desktop Web Design

## Feature 3 - Reminders

You love watching Love is Blind, but you always forget when your next charge is.  
**Go set an alert, so you don't forget next time.**



### Annotations

1

**Placement of Calendar icon moved to top right corner in desktop view.**  
 Altered colors of calendar to reflect high-fidelity scheme overall.

2

Changed overall calendar view to begin with month horizontal slider, and vertical daily layout. **In desktop view, layout is wider and more days are represented in detail.**

3

After clicking on individual date, the detail screen is represented the same aside from high-fidelity colors added. Desktop features same drop down as mobile.

4

After clicking on individual date, the detail screen is represented the same aside from high-fidelity colors added.

# Final Recommendations + Next Steps

## Usability Testing:

After applying changes to our design following the second round of user testing, we would like to conduct a third round of usability testing to assess any improvements resulting from these changes. Additionally, we intend to evaluate the desktop view to determine if users can complete the same tasks using the same paths as on the mobile web.

## Next Features/Pages:

We aim to add the following features:

- General notifications>>This is essential to our users to help know of any important updates in their expenses in real time
- Set alert page >> this is the page 'Set Reminder' under the calendar leads to & where reminder configurations can be made
- Set budget page >> Once user select 'Set Budget' (see spending category details in prototype) the Set budget page will open and allow to the user to input a customized budget tailored to their needs (addressing key user pain points addressed in Research above)