



Capstone Project Presentation

Lalita Crews | INFM 482 | Fall 2023

Project Overview

- ▶ Mommy's Best Friend is an user-friendly personal assistant software, tailored specifically to meet the needs of busy moms. This software will provide valuable support in managing daily tasks, organizing schedules, and enhancing overall productivity, thus alleviating the challenges faced by this demographic.

Acknowledgements

- ▶ I would like to thank everyone that provided feedback, encouragement, and suggestions that allowed me to complete this project. I've learned a lot and it has help shape me as a software developer.

Background

- ▶ Busy moms often struggle to manage their time efficiently, juggling various responsibilities such as childcare, household chores, work, and personal activities. They may find it challenging to stay organized and ensure that everything gets done while maintaining their own well-being.
- ▶ Many of the options currently available lack a tailored approach for busy moms, integrating all aspects of their lives into a cohesive system.
- ▶ Target Audience: Women with children

Project Purpose

- ▶ **Personalized Mom Assistant Software:** Create a personalized software solution, accessible via web or mobile app, specifically designed for busy moms. This solution would integrate various functionalities to address their unique needs.
- ▶ **Task Management:** Allow moms to create and prioritize to-do lists for household tasks, work-related responsibilities, and personal activities.
- ▶ **Calendar Integration:** Provide tools to track children's schedules, school events, and health records.
- ▶ **Healthy Recipes:** Offer easy-to-follow recipes taking into account dietary preferences and restrictions.

Project Timeline

Phase One: Planning Phase

- ▶ Define project scope, objectives, and stakeholders
- ▶ Create a project proposal and secure necessary approvals
- ▶ Allocate resources, including software development tools and infrastructure
- ▶ **Timeframe: August 31st - October 12th**
- ▶ **Status: Complete**

Project Timeline

Phase One: Planning Phase

Task	Start	End	Status
Planning Phase 1: Project Initiation			
Define project scope, objectives, and stakeholders	8/31/23	10/15/23	Complete
Create a project proposal and secure necessary approvals	9/15/23	10/15/23	Complete
Allocate resources, including software development tools and infrastructure	9/15/23	10/15/23	Complete

Project Scope

- ▶ Developing an user-friendly personal assistant software with features tailored to busy moms' needs.
- ▶ Conducting user research to understand user needs and preferences.
- ▶ Building, testing, and refining the software based on user feedback.

Stakeholders Map

Creating a detailed stakeholders map is crucial for understanding the various parties involved in our personal assistant software project for busy moms. Here's a breakdown of internal, external, and core stakeholders:

III. System Design



Stakeholders

- ▶ **Primary Stakeholders:** Busy Moms (End Users) and the Software Development Team
- ▶ **Secondary Stakeholders:** Families of end users and tech support
- ▶ **Tertiary Stakeholders:** Investors, Marketing and Sales Team
- ▶ **External Stakeholders:** Regulatory Bodies, Community Support Groups, User Testers, and Market Researchers

Project Timeline

Phase Two: Research & Analysis

Phase 2: Research and Analysis			
Conduct user interviews and surveys to gather requirements (30 minutes each day)	9/20/23	10/20/23	Complete
Analyze collected qualitative and quantitative data (30 minutes each day)	9/20/23	10/20/23	Complete
Study existing personal assistant software and competitors and identify gaps and opportunities in the market	9/20/23	10/20/23	Complete

Project Timeline

Phase Two: Research & Analysis

- ▶ Conduct user interviews and surveys to gather requirements
- ▶ Analyze collected qualitative and quantitative data
- ▶ Study existing personal assistant software and competitors and identify gaps and opportunities in the market
- ▶ **Timeframe: September 20th- October 20th**
- ▶ **Status: Complete**

Research Methodology and Data Collection

- ▶ Both qualitative and quantitative research methods will be used to gather comprehensive data and insights. By collecting both qualitative and quantitative data, we will gain a comprehensive understanding of the needs and preferences of busy moms.
- ▶ The qualitative data will provide depth and context, while the quantitative data will allow for statistical analysis and the identification of trends and patterns. These insights will inform the development of the personal assistant software, ensuring that it addresses the specific needs of our target audience effectively.

Qualitative Research Approach

- ▶ **Method: In-Depth Interviews**

- ▶ In-depth interviews involve conducting one-on-one conversations with individuals to gain a deep understanding of their perspectives, experiences, and insights. For this project, we can conduct in-depth interviews with key stakeholders such as women who are moms to gather qualitative data about their needs, challenges, and preferences related to personal assistant software.

User Interview

- ▶ The user interview plays a pivotal role in the software development process, providing valuable insights that significantly contribute to creating a personal assistant software tailored to the needs of our target audience - moms.
- ▶ I conducted an interview within my target audience with 14 questions within the following categories: **Understanding Current Challenges and Tools, Technology Usage, Preferences for Personal Assistant Software, Family and Social Aspects, and Future Expectations of Personal Assistance Technology.**

Quantitative Research Approach

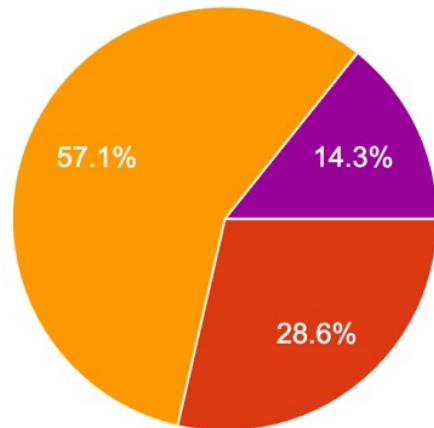
- ▶ **Method: Online Surveys**

- ▶ Online surveys involve collecting structured data from a large sample of participants through a standardized questionnaire. For this project, we can use online surveys to gather quantitative data on stakeholders' needs, challenges, preferences, and demographics. This method allows for statistical analysis and the measurement of trends or patterns.

Results of Online Survey

Age:

7 responses

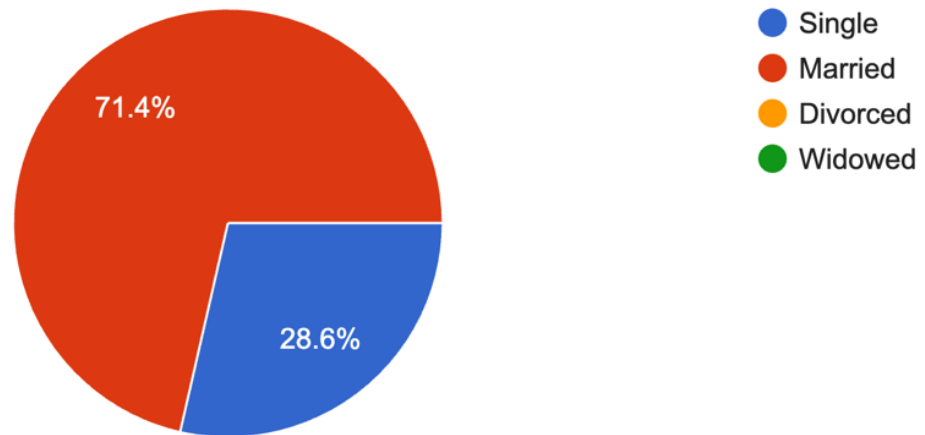


- Under 25
- 25-34
- 35-44
- 45-54
- 55-64
- 65 and over

Results of Online Survey

Marital Status:

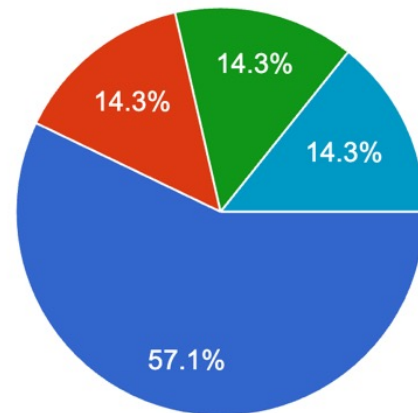
7 responses



Results of Online Survey

Employment Status:

7 responses



- Full-time Employed
- Part-time Employed
- Self-Employed
- Stay-at-home mom
- Unemployed
- Retired

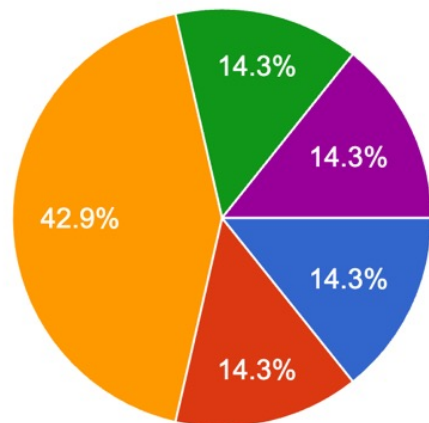
Independent Variable

- ▶ The independent variable in this research is the "Personal Assistant Software." We are studying to see how it influences or impacts busy moms.

Results of Online Survey

Educational Level:

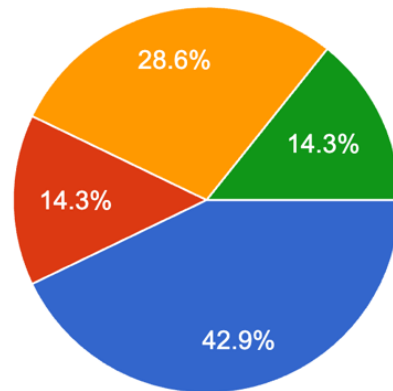
7 responses



- High school or less
- Some college/Associate degree
- Bachelor's degree
- Master's degree
- Doctoral degree

Results of Online Survey

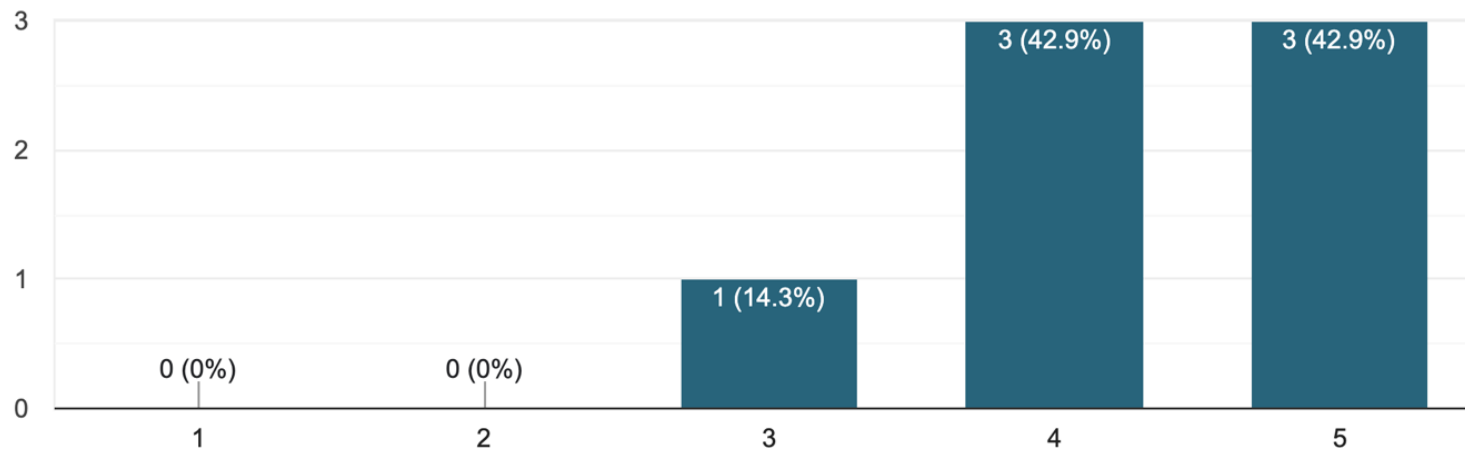
Number of Children:
7 responses



Results of Online Survey

On a scale of 1 to 5, how challenging is it for you to manage your daily tasks efficiently? (1 = Not Challenging, 5 = Very Challenging)

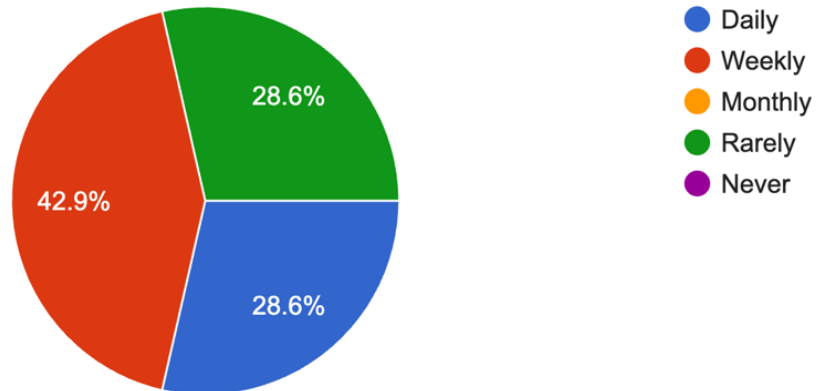
7 responses



Results of Online Survey

How often do you use technology and apps for organizing your tasks? (Daily, Weekly, Monthly, Rarely, Never)

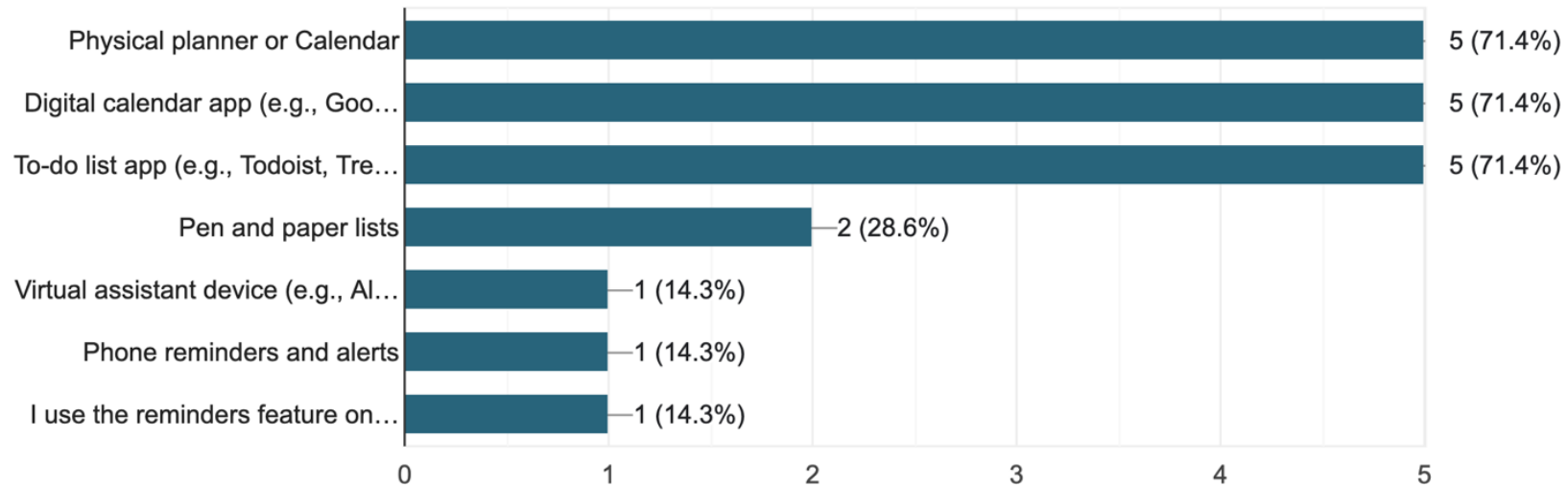
7 responses



Results of Online Survey

How do you currently organize your daily tasks and responsibilities? (Select all that apply)

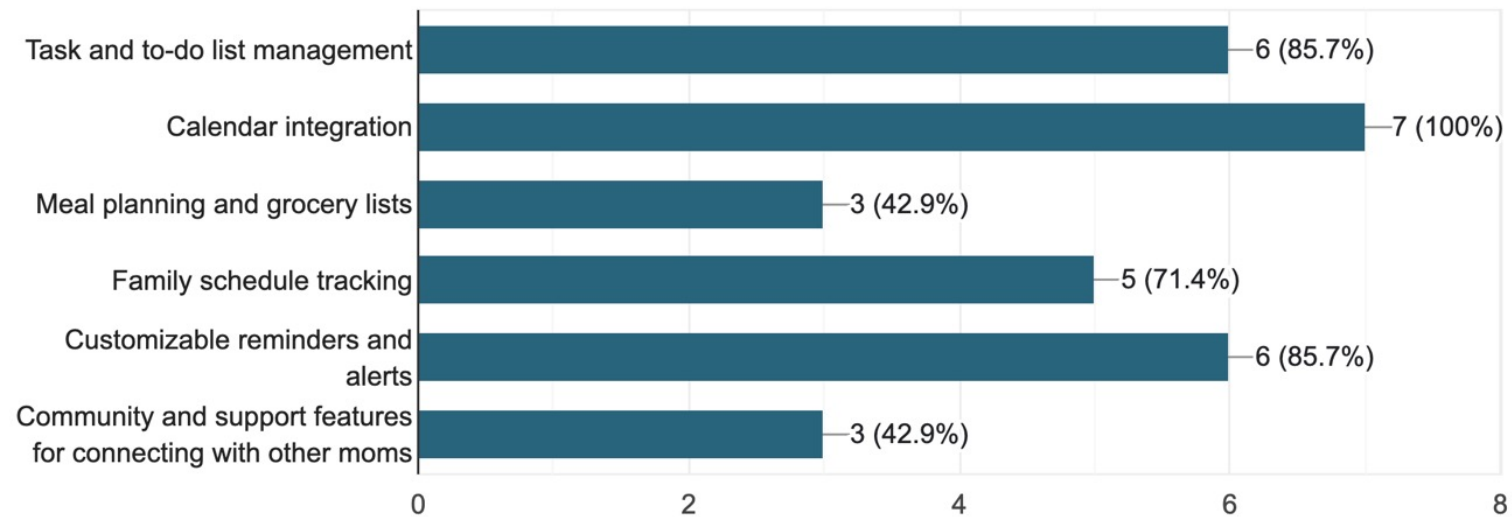
7 responses



Results of Online Survey

Which of the following features would you find most useful in a personal assistant software designed for busy moms? (Select up to three)

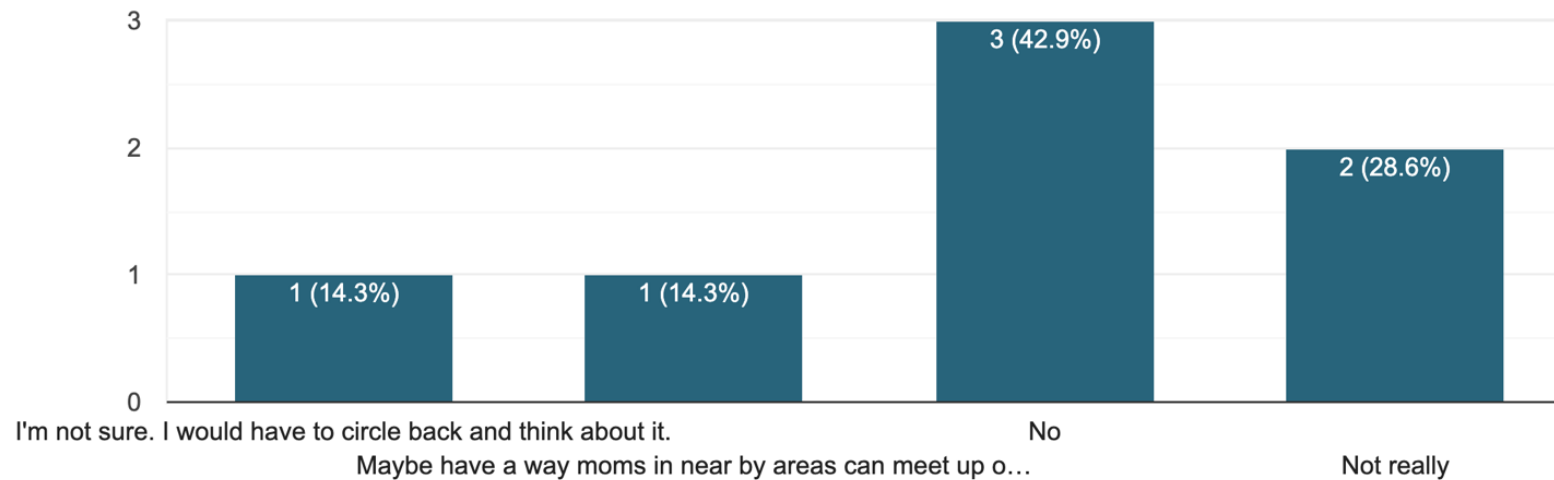
7 responses



Results of Online Survey

Do you have any additional comments or suggestions for features that would improve a personal assistant software for busy moms? If so, please share.

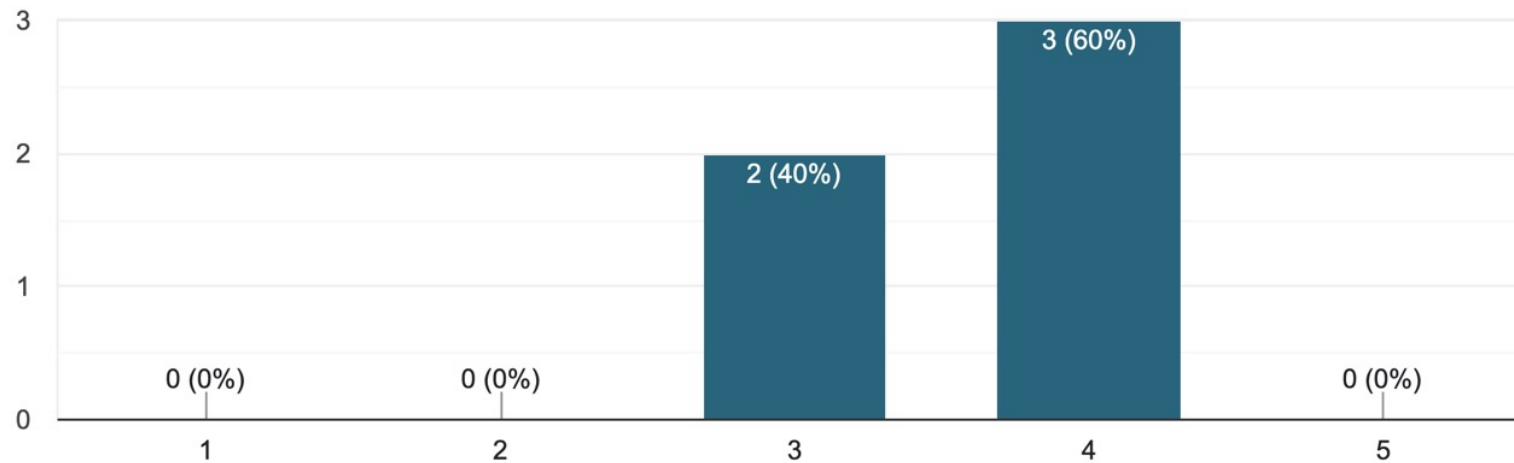
7 responses



Results of Online Survey

Likelihood of Usage: On a scale of 1 to 5, how likely are you to frequently use this personal assistant software for managing your daily tasks?

5 responses



Dependent Variables

- ▶ **Efficiency in Task Management:** How well busy moms can manage their daily tasks and responsibilities with the assistance of the personal assistant software.
- ▶ **User Preferences:** The features and functionalities that busy moms desire in such software.
- ▶ **Frequency of Technology Usage:** How often busy moms use technology and apps for organizing tasks.
- ▶ **Challenges Faced:** The perceived challenges in managing daily tasks efficiently before using the software.
- ▶ **User Satisfaction:** The overall satisfaction and perceived usefulness of the personal assistant software.

Project Timeline

Phase Three: System Design

- ▶ Create wireframes and user interface mockups
- ▶ Develop a prototype of the software and conduct a usability testing and refine the design based on feedback
- ▶ Prepare the design and feature specifications for development
- ▶ **Timeframe: October 5th - November 20th**
- ▶ **Status: Complete**

Project Timeline

Phase Three: System Design

Phase 3: Design and Prototyping			
Create Personas, Storyboard and User Task Lists	10/05/23	11/20/23	Complete
Create Database Design and Site Structure	10/05/23	11/20/23	Complete
Develop a prototype of the software and conduct a usability testing and refine the design based on feedback (30 minutes each day)	10/05/23	11/20/23	Complete
Prepare the design and feature specifications for development (30 minutes each day)	10/05/23	11/20/23	Complete

Personas



Name: Crystal

Age: 30

Marital Status: Single

Location: Houston, TX

Goals:

- Desires to set to do list items on her planner and edit or delete them when she's done.
- Desires a helpful resource she can manage her schedule, integrate her calendar, and plan healthy lunch items for her son.

Story:

- Crystal is a single mother of a two year old son. She owns a catering and event planning company and desires an effective way to manage her son's daily tasks and her busy calendar.

Personas



Name: Lisa

Age: 35

Marital Status: Married

Location: Atlanta, GA

Goals:

- Desires to become more organized when planning tasks for her household.
- Desires to efficiently manage the daily tasks, appointments, and activities on her family's agenda.
- Desires to find healthy recipes and ideas for her family

Story:

- Lisa is a married mother of two children that's employed full time, but struggling to manage her family's daily activities and appointments. She wants to manage her time better to ensure she can create healthy meals, but struggles to find healthy recipes her family will enjoy.

Storyboard



Lisa is having a hard time managing her family's household tasks and staying organized.



She would like a way to manage her family's busy schedule, create a to do list, and review dinner recipes all in one place.



Lisa's friend told her about Mommy's Best Friend, a web application designed to help busy moms like her efficiently manage their busy schedule.



Lisa signed up and now has access to several tools in one place to help her family's busy schedule and efficiently manage her daily tasks!

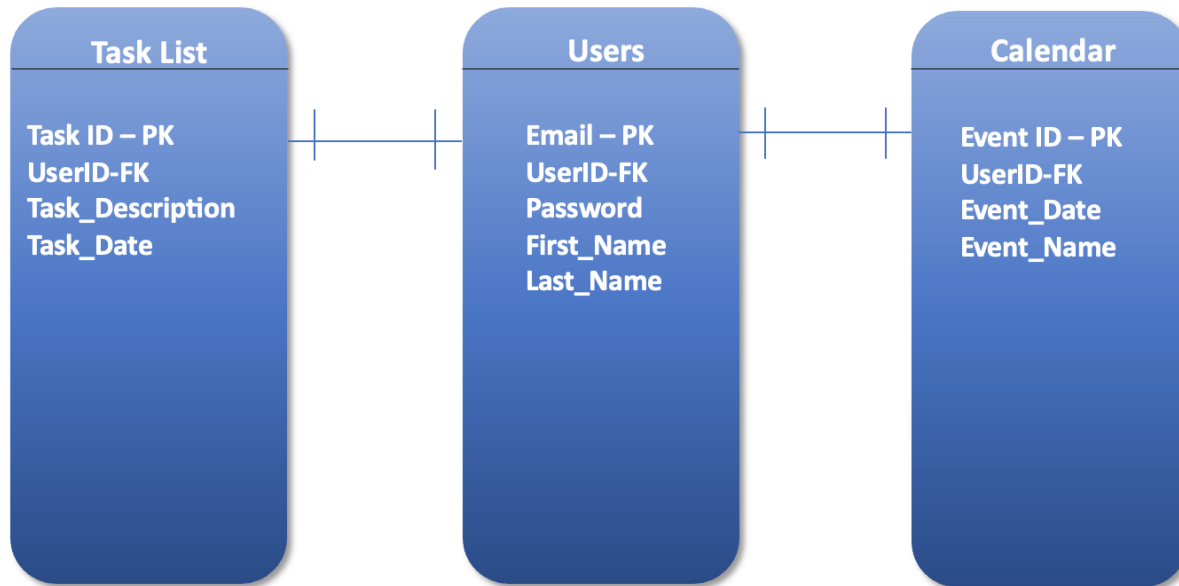
User Task List

1. Lisa wants to sign up for an account
2. Lisa wants to sign into to her account
3. Lisa wants to add a reminder on the to do list
4. Lisa wants to edit a reminder
5. Lisa wants to delete a reminder
6. Lisa wants to view the veggie burger recipe
7. Lisa wants to download a recipe
8. Lisa wants to rate a recipe
9. Lisa wants to add an event to her calendar
10. Lisa wants to learn more about Mommy's Best Friend

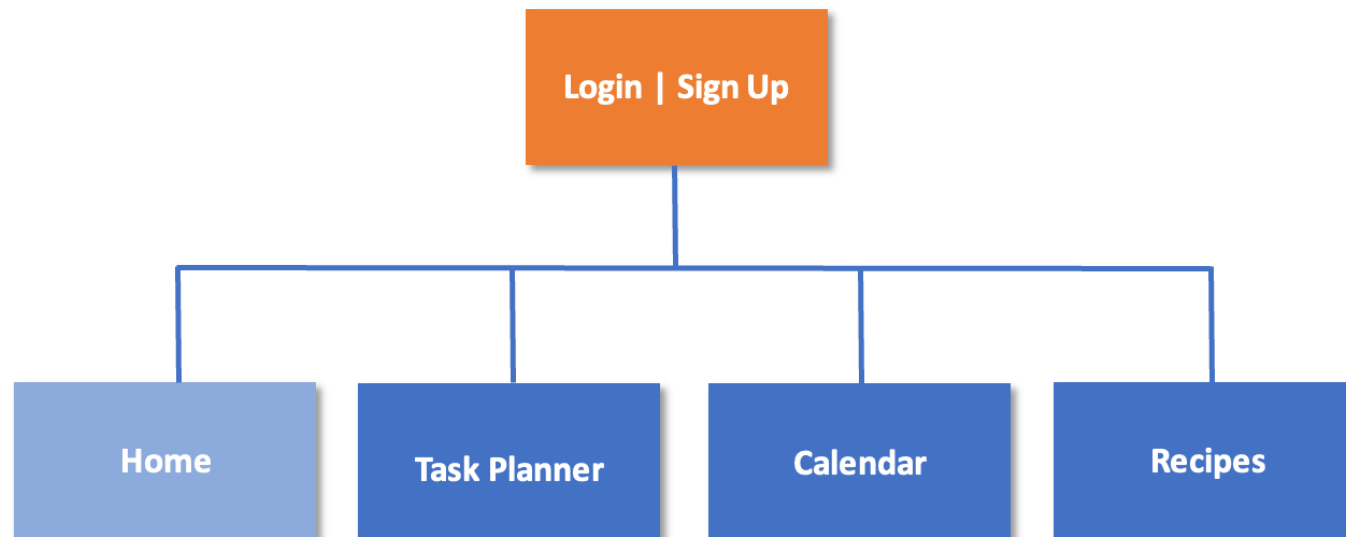
Database Design

ENTITY RELATIONSHIP DIAGRAM

*PK = Primary Key * FK = Foreign Key

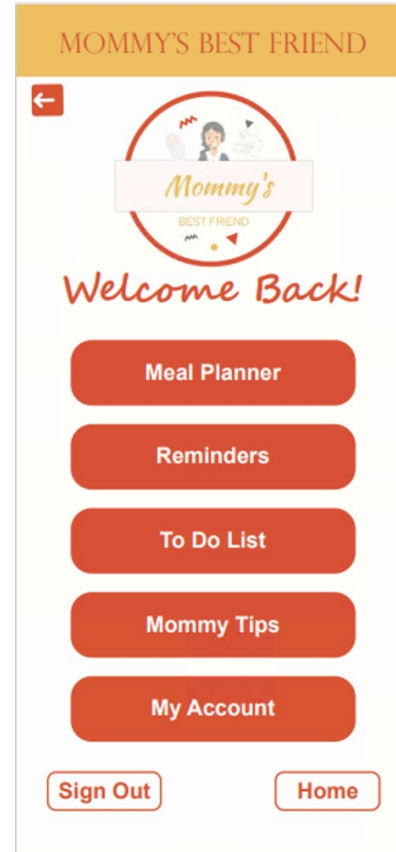
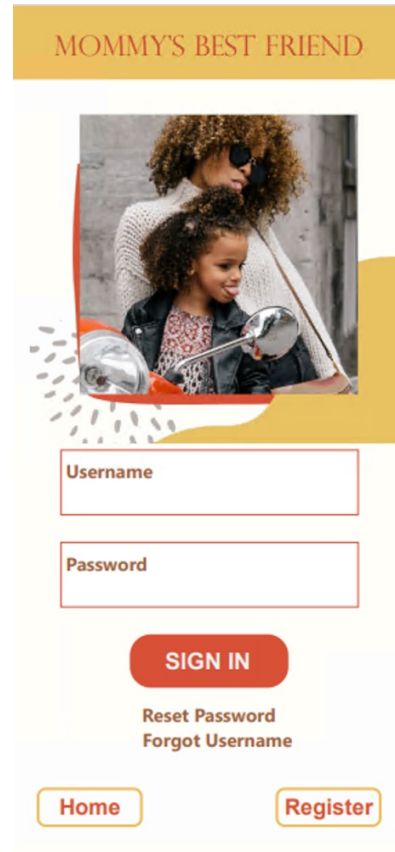
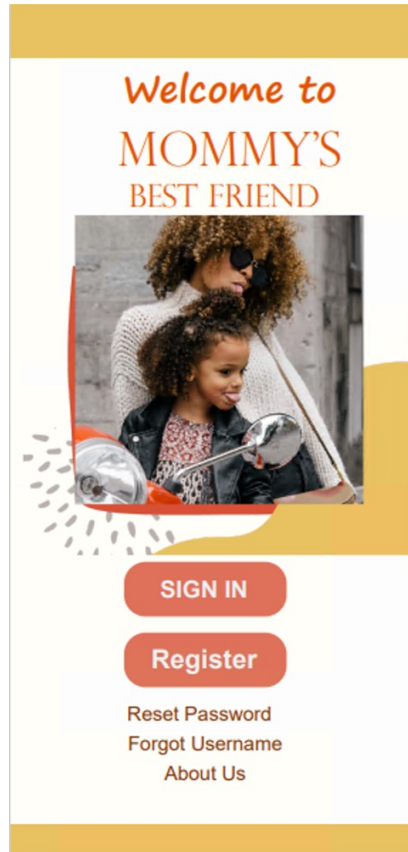


Site Structure



This is the revised site structure from the feedback of the online surveys. My plan is to update the site structure to remove the blog and online store sections. Those are features we plan to implement in the future, but right now I feel it's best to focus on the features that the intended audience expressed as the most important features.

Prototype



Prototype

MOMMY'S BEST FRIEND

← Meal Planner

Sunday
Breakfast Lunch Dinner
Monday
Breakfast Lunch Dinner
Tuesday
Breakfast Lunch Dinner
Wednesday
Breakfast Lunch Dinner
Thursday
Breakfast Lunch Dinner
Friday
Breakfast Lunch Dinner
Saturday
Breakfast Lunch Dinner

Sign Out Home

MOMMY'S BEST FRIEND

← To Do List

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

Sign Out Home

MOMMY'S BEST FRIEND

← Reminders

Past Reminders

01/10/2023	06/01/2022
03/26/2022	08/15/2022
04/24/2022	11/20/2022

Upcoming Reminders

03/22/2023 Doctor's Appt

Cancel

Create New Reminder

Date	Notes
Time	Urgency
Location	

Submit

Sign Out Home

Prototype

MOMMY'S BEST FRIEND

←

Today's
MOMMY TIPS

- 1
Make time for yourself today! You can't pour from an empty cup, so take time to recharge! Your babies are counting on you to be your best self!
- 2
Being a Mommy isn't easy, but it's worth it. Enjoy every moment. Push through the moments you don't feel like it and try to spend one on one time with your little ones.
- 3
Go for a walk! Exercise matters! Even if it's for 15-20 minutes. Make time to get active! Working out will encourage healthier eat habits.

Sign Out Home


MOMMY'S BEST FRIEND

About Us

The Mommy's Best Friend App is an app dedicated to helping Mommies like you plan, organize, and provide great tools to stay organized!

Contact Us

help@mommiesbestie.com



SIGN IN
Register

← Home

MOMMY'S BEST FRIEND

Account Information

Contact Information

Please review your contact information. Update any info that is no longer accurate.

Name: John Doe Home Ph: 444-444-4444
DOB: 12/12/1980 Mobile Ph: 222-222-2222
Email: JohnDoe@mail.com
Current Address: 123 Money St Anywhere GA 30019
Emergency Contact: Jane Doe 333-333-3333

Submit

Change Username or Password

New Username: Confirm Username:
New Password: Confirm Password:

Submit

←

Sign Out Home

Project Timeline

Phase Four: Development

- ▶ **Frontend Development:** Set up the frontend infrastructure based on feedback.
- ▶ **Backend Development:** Set up the backend infrastructure. Develop database.
- ▶ Troubleshoot to ensure everything is working properly.
- ▶ **Timeframe: October 20th -December 12th**
- ▶ **Status: Complete**

Project Timeline

Phase Four: System Development

Phase 4: Development			
Backend Development: Set up the backend infrastructure. Develop database. (40 minutes each day)	10/20/23	12/12/23	Complete
Frontend Development: Begin coding the user interface and user experience (30 minutes each day)	10/20/23	12/12/23	Complete
Integration Testing: Conduct comprehensive testing, including functionality, security, and performance testing (30 minutes each day)	12/01/23	12/12/23	Complete
Phase 5: Deployment			
Submit Final Report			12/14/2023
Present Presentation			12/14/2023
Turn in Capstone Project			12/14/2023

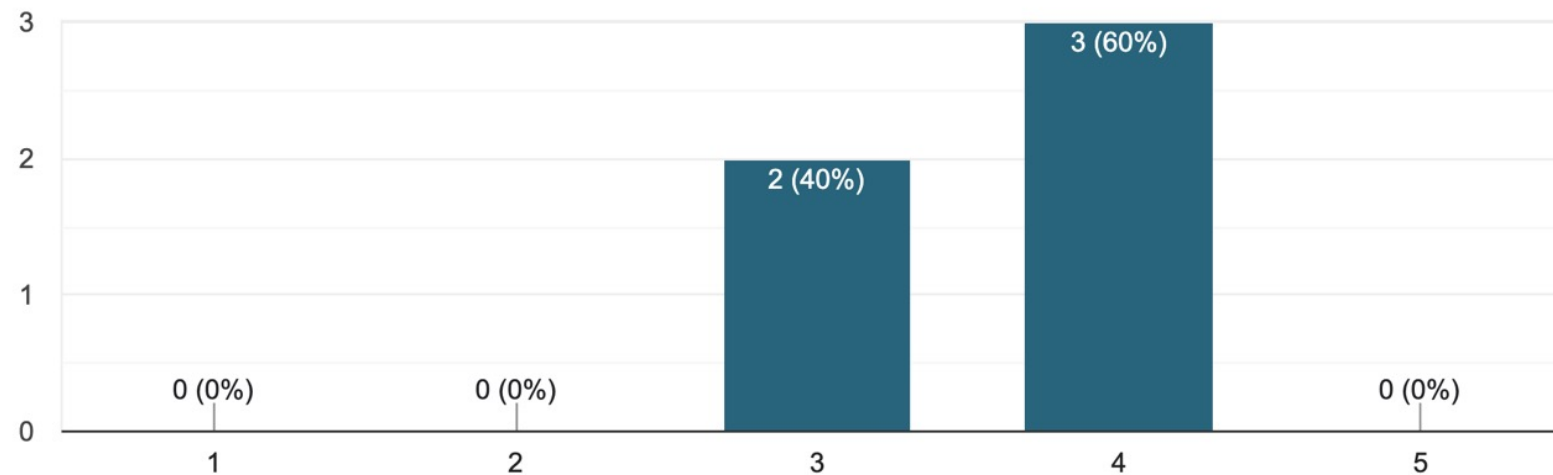
Usability Study Methodology

- ▶ During the usability study for Mommy's Best Friend, a personal assistant software designed for busy moms, I closely observed mothers within our target demographic using the site. To assess its user-friendliness, I provided them with a task list and observed their success in completing each task. This hands-on approach allowed me to gauge the software's effectiveness in real-life scenarios, ensuring that it truly caters to the needs of our busy mom users.
- ▶ After they completed the items from the task list, they were instructed to complete an online survey to provide their feedback.

Results of Online Survey

Likelihood of Usage: On a scale of 1 to 5, how likely are you to frequently use this personal assistant software for managing your daily tasks?

5 responses



Results of Online Survey

User Experience Issues:

Did you encounter any challenges or issues while using the web application? Please describe them in the space below.

5 responses

The calendar didn't seem to do anything. I'm not sure how it relates to the planner since I couldn't add anything to it.

The sign up form didn't send you back to log in once you signed up. It was cumbersome to use.

Signing in seemed to be challenging since you just get a blank screen after signing in and it doesn't take you to the website. But the login is kind of off to itself, so you don't have to sign in. Not sure if you meant it like that or not. So it's out of place.

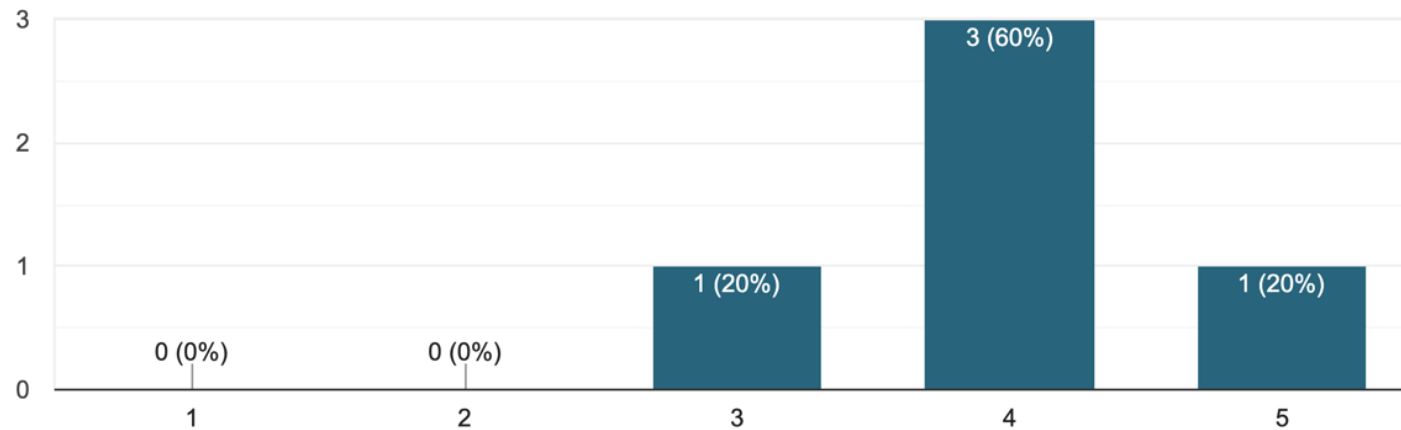
I did not have any significant issues, but I think the website should flow better.

I had an issue with viewing one of the recipes it didn't work.

Results of Online Survey

Ease of Use Perception: Do you find the system cumbersome to use? (Choose from: Very Easy, Easy, Neutral, Difficult, Very Difficult)

5 responses



Results of Online Survey

Favorite and Least Favorite Feature:

What is your most favorite feature of the software? Please describe. What is your least favorite feature of the software? Please describe.

5 responses

Favorite thing was the planner it seemed like a nice tool that can be optimized to be more useful to help as a to do list. Least favorite is probably the blog. You can probably do without it.

The task list was probably the favorite thing but I think the recipes have the potential to be better or a favorite as well. Just think the recipes could be better.

Least favorite is the calendar. It doesn't do anything.

Favorite is the planner. Least is the blog.

I think you did good with the design. It is inviting but I think the planner should be bigger or have a bigger focus on the website. The planner and the blog idea is my favorite. I don't have a least favorite. I think it has good potential.

Results of Online Survey

Design Improvements:

Are there any specific improvements or suggestions you would recommend for the design of the software? Please share your thoughts.

5 responses

The calendar and the planner should be more interactive.

I would have better recipes and make the calendar and planner better.

Integrate the planner with the calendar so you can add things to the calendar

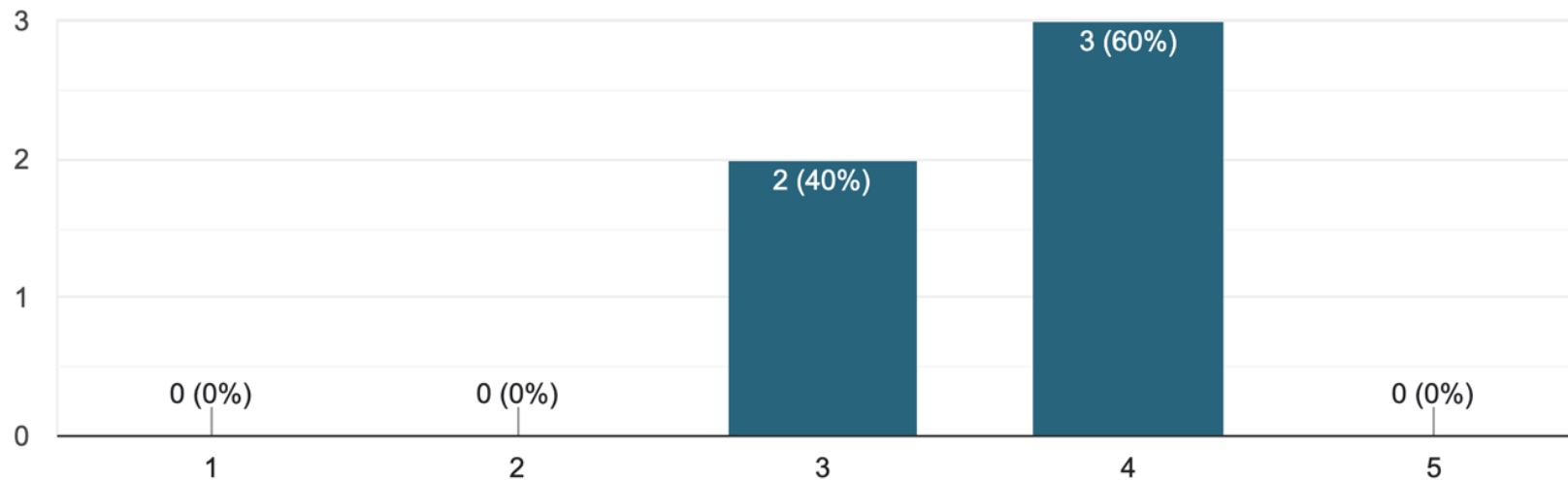
Make the planner and recipes better and more interactive. The calendar is on the same page of the planner but I can click on it or add anything.

Make the planner and calendar better.

Results of Online Survey

Overall Experience Rating: On a scale of 1 to 5, how would you rate your overall experience with the personal assistant software? (1 being the lowest, 5 being the highest)

5 responses



Success Measurements

- ▶ **User's Likelihood of Adoption Rate:** Measure the percentage of busy moms who would be inclined to use the personal assistant software.
- ▶ **User Satisfaction:** Assess user satisfaction through surveys, with a goal of achieving a high user satisfaction rating (e.g., 4 out of 5 or higher)
- ▶ **Task Efficiency:** Determine if the software helps busy moms manage daily tasks more efficiently based on user feedback.

Conclusion

- ▶ Navigating the role of a full-stack developer throughout the project proved to be both demanding and gratifying.
- ▶ Time constraints prevented the complete resolution of all identified issues, the process became an invaluable learning opportunity, highlighting the critical importance of thorough backend coding in ensuring the project's overall success.
- ▶ Despite the hurdles faced, the journey has been one of learning, adaptation, and the pursuit of creating something truly beneficial for our intended users – busy moms seeking efficient and user-friendly assistance. The road ahead holds exciting possibilities for improvement and innovation, a prospect that motivates me to continue refining and expanding upon the success measures outlined for this project.

References

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- ▶
- ▶ Moran, K. (2019, December 1). Usability Testing 101. Nielsen Norman Group.
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- ▶ Lazar, J., Feng, J. H., & Hochheiser, H. (2017, April 19). Research Methods in Human Computer Interaction (2nd ed.). Elsevier Science & Technology

Thank You!

