

2024 Capstone Final Report

Michael Siebert

INFM 480: Capstone Project for Information Technology & Informatics

Dr. Feng Liu

December 12, 2024

Executive Summary

This project aims to develop a simple application for a local handyman service in Coweta County. As someone who has used various applications or services like Thumbtack, I know that it can be very cumbersome for those who are not tech-savvy. We depend on the internet and our phones for daily interactions, and with phonebooks being obsolete, the need for on-demand booking is higher than ever. The problem is nobody has catered anything to local companies to make this process easier for the everyday user.

There are applications like Thumbtack that list various providers to the consumer. Still, many independent operators want to be able to cater to their customers or a particular group of people. Faith-based services have been serving the Coweta County area for over 5 years. They want to provide their clients with an easy-to-use mobile application that allows the customer to book and schedule services as needed. This will enable them to know who they are using and not rely on calling, booking, maybe writing down the information, and trying to schedule a time. The company can also better track its appointments and customer base. This can be a launch pad to serve other companies as well.

Acknowledgments

I want to do this not like I'm accepting an Academy Award, but first off, I would like to thank Dr. Liu for being a gracious, patient professor, considering my hectic semester. Murphy's Law was my best friend during this project. I would also like to thank my wife for keeping me focused, especially during the last 2 weeks of being sick. I would also like to congratulate Austin Pittman for allowing me to develop this project for his business, especially using it to serve others. Lastly, Mercer University and all my professors. This has been an incredible journey, and I am happy to have learned from some of the best in the world.

Background

This project is very special to me because it is not only for the final project before graduation but also for my closest friend and his business, which has become very successful. Austin and I began this company before the COVID-19 outbreak to help others in our community get affordable handyperson services. We flourished during COVID because other companies wouldn't help those in need. The company's success has reached a point where we want to combine our services with technology but make it simple and easy for our primary client base. We wanted to show our clients that technology doesn't have to be tricky to accomplish their goals or have something fixed. We didn't know where to take this, but we decided to stick to our roots and make this easy to use for a majority client base, primarily older people or less tech-savvy. This application is trying to get out of the pen and paper days and reach someone to book an appointment for simple tasks. We want to make Faith Based Services stand out because we have this technology and do not have to navigate all the hoops and bounds of sites like Thumbtack that provide multiple services but not that dedicated service and being local. We want this as a launch pad for other businesses to follow suit so that people can better embrace technology and not rely on picking up the phone and waiting for appointments.

Project Timeline

Week 1: Project Proposal, Design Interview Questions & Surveys, Stakeholder's Map, Project Scope, Success Measurements

Week 2: Conduct Interviews, Develop Personas/Storyboard, Come Up with User Tasklist, Site Structure, Unique Technology Idea

Week 3: Prototype 1.0 & Testing

Week 4: Take results from observations on Prototype 1.0 Testing and work into notes for Final Prototype

Week 5: Final Prototype Development, Implementation of Unique Technology into the Prototype

Week 6: Final Prototype Testing, Develop Final Observation Report & Results

Week 7: Final Report Development, PowerPoint Presentation Development

Project Scope

This project aims to develop an application that allows users to seamlessly make appointments for various handyman services, build services, or custom projects for one company. This is not designed to be against services such as Thumbtack but to be for one service provider. The provider would be Faith-Based Services out of Coweta County. The app must be simple and easy to use, as most clientele aren't very tech-savvy. The key points that need to be included are an interactive schedule to book and confirm appointments instantly. This is not only an advantage for the end-user or customer but also very beneficial for the admin as it cuts out the need to spend time scheduling. The second key feature is every user has a dedicated login. This will help manage what they have done and, like before, support the admin side by keeping a record of all services. The end goal is to have the business "automated" through this platform, whether it's working in the prototype or not, at least have an idea of the system's design that needs to be implemented.

Success Measurements

The measurements for the success of this project are essential because we must have something to rate the product. I originally had some far-fetched measurements, and it wouldn't have been possible to make an adequate turn in time. I have decided to set long-term goals for the future development of this application and the company.

I want to create a practical, easy-to-use prototype that can show the essential operation of the application and its features.

I would like for the user to have a positive experience while testing the app and provide adequate feedback for what's needed in future development.

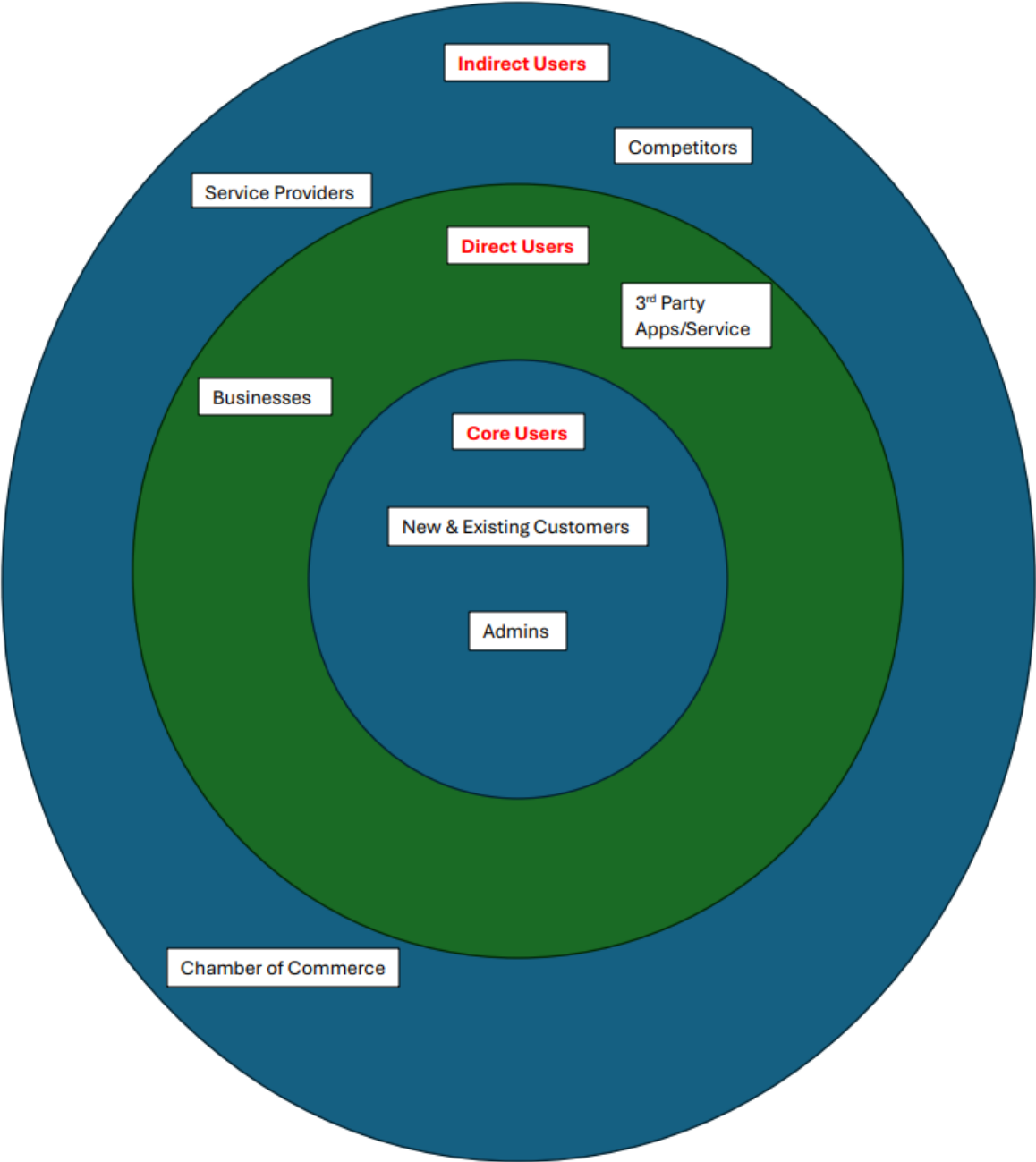
Constructive feedback is essential because that person will be using the application, so having great notes from the user helps develop what needs to be done.

The primary measurement was to complete the user task lists.

Project Management

With the initial approach of this project being shut down in week 2, I had to scramble to put this idea together. Luckily, I had been working on this as a side job for a friend of mine. The typical project management styles got thrown out of the window in many ways. There were several instances where that showed the most. The obvious was time management. The most crucial factor in managing a project is time; long hours are spent on several tasks that should've been done weeks before. The second major issue was resource allocation. With already down on time, I couldn't gather the number of people I wanted to complete the tasks; I had to use the same person. I tried my hardest with my other commitments and daily life to accommodate time to meet with Dr. Liu. There were many times it was over e-mail, but in the end, it took a lot of self-determination and focus to get the jobs done.

Stakeholders Map



Interview Script Faith-Based Services

"Hello [participant's name], thank you for taking the time to participate in this interview today. My name is Michael Siebert, and I'm researching a new online shopping platform for Faith-Based Services. Please confirm that you're comfortable with being recorded for this interview?"

If yes, "Thank you very much; this will help the process move a little faster as I'll be able to go back and review anything I may miss."

If not, "I understand. I realize this process may take longer as I need to record all the details."

Background Information:

"Can you tell me a little about your online shopping habits generally? What websites do you use most often and why?"

"How did you first learn about Faith Based Services?"

Exploring Initial Experience:

"What were your first impressions when you visited Faith Based Services for the first time?"

"Can you walk me through browsing and selecting an item on the platform?"

Specific Features and Functionality:

"How did you find the search function on the website? Was it easy to locate the items you were looking for?"

"Can you describe your experience with the product page details? Were there enough images and information to make an informed decision?"

"What did you think about the checkout process? Were there any challenges or frustrations?"

Customer Service and Support:

"Have you ever needed to contact customer service on Faith-Based Services? If so, how was your experience?"

"What are the most important aspects of good customer service on an online shopping/booking platform?"

Overall Satisfaction and Recommendations:

"Overall, how satisfied are you with your experience shopping/booking on Faith-Based Services?"

"Would you recommend this platform to friends or family? Why or why not?"

Probing Follow-up Questions:

"Can you elaborate on why you found that feature particularly helpful/frustrating?"

"What could Faith Based Services do to improve your shopping experience?"

"Were there any specific moments where you felt particularly positive or negative about your interaction with the platform?"

Closing:

"Thank you for sharing your insights with us today. Do you have any final thoughts or questions about Faith Based Services?"

User Analysis & Scenarios

This user analysis focuses on understanding the needs, preferences, and challenges older adults face when using a handyman app. As the senior population increasingly adopts technology for convenience and assistance, designing user-friendly applications that cater to their specific requirements is essential. Typically aged 60 and above, this group may include retirees or individuals managing their homes while dealing with various physical or cognitive changes. Varies from tech-savvy users to those with limited experience using smartphones and apps. Many may have learned to use technology later in life. Older adults often require assistance with home maintenance tasks that they may find challenging to complete independently.

Needs and Expectations

1. **Ease of Use:** Older users prefer a simple, intuitive interface with minimal steps needed to complete tasks. Clarity in navigation is essential.
2. **Accessibility Features:** High contrast colors, larger fonts, and voice command options are critical for users with vision or dexterity issues.
3. **Clear Instructions:** Step-by-step guidance on how to use the app effectively can help reduce anxiety and build confidence.
4. **Trust and Reliability:** Older adults prioritize services over trusted professionals. The app should include verified reviews and ratings to help them make informed choices.
5. **Communication Options:** Options for direct communication with service providers (e.g., chat or video call) can enhance user comfort, allowing for clarification of tasks before service delivery.

Challenges

1. **Technical Skills:** Some older users may struggle with navigating apps if they lack prior experience. This includes difficulties in downloading the app, signing up, and executing everyday tasks.
2. **Cognitive Load:** Complex interfaces or excessive information can overwhelm users, leading to frustration and disengagement. Simplicity is key.
3. **Health Considerations:** Physical limitations, such as arthritis or limited mobility, may affect their interaction with technology (e.g., tapping buttons, scrolling).
4. **Privacy Concerns:** Older adults may be wary of sharing personal information online, making transparent privacy policies and security features essential.

Key Tech Component

The key technical component I wanted to include in my application was to have a live scheduling service as part of the appointment booking process. This proved to be a timely and very complex task. I decided to make a stationary example instead of a working model to guide those testing the application. The idea was for the user to see lifetime appointment availability for their service so they could book within the application. This feature would also benefit the company because it is a small operation and does not need someone to set appointments. I know there would be the need to talk to a live person sometimes, but the goal would be to make a semi-automated business.

User Task Lists

1st Task:

- User goes to the homepage.
- Click the “Create Account” icon
- Go through the account creation process
- Go back to the homepage and navigate to the “About Us” page
- Go back to the homepage and navigate to the “Links” page
- Verify the links are to the correct sources.
- Navigate back to the home screen.

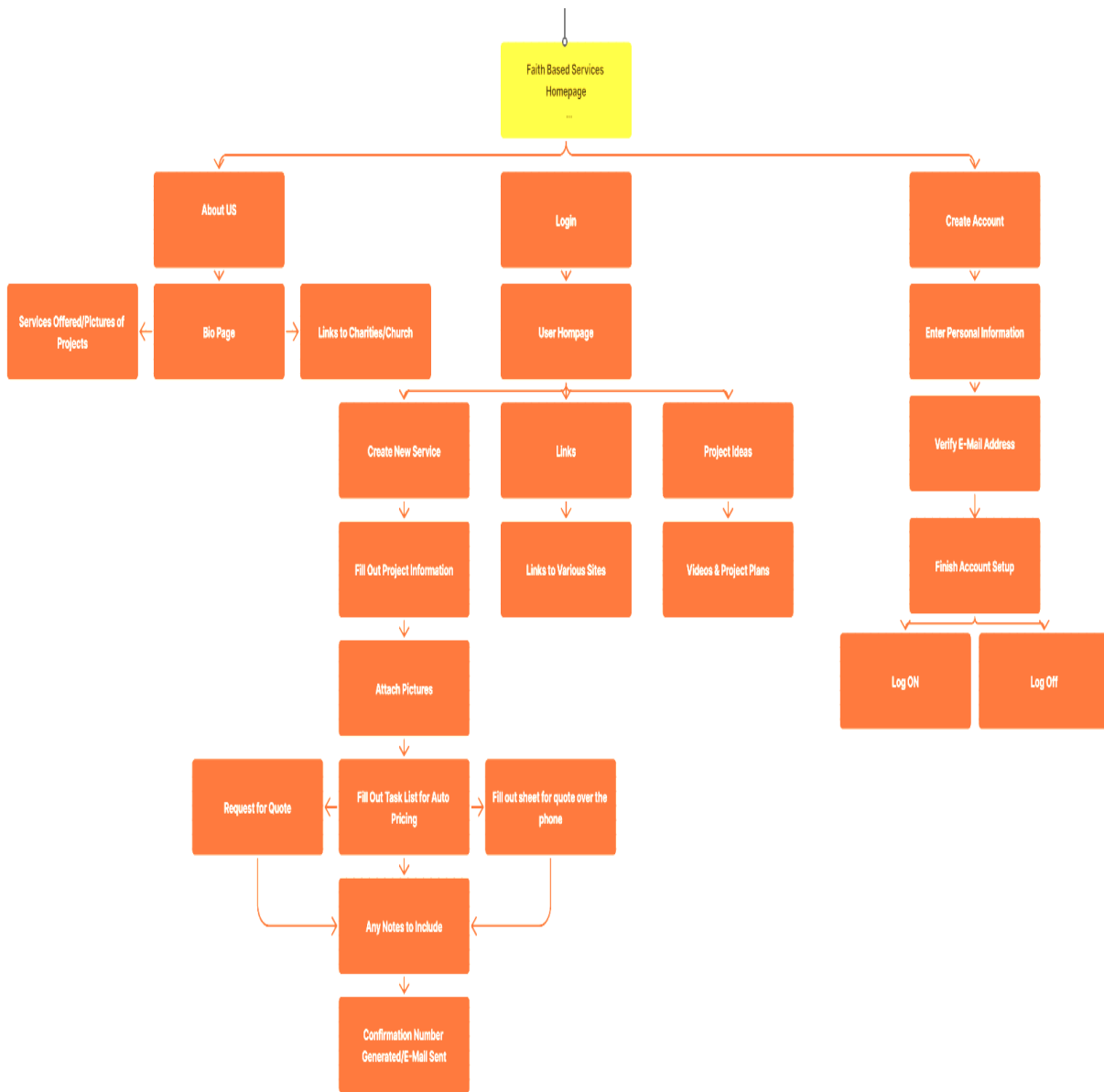
2nd Task:

- Go to the “Login” section on the page.
- Login using the username provided.
- Navigate to the “My Account” page and verify previous services.
- Go Back to the “My Account” page and navigate to the New Services section
- Click Custom Work and go through the process
- Once finished, navigate through the Build Services process the same way
- Go back to the My Account page once done.

3rd Task

- Once on your home page, click “New Service.”
- Select “Handyman Service”
- Once on the service selection screen, select “Christmas Removal.”
- On the next page select 10:00 for Thursday, Jan 16.
- Once on the confirmation screen, select “Pay on Service”.
- Once completed, please fill out the survey/questionnaire.

Site Structure



Prototype 1.0

This analysis presents the findings from a usability study conducted on a pen-and-paper model of a proposed application. The goal was to evaluate user interactions and gather feedback on the design and functionality before digital development began.

Methodology

The usability study was conducted with one person representing the target demographic. The participant was provided with paper prototypes to simulate the application's interface and was asked to complete specific tasks while thinking aloud. I took notes on user behaviors, challenges, and general feedback.

Study Objectives

1. To assess the clarity and intuitiveness of the interface design.
2. To identify any usability issues with navigation and task completion.
3. To gather qualitative feedback regarding user satisfaction and overall experience.

Tasks

The participant was tasked with accessing the main menu. Navigating around the site. Complete a sample transaction and review the website while speaking out loud for guidance.

Findings

1. **Clarity of Interface:** The user found the layout intuitive but expressed some confusion regarding icon meanings. The participant struggled with understanding the functionality of specific icons. Suggestions included providing brief text descriptions alongside icons to improve clarity.
2. **Navigation Challenges:** While the overall navigation flow was smooth, there were difficulties when trying to return to the main menu after completing tasks. Recommendations included incorporating a consistent back button or breadcrumb navigation system to enhance user orientation.
3. **Task Completion:** The participant reported completing the tasks with minimal assistance. However, the time taken was long due to hesitation and uncertainty. It was noted that a more guided onboarding process could help reduce completion time for new users.

4. User Satisfaction: Feedback was generally positive, with the user appreciating the simplicity of the design. The Participant stated that the pen-and-paper model allowed for quick modifications and fostered creativity in the design process. However, improvements to the visual hierarchy were suggested to emphasize essential buttons and features.

Conclusion

The pen-and-paper usability study provided valuable insights into user interactions with the proposed application interface. While the overall design received positive feedback, issues related to icon clarity and navigation should be addressed in the next iteration of the design.

Recommendations for Further Development

Conduct a redesign of the ambiguous icons with additional text labels. Implement a more straightforward navigation structure, potentially with a back button. Explore the addition of tutorial prompts or guides to assist users in navigating the app's features.

Prototype 2.0

This analysis summarizes the findings from a usability study conducted on a Figma prototype of our latest application design. Aimed at evaluating user interactions and gathering insights on usability, the study was crucial for identifying issues and areas for improvement before final development.

Methodology

The usability study involved 1 participant, each representing the target user demographic. The user accessed the interactive Figma prototype and was instructed to complete tasks while providing verbal feedback. I recorded user behaviors, difficulties encountered, and overall reactions.

Study Objectives

1. To evaluate the intuitiveness and user-friendliness of the Figma prototype.
2. To identify any usability issues related to navigation and task execution.
3. Collect user feedback regarding design elements, features, and overall satisfaction.

Tasks

It came from the User Task list, which is listed in the previous sections.

Findings

1. Interface Intuitiveness:

The user found the design visually appealing and easy to navigate. They were able to identify key features without guidance. However, it expressed confusion about the navigation menu's placement, suggesting it could benefit from a more prominent positioning or a fixed interface during scrolling.

2. Navigation Efficiency:

While the user completed tasks efficiently and did experience difficulties when attempting to find specific functions, there wasn't a search bar available. Recommendations included adding a search interface and providing advanced filtering options to enhance usability.

3. Task Completion Rates:

The participant completed the assigned tasks with an average completion time of 4 minutes. However, they struggled with the transaction process, citing unclear confirmation prompts. The user recommended clarifying button labels and ensuring feedback during the transaction to improve user confidence in task completion.

4. User Satisfaction:

Overall, feedback was positive: the user appreciated the clean design and functionality and highlighted the effectiveness of incorporating interactive elements, which made the experience engaging. They voiced concerns regarding the color contrast for certain call-to-action buttons, suggesting that improving visibility would enhance accessibility.

Conclusion

The usability study of the Figma prototype offered valuable insights into user interactions and highlighted strengths and areas needing refinement. While the participant responded positively to the overall design, consistency in navigation and clarity in some interactions require attention.

Recommendations for Future Development

- Redesign the navigation menu for increased visibility and ease of access.
- Streamline the search feature and integrate advanced filtering options for better user experience.
- Enhance transaction prompts for clarity and user reassurance during the process.
- Review color contrast for buttons to ensure better visibility and compliance with accessibility standards.