

Infm 482 Final Report

Mercer University Final Report

Creston Harper

Introduction

The landscaping website project was initiated to address the growing demand for professional, reliable landscaping services while enhancing the accessibility and convenience of connecting with service providers. In today's digital age, customers expect seamless online interactions for tasks such as booking appointments & looking for services. However, many small landscaping businesses lack a modern, user-friendly online presence, creating a gap between client expectations and service delivery.

Acknowledgments

I would like to express our sincere gratitude to everyone who contributed to the creation and development of our landscaping website. Your support, guidance, and feedback have been invaluable in bringing this project to life.

•**Clients:** Your trust in our landscaping services and valuable feedback have inspired us to create a platform that caters to your needs.

•**Family and Friends:** Your encouragement and understanding throughout the project have been a source of motivation and ideas.

This website is a reflection of collaboration, creativity, and a shared commitment to excellence.

We look forward to using this platform to serve our clients better and continue growing together.

What's the problem?

◆ The problem this project seeks to solve is the inefficiency and inconvenience often associated with finding, contacting, and managing landscaping services. Traditional methods, such as phone inquiries or in-person visits, can be time-consuming and frustrating for customers. Additionally, the lack of an online platform limits the company's ability to showcase its work, build trust, and attract new clients.

Social Impact

This project's social impact is significant. By creating an accessible and interactive website, we aim to:

- Empower clients to take control of their outdoor projects with ease and confidence.
- Support local businesses by providing a digital platform to enhance their visibility and reputation.
- Promote sustainable landscaping practices by offering educational resources and eco-friendly service options.
- Strengthen community ties by fostering trust and communication between clients and service providers.

This project not only bridges the gap between customers and services but also contributes to a broader societal trend of digital transformation and sustainability in small business operations.

Project Timeline

This Project Timeline is an breakdown of how I attempted to manage my time during this class. However, some of the work that I have completed started before I began taking my capstone class. Over the last few months changes have been made to ensure things will continue to improve and all stay up to date with client needs.

Creston Harper INFM482 Fall 2024

Project Timeline: A Sharper Image

Task	Start	Time	End	Status
Planning Phase 1: Project Initiation				
Define project scope, objectives, and stakeholders	10/23/24	2 hours	10/23/24	Complete
Create a project proposal	10/23/24	30 mins	10/23/24	Complete
Phase 2: Research and Analysis				
User Interview to see requirements	10/23/24	2 hours/day	10/25/24	Complete
Analyze collected data	10/25/24	1 hour	10/26/24	Complete
Look at other landscape websites & see how they compare	10/23/24	30 mins/day	11/18/24	Complete
Phase 3: Design and Prototyping				
Create Personas and User Task List	11/2/24	3 hours	11/2/24	Complete
Create Database Design and Site Structure	10/26/24	2hrs/day	11/12/24	Complete
Make a prototype of website & conduct testing	11/10/24	3hrs/day	11/18/24	Complete
Make changes according to feedback.	11/13/24	30min/day		In Progress
Phase 4: Development				
Backend Dev. Create database Setup Infrastructure	10/26/24	2hrs/day	11/18/24	Complete
Frontend Dev. Starting the coding for the user interface and UX	10/15/24	2hrs/day	11/19/24	Complete
Integration Testing Conduct Test, performance and functionality.	11/15/24	6hrs/day	11/19/24	Complete
Phase 5: Deployment				
Submit Final Report	11/19/2024			
Present Presentation	11/19/2024			
Turn in Capstone Project	11/19/2024			

Project Scope

The scope of the landscaping website project is to design and develop a professional, user-friendly, and visually appealing website that meets the needs of clients seeking landscaping services. The website will focus on providing essential functionality and a seamless user experience.

Scope Element	Description	Tasks	Deliverables	Exclusions
Project Objectives	Build a website to showcase services, portfolio, and contact	Define goals, identify audience	Website objectives document	Offline marketing or ads
Site Structure	Organize website layout and navigation	Design sitemap, structure layout	Sitemap, wireframes	Complex subpages not directly related to services
Design	Create a visual identity consistent with the brand	Choose color scheme, typography, design layout	Style guide, page mockups	Advanced animations or custom graphics
Core Pages	Develop essential website sections	Code pages (Home, Cancel , Services, Appointment, Review)	Functional website pages	Additional blog or news sections
Portfolio Gallery	Showcase completed projects visually		Interactive gallery	No separate case studies for each project
SEO Optimization	Basic search engine optimization	Implement keywords, meta descriptions	Optimized meta tags, headings, content	Advanced SEO or paid search campaigns
Responsive Design	Ensure site functions well on mobile and desktop	Test layouts across devices	Mobile-friendly website	No separate mobile app
Launch	Deploy site on hosting server	Configure hosting, set up domain	Live website with domain	Ongoing support or post-launch updates

Deliverables

A fully functional website with responsive design for mobile, tablet, and desktop.

A service request form for quotes and scheduling.

A gallery/portfolio of completed projects.

A contact page with a form and company details.

Links to the company's social media pages.

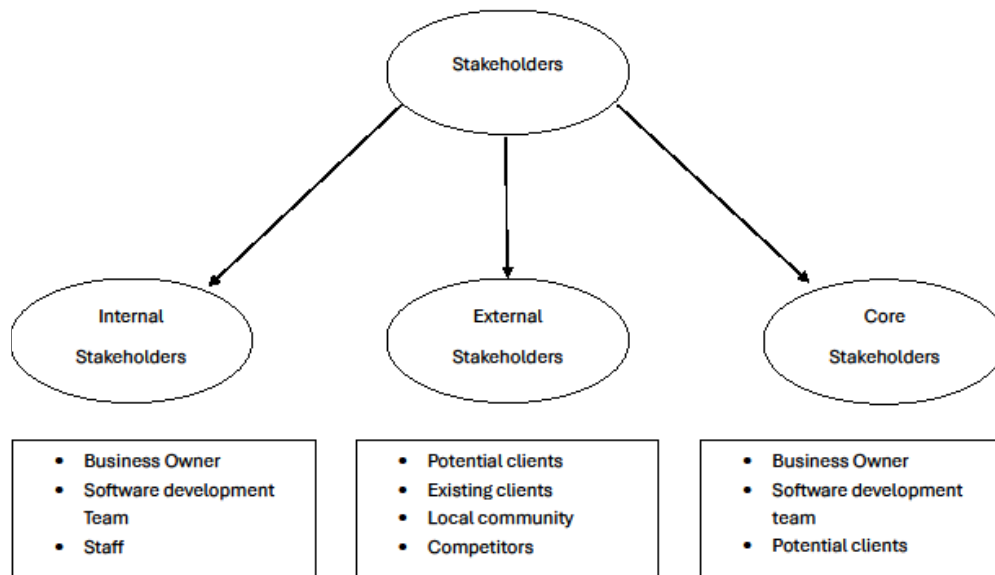
Stake Holder Map

Internal Stakeholders

- Business Owner: Leads project direction, approves design, and ensures alignment with business goals.
- Marketing Consultant: Provides SEO and branding insights to improve visibility.
- Website Developer: Creates, designs, and maintains site functionality.
- Staff/Employees: Supports client interactions and manages inquiries from the website.

External Stakeholders

- Potential Clients: Primary audience; seeks service details and contact options.
- Existing Clients: Engages with the site for updates, referrals, or information.
- Local Community: Potential customers; seeks services or referrals.
- Competitors: Benchmarks services and site quality against market standards.
- Business Owner: Central decision-maker and quality controller.
- Website Developer: Key to executing and maintaining a successful design.
- Potential Clients: Their needs shape the site's content, layout, and usability.



Needs Finding

Customer Needs:

- Convenient access to service information, quotes, and scheduling.
- Clear, transparent details about services and pricing.
- Reliable communication and support channels.
- Trust-building through reviews, portfolios, and certifications.

Business Needs:

- Enhanced online visibility and competitiveness.
- Streamlined operations to reduce administrative tasks.
- Improved customer retention through user-friendly features.
- Effective branding to showcase expertise and values.
- Scalability to accommodate future growth.

Scenario 1: Busy Professional Needing Lawn Maintenance

Persona: John, 35, Marketing Manager

Problem: John is a busy marketing manager who works long hours and often travels for business. He struggles to find time to maintain his lawn, which has become overgrown and unsightly. John is concerned about the appearance of his home and wants to ensure his lawn is well-maintained.

Solution: John discovers "A Sharper Image" landscaping website and decides to use it to schedule lawn maintenance services.

Storyboard:

1. John's Problem:

- John notices his lawn is overgrown and needs maintenance.
- He feels stressed because he doesn't have time to take care of it himself.

2. Discovering the Website:

- John searches online for local landscaping services and finds "A Sharper Image" website.
- He is impressed by the professional design and easy navigation of the site.

3. Signing Up and Logging In:

- John clicks on the "Signup" link and creates an account by entering his details.
- He logs in using his new credentials.

4. Scheduling an Appointment:

- John navigates to the "Appointment" page.
- He fills out the form with his contact information, preferred appointment date, and any specific instructions.
- John submits the form and receives a confirmation email.

5. Service Execution:

- On the scheduled date, the landscaping team arrives and performs the lawn maintenance.
- John returns home to find his lawn looking neat and well-maintained.

6. Leaving a Review:

- John is satisfied with the service and leaves a positive review on the website.

Outcome: The existence of "A Sharper Image" website helped John easily schedule lawn maintenance services, reducing his stress and ensuring his home looks well-kept.

Scenario 2: Elderly Homeowner Needing Tree Removal

Persona: Mary, 70, Retired Teacher

Problem: Mary is an elderly homeowner who has a large tree in her backyard that has become a safety hazard. She is unable to remove the tree herself and is worried about the potential damage it could cause if it falls.

Solution: Mary uses "A Sharper Image" landscaping website to book a tree removal service.

Storyboard:

1. Mary's Problem:

- Mary notices that a large tree in her backyard is leaning dangerously.
- She feels anxious about the potential damage it could cause.

2. Discovering the Website:

- Mary's neighbor recommends "A Sharper Image" website for professional tree removal services.

- Mary visits the website and finds it user-friendly and informative.

3. Signing Up and Logging In:

- Mary clicks on the "Signup" link and creates an account with her details.
- She logs in using her new credentials.

4. Scheduling an Appointment:

- Mary navigates to the "Appointment" page.
- She fills out the form with her contact information, preferred appointment date, and a note about the tree removal.
- Mary submits the form and receives a confirmation email.

5. Service Execution:

- On the scheduled date, the landscaping team arrives and safely removes the tree.
- Mary feels relieved and grateful for the professional service.

6. Leaving a Review:

- Mary leaves a positive review on the website, praising the team's efficiency and professionalism.

Outcome: The existence of "A Sharper Image" website helped Mary easily book a tree removal service, ensuring her safety and peace of mind.

Scenario 3: New Homeowner Needing Garden Maintenance

Persona: Sarah, 28, Graphic Designer

Problem: Sarah is a new homeowner who loves gardening but lacks the time and expertise to maintain her garden. She wants her garden to look beautiful and healthy but doesn't know where to start.

Solution: Sarah uses "A Sharper Image" landscaping website to book garden maintenance services.

Storyboard:

1. Sarah's Problem:

- Sarah's garden is overgrown and needs professional care.
- She feels overwhelmed by the amount of work required to maintain it.

2. Discovering the Website:

- Sarah searches online for garden maintenance services and finds "A Sharper Image" website.
- She is impressed by the range of services offered and the positive reviews.

3. Signing Up and Logging In:

- Sarah clicks on the "Signup" link and creates an account with her details.
- She logs in using her new credentials.

4. Scheduling an Appointment:

- Sarah navigates to the "Appointment" page.
- She fills out the form with her contact information, preferred appointment date, and specific instructions for her garden.
- Sarah submits the form and receives a confirmation email.

5. Service Execution:

- On the scheduled date, the landscaping team arrives and performs comprehensive garden maintenance.
- Sarah is delighted to see her garden looking beautiful and well-maintained.

6. Leaving a Review:

- Sarah leaves a positive review on the website, expressing her satisfaction with the service.

Outcome: The existence of "A Sharper Image" website helped Sarah easily book garden maintenance services, transforming her garden into a beautiful and healthy space.

User Analysis

Primary Users:

Homeowners seeking landscaping services like lawn care, tree removal, and garden design.

Key Characteristics:

- Prefer convenience and easy navigation for booking and inquiries.
- Value transparency in pricing and service details.
- Appreciate visual examples of completed projects to inform decisions.
- Need reliable communication options, such as contact forms or live chat.

Goals:

- Quickly find information and request services.
- Trust the business through reviews, certifications, and project galleries.
- ◊Understanding these users ensures the website is tailored to their expectations and enhances their overall experience.

Usability Study

Qualitative Research Approach

Method: In-Depth Interviews

Explanation:

In-depth interviews involve one-on-one conversations with stakeholders, such as current or potential landscaping clients, to gather insights into their needs, challenges, and expectations for a landscaping website.

Process:

- Sampling:** Select a diverse group of participants (e.g., homeowners, businesses, and repeat customers) to capture a range of perspectives.
- Interview Guide:** Develop a semi-structured guide with open-ended questions about service preferences, website usability, and pain points.
- Data Collection:** Conduct interviews in-person or via video calls, using probing questions to explore detailed responses.
- Data Analysis:** Transcribe and analyze responses, identifying recurring themes and unique insights.
- Findings:** Summarize key themes and patterns, supported by participant quotes.
- Implications:** Use qualitative insights to shape website features, improve service descriptions, and enhance customer communication.

Quantitative Research Approach

Method: Online Surveys

Explanation:

Online surveys collect structured data from a broad audience to measure stakeholder preferences, challenges, and website feature priorities.

Process:

- Survey Design:** Develop a questionnaire with closed-ended questions, including Likert-scale items, multiple-choice options, and service-related questions.
- Sampling:** Target a wide demographic of potential and current customers, including homeowners and business clients.
- Distribution:** Share surveys via email, social media, or the company's current client database to ensure accessibility.

- Data Collection:** Gather responses over a defined period, maintaining anonymity and data integrity.
- Data Analysis:** Use statistical software to identify trends, patterns, and preferences.
- Findings:** Summarize significant survey results to highlight what users value most.
- Implications:** Leverage data to prioritize website features and optimize user experience.

Independent and Dependent Variables

Independent Variable:

- The landscaping website as the primary variable being developed and studied.

Dependent Variables:

- Ease of Service Access:** How well users can navigate and find services on the website.
- Customer Engagement:** Level of interaction through quote requests, bookings, and inquiries.
- User Preferences:** Desired features such as galleries, contact forms, or scheduling tools.
- Usability:** User satisfaction with navigation, speed, and design.
- Impact on Sales:** The increase in service requests and bookings after launch.

Integration of Qualitative and Quantitative Research

By combining in-depth interviews and online surveys, the project ensures a comprehensive understanding of user needs and preferences. Qualitative data provides context and depth, while quantitative data enables statistical analysis and trend identification. These insights will guide the website design, ensuring it effectively serves both the business and its customers.

System Version 1.0

During Version 1.0 I focused on working on the HTML and the CSS of the project. After completing the CSS and HTML I then began to work on making the database. When the database was complete I then connected the database using PHP. However, everything wasn't working correctly so I decided to wait till I was on Version 2 before I began to debug all of the issues I could find and the 2 people that I had use the website I fixed the issues they had as well.

User Study Analysis

Key Findings:

•Navigation:

- Strengths: Users found the navigation intuitive, with easy access to key features like service listings and contact forms.
- Improvements: Add an login and sign up page.

•Design and Aesthetics:

- Strengths: The website's clean design and professional visuals were appealing to users.

•Feature Usability:

- Strengths: The quote request form and booking system were easy to use.
- Improvements: Add confirmation messages after form submissions for better user feedback.

•Content Clarity:

- Strengths: Service descriptions were clear and comprehensive.

•Responsiveness:

- Strengths: The website performed well on mobile and desktop devices

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System Version 1.0

Data Insights:

•**Completion Rate:** 100% of users successfully completed tasks like requesting quotes or scheduling services.

•**Average Task Time:** Tasks were completed within an average of 2 minutes, indicating efficiency.

Recommendations:

Add user feedback mechanisms like confirmation messages and service ratings.

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System Version 2.0

Upon getting feedback a number of changes was made.

I added an login/sign up page to the website so that the data of users can be stored.

I also added a cookie to the website so that when you are inactive for longer than an hour you will be logged out and have to relog into the site.

Also, added that you cant book a quote without making an account first.

Added so that when someone either canceled or schedule a service I will be emailed.

I fixed the issue with the navbar saying to login while already logged in.

During this entire process I think my main issue was connecting my database to my webpage.

Most of my troubleshooting was done with version 1.0 so when it came to the final version I didn't have as many issues to fix. Changes that I will continue to add is putting more pictures of our work on the page to showcase what we are willing to do and the quality of work we produce. The backend coding wasn't as hard as I thought it would be. I had to get a refresher on SQL but one I finally understood everything I fixed some of the issues I had with my tables.

I went back in and added some CSS to the login, Signup, and review page. I also added a forgot password section and ensured that it also updated the password in the database.

I fixed the issue where I wouldn't receive an email from the website about the client booking or canceling service. I also added a feature to reschedule instead of just canceling the service right away.

System Specs

Minimum System Specifications

For a small-scale project with low to moderate traffic, the following specifications should be sufficient:

- **Processor:** Dual-core CPU (e.g., Intel Core i3 or equivalent)
- **Memory:** 2 GB RAM
- **Storage:** 20 GB SSD
- **Operating System:** Linux (e.g., Ubuntu, CentOS) or Windows Server
- **Web Server:** Apache or Nginx
- **Database:** MySQL or MariaDB
- **PHP:** Version 7.4 or higher

Recommended System Specifications

For a more robust setup that can handle higher traffic and provide better performance, consider the following specifications:

- **Processor:** Quad-core CPU (e.g., Intel Core i5 or equivalent)
- **Memory:** 4 GB RAM or higher
- **Storage:** 40 GB SSD or higher
- **Operating System:** Linux (e.g., Ubuntu, CentOS) or Windows Server
- **Web Server:** Apache or Nginx
- **Database:** MySQL or MariaDB
- **PHP:** Version 7.4 or higher

Additional Considerations

1. **Backup and Recovery:** Ensure you have a backup and recovery plan in place for your database and application files.
2. **Security:** Implement security measures such as SSL/TLS for secure communication, firewalls, and regular security updates.
3. **Scalability:** Consider using a cloud service provider (e.g., AWS, Google Cloud, Azure) for easy scalability as your application grows.

4. **Monitoring:** Use monitoring tools to keep track of server performance and resource usage.

Example Setup Using a Cloud Service Provider

If you choose to use a cloud service provider, here is an example setup using AWS:

- **EC2 Instance:** t2.micro (1 vCPU, 1 GB RAM) for development/testing, t2.medium (2 vCPU, 4 GB RAM) for production
- **Storage:** 20 GB EBS volume for development/testing, 40 GB EBS volume for production
- **RDS Instance:** db.t2.micro for development/testing, db.t2.medium for production
- **Operating System:** Amazon Linux 2 or Ubuntu Server
- **Web Server:** Apache or Nginx
- **Database:** MySQL or MariaDB
- **PHP:** Version 7.4 or higher

Example Setup Using a Local Server

If you choose to set up a local server, here is an example setup:

- **Processor:** Intel Core i5 or equivalent
- **Memory:** 8 GB RAM
- **Storage:** 256 GB SSD
- **Operating System:** Ubuntu Server 20.04 LTS
- **Web Server:** Apache or Nginx
- **Database:** MySQL or MariaDB
- **PHP:** Version 7.4 or higher

USER

Minimum System Specifications for End Users

- **Processor:** Dual-core CPU (e.g., Intel Core i3 or equivalent)
- **Memory:** 2 GB RAM

- **Storage:** Sufficient space for the operating system and web browser (e.g., 20 GB free space)
- **Operating System:** Windows 7 or later, macOS 10.12 or later, or a modern Linux distribution
- **Web Browser:** Latest version of Google Chrome, Mozilla Firefox, Microsoft Edge, or Safari
- **Internet Connection:** Stable broadband connection (e.g., 5 Mbps or higher)

Recommended System Specifications for End Users

- **Processor:** Quad-core CPU (e.g., Intel Core i5 or equivalent)
- **Memory:** 4 GB RAM or higher
- **Storage:** Sufficient space for the operating system and web browser (e.g., 40 GB free space)
- **Operating System:** Windows 10 or later, macOS 10.15 or later, or a modern Linux distribution
- **Web Browser:** Latest version of Google Chrome, Mozilla Firefox, Microsoft Edge, or Safari
- **Internet Connection:** Stable broadband connection (e.g., 10 Mbps or higher)

Additional Considerations

1. **Screen Resolution:** Ensure that the web application is responsive and works well on various screen resolutions, including desktops, laptops, tablets, and smartphones. A minimum resolution of 1366x768 is recommended for desktops and laptops.
2. **Browser Compatibility:** Test the web application on different browsers to ensure compatibility and a consistent user experience.
3. **JavaScript and Cookies:** Ensure that JavaScript is enabled in the user's browser, as it is required for interactive features. Cookies should also be enabled for session management and user authentication.
4. **Accessibility:** Consider accessibility features to ensure that the web application is usable by people with disabilities. This includes keyboard navigation, screen reader compatibility, and sufficient color contrast.

Example User Setup

Here is an example setup for an end user accessing your web application:

- **Device:** Laptop or desktop computer
- **Processor:** Intel Core i5
- **Memory:** 8 GB RAM
- **Storage:** 256 GB SSD
- **Operating System:** Windows 10
- **Web Browser:** Google Chrome (latest version)
- **Internet Connection:** 50 Mbps broadband connection
- **Screen Resolution:** 1920x1080

How to guide

How to Use "A Sharper Image" Landscaping Website

Welcome to "A Sharper Image" landscaping website! This guide will help you navigate and use the main features of the website, including signing up, logging in, scheduling an appointment, canceling or rescheduling a service, and leaving a review.

1. Signing Up

1. Navigate to the Signup Page:

- Click on the "Signup" link in the navigation bar.
- Alternatively, you can go directly to the signup page by visiting <http://yourwebsite.com/signup.html>.

2. Fill Out the Signup Form:

- Enter your username.
- Enter your password.
- Enter your phone number.
- Enter your email address.
- Enter your address.
- Click the "Signup" button to create your account.

3. Confirmation:

- After successfully signing up, you will be redirected to the login page.

2. Logging In

1. Navigate to the Login Page:

- Click on the "Login" link in the navigation bar.
- Alternatively, you can go directly to the login page by visiting <http://yourwebsite.com/login.html>.

2. Fill Out the Login Form:

- Enter your username.
- Enter your password.
- Click the "Login" button to log in to your account.

3. Confirmation:

- After successfully logging in, you will be redirected to the home page.
- The "Login" link in the navigation bar will change to "Logout".

3. Scheduling an Appointment

1. Navigate to the Appointment Page:

- Click on the "Appointment" link in the navigation bar.
- Alternatively, you can go directly to the appointment page by visiting <http://yourwebsite.com/appointment.html>.

2. Fill Out the Appointment Form:

- Enter your first name.
- Enter your last name.
- Enter your address.
- Enter your phone number.
- Enter your email address.
- Select your preferred appointment date (note: you cannot select a date in the past).
- Enter any comments or details about the appointment.
- Click the "Submit" button to schedule your appointment.

3. Confirmation:

- After successfully scheduling your appointment, you will receive a confirmation email.
- You will be redirected to a thank you page.

4. Canceling or Rescheduling a Service

1. Navigate to the Cancel Service Page:

- Click on the "Cancel Service" link in the navigation bar.
- Alternatively, you can go directly to the cancel service page by visiting <http://yourwebsite.com/cancel.html>.

2. Canceling a Service:

- Select the service you want to cancel from the dropdown menu.

- Enter the reason for cancellation.
- Click the "Cancel Service" button to submit your cancellation request.

3. Rescheduling a Service:

- Select the service you want to reschedule from the dropdown menu.
- Select your preferred new appointment date (note: you cannot select a date in the past).
- Click the "Reschedule Service" button to submit your rescheduling request.

4. Confirmation:

- After successfully canceling or rescheduling your service, you will receive a confirmation email.
- A popup message will confirm the successful cancellation or rescheduling.

5. Leaving a Review

1. Navigate to the Review Page:

- Click on the "Leave a Review" link in the navigation bar.
- Alternatively, you can go directly to the review page by visiting <http://yourwebsite.com/review.php>.

2. Fill Out the Review Form:

- Enter your name.
- Select your rating (1 to 5 stars).
- Enter your review.
- Click the "Submit Review" button to submit your review.

3. Confirmation:

- After successfully submitting your review, it will be displayed on the review page.

6. Navigating the Website

1. Home Page:

- Click on the "Home" link in the navigation bar to return to the home page.

2. Service Page:

- Click on the "Service" link in the navigation bar to view the services offered.

3. Social Media:

- Click on the "Social Media" link in the navigation bar to view the social media links.

4. Logout:

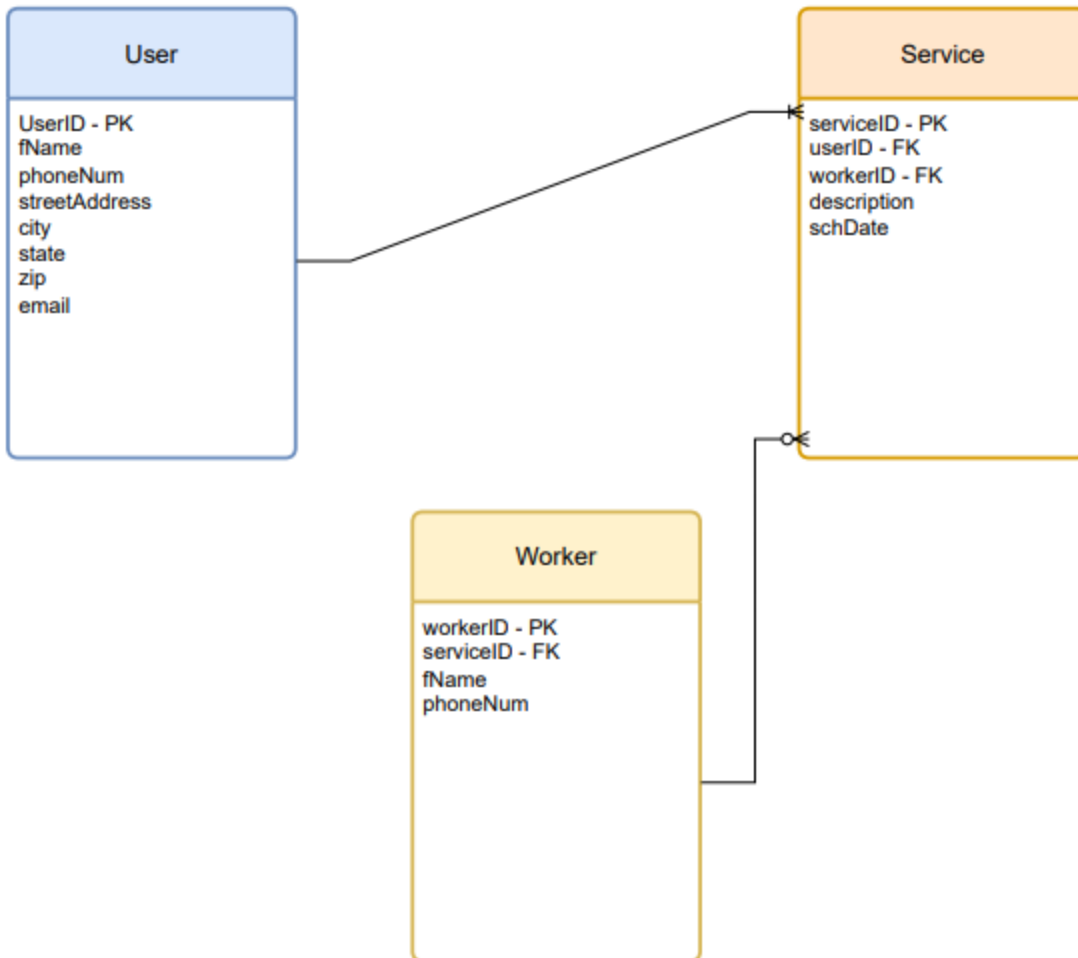
- Click on the "Logout" link in the navigation bar to log out of your account.

Task List

1. Andra wants to look and see what services are offered.
2. Andra wants to contact the company owners.
3. Andra wants to get a quote for a tree removal.
4. Andra wants to cancel service.
5. Andra wants to reschedule service.
6. Andra wants to leave a review.
7. Andra wants to check out the social media.
8. Andra wants to sign up for a account.
9. Andra wants to read about the company's story and values.
10. Andra wants to get her hedges trimmed.
11. Andra wants to logout her account.

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Legend
PK = Primary Key
FK = Foreign Key
schDate = Schedule Date



References

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