USABILITY & THE USER EXPERIENCE

FINAL REPORT

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Acknowledgements

Thank you to my professor, Dr. Feng Liu, who has been teaching me since 2014. I had my first and only child upon entrance into this program that year and I remember the days of him cooing in the background and the response of her warm encouragement throughout my virtual classes at the time. It has been an absolute pleasure to be a student of Dr. Liu's. I would like to assure you that I walk away from this I.T. and Informatics program, finally, with a wealth of knowledge and confidence regarding Web Design and Development. I entered this program at 19 years old with the intentions of learning Website Development, and even when the end goal appeared to be fuzzy at times with a couple of professors, this Capstone summed everything up for me. I am now recently 28 years of age, and I plan to become a full-time Web Designer in my near future, launching my own business, The Illustrated Collective - in 2023. I very well humbly thank you from the bottom of my heart Dr. Liu, for your patience, kindness, and persistence throughout my years here at Mercer.

I'd also like to extend extra special gratitude to my academic advisor Dr. Kenneth Revels who has always supported my transitions throughout the years as I struggled to cross the finish line. He's always welcomed me back as if I've never took a break. This was transformational for me in my educational career because each time I dropped out, I felt like a failure, so it was a bountiful feeling to not be treated as one. Thank you so much, Dr. Revels.

Thank you to my classmates who banded together in support of one another.

Congratulations to you all! We did it!

Executive Summary

Coronavirus (COVID-19) brought to light various aspects of life for many people that were otherwise overlooked. As people spent more time at home and were able to identify home improvements they needed or wanted, some people were faced with the realization of how they have been inattentive to their home. Due to the impact of the pandemic COVID-19, over 975,000 jobs were lost in just one month in the construction industry according to Engineering News Record (Ichniowski, 2020). Now that we are on the other side of the pandemic, there is still a lack of resources available to tradesmen to find work and homeowners to be connected to them. Currently, the website HomeAdvisor is the largest platform connecting homeowners and specialists together and this research study aims to explore the usability of the website and gain a general understanding of a user's experience in order to create a prototype that encompasses unique solutions, called Home in Stone.

In order to define the scope, features, and functions of Home In Stone, an in-depth qualitative study was conducted on Home Advisor. The methods used included a Heuristics Evaluation, participant Usability Testing, Interviews and Surveys to understand the users of the site. The data collected was used to identify areas of improvement for Home Advisor that will in turn serve as the primary functionality of the prototype for Home In Stone. Version 1.0 of the prototype went through Usability Testing and refinement until it met the desired success measurement. For this project, since the desired product of the prototype will be compared to Home Advisor's website, the measurements of success used are the functionalities defined in the User Task List. In the end, the completed prototype Version 2.0 did meet the defined levels of success as intended.

Introduction

Home in Stone offers the opportunity for homeowners and tradesmen or contractors to virtually be connected to homeowners in need of projects small to large or vice versa in a seamless manner. Typically, when people have issues with their home it can be a daunting task to find reliable sources to fix the problem which can make an issue more frustrating. HomeAdvisor by Angie has a long list of various resources but does have a lot of Usability and UX issues to be addressed. For instance, a user of the site must go through a tedious list of questions prior to being linked to resources which may impact the user's experience negatively leading them to search for alternative solutions to their issue. As well as, when a tradesman is looking to list their service, they must create an account and wait to be contacted by a representative without having the option to build their profile on their own. When faced with predicaments such as looking for work or looking for reliable solutions to a problem, the usability and overall user experience can greatly determine the outcome of a website's engagement.

Thorough user-centered design consists of identifying the people who would use the site, in this case of HomeAdvisor, it typically would be homeowners and tradesmen who have the task of searching for someone to work on a specific project or posting services/skills for hire in search of work. To ensure that the needs of each user group is met, it is important to ask questions relevant to the facets of usability such as is the system useful? Is HomeAdvisor usable? Is the brand and design desirable? Are users able to navigate the website with ease, is information findable? Are the design elements trustworthy, is the site credible? Does the site consider limitations of its users, is it accessible? Finally, what is the overall worth of the site, is it valuable? By dissecting a website in search of the answers to these questions, a clearer understanding can what the most effective usability techniques are that can be employed to make a positive impact on the user experience (UX) of HomeAdvisor.
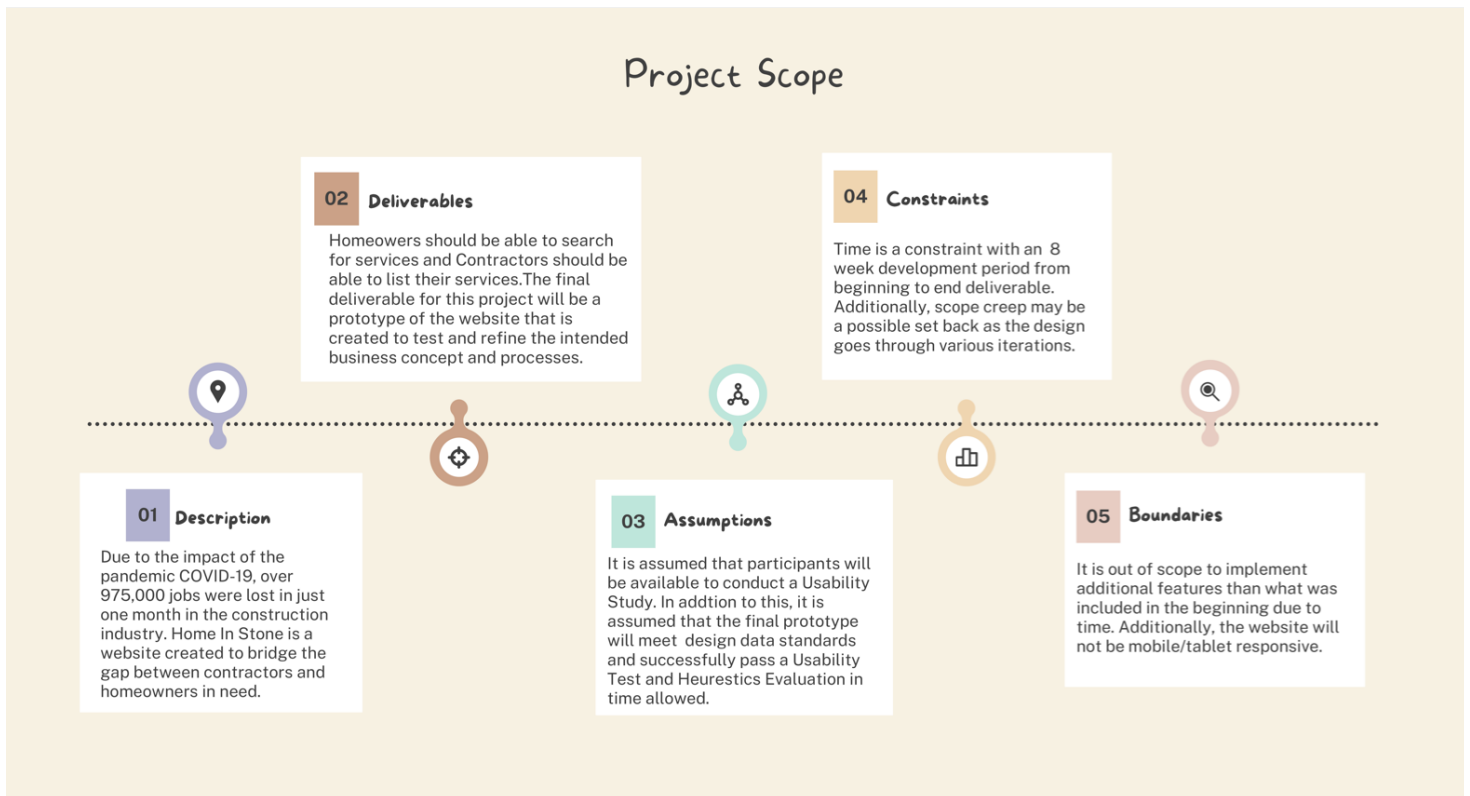
Project Timeline

The timeline for the development of Home In Stone's prototype covered the span of eight weeks beginning October 15th, 2022 to December 12th, 2022. Throughout the time, the projected dates of the project did fall behind in various areas. In order to fix this, relevant areas such as the user persona, storyboard, scenarios were completed as a group to ensure fluidity and accuracy instead of individually. Managing the project by grouping each requirement together to complete was the main time-management tool implemented in getting the project back on track to meet the intended deadline.

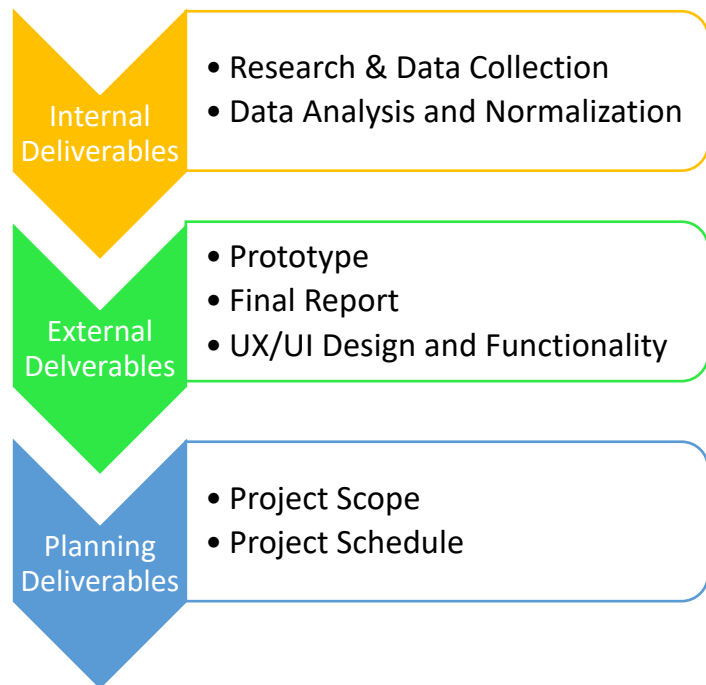|	Tasks	Assigned To	Start Date	End Date	Health	Status
1	Planning					
2	Task Analysis	Britney Williams	10/15/22	10/15/22	🟢	Complete
3	Usability Testing	Britney Williams	10/16/22	10/16/22	🟢	Complete
4	Survey	Britney Williams	10/16/22	10/16/22	🟢	Complete
5	Interview	Britney Williams	10/16/22	10/16/22	🟢	Complete
6	Heuristic Evaluation	Britney Williams	10/16/22	10/16/22	🟢	Complete
7	Analysis	Britney Williams	10/17/22	10/22/22	🟢	Complete
8	Evaluate findings from Planning phase data	Britney Williams	10/17/22	10/19/22	🟢	Complete
9	Identify users needs	Britney Williams	10/17/22	10/19/22	🟢	Complete
10	Conduct Task analysis	Britney Williams	10/17/22	10/19/22	🟢	Complete
11	Design	Britney Williams	10/23/22	10/29/22	🟢	Complete
12	Storyboard	Britney Williams	10/23/22	10/29/22	🟢	Complete
13	Sitemap	Britney Williams	10/23/22	10/29/22	🟢	Complete
14	Create Personas	Britney Williams	10/23/22	10/29/22	🟢	Complete
15	Establish Scenarios	Britney Williams	10/23/22	10/29/22	🟢	Complete
16	Analysis	Britney Williams	10/29/22	10/30/22	🟢	Complete
17	Determine site requirements	Britney Williams	10/30/22	10/30/22	🟢	Complete
18	Development	Britney Williams	10/31/22	11/30/22	🟢	Complete
19	Prototype Version 1.0	Britney Williams	12/01/22	12/01/22	🟢	Complete
20	Analysis	Britney Williams	12/02/22	12/03/22	🟢	Complete
21	Prepare and test	Britney Williams	12/02/22	12/04/22	🟢	Complete
22	Usability Study	Britney Williams	12/04/22	12/04/22	🟢	Complete
23	Usability Testing	Britney Williams	12/04/22	12/04/22	🟢	Complete
24	Survey	Britney Williams	12/04/22	12/04/22	🟢	Complete
25	Interview	Britney Williams	12/04/22	12/04/22	🟢	Complete
26	Analysis	Britney Williams	12/05/22	12/09/22	🟢	Complete
27	Implement and retest	Britney Williams	12/05/22	12/09/22	🟢	Complete
28	Data analysis and report	Britney Williams	12/05/22	12/09/22	🟢	Complete
29	Revision	Britney Williams	12/05/22	12/10/22	🟢	Complete
30	Prototype Version 2.0	Britney Williams	12/11/22	12/12/22	🟢	Complete

Scope

The project was created in response to the impact of COVID-19 with over 975,000 being lost in the construction industry and the need of connecting contractors to homeowners in need. The deliverable of the project is a website prototype of Home In Stone that executes the functionality for homeowners to be able to search for services from contractors and for contracting professionals to be able to list their services for homeowners to find. It is assumed that the final prototype will meet design data standards and can go through usability testing and be refinement before release. Constraints of this prototype include scope creep and design setback as it goes through various iterations. Lastly, boundaries that can be expected are for the prototype to not be mobile/tablet responsive.

Project Scope

02 Deliverables

Homeowers should be able to search for services and Contractors should be able to list their services.The final deliverable for this project will be a prototype of the website that is created to test and refine the intended business concept and processes.

04 Constraints

Time is a constraint with an 8 week development period from beginning to end deliverable. Additionally, scope creep may be a possible set back as the design goes through various iterations.

01 Description

Due to the impact of the pandemic COVID-19, over 975,000 jobs were lost in just one month in the construction industry. Home In Stone is a website created to bridge the gap between contractors and homeowners in need.

03 Assumptions

It is assumed that participants will be available to conduct a Usability Study. In addtion to this, it is assumed that the final prototype will meet design data standards and successfully pass a Usability Test and Heurestics Evaluation in time allowed.

05 Boundaries

It is out of scope to implement additional features than what was included in the beginning due to time. Additionally, the website will not be mobile/tablet responsive.

Deliverables

After extensive research inclusive of user observation, interviews, questionnaires and thorough document analysis, the goal is to compound all the data in order to complete the intended project deliverable of a prototype of the website Home in Stone. Being that this research primarily concentrates on the Usability and User Experience, it is expected that the website model is incorporated with a functional web design that reflect as precisely as possible to a fully implemented website.

By doing this, it will garner the appropriate feedback necessary to determine if the product meets user expectations, specify the site requirements, be able to go through various iterations and revisions and ultimately be able to be compared to Home Advisor in order to measure success of the project effectively.

Internal Deliverables
- Research & Data Collection
- Data Analysis and Normalization

External Delverables
- Prototype
- Final Report
- UX/UI Design and Functionality

Planning Deliverables
- Project Scope
- Project Schedule

Measurements of Success

The prototype of Home In Stone's website will be considered successful if it meets equal constraints of time, effect, quality, and relevance to users. Home In Stone's prototype will be measured against usability standards and go through a comparative A-B Analysis against Home Advisor's site's results to determine which variation leads to a greater user experience. A Usability Test and Heuristic Evaluation will be done against Home Advisor in the planning phase and a separate Usability Test will be conducted for the prototype. The results of both Usability Tests will go through comparative analysis to determine if the prototype meets the goal of implementing the improvements successfully.
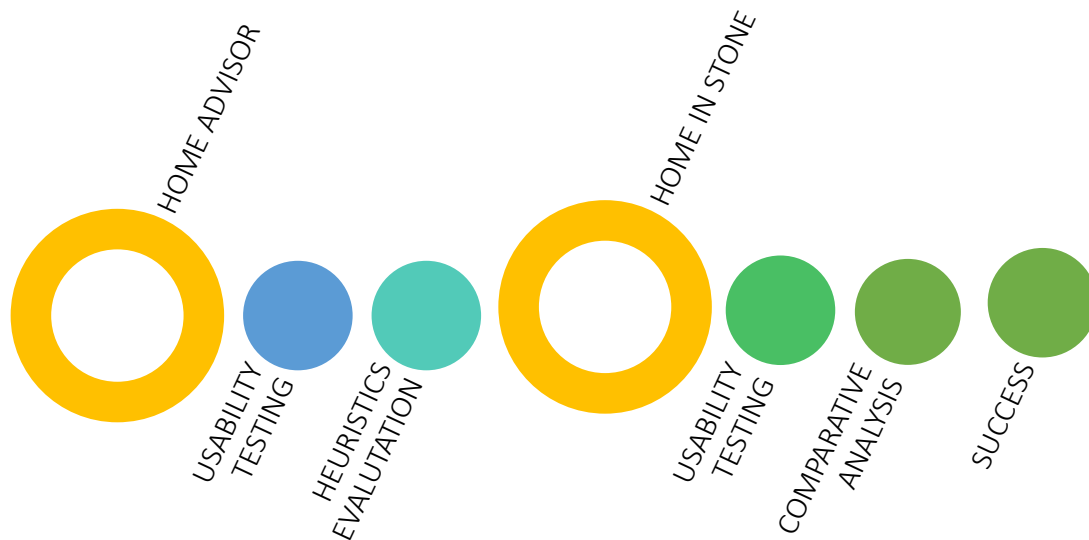
*Heuristic Evaluation not completed on Home in Stone as it is just a prototype lacking full implementation. Please note, if recreating this project, it is recommended to complete a Heuristics evaluation on both programs if both are websites that are fully executed being compared.

Stakeholder's Map

STAKEHOLDERS MAP

The internal stakeholders have an interest in the overall success of Home In Stone, and have an impact on decision making. The external stakeholders are affected by and have the power to influence the business processes of the company.

External — Insurance Companies

Company — Home In Stone

External — Home Owners

Internal — Team Members

Internal — Investors

External — Contractors
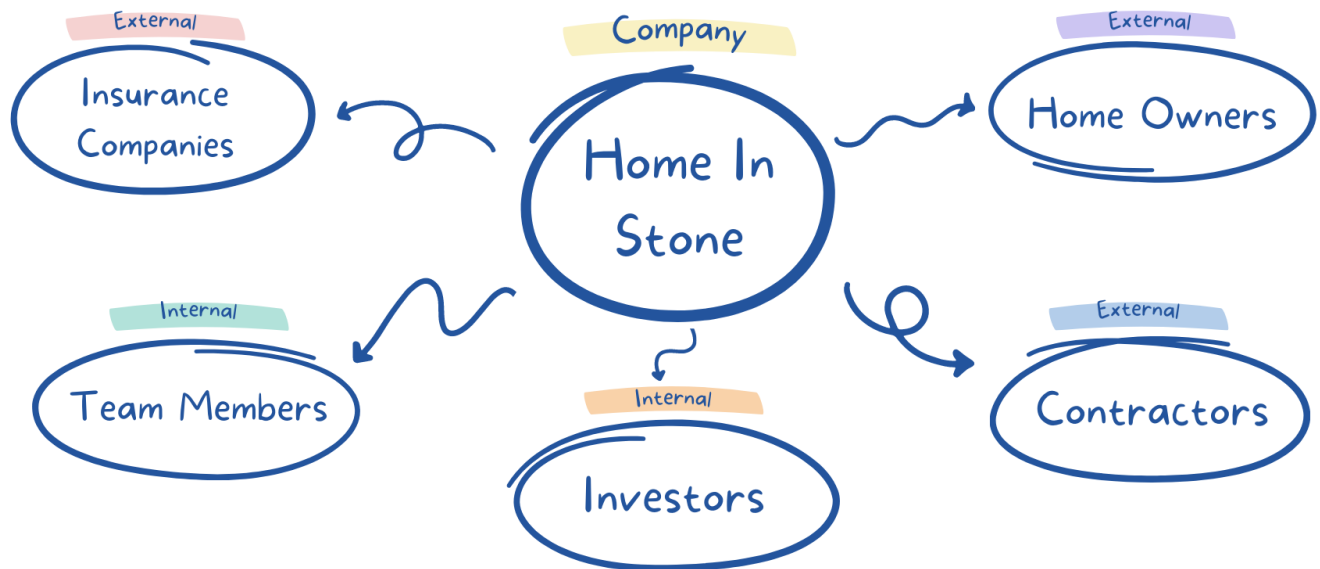
Needs Finding

The problem that I have identified as a deep necessity in the community is connecting local handymen and/or contracting companies to homeowners in need. An existing solution to solving the problem would be using virtual resources to find work, namely, Home Advisor by Angie's List which is an existing website where people can list their services and those in need can go on there and find them. The social impact of the prototype of Home In Stone is to create jobs within the community and provide a seamless process to form a local connection between both parties, supporting small businesses.

User Persona

Lillian, Homeowner

General info

Age	29
Location	McDonough, GA
Occupation	Nurse Practitioner
Family	Single, no children
Income	$98k/yr

Bio

As a nurse practicitoner, Lillian spends most of her time traveling and at work. Outside of this, Lillian likes to buy investment properties and rent them out for extra income. Lillian is in constant need of various handyman and construction services based on the property and its needs. Lillian is in search of a seamless and reliable website to find contracting services.

Goals

To find reliable contractors and handymen
Fix damages or remodel her home
To easiliy explain her scenario
Wants to recieve free estimates of projects

Personality

Extrovert — Introvert
Sensing — Intuition
Thinking — Feeling
Judging — Perceiving

Preferred channels

Facebook
Instagram
Twitter
Tik Tok

Frustrations

Not many websites availabe to find relaible work
Websites are collecting too much personal information prior to being connected with a contractor
Tech savy - wants website to be intuitive

Motivations

Convenience
ROI
Speed
Efficency

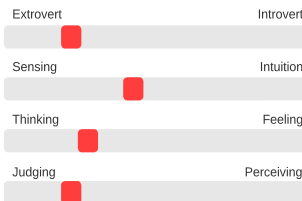# User Persona

Garrett, Handyman

Goals

To find solid leads for jobs
Gain sub-contracting work
Expand his services to Mero-Atlanta area
Wants to create a full profile listing his services
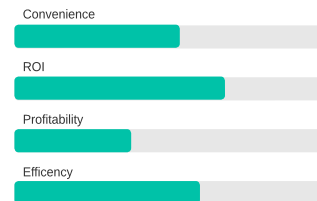Wants to be able to list certifications

Frustrations

Not many websites availabe to list his services
Not getting solid leads from other companies
Not tech savy - wants to enter information easily

General info

Age	37
Location	Decatur, GA
Occupation	Electrician
Family	Married, 2 children
Income	$55k/yr

Personality

Extrovert	Introvert
Sensing	Intuition
Thinking	Feeling
Judging	Perceiving

Motivations

Convenience
ROI
Profitability
Efficency

Bio

Garrett has been a licensed electrician since he was 21 and has worked in the field most of his carrer. His last job was with Atlanta Public School district but due to the impact of COVID-19, and students being at home for two years, Garrett was layed off. Garrett has decided to open up his own company Johannson Electrical, and is now in search of work.

Preferred channels

Facebook
Instagram
Twitter
Tik Tok
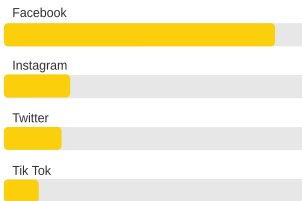
Scenarios

Homeowner Scenario
Lillian has just purchased an investment property to flip, and she would like to have her kitchen remodeled. Lillian visits Home In Stone's website in search of a licensed contractor for her project.

Contractor Scenario
Garrett has just been laid off his job as an electrician. He opens his own business Johansson Electric and is in need of work. Garrett visits Home In Stone's website to list his services. Home In Stone connects Garrett to a homeowner who has a fuse blown in her dining room.
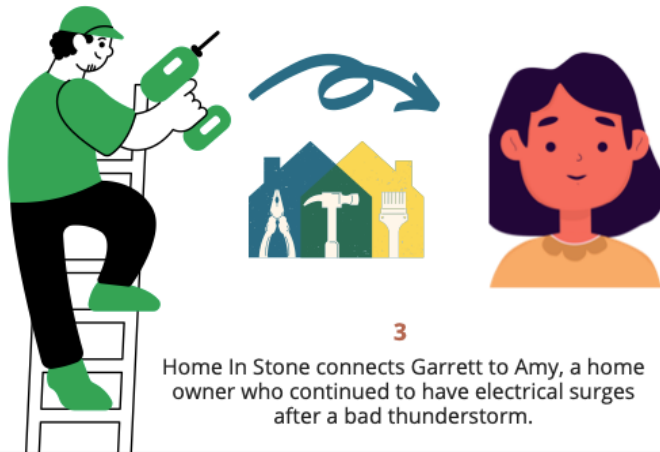
Storyboard

Storyboard

STORYBOARD : HANDYMAN

1
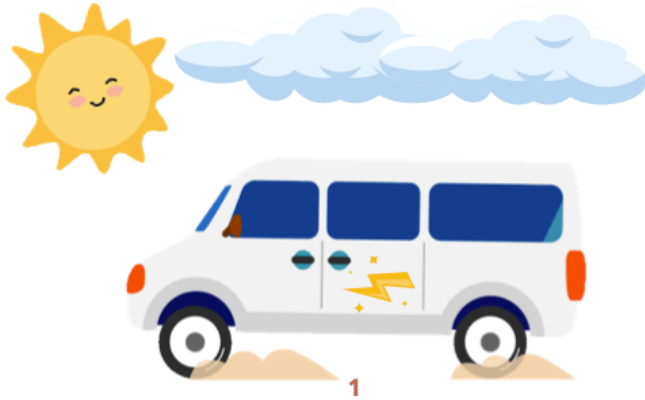
Garrett J. is a handyman who was just laid off, so he decides to open his own company, Johansson Electrical Services.

2

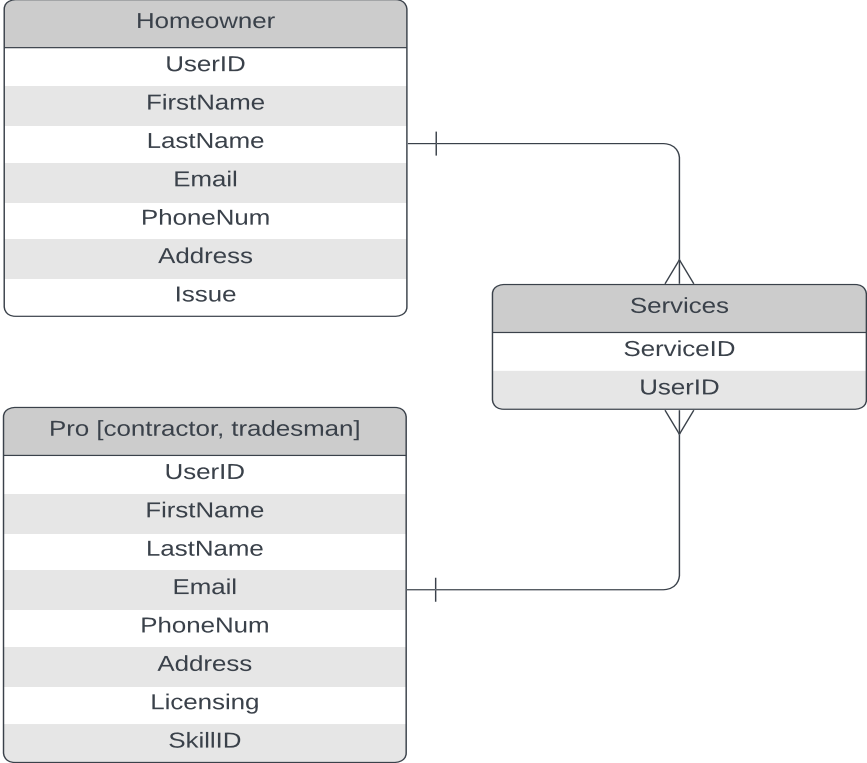Garrett visits Home In Stone's website and lists his services and certifications.

3

Home In Stone connects Garrett to Amy, a home owner who continued to have electrical surges after a bad thunderstorm.

4

Garrett fixes Amy's electrical issue, receives payment, and both parties are happy campers.

Database Design

Homeowner
UserID
FirstName
LastName
Email
PhoneNum
Address
Issue

Services
ServiceID
UserID

Pro [contractor, tradesman]
UserID
FirstName
LastName
Email
PhoneNum
Address
Licensing
SkillID

Function Design

The prototype of Home In Stone is designed to be able to execute the following functions for each type of user:

Homeowner
1. Lillian can sign up
2. Lillian can login
3. Lillian can request a free estimate
4. Lillian can see testimonials
5. Lillian can detail her service request
6. Lillian can see the estimated time frame of when she will be contacted
7. Lillian can notify that her request is urgent
8. Lillian can sign up for a newsletter
9. Lillian can easily access FAQ's
10. Lillian can contact Home In Stone

Professional
1. Garrett can sign up
2. Garrett can login
3. Garrett can detail his services
4. Garrett can list his certifications and licensing
5. Garrett can see the estimated timeframe of when he will be contacted
6. Garrett can easily access FAQ's
7. Garrett can see testimonials
8. Garrett can contact Home In Stone

User Task List

| |
|---|
| **01** Homeowner wants to be able to sign up |
| **02** Homeowner wants to be able to search for services |
| **03** Homeowner wants to schedule a free estimate |
| **04** Homeowner wants to submit an urgent request |
| **05** Professional company wants to be able to sign up |
| **06** Professional company wants to be able to detail their services when signing up |
| **07** Professional company wants to list their certifications |
| **08** User wants to access Frequently Asked Questions |
| **09** User needs to be able to subscribe to mailing list |
| **10** User wants to contact Home In Stone |
| **11** User wants to know a response time |

Site Structure
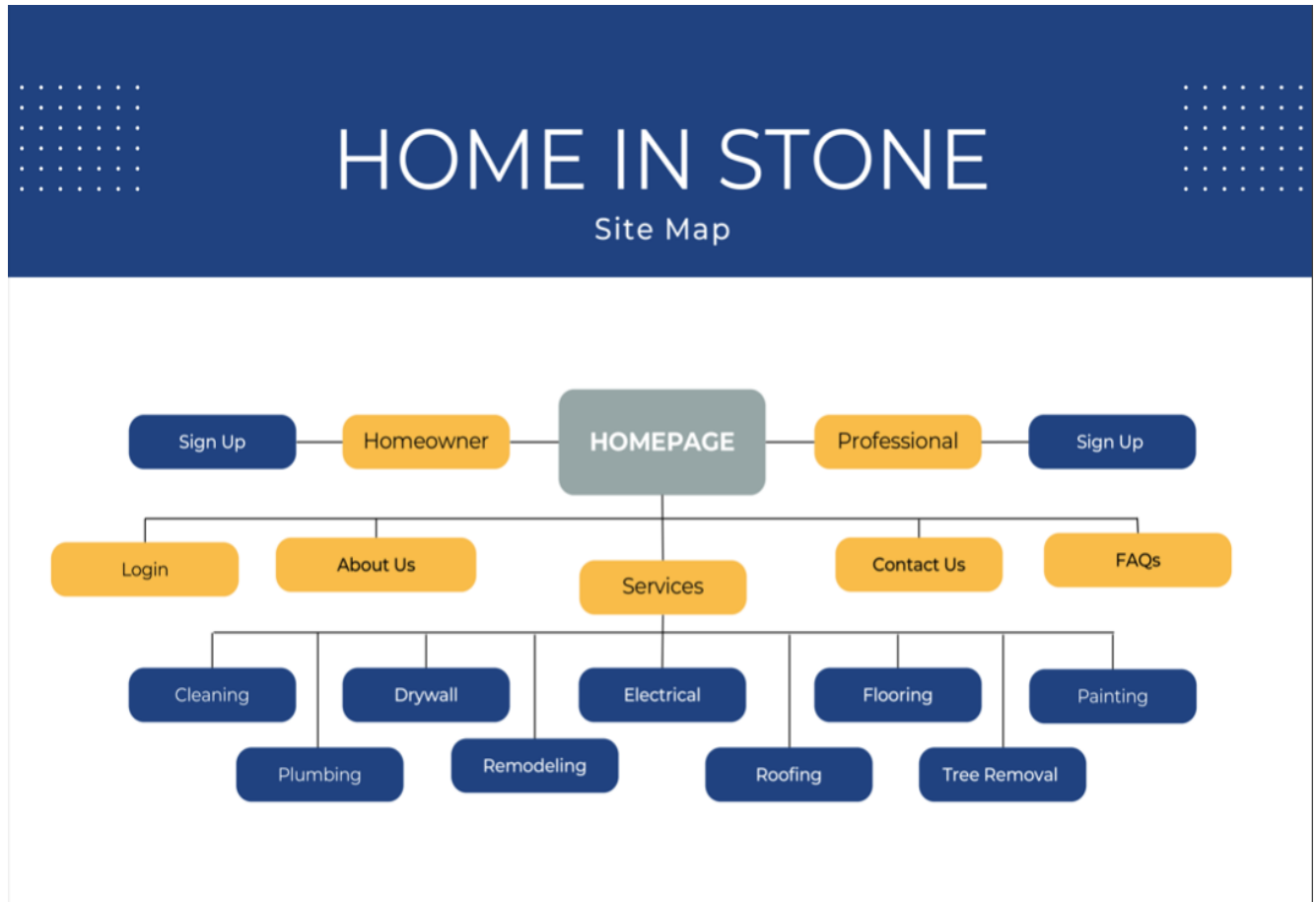
Research Methodology

This research aims to assess the user experience of homeowners or tradesmen with the site HomeAdvisor through qualitative data collection methods such as a usability study, heuristic's evaluation, interview, and surveys.

The <u>research objectives</u> of this study are:
1. *To observe users' interaction with HomeAdvisor*
2. *To assess user perceptions of HomeAdvisor*
3. *Identify barrier and/or limitations of HomeAdvisor*

The <u>research questions</u> of this study are:
1. *How do the users interact with the site HomeAdvisor?*
2. *How do the users perceive the site HomeAdvisor?*
3. *What are the barriers and/or limitations of HomeAdvisor?*

The research methodologies outlined below were specifically selected and crafted for this research due to the nature of Usability Study and the qualitative data that is aimed to be extracted from the participants. This study can be conducted in person or remotely and the test can be self-guided or with use of a moderator. For the research conducted in this study, the Usability Testing designed for this research includes a facilitator to guide participants through various real-life tasks to observe their use of the site. The facilitator administers verbal directions and tasks that the user performs and provides feedback regarding their experience. This testing method aims to identify if users can execute tasks successfully and measure how long it takes to complete said tasks. The heuristic evaluation is a set of 10 pre-existing principles designed to optimize the usability of a websites design and interface. For this research it will be used to identify heuristic violations which will define

specific areas or gaps in the user interface that are the cause for specific issues in the user experience. The issues identified will be given their own severity rating which are A. Cosmetic Issue, B. Minor Usability Problem [the user can still complete the task], C. Major Usability Problem [the user struggles to complete the task], and D. Severe Usability Problem [the user cannot complete the task]. The Interview and Survey portion of this research study is a mixed-method approach designed to gain a detailed understanding of the users' opinions, behavior, and overall experience. For the interview, the questions are open-ended and formatted to allow for in-depth information to be collected. The survey gently mirrors the interview, asking for a satisfactory rating from 1-5, with 1 being the least likely and 5 being the most likely.

Qualitative data produces textual results rather than numerical and aides in understanding the experience, rather than produce measurable results. An interview script, which has been piloted and revised, will be used to introduce the participant to the study and to ensure that each participant receives the same information, in the same order, decreasing the standard deviation of the participant's experience. There will be (5) participants in the study who are friends and family members that will be observed in a quiet setting while asked to complete a set of defined tasks on the site HomeAdvisor. As the participant is being observed, notes will be collected by hand on the interview guide for further review later. Upon completion of observation, the participant will be interviewed with a predetermined list of (17) questions, where their reposes will be notated, and they then will be asked to complete a survey on their own with (8) questions regarding their experience. After the various data has been collected through the methods of heuristic

evaluation, usability testing, interviews and surveys, the data will be analyzed through content and thematic analysis. These forms of analysis will be employed to identify recurring patterns and themes between the participants in order to derive a solid understanding of the users' perspective. The aim is to categorize repeated phrases, words, and experiences for each participant to generate an outline of the systematic issues to be concentrated on for Home in Stone's website.

Relative to the cognate area of I.T. and Informatics, this research study highlights the multi-disciplinary study of Human-Computer Interaction (HCI) and how it centers on developing a 'natural' discourse between a user and a system that considers a users' needs, abilities, limitations, emotions, personality and experiences (Babich, 2020). HCI and Usability intersect wonderfully and are important to the overall success of a product by ensuring that user interfaces are well designed to support a user along with their goals and tasks.

Usability Testing Report

Britney Williams
Mercer University
I.T. and Informatics

Executive Summary

This report details a usability study conducted by Britney Williams of the website Home Advisor. The website was independently assessed through use of a Heuristics Evaluation and then through the employment of a Usability Test with various participants. This report highlights the results attained from testing and the recommendations for the site that will be the functional foundation of the site Home In Stone.

Five primary recommendations are:

1. Improve the readability of the site by including less ads and non-relevant services by having more concise service options.
2. Enhance functionality by prompting users to create a profile after they have entered information regarding their service of choice.
3. Provide clearer results of response time once a user has completed information searching for services.
4. Develop a method that allows users define if their issue is an emergency or not.
5. Allow for professionals to create their own profile before being called by a representative with no given timeframe.

Usability Criteria

Intuitive Design: How effortlessly did users navigate the websites architecture

Ease of learning: At what rate were users able to accomplish basic tasks

Error Frequency: How often did users encounter errors and how did they recover from them

Subjective Satisfaction: User's overall opinion regarding the site

15% of users could not recover from their errors easily

12% of users would not recommend this site to other people

30% of users found it hard to find the information they needed

15% of users felt that the information was not provided in a clear and concise manner.

This research report incorporates the details of how the Usability Testing was conducted and as a result, the suggested changes.

Goals

Identify issues & bugs with the site

It is important to identify the changes required in order to improve the users' satisfaction.

Test the websites concept with target audience

It is important to have baseline understanding of how the general audience interacts with an existing home services site.

Develop a concept for Home In Stone

It is important to identify the industry standard concepts and fundamentals of the user centered design to be the foundation of Home in Stone.

Methodology

Heuristics Evaluation

A Heuristic evaluation was conducted to identify problems in the user interface design, used as a point of reference for the iterative design process of the Home in Stone prototype.

Usability Testing Setup & Post-Test Questions

For this Usability Testing portion of this study, users comprised of family and friends who met the criteria of either being a homeowner or construction professional/tradesman. There were five usability tests done, one test was completed remotely and the other four were in-person.

1. **Introduction**

   Participants were sat in a room, quiet of all distractions, using their own device to access the site www.homeadvisor.com. It was explained to them beforehand that the moderator would not be able to answer any questions until the end as the primary goal is to see how they would interact with the website naturally, with interference or assistance. However, they were free to think-aloud as they were navigating through the site and tasks asked of them.

2. **Tasks**

   - Register yourself as a handyman who provides "Lawn Care" services
   - Search Roof Repair and select "Repair a Natural Slate Roof", complete the process of finding services

- Attempt to "Start a Project"
- Undo last action

3. **Post-Test Questions**

These questions were asked to participants to gain a understanding of each person's unique perspective.

What part of the site did you like the most and least?

What tasks were difficult/easy to accomplish?

What caused you frustration/what surprised you?

What do you think about the way the information was presented?

If you could change any aspect of the site, what would it be?

Would you recommend this site to someone else? Why or why not?

Results

Various data has been collected through the methods of heuristic evaluation, usability testing, interviews and surveys, the data was analyzed through content and thematic analysis. Recurring patterns and themes between the participants were identified that produced a solid understanding of the users' perspective. Repeated phrases, words, and experiences for each participant were used to generate an outline of the systematic issues to be concentrated on for Home in Stone's website.

Heuristic Evaluation

Home Advisor's website showed no issues providing users with system status updates and uses words and concepts that are considered familiar to the everyday person such as "Start a Project", "Join Our Pro Network". In addition to this, design features are consistent with web standards, followed UX conventions and was effectual in showing users error messages if encountered. Conversely, there were various webpages within the site that were overloaded with various prices, services, and information that are unrelated to each other increasing the chances of the user not being able to complete a task or focus on their intended goal. Another area for improvement for Home Advisor's website is employing the functionality of user freedom, there were no options available to undo an error if a mistake was made, the user would have to begin again at the homepage rather than return to last page shown. Overall, the site has two areas that are major usability problems which are

error prevention and user control and freedom and one minor usability problem which is minimalist design. Otherwise, the site performed well and met Heuristic requirements.

Usability Testing

The following are the recurring patterns and themes identified between the participants:

Recurring Themes

Participants enjoyed the website's interface: Clean, organized, simple visual design

Participants expressed experiencing information overload as they attempted to find services

Participants experienced difficulty receiving recovering from errors

Participants successfully completed tasks of finding services did not lead to an immediate response timeframe

Participants successfully completed tasks of signing up as a handyman but it did not lead to an immediate response timeframe

Thoughts Spoken Aloud

"How long will it take for someone to call me?"

"What if I had an emergency?"

Recommendations

The following recommendations are based on the analysis conducted in the Usability Testing and Heuristic's Evaluation.

Design

When users enter their information requesting a service, the option to sign up is not provided: **Allow users to login or signup seamlessly**

Users expressed being distracted once they scrolled down on the homepage with the number of services provided: **Minimize pricing and information on webpages**

Users expressed not being able to find a certain task due to a multitude of irrelevant options provided under one service: **Minimize the various kinds of services offered, streamline into dedicated categories**

Functionality

When attempting to return to undo an action, user's experienced difficulty:
Implement a return function allowing users to recover from errors easily

When signing up as a professional or requesting a service, users were told they would be contacted but no timeframe provided:
Provide users with a timeframe of when they will be contacted

When signing up for a service, users were not given a timeframe of when they would be contacted and were unable to state the urgency of the request:
Provide users the option to detail their service request as "Urgent" if applicable
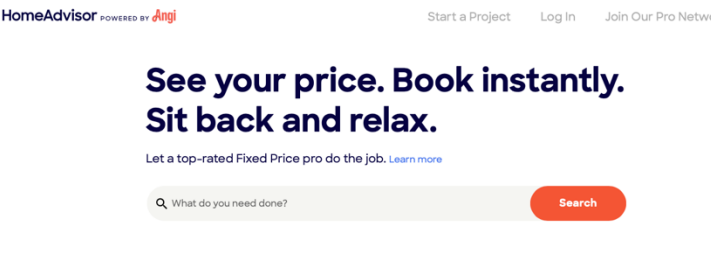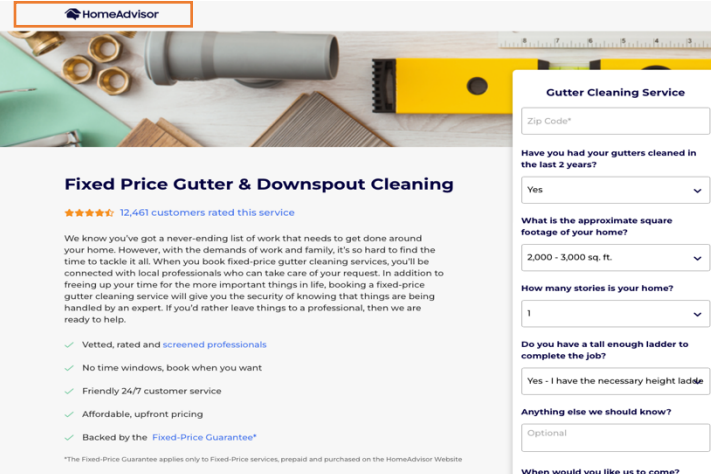
When signing up as a professional, users were only able to input basic information and received no clear direction thereafter: **Allow for contractors/professionals to detail their services and certifications prior to signing up**
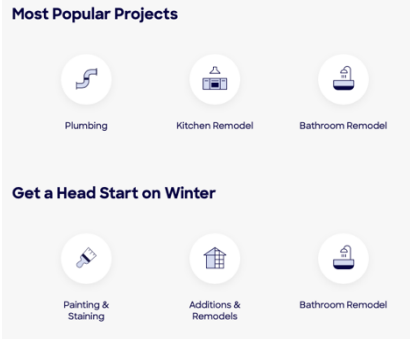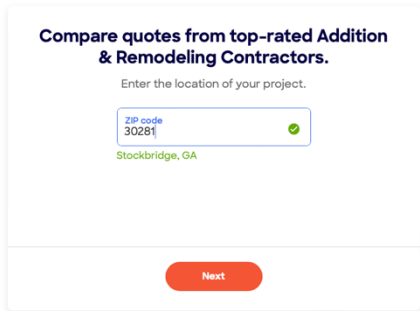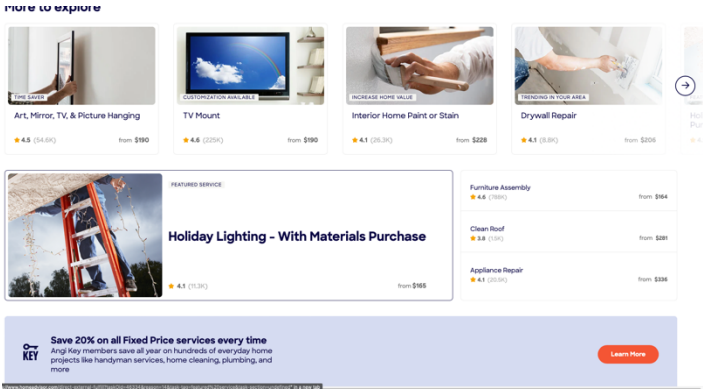
Conclusion
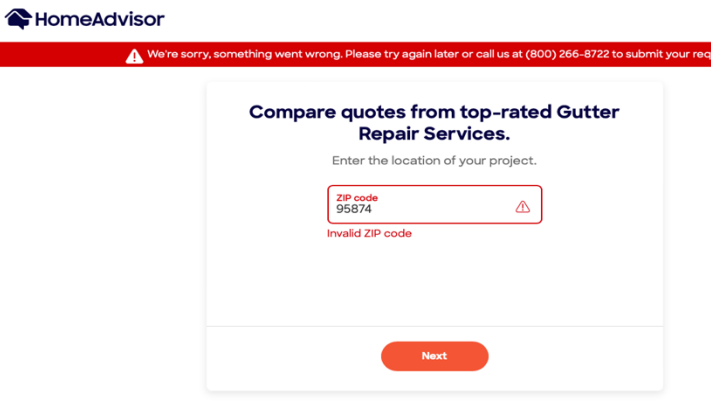
Home Advisor is a highly usability friendly site all around, as it is easy to use, navigate, and understand. It excels in the areas of visual design, efficiency of use and overall subjective satisfaction. Concurrently, there is need for improvement in design and functionality when considering the user's needs and motivations. The Information Architecture and end results of various functions could use polishing. All in all, the results found in this study will be employed as the basic functionality in the prototype of Home In Stone.

Appendix A

A.1 Heuristic Evaluation

Heuristic	Home Advisor https://www.homeadvisor.com	Ratings
#1: Visibility of system status The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time.	System moved very fluidly; no information given regarding what was going on in system because the site navigations were seamless.	0 – This is not a usability problem
#2: Match between system and the real world The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.	The site uses words and concepts that are considered familiar to the everyday person such as "Start a Project", "Join Our Pro Network" and "What do you need done" in the earch bar **See your price. Book instantly. Sit back and relax.** Let a top-rated Fixed Price pro do the job. Learn more What do you need done? Search	0 – This is not a usability problem
#3: User control and freedom Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.	- Once a service is selected, there is no back button available to users without using the web browser's return function. Users are unable to undo their last action if they completed an unwanted action in error. Additionally, clicking on the logo for the page does not return you to the home screen. **Fixed Price Gutter & Downspout Cleaning** ★★★★☆ 12,461 customers rated this service We know you've got a never-ending list of work that needs to get done around your home. However, with the demands of work and family, it's so hard to find the time to tackle it all. When you book fixed-price gutter cleaning services, you'll be connected with local professionals who can take care of your request. In addition to freeing up your time for the more important things in life, booking a fixed-price gutter cleaning service will give you the security of knowing that things are being handled by an expert. If you'd rather leave things to a professional, then we are ready to help. ✓ Vetted, rated and screened professionals ✓ No time windows, book when you want ✓ Friendly 24/7 customer service ✓ Affordable, upfront pricing ✓ Backed by the Fixed-Price Guarantee* *The Fixed-Price Guarantee applies only to Fixed-Price services, prepaid and purchased on the HomeAdvisor Website **Gutter Cleaning Service** Zip Code* **Have you had your gutters cleaned in the last 2 years?** Yes **What is the approximate square footage of your home?** 2,000 - 3,000 sq. ft. **How many stories is your home?** 1 **Do you have a tall enough ladder to complete the job?** Yes - I have the necessary height ladder **Anything else we should know?** Optional **When would you like us to come?**	3 - major usability problem; important to fix

#4: Consistency and standards Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.	Features are consistent with web standards, were easily accessible, and follows current UX conventions.	**Most Popular Projects** Plumbing Kitchen Remodel Bathroom Remodel **Get a Head Start on Winter** Painting & Staining Additions & Remodels Bathroom Remodel	0 – This is not a usability problem
#5: Error prevention Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.	No option available to undo an error if a mistake is made. HomeAdvisor **Compare quotes from top-rated Addition & Remodeling Contractors.** Enter the location of your project. ZIP code 30281 Stockbridge, GA Next	3 - major usability problem; important to fix
#6: Recognition rather than recall Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.	Login, signup, notification and search functions were easily accessible and follows UX conventions		0 – This is not a usability problem
#7: Flexibility and efficiency of use Shortcuts — hidden from novice users — may speed up the interaction for the expert user such that the design can cater to both inexperienced and experienced users. Allow	Site does not allow for personalization, customization or accelerators. Due to kind of site, unnecessary.		0 – This is not a usability problem

users to tailor frequent actions.		
#8: Aesthetic and minimalist design Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.	-Interface overall is highly UX friendly, but some webpages are overloaded with various prices, services, and information that are unrelated to each other, as if over advertising. Makes it hard for user to focus on their intended goal. 	2 - minor usability problem
#9: Help users recognize, diagnose, and recover from errors Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.	-Error code clearly stated that an invalid Zip Code was entered, and the user is notified in red to immediately gain their attention. 	0 – This is not a usability problem

#10: Help and documentation It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.	Limited options for assistance as the website is highly user friendly and self-explanatory	0 – This is not a usability problem

A.2 Usability Testing

Pre Test Questionnaire
Do you have previous experience using the website HomeAdvisor by Angie?
How often do you use technology?
What are the typical devices that you use?
Have you used technology to share your services? [Contractor/Tradesman]
Have you used technology to find services?

Task Observation	
Task 1: Please navigate a roof repair	
Task 2: Please attempt to register yourself as a handyman who provides "Lawn Care" services.	
Task 3: Please attempt to undo your last action.	
Task 4: Please attempt to schedule a free estimate	
Task 5: Please attempt to subscribe to mailing list	
Task 6: Please attempt to contact Home In Stone	

- Survey -

It was easy to find the information I needed. _____

Whenever I made a mistake using the system, I was able to recover easily. _____

I was able to complete my task quickly. _____

I felt comfortable using the system. _____

The information is presented in a clear and concise manner. _____

I was able to navigate the site easily. _____

I found the site hard to use. _____

I would recommend this site/program to other people. _____

*Reference Script [*Interview*]

- Interview Questions -

1. What part of the site did you like the most?

2. What part of the site did you like the least?

3. What was your experience like navigating the site?

4. What task did you find difficult to accomplish?

5. What task did you find easy to accomplish?

6. What did you like about the websites' interface?

7. What didn't you like about the websites' interface?

8. What do you think about the way the information was presented?

9. Were you able to complete your task in a timely manner?

10. What information were you looking for that was not available or difficult to find?

11. Did you encounter any errors? If so, what were they?

12. How was the process in recovering from the errors?

13. If you could change any aspect of the site what would it be?

14. If applicable, what caused you frustration?

15. If applicable, what surprised you?

16. How would you describe your overall experience using the site?

17. Would you recommend this site to other people? Why or Why not?

*Reference Script [*Closing*]

Testing Script

Setup: The interview will be conducted after the Usability Testing is complete to receive detailed feedback regarding the participants' experience using the site. Based on the participant's geographical location, options will be provided to complete the interview face to face at the client's home or via phone. Equipment used in this study will consist of a laptop/computer and data will be collected via notepad with pen or pencil.

Opening: Hello, my name is Britney Williams, and I thank you for taking the time to meet with me today, your feedback is very valuable. Today we will be reviewing the home improvement site Home Advisor, by Angie's List. My goal is to identify possible changes needed to improve the site's performance and gain an understanding of how satisfied participants are with the site. There are (3) sections associated with this study. In the first section, I will provide you with (4) tasks to complete and observe you as you navigate them. If at any point you would like to ask a question, feel free to do so, but I may not be able to provide an immediate answer as the observation part is to understand how you are able to use the site without assistance. I will do my best to answer your questions at the end of the observation period. The second part of this study consists of a survey explaining your immediate response to using the site. The third part of this study consists of an Interview with (17) questions to gain a deeper understanding of your experience, which may mirror questions you answered in your survey. Just to confirm, this session is estimated to last 1 hour 30 minutes, does that still work for you?

For the first part of this study, I am going to provide directions for tasks to complete on the site. I would like for you to observe the processes you're going through, in order to share with me later. Some of the processes will not lead to a full outcome as I will provide you with a stopping point. . Do you have any questions for me before we get started?

Great! Let's begin.

Midpoint: Thank you for completing the requested tasks, it was a pleasure to observe your experience interacting with the website. We are now moving to Section (2) of this study which consists of your immediate emotion following your use of the site Home Advisory. Do you have any questions for me at this time?

Great! Let's begin.

Interview: Thank you for completing the first two parts of this study. For Section (3), I will be asking you 17 questions regarding your experience using the website Home Advisor, by Angie's List. Feel free to provide me with as many details as you would like. Do you have any questions before we begin?

Great, let's begin.

Closing: Those are all the questions I have for you. Thank you for your participation in this interview, you have successfully completed all (3) sections. Are there any final thoughts you would like to share? Are there any questions you may have for me?

Great. Again, I thank you for your time and participation. The information you have provided me with today is very helpful. Have a wonderful day!

HOME IN STONE

Prototype Development & Usability Testing Report

Britney Williams
Mercer University
I.T. and Informatics

Executive Summary

This report details a usability study conducted by Britney Williams of the prototype Home In Stone. The prototype was created in efforts to implement adverse usability findings of the website Home Advisor. This report highlights the results and recommendations attained from testing the Version 1.0 prototype of Home In Stone and highlights the changes implemented in the final Version 2.0 prototype. Due to the nature of the prototype being developed for comparison to an existing site, both visual design and functionality were important considerations to effectively be able to compare Home In Stone to Home Advisor. This report will also expound on the planning, design, development and revision stages of the prototype for Home In Stone.

Usability Criteria

Intuitive Design: How effortlessly did users navigate the prototype's architecture and does it meet conventional UX design standards

Ease of learning: At what rate were users able to accomplish basic tasks

Error Frequency: How often did users encounter errors and how did they recover from them

Subjective Satisfaction: User's overall opinion regarding the prototype

Goals

Conduct research on Home Advisor

A Heuristics Evaluation and Usability Test was done on Home Advisor's site to identify areas of improvement to implement into the prototype

Design an effective prototype

Design a functional system complete with information architecture, wireframing, design aspects and content before development

Test and refine

Conduct an in-depth analysis of the prototype to find areas of improvement to be refined for Version 2.0 before finalization

Methodology

Discovery

Initial research was conducted on Home Advisor through gathering information by testing the site to confirm the scope, assess the features, and developing testing tools for a usability study. Upon completion of a usability study on Home Advisor's site, the data was analyzed and developed to create a framework for Home In Stone's prototype.

Planning and Design

In the planning phase of Home In Stone's prototype, a project timeline, scope, intended deliverables, success measurements, user personas, scenarios, storyboards, and user task lists were developed and refined. Upon completion of these coupled with the Usability Study results for Home Advisor, a structure regarding Home In Stone's prototype design was developed, also known as the Information Architecture. The information Architecture ensures that the user has a seamless experience when navigating through the various webpages of the site.

Information Architecture & Wireframe

The information architecture consisted of allowing for both homeowners and professionals alike to have the ability to sign up and/or login. Other pages of the site consist of About Us, Contact Us, Services, FAQ, etc. Upon completion of this, a wireframe of the site was developed. In order to follow trending UX design standards the main page is an extended page that provides various information such as login/signup functionality, testimonials, newsletter signup and FAQs, instead of those being individual webpages.

Web Design

The visual design of the site has consistent colors throughout which are blue, yellow, white and grey. The colors are strategically implemented in various areas, with yellow being the primary color of forms and call to actions and submission buttons as it is the most dynamic. This unity allows for the website to have a great deal of unity, contrast and balance. White space is also highly considered throughout the design to ensure that the design is consistent and engaging.

Content

The content that would go on the prototype were considered in its development as it greatly helped with the placement of other design essentials such as images. This information was especially important to use in order to determine what links were needed in order to direct to the next webpage.

Usability Testing & Prototype 1.0 Evaluation

For the Usability Testing portion of Home In Stone's prototype, like HomeAdvisor, users comprised of family and friends who met the criteria of either being a homeowner or construction professional/tradesman. There were five usability tests done, one test was completed remotely and the other four were in-person.

The participants of the study were asked to complete similar tasks as those asked in Home Advisor.

Tasks

Sign up/Login

Attempt to schedule a free estimate

Subscribe to the mailing list

Attempt to Contact Home In Stone

Undo last action

Register as a handyman who provides "Lawn Care" services

Search for services of your own and indicate the service as "Urgent"

Questions were asked to participants to gain an understanding of each person's unique perspective.

Post-Test Questions

What part of the site did you like the most and least?

What tasks were difficult/easy to accomplish?

What caused you frustration/what surprised you?

What do you think about the way the information was presented?

If you could change any aspect of the site, what would it be?

Results

The following are the results received from Usability Testing of Home In Stone's 1.0 prototype and the detailed implemented revisions found in prototype 2.0:
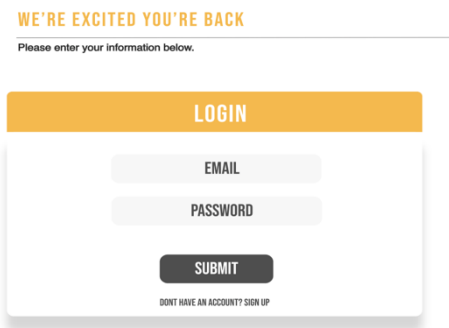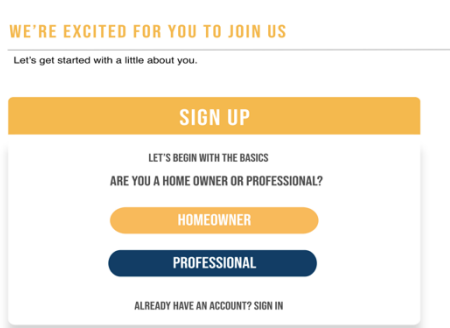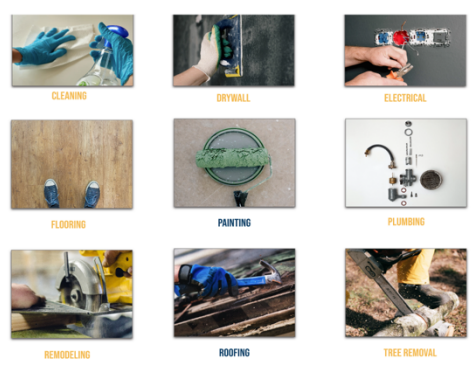
<div style="border: 1px solid black; padding: 10px;">
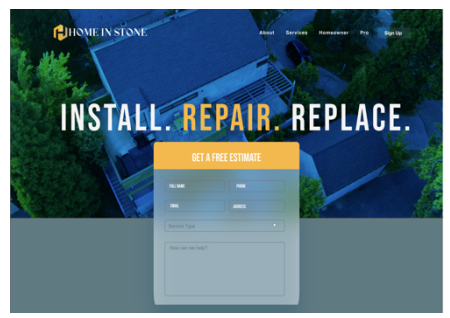
Design

1. Sign Up leads to Professional Homepage
   Revision: Created a signup and login pages for each respective user (added functionality)

2. Images on services page could be more reflective
   Revision: Updated images

3. Bad placement of widget on homepage header
   Revision: Redesigned header

Functionality

1. Professional Sign-Up page asks if users are "Registered", which was unclear
   Revision: Changed to "Licensed?"
   Revision: Changed to "Password" since signup and login pages were created

2. No clear designation to user of knowing the difference of an "Urgent" and regular request
   Revision: Added "Urgent" button to services request and an "Urgent" response to user

3. Users unable to subscribe to newsletter
   Revision: Created "Success" response after user signs up

4. No submit button available on homepage widget
   Revision: Added button and success response

</div>

Before & After Revisions

Recommendation	Before	After
Revision: **Created a signup and login page for each respective user (completely new functionality due to recommendations, not before and after)**		
Revision: **Updated images**		
Revision: **Redesigned header**		

Revision: **Changed to "Licensed?"** Second Revision: **Changed to "Password" since signup and login pages were created**	
Revision: **Removed the option to select if the service was urgent and added an "Urgent" button to services request that provides an "Urgent" response to user**	
Revision: **Created "Success" response after user signs up for newsletter**	- Function was not available -
Revision: **Added "Submit" button and success response**	

Version 2.0

The results of the Usability Testing of Home In Stone's prototype Version 1.0 led to various changed in both the sites design and functionality. In terms of design, participants stated that the images on the service page could represent their links better, such as instead of having a picture of trees for "Tree Removal", to have a picture of a tree being cut down. In turn, the various pictures were changed leading to a more fluid interface design. Another area of design was the header on the homepage that was initially center placed, users stated that it was an odd placement and left too much blank space on either side with no additional content. The widget for the header was moved to left placement increasing visibility of content that is below it.

Regarding functionality, participants found an assortment of areas for improvement. Results of this were that the professional sign-up page was unclear asking the user if they are "Registered", no special response to an urgent request although the functionality was available, no separate login's for homeowners vs professionals and no response to user once they signed up for a newsletter or free estimate. As a result, a separate login page was created for homeowners and professionals which changed the professional signup page to require a password instead of a "Registered" request. The checkboxes of an "Urgent" request was changed to a button that leads to a response page for the user recognizing that their request is urgent and providing the timeframe in which they will be reached. Lastly, a submit button was created for the header widget and the submit button for the newsletter sign-up were changed to reflect a success message letting the user know that their request was complete.

Final Testing

Upon completion of the changes made from Version 1.0 to 2.0, the final prototype of Home In Stone Version 2.0 underwent another stage of testing. This testing was to measure the success of the prototype with implemented changes that were compared to the usability issues identified for Home Advisor. The results of this comparative analysis between the two sites as they relate to the User Task List can be found below.

Measurements of Success

User Task List	Home Advisor	Home In Stone
Homeowner wants to be able to sign up	Problem: When users enter their information requesting a service, the option to sign up is not provided.	Resolve: When users request a service, they are automatically taken to sign up page where they can detail their request
Homeowner wants to be able to search for services	Problem: Users expressed being distracted once they scrolled down on the homepage with the number of services provided. Problem: Users expressed not being able to find a certain task due to a multitude of irrelevant options provided under one service:	Resolve: Homepage has important information, and all services are on one dedicated page. Users can detail their request and choose a subservice directly on the request form based on the main service chosen, no need to provide dropdown on main page listing too many services.
Homeowner wants to schedule a free estimate	Functionality supported	Functionality supported
Homeowner wants to submit an Urgent request	Problem: When signing up for a service users are unable to state the urgency of their request	Resolve: Users can submit form with "Urgent" button and receive an "Urgent" response message.
Professional company wants to be able to sign up, detail their services when signing up, list their certifications	Problem: When signing up as a professional, users were only able to input basic information (i.e. name, phone, email) and received response that they will be contacted for more info with no response time provided	Resolve: When signing up as a professional, users can input their identifier information and detail their skills, licensing and certifications when signing up. User receives response time of when they will be contacted.
User wants to access Frequently Asked Questions	Function Supported Problem: Hidden in footer	Resolve: FAQ's Easily accessible on homepage
User needs to be able to subscribe to mailing list	Function Supported	Function Supported

User wants to contact Home In Stone	Function Supported Problem: Only option provided is to call	Resolve: Option provided to send an email, mark email as urgent and receive response timeframe. In addition to this, phone number is available for calls.
User wants to know a response time	Problem: When signing up as a professional or requesting a service, users were told they would be contacted but no timeframe provided:	Resolve: When signing up as a professional or a homeowner requesting a service, a response time is given to user to let them know when they would be contacted.

Conclusion

Home In Stone passed all measurements of success in a comparative analysis of Home Advisor. Various usability aspects of Home Advisor that were identified as areas of improvement through heuristic evaluation and usability testing were used to create a task list, then a function list that served as the basis for Home In Stone's overall design and function. Overall, the user centered design, development process, and iterative testing of Home In Stone's prototype proved to be successful in meeting the basic functionality of Home Advisor with added improvements. Version 2.0 of Home In Stone's prototype is completely UX friendly, functional, and succeeds in participants subjective satisfaction.

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Appendix B

B.1 User Manual

1.. How to sign up as a Homeowner

- Select "Sign Up" at top or bottom of page
- Select user option "Homeowner"
- Fill in form
- Submit form

    Or

- Select "Homeowner" from top or bottom of page
- Select "Find Services"
- Select a service
- Fill out form
- Submit form

2.. How to search for Services

- Select "Services" at top or bottom of page
    Or
- Select "Services" from bottom of page

3.. How to schedule a free estimate

- Navigate to homepage
- Fill in form that states "Get a Free Estimate"

4.. How to submit an urgent request

- Select "Homeowner" from top or bottom of page
- Select a service
- Fill out form
- Select "Urgent" when submitting form

5.. How to know your response time

- After filling out form requesting a service or signing up, please read your confirmation page to know your estimated response time.

6...How to sign up as a professional

- Select "Sign Up" at top or bottom of page
- Select user option "Professional"
- Fill in form
- Submit form

    Or

- Select "Pro" from top or "Pro Partnership" from bottom of page
- Select "Get Started"
- Fill out form
- Submit form

7.............................How to detail your services as a professional

- Reference Step 6 to Sign Up as a professional
- Fill out "List all services you offer" in form
- Submit form

8...How to list your certifications

- Reference Step 6 to Sign Up as a professional
- Fill out "List all certifications and licensing" in form
- Submit form

9...How to access FAQ's

- Navigate to Home Page
- Scroll down on home page to "FAQ's" section

10...How to subscribe to mailing list

- From any page, scroll down to footer
- Navigate to left side of footer
- Enter email
- Select "Subscribe"

11...How to Contact Us

- From any page, scroll down to footer
- Select "Contact"
- Fill out form and submit

Handwritten

WIREFRAME

BRITNEY WILLIAMS
I.T. and INFORMATICS
CAPSTONE

—Homepage—

Widget

Header

| Image w/Link | Image w/Link | Image w/Link |

| Image w/Link | Image w/Link |

Testimonials

FAQ's

FORM   Footer   NAV BAR

ABOUT
US
_____
Contact
US

Text
_____
Form

Footer

Form

Socials

Logo

Homeowner / Contractor

Header

img

img

img

Submit

Footer

Form

Sign Up/Login Header

Form.

Footer

Services Header