

Executive Summary

Project title: Capstone Tea Project

Department/College: Mercer University

Project researcher: Rynisha Anderson

Overview

The proposal is written in preparation for the Capstone Tea Project, which is also known as the responsive 'Xiang Herbs Tea' site. The website would act as the final project in order to complete my degree for Software Application Development and Human Computer Interaction at Mercer University. Project Planning allowed me to plan and reported each progress of the development cycle to ensure the website would be able to come to fruition in a timely manner.

The aim of this project is to determine the human reactions from each customer with the use of a responsive website. Usability Testing will be used to monitor each customers' actions by conducting a number of tasks on the website. After completing the test, the customer would record their responses on a well-written survey.

Various reactions from the participants could either help the researcher improve the usability of the website, produce a greater target audience, and/or provide new website ideas for a successful user experience.

The Problem & Solution Summary

Many websites managed to deliver unsuccessful user experiences on a web site. For an example; if a customer wanted to purchase a smoothie from an online café, then the user would choose the flavor and size of the smoothie from the menu, place it in the cart, and checkout. However, the 'Cart' button would not function properly, and the customer was not able to add an item to the cart and complete a purchase. Thus, the encounter has caused the customer to have a difficult user experience with a responsive website.

The target user is customers, who may have endured a similar user experience from an online café or store.

In solution, the Capstone Tea Project will include 2 project methodologies, Usability Testing and Surveys, to ensure that each customer would have the proper user experiences from a web-based environment. Data collection instruments will also be used to help determine the success of each measurement and apply necessary changes based on the customers' interaction with the site.

Introduction

In order to help improve usability experiences among different websites, research methodologies can be used to test the designs. Usability is the measurement of how particular users can use a product or a model to effectively define a goal (ID). Usability Testing is a method that reveals how a simple group of users can conduct different tasks on a design (ID). Another method called surveys, are a well-written and defined set of questions, where the participant is asked to reply after interacting with a specific product (Lazar & Feng, et. al., p.105).

Usability Testing and Surveys are the 2 research methodologies that will be used for the Capstone project. The monitored (or unmonitored) tests will include eleven 11 instructions for each customer to conduct within 5 seconds per task. The data collection would begin after each participant have submitted their responses from testing the website. Prior to the proposal, pilot testing was done on the first tea prototype and every reaction from the participant was recorded on a survey.

The Capstone Tea project would allow the audience to understand how human users are instrumental in establishing a successful and satisfying web user experience. The reactions from the participants could help the researcher to understand user needs, discover technical issues, and enhance the quality of the design.

Research question

Question – How can customers improve the usability of a website?

By using the methods Usability Testing and Surveys. Usability Testing allows a human, in this case, customers, to perform tasks under moderation within a given number of seconds. The customers' responses would allow the researcher observe their behavior to the website, so they could build the right website for the customers. Researchers could use another method like surveys, to gather responses from customers to help improve the website.

Proposed research methodology

The methodologies that will be used for the Capstone project are Usability Testing and Surveys. Qualitative usability testing would involve the researcher to collect findings from each participant that have performed tasks on the website. Testing would include the amount of time each customer has spent on each task. The time given for the tasks will be 5 seconds.

Qualitative survey questions will include open-ended and multiple-choice questions about the customer's opinions, issues or suggestions that may have occurred from testing.

Research data collection instruments

For data collection, Usability testing will include 19 instructions that each customer will perform on the website. Each task will have a time limit of 5 seconds, while testing is monitored by the researcher, unless otherwise stated. Human behavior may also be observed during the test to measure the interaction from each task. Data collection includes the amount of time that a customer has spent on a task, as well as their human interaction. After a successful completion of the test, surveys will be provided for each participant. There will be a total of 10 questions. Data from the responses will be collected through multiple choice and opened-ended questions.

Project planning report

Summary

The Capstone Tea project will test the usability of a responsive website with the help of a human response. Project Planning will capture the preparation and process of the project, which will include the 5 phases of Software Development: Planning, Design, Development, Usability, and Release. The project began its planning process in early October 2022, and completion should end around December 2022.

Purpose

Project planning keeps track of the design process of the Capstone Tea Project within the timeframe. The tasks will be completed from each of its respective 5 phases. The start date is the beginning of production, while end date determines the completion of the tasks. The amount of completion of per task will be calculated by percentage (%).

Objectives

The SMART method is used to define the objectives for the Capstone Tea Project.

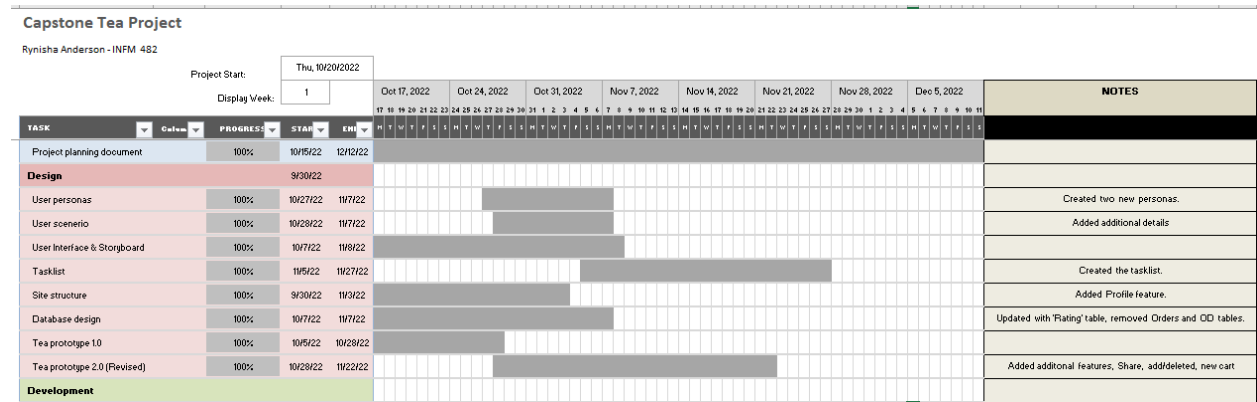
- Understanding the customers' need and influence of human user experience, by creating a responsive website that relies on their reactions.
- Project planning began in early October 2022. It will include 5 phases for each task: Planning, Design, Development, Usability, and Release.
- Tasks from Project planning and Design are nearly completed, while Development, Usability, and Release are still in process.
- Completing each task could take weeks, which includes designing, updating and revising.
- The Capstone Tea Project should be completed by December 2022.

Target audience

The Capstone Tea Project will be targeted towards customers, who are at least 18, avid tea and are also hot beverage drinkers, like coffee and hot chocolate.

Timeline

The timeline keeps track of the progress of the tasks and development cycle done in preparation of the Capstone release.



Needs finding documents

Documents needed for each findings will be used through survey questions and a list of tasks performed by each participant.

Survey Questions



Online surveys will be hosted through Google.

1. I would use this system frequently – Multiple choice

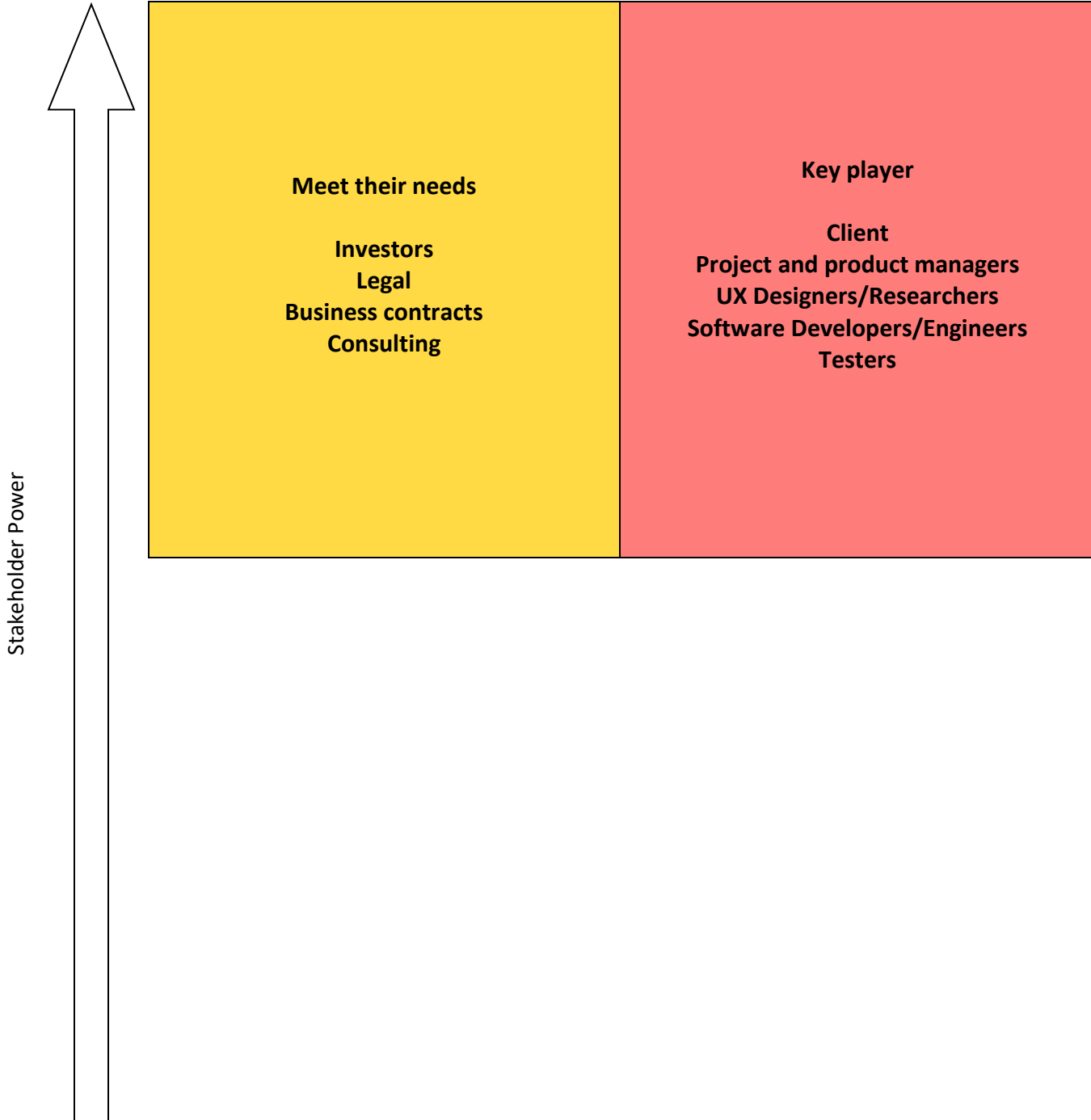
2. Did you encounter any issues while using the system? – Fill in the blank
3. The fonts and/or wording were easier to understand. – Multiple choice
4. The design and color palette were easier on the eyes. – Multiple choice
5. The design itself would allow me to support the company. – Multiple choice
6. I have found this system cumbersome to use. – Multiple choice
7. I would imagine that most users would learn how to use the system very quickly. –
Multiple choice
8. What is your most favorite (and least) favorite feature? Fill in the blank
9. Are there any improvements or suggestions that could be applied to the design? Fill in the
blank
10. Rate your experience. – Rating system.

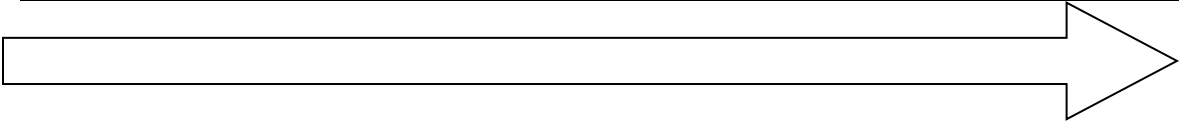
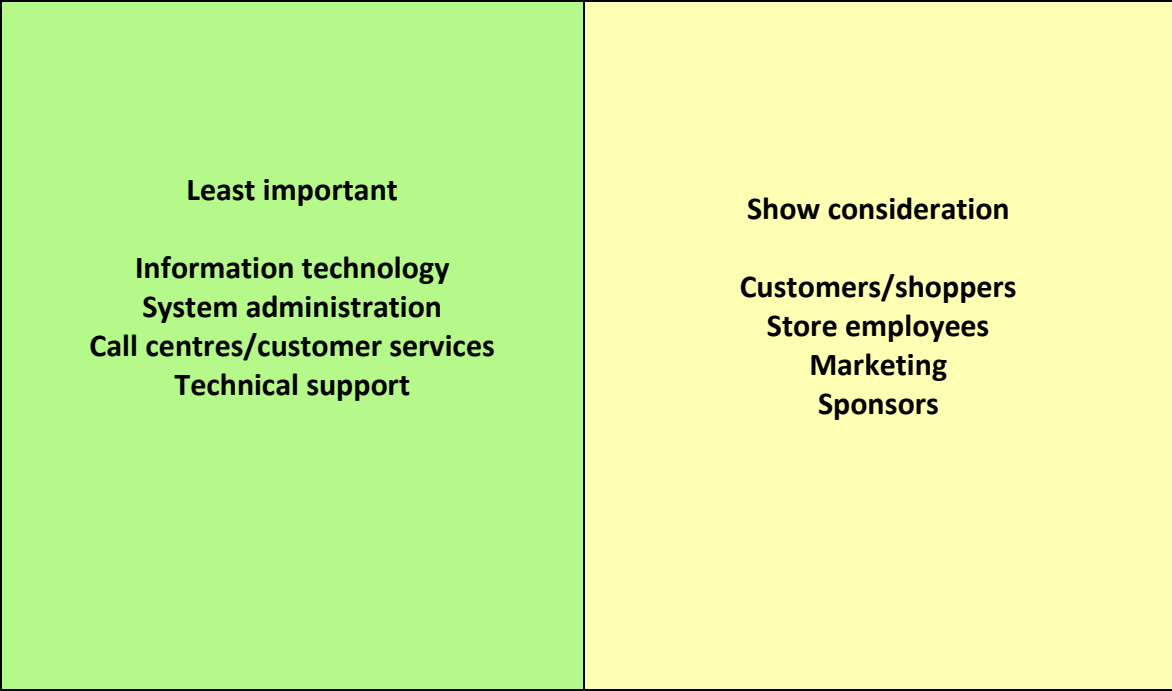
Task list

1. Candice wants to know more about the company and how the teas are grown.
2. Candice wants to create an account.
3. Candice wants to sign in to the site.
4. Candice updated her account.
5. Candice wants to purchase 2 Black Teas, 4oz.
6. Candice also wants to purchase 1 Green Tea, 2oz.
7. Candice wants to purchase 1 Yellow Tea, 2oz.
8. Candice shared a Special Tea on social media.
9. Candice wants to purchase 1 Special Tea, 3oz.
10. Candice wants to update the cart by adding 1 more Green Tea.
11. Candice removed the Yellow Tea from the cart.
12. Candice wanted to add 1 Red Tea, 4oz to the cart.
13. Candice viewed the coupon code details and checked out.
14. Candice viewed shipment and payment information.
15. Candice applied the coupon code before placing the order.
16. Candice left a review for the 1 Red Tea, 4oz.
17. Candice subscribed to Xiang Herbs Tea after reviewing the Red Tea.

18. Candice signed out.

Stakeholder's map





Stakeholder Interest

Project scope

XIANG HERBS TEA PROJECT SCOPE

11/28/2022

OVERVIEW

1. Project Background and Description

i This project first began as a tea app. Then, it became a responsive, full-stack website. I wanted to continue to work on the tea project for the Capstone, because it was the first project that I have worked on at Mercer University and it will give me to opportunity to build a website that would understand the customer's needs in user experience. The Capstone Tea project is to understand the usability and success of a website and how human reactions are instrumental in the improvement and designing process.

2. Project Scope

i The scope of the project involved the functionality of the website, such as creating an account, signing in and out, leaving a customer review and star review, selecting a size, adding a product to the cart, as well as checking out. Then, there is subscribing to the website and sharing teas on Twitter. Other aspects that were not included in the project were, promo codes and updating user profiles.

3. High-Level Requirements

The new system must include the following:

- Functional development.
- Database development/Client-server development.
- Working components and proper functionality.
- Provides a successful experience to the target audiences and client.
- Results based on the usability testing and user input.
- Proper project design and planning occurred before the new system design.

4. Deliverables

i Deliverables include a full-stack, responsive website. Database will be used for some of the functionalities of the website, which includes: Signing up, signing in/out, shopping cart, and customer reviews.

5. Implementation Plan

i The written proposal included the purpose, timeline, stakeholder's map, and success measurements that will assist in obtaining the goals, which includes in building a website that will allow a customer to have a pleasant shopping experience.

6. High-Level Timeline/Schedule

i Project planning involves a timeline of each tasks that must be accomplished on the time amount given. The researcher is using the phases of software development (Planning, design, developing, testing, and release) to ensure the project is properly done, organized, and released on time. Testing involves the use of a prototype to allow users to provide their input, that will be used for the final website. Development includes the functionality, database, and client-side development that will be the outcome of the project. The project concludes in December.

Project deliverables

The Capstone project will be a responsive website design, with a full-stack development. Front end and back end, along with a database connection. Languages for the project will include HTML, CSS, SQL, JavaScript, and PHP.

The functional portion of the website will let the customer pick their choice of teas, place it in the cart, and then modify their order. The customer will use the payment process, use a promo code, and place order. Once the customer is pleased with their product, they can leave a review and share on social media.

Success measurement

For the measurement in usability testing, it will include the task list with 19 instructions for the participant to conduct. The customer would have 5 seconds to complete each task. The 5 seconds will test the speed of each user performing a task. After successfully completing the test, the subject will complete an online survey with 16 questions. The outcome of the customers' participation will assist in developing new ideas and improving the site, with the usage of an operative and responsive web design.

Project design

Personas

The Persona technique is a user-centered design, which contains a fictional character that is used to market and represent a brand or company. Below are two different persona characters. One is an avid tea lover, while the other customer is purchasing tea for his sick wife. Both customers are hoping for a successful user experience, while purchasing the teas of their choice.



Background

Candice is an avid tea lover. She works as a Developer and loves to come home and make a cup of tea. She is running low and wants to order online. Candice is hoping for a successful user experience.

Goals

- Wants a quick, professional experience in ordering tea online.
- Mobile user friendly.
- Wants to find a menu that provides either Blended or Green tea.
- Wants to use a tablet to place the order.

Demographic

Female 28 years

United States

Single

Software Developer

Motivations

- Order online with a mobile device.
- Understand the teas' qualities and its benefits.
- Quiet tea time after work.

Frustrations

- Order delays/slow services.
- Noisy locations.
- Spoiled tea leaves.

Technology



Needs

- A quick, professional website that sells natural, blend and green teas.
- Provides a successful user experience.
- Avoid long lines and crowded stores.



Background

Ryan has been taking care of his wife, who has a cold. He wanted to fix her some honey tea for her throat. Ryan wants to order more tea from an online site with quick delivery, and usability.

Demographic

♂ Male 42 years

📍 United States

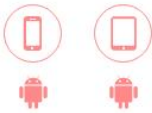
Married

Professor

Goals

- Ryan wants to order high quality, natural black tea online.
- Wants to find a tea website that provides quick service and is also mobile friendly.
- Wants to find a menu with a wide selection of teas.
- Wants to use either a tablet or smartphone to place the order.

Technology



Motivations

- Order online with a mobile device.
- Read more information about the quality of teas available.
- Wants a quick, user experience.
- Navigation with a wide selection of teas available.

Frustrations

- Non authentic tea
- Sites not functioning properly or not usable.
- Teas that are sold out.

Needs

- A quick, professional website that sells natural, black and herbal teas.
- Provides a successful user experience.
- Prevents the need to purchase tea in person.

UXPRESSIA

This persona was built in uxpressia.com

User scenario

Candice works at a call center at Geico Insurance Co. She spends her time at work assisting with multiple irritated customers, who had issues with their policies. Once she's done, she drives home for the day. Exhausted from customer service, Candice decided to fix her usual hot cup of herbal fruit tea, but realized that she's running out of the tea. Despite of buying her tea from her usual shop, she wanted to try another tea store. Candice did not want to drive, but rather shop online with her phone or tablet to look for the tea that she wanted to buy. She was also hoping that the website included a responsive navigation menu that shows all of the teas, including her favorite Apricot Apple tea, available for purchase. Therefore, Candice wanted a simple, quick user experience without any difficulties.

Candice discovered an online tea store called, 'Xiang Herbs Tea', through Google search. Then, she clicked on the link to view the website and loved the colors, theme, and tea images used for the design. To have a better understanding of the company, Candice clicked 'About' from the drop-down menu to learn more about the company and she was interested. Then, she clicked 'Our Farm' to see where the natural teas were grown.

After gaining more information about the company, Candice decided to create an account. She clicked on the 'My Account' link on the navigation menu, which included 'Sign Up' and 'Log In', she has chosen 'Sign Up' to land on the Sign-up page. After her credentials were successful, Candice was able to login using her newly created information. She used the navigation menu to view the selection of teas. On the menu there were a choice of 6 teas, Black, Blended, Green, Red, White, Yellow, and Special Teas. She clicked on 'Blended' and saw different flavors of tea, including Apple Apricot.

Candice clicked on her favorite tea and landed on the details page, where she can read its descriptions, benefits, reviews, and then choose the size (2oz and 4oz.), and quantity of the tea. She ordered a 4oz of Apple Apricot for \$10.00. After choosing her tea, she added her order to the cart. Next, she viewed the 'Cart' to make sure her order is correct and decided to add two more 4oz. of Apple Apricot tea. Her Subtotal is \$30.00. Candice clicked the 'Checkout' button to complete her order.

Here, they have the express checkout option, where Candice could use either PayPal and Cash delivery. She has chosen Cash delivery as her choice of payment, then she entered her shipping address. Afterwards, she placed her order. Finally, she signed out of 'Xiang Herbs Tea'.

Candice have found her experience with the 'Xiang Herbs Tea' website to be satisfactory. After her tea was delivered, she left a review and also shared a tea product for her Twitter followers. Later, she subscribed to the website for sales, coupons, and updates.

Storyboard

The storyboard includes a sketch of the structure and function of the website and how it will be used by the customer.

XIANG
HERB
TEAS

WELCOME!
LOGIN HERE

NAME

PASSWORD

LOGIN

REMEMBER ME

Don't have
an account?
SIGNUP
HERE

LOGGED IN

XIANG
HERB
TEAS

SIGN UP

FIRST NAME

LAST NAME

EMAIL

PASSWORD

SIGN UP

OR SIGN IN
WITH PROBLE

GOOGLE
FACEBOOK

ACCOUNT
CREATED

Already
have an
ACCOUNT?
LOGIN

XIANG
HERB
TEAS

WELCOME!
LOGIN HERE

NAME * *Fields Required*

PASSWORD *

LOGIN

REMEMBER ME

Don't have
an account?
Sign here.

LOGGED IN

XIANG
HERB
TEAS

SIGN UP

Fields required.

FIRST NAME *

LAST NAME *

EMAIL *

PASSWORD *

SIGN UP

GOOGLE
FACEBOOK

ACCOUNT
CREATED

Already
have an
ACCOUNT?
LOGIN

HOME TABS

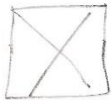
ACCOUNT
Profile



my Account

~~Account~~
Account
updated.

Fields
Required.



First NAME *

LAST NAME *

ADDRESS *

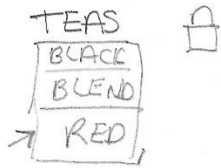
CITY * STATE * ZIPCODE *

Phone Number *

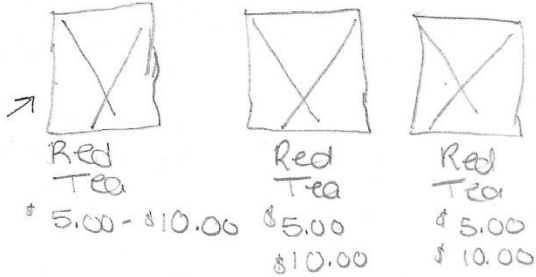
EMAIL *

→ SAVE

Footer



RED TEAS



FOOTER

TEAS

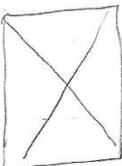
CART
CONTINUE TO SHOP

PRODUCT	QTY	Total
RED TEA BAG, 5lbs	<input type="text" value="1"/>	\$10.00
	+ customer clicked 3 times	
	update cart →	<input type="button" value="update"/> <input type="button" value="checkout"/>
RED TEA BAG, 5lbs	<input type="text" value="4"/>	\$40.00
	customer ordered 4 teas	
	update →	<input type="button" value="update"/> <input type="button" value="checkout"/>

cart updated.

SUBTOTAL \$40.00

FOOTER



100% ORGANIC

RED IS FULL OF ANTI OXIDANTS AND OTHER BENEFITS.
Ingredients - TEA

Reviews

TEAS

Item added to the cart

RED TEA NAME
***** (58 photos)
SHARE

price down

BAG, 3/lbs \$5.00

BAG, 5/lbs \$10.00

Natural Organic Tea

Write a Review

sign in to leave a review

FOOTER

Navigation

CART > SHIPPING > SHIPPING > PAYMENT

EXPRESS PAYMENT

customer information
Michelle Flowers
1234 Riverwater Dr.
CITY, STATE 06234

CREDIT CARD

NAME ON CARD

CARD NUMBER

CITY

STATE

ZIP CODE

EXP

OR

SUBTOTAL \$40.00

FOOTER

XIANG
HERB
TEA

shipping INFO → SHIPPING →

MICHELLE FLOWERS
1234 RIVERWATER DR.
CITY, STATE 00234

SHIPPING METHODS
STANDARD - FREE
2nd DAY AIR - \$30.00
NEXT DAY AIR - \$50.00

- o BILLING SAME AS SHIPPING ADDRESS
- o ADD ANOTHER ADDRESS

MY ORDERS



coupon code

subtotal \$32.00
shipping FREE
TOTAL \$32.00

continue to payment

FOOTER

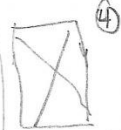
XIANG
HERB
TEA

SHIPPING → PAYMENT

MICHELLE FLOWERS
1234 RIVERWATER DR
CITY, STATE 00234
SHIPPING METHOD - FREE

- o CREDIT CARD
- o PAYPAL
- o CIPAY

MY ORDERS



coupon code

subtotal \$32.00
shipping FREE
TOTAL \$32.00

ERROR CODE NOT VALID

code applied 20% off

PLACE ORDER

ORDER PLACED THANKS

FOOTER

Error
Fill out the form.

HOME TEAS SPECIAL TEAS CONTACT TEAS

CONTACT US

NAME * ^{ERROR Required}

EMAIL * ^{Required}

MESSAGE * ^{Required}

SUBMIT

EMAIL SUBMITTED!

FOOTER

HOME TEAS SPECIAL TEAS CONTACT TEAS

XIANG
HERB
TEAS

WELCOME TO
XIANG HERB
TEA!



FREE SHIPPING \$25+

TRY OUR LIMITED EDITION TEAS!

subscribe

ERROR Entry valid Email

Phone for subscribing

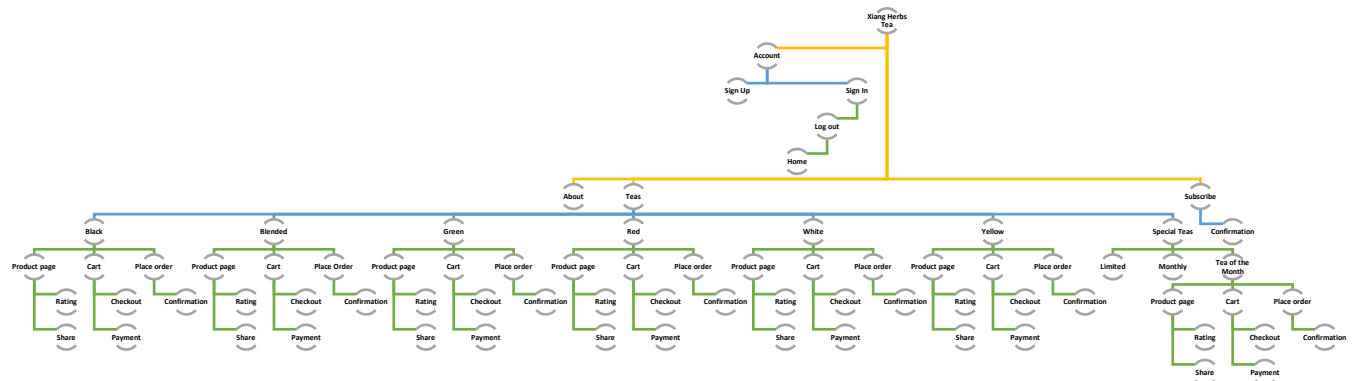
FOOTER

User task list

A hardworking customer drinks tea to help her get through the day. She's running low and wants to purchase more tea from an online store that works with other mobile devices.

1. Candice wants to know more about the company and how the teas are grown.
2. Candice wants to create an account.
3. Candice wants to sign in to the site.
4. Candice updated her account.
5. Candice wants to purchase 2 Black Teas, 4oz.
6. Candice also wants to purchase 1 Green Tea, 2oz.
7. Candice wants to purchase 1 Yellow Tea, 2oz.
8. Candice shared a Special Tea on social media.
9. Candice wants to purchase 1 Special Tea, 3oz.
10. Candice wants to update the cart by adding 1 more Green Tea.
11. Candice removed the Yellow Tea from the cart.
12. Candice wanted to add 1 Red Tea, 4oz to the cart.
13. Candice viewed the coupon code details and checked out.
14. Candice viewed shipment and payment information.
15. Candice applied the coupon code before placing the order.
16. Candice left a review for the 1 Red Tea, 4oz.
17. Candice subscribed to Xiang Herbs Tea after reviewing the Red Tea.
18. Candice signed out.

Site structure

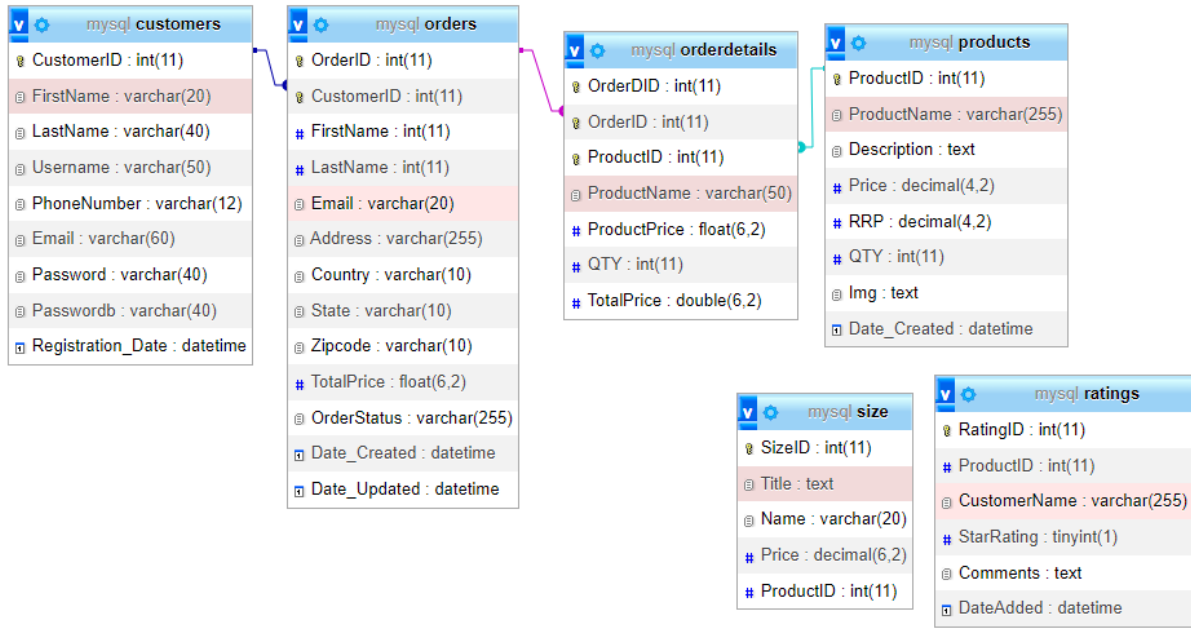


The **Xiang Herbs Tea** hierarchy provides the structure/architecture of the website. **Account** will contain sign in and sign up pages. Once the customer is logged in, they will land on the **Home** page, where they will be able to browse the website. The **About** section contains the Our Story section, where the customer can briefly learn more about the company and farm. After the About section, there is the **Tea** section and it contains a menu of 6 flavors of teas.

The teas are, Black, Blended, Green, Red, White, and Yellow. There are other teas, which are under the **Special Teas** section, where it includes: Tea of the Month, Limited Edition, and Monthly Assortment. Each of the teas will have a page containing the names of the teas, ratings and can leave reviews, sharing a link of the tea to friends and family, and an add to cart page.

The **Shopping Cart** includes the summary of the cart. Once the customer is done with their cart, they move on to shipping and billing. Thereafter, the customer can checkout and land on the confirmation page. The customer can subscribe, before signing out.

Database design



Tables

Customer table is related to the orders table in one to many. This table is used for registration and login.

Orders table is related to order details in many to many. The tables will be used for the checkout page.

Products table is related to order details in many to many. This table will be used for the teas.

Size will be used for tea size selection and ratings will be used to rate the products.

Normalization for Products Name table

pnID	productID	nameID
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

Normalization for Orders Customer table

ocID	orderID	customerID
1	1	1

2	2	2
3	3	3
4	4	4
5	5	5

Normalization for Size Product table

spID	sizeID	productID
1	1	1
2	2	2

Normalization for Ratings Customer table

rcID	ratingID	customerID
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

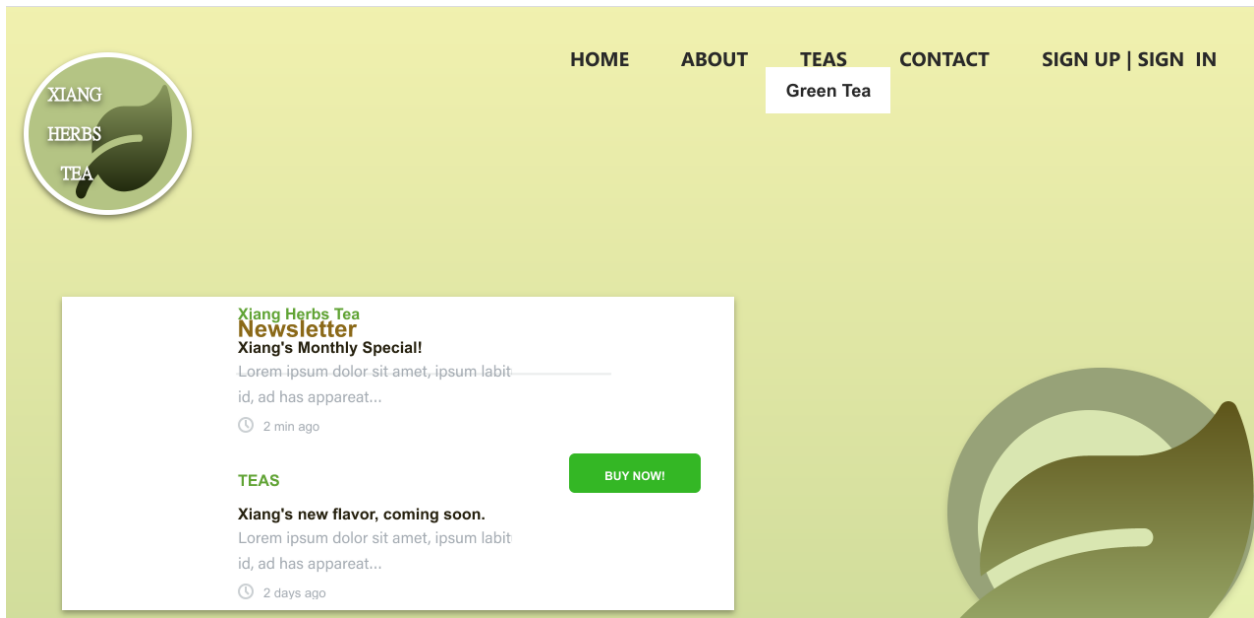
Normalization for Order Details Name table

odnID	orderID	nameID
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5

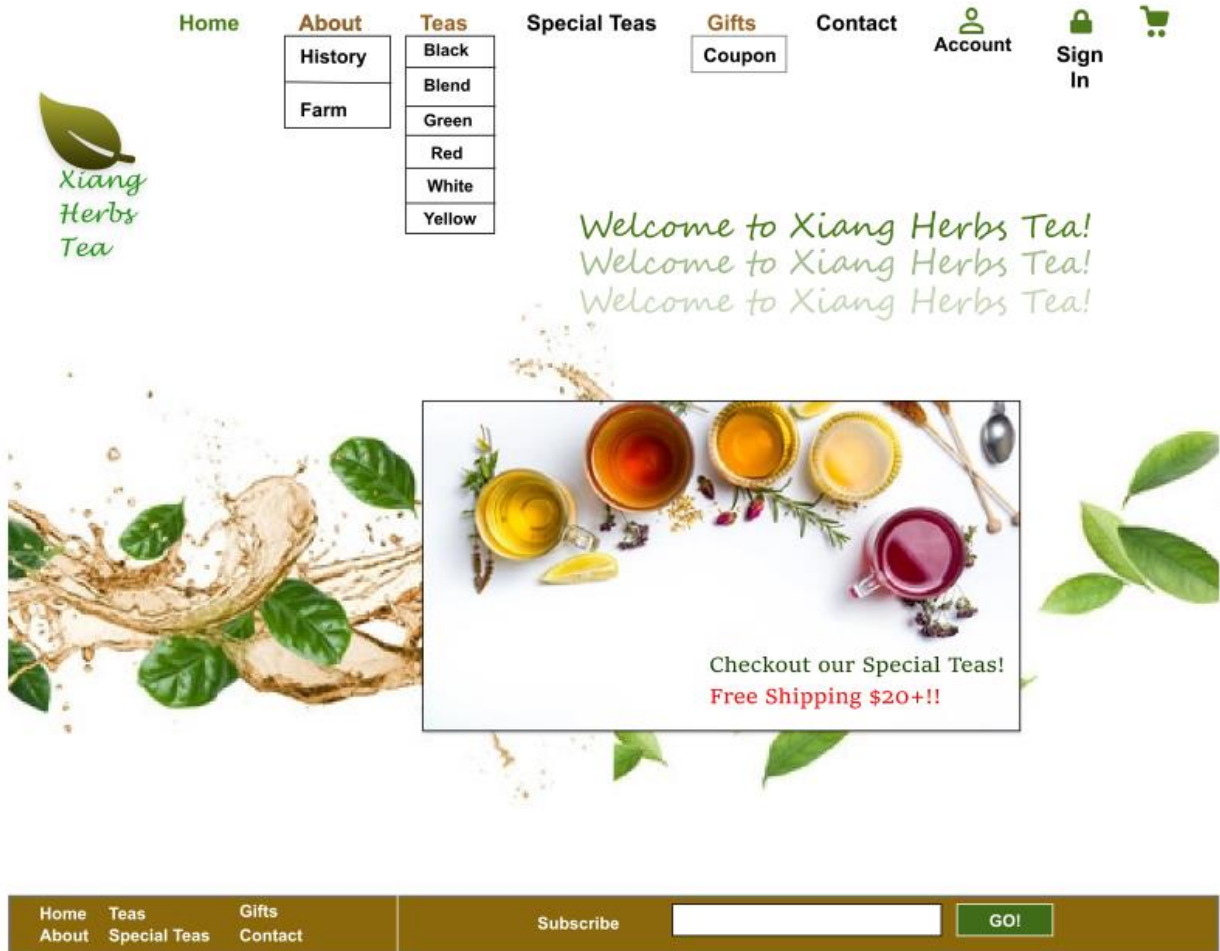
Tea prototypes

Tea Prototype 1.0 and 2.0 Revised were designed using Adobe XD. The first version was deemed too simple and not very usable, while the revised version contained more workable pages, features, and overall more functional.

Tea prototype – Version 1.0



Tea prototype – Version 2.0



Project development

System specification

Software and programming languages

- CSS – For the styling of each front-end element.
- HTML – Forms and buttons.
- JavaScript – Radio button.
- PHP – For the backend portion of the website.
- SQL – To get data from the database. Data for Login, Sign Up, Shopping Cart, Checkout, Size of teas, and Rating/Review.

Function development

- Customers can create an account and sign in. Information will be retrieved from the database table, so the customer can input credentials for both registration and sign in forms.
- Customers can subscribe to the website by using the form.
- Customers can add items to the cart and checkout. The products and orders table will be used for the cart and checkout pages. Each product is assigned a product id.
- Customers can use the select drop-down form to choose the size of tea. Data will be retrieved from the database.
- Customers can update the cart, by adding or removing an item.
- Customers can choose the Cash delivery method to purchase their tea.
- Customers will be able to place their order by clicking the 'Place Order' button. The database will update the QTY after the order is completed.
- Customers are allowed to share teas on Twitter.
- Customer can leave a review by choosing a star rating number and then comment afterwards.
- Customer can sign out of the website.

Usability Testing

Xiang Herbs Tea Site

References

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Appendix A

Purpose

The purpose of this proposal is to assess the usability of a website by using a human subject's reaction to the tasks and providing useful responses to help improve user experiences in a web-based environment.

Outline and Contents

- **Executive Summary**

A synopsis of the Capstone Tea Project proposal, which includes the purpose of the project and a scenario that supports the reasonings of the project.

- **Introduction**

Explains what the proposal will be about and includes two terms that are relevant to the Capstone Tea Project.

- **Research question**

Define the research question and its hypothesis to support the question

- **Proposed research methodology**

Includes the two methods that will be used in the Capstone Tea Project. Usability Testing and Survey are the chosen methodologies. There are eight tasks and thirteen survey questions for this research study.

- **Proposed data collection instrument**

Provides the techniques in collecting data from each research methods. Usability Testing will use human subjects under moderation and within five second tasks. Surveys will be used after the test is complete.

- **Project planning report**

Includes a Gantt chart of tasks that needs to be completed for the Capstone. Other details included are the stakeholder's map, project scope, and success measurements.

- **Project Design**

Involves the designing process of the Capstone. Included in the section are: personas, scenarios, storyboards, task list, site structure, database design with entities relationship and normalization process, and two versions of the Tea Project Prototype.

- **Project Development**

Includes the client/server process, functional and database development, system specification, programming languages, and other aspects used to develop the Capstone Tea project.

- **References**

Contains a list of sources used in the introduction.

