We Fish: An Interactive Information Design Mobile app for Local Fishing

Liyang Wang
lw3734@rit.edu

Follow this and additional works at: https://scholarworks.rit.edu/theses

Recommended Citation
Wang, Liyang, "We Fish: An Interactive Information Design Mobile app for Local Fishing" (2017). Thesis. Rochester Institute of Technology. Accessed from

This Thesis is brought to you for free and open access by RIT Scholar Works. It has been accepted for inclusion in Theses by an authorized administrator of RIT Scholar Works. For more information, please contact ritscholarworks@rit.edu.
WeFish
An Interactive Information Design
Mobile app for Local Fishing

Liyang Wang

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Fine Arts in Visual Communication Design

Rochester Institute of Technology
College of Imaging Arts and Sciences
School of Design
MFA Visual Communication Design
December 13, 2017
WeFish:
An Interactive Information Design Mobile app for Local Fishing

Submitted by
Liyang Wang

Date
December 13, 2017

Thesis Committee Members:
Chief Thesis Advisor
Daniel Deluna, Associate Professor
School of Design, College of Imaging and Sciences

Signature of Chief Advisor
Date

Associate Advisor
Chris Jackson, Associate Dean
School of Design, College of Imaging and Sciences

Signature of Associate Advisor
Date

Associate Advisor
Nancy Ciolek, Associate Professor
School of Design, College of Imaging and Sciences

Signature of Associate Advisor
Date
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.17</td>
<td>Final Screens: Home Page</td>
<td>46</td>
</tr>
<tr>
<td>3.18</td>
<td>Final Screens: Interactive Map</td>
<td>51</td>
</tr>
<tr>
<td>3.19</td>
<td>Final Screens: Account</td>
<td>52</td>
</tr>
<tr>
<td>3.20</td>
<td>Final Screens: Catch</td>
<td>54</td>
</tr>
<tr>
<td>3.21</td>
<td>Prototype Development</td>
<td>56</td>
</tr>
<tr>
<td>3.22</td>
<td>Technology Challenge</td>
<td>59</td>
</tr>
<tr>
<td>3.23</td>
<td>User Research Methods</td>
<td>60</td>
</tr>
<tr>
<td>3.24</td>
<td>User Responses</td>
<td>65</td>
</tr>
<tr>
<td>3.25</td>
<td>Conclusions</td>
<td>73</td>
</tr>
</tbody>
</table>

Appendix | 75
Bibliography | 102
ABSTRACT

Fishing is a popular hobby in today’s society. People enjoy fishing to relieve stress, create social bonds, and find it fulfilling and challenging. In order to fish effectively, a fisherman needs to know the real-time weather, location information, and have basic fishing knowledge. There are many ways we can help fishermen by providing this information in an easily accessible manner. For fishing beginners and fishing amateurs, the best way to help them catch fish is to create a tool that solves their needs.

Mobile applications have quickly become a useful tool and are widely used today for its diversity and portability. It can aid promotion and offer great support, increase customer engagement, and provide more value to customers. There are mobile apps for almost every hobby and an app made specifically for its target users will always strive to provide important and relevant information. WeFish, a mobile app designed specifically for fishermen, will provide an excellent opportunity to help fishermen receive real-time notices, learn basic local information and extend their social network. The mission of this project is using UI and UX design to improve fishermen’s satisfaction. The final format of this project is an interactive information web prototype.

Through analysis, this thesis project presents a prototype concept for an interactive information app that can engage suitable users, allow for feedback, postings, and reviews, and provide supportive information for the fishing enthusiast.

Keywords
fishing, mobile application, information, prototype, UI design, UX design.
INTRODUCTION

Situation Analysis

In order to design a mobile application that is useful and relevant to its target users, one must be aware of its users’ needs. It is clear that different target users have different use cases so in this case, the needs of fishermen must be taken into consideration.

WeFish, as an interactive information fishing app, has a core target group of users who are fishermen. A fisherman’s main goal is to catch fish and in order to provide the information needed to successfully catch fish, fishermen must be aware of the outside factors that will affect their fishing yield. This includes the weather, time of the month, location, time of day, and tools that are being used. Real-time information, such as current weather conditions (temperature, humidity, precipitation, wind speed, sunrise and sunset time) would be vital information to have. The fisherman also needs to prepare suitable fishing equipment which includes fishing nets, lights, fishing carts, hook, baits, fishing rod, and so on.

A fisherman’s level of experience will also determine what information they would want. Therefore, users can be divided into different groups by level of experience such as beginners, amateurs, or experts. They have the same basic needs, but because of differing levels of experience, have different requirements. Fishing amateurs may want to get more instant fishing information, but beginners may want to learn the basic information, such as how to be prepared for fishing. For example, beginning fishermen may want to know where the local fishing stores are located and where to buy those fishing tools. It will also be beneficial for the fisherman to become familiarized with amateur fishermen who can share fishing experiences and go fishing together.
There are numerous fishing mobile applications and websites in existence. Some of them only provide basic information such as local fishing stores, local news, and fishing places. Some provide the weather forecast and some focus on the social network, providing real-time fishing messages. However, it is difficult to find one simple, convenient, and versatile fishing application.

At this time, an instant, efficient, and versatile fishing application can meet the needs of different users. WeFish, a mobile fishing application that combines different functions, such as local information, real-time notifications, social networking, and tutorials, will be key to satisfying different core and side target groups’ needs for fishing.
Problem Statement

This thesis project is a prototype of an interactive mobile application that involves multiple pages and functions. The prototype will help target users get real-time notifications and local information. Users will also be able to create a personal profile and extend their social network. There is more than one core target group and therefore, customers will have different purposes and requirements for this product.

There are two main design components in this project. The user interface design piece will focus on the wireframe, layout, graphic design, and web front-end code. The aim of UI design is to build a mobile prototype which is easy to use; users can use it on mobile and PC devices.

The user experience piece will predefine the user group, produce the user survey, and retrieve feedback. Feedback will be used to develop a more efficient way to know more about target users, define them correctly, and polish the prototype.

This thesis seeks to provide a solution to satisfy different target users’ requirements and the results should enhance all customers’ satisfaction. The aim of the research is to answer the following questions:

1. How to predefine different core target groups?
2. What is the most efficient way to get user feedback?
3. How to satisfy customers’ different requirements in one application?
Literature Review

User Interface

**Designing Web Usability: The Practice of Simplicity**

The book shares with readers the full weight of wisdom and experience. From content and page design to designing for ease of navigation and users with disabilities, the writer delivers complete direction on how to connect with any web user, in any situation.

**User Interface Management Systems: Proceedings of the Workshop on User Interface Management Systems held in Seeheim**
*By Günther E. Pfaff. Springer Science & Business Media. 2012*

The book contains the proceedings and reports of the “Workshop on User Interface Management Systems”, held in Seeheim, Federal Republic of Germany, November 1-3, 1983. The workshop brought together experts in using and developing techniques for managing the dialogue between users and interactive graphics systems. The purpose of the workshop was to produce an agreed report contrasting existing approaches, and outlining directions for future work. Four different areas were defined and addressed at the workshop, namely a) role, model, structure, and construction of a UIMS b) dialogue specification tools c) interface of the UIMS to the application d) user’s conceptual model. All participants prepared papers in each of those problem areas.
Inventing the Medium: Principles of Interaction Design as a Cultural Practice

*By Janet H. Murray. The MIT Press. 2011*

This book explains that innovative interaction designers should think of all objects made with bits -- whether games or Web pages, robots or the latest killer apps -- as belonging to a single new medium: the digital medium. Designers can speed the process of useful and lasting innovation by focusing on the collective cultural task of inventing this new medium. Exploring strategies for maximizing the expressive power of digital artifacts, the author identifies and examines four representational affordances of digital environments that provides the core palette for designers across applications: computational procedures, user participation, navigable space, and encyclopedic capacity.


*By Albert Badre. Addison-Wesley Professional. 2002*

This book can instill in web interface developers the need for a constant focus on users. The author shows that designing usable web sites requires employing a web-specialized methodology of designing for context.
**User Experience**

**Thoughtful Interaction Design: A Design Perspective on Information Technology**  
*By Jonas Löwgren, Erik Stolterman. 2004*

The authors of Thoughtful Interaction Design go beyond the usual technical concerns of usability and usefulness to consider interaction design from a design perspective. The shaping of digital artifacts is a design process that influences the form and functions of workplaces, schools, communication, and culture; the successful interaction designer must use both ethical and aesthetic judgment to create designs that are appropriate to a given environment. This book is not a how-to manual, but a collection of tools for thought about interaction design.

**Web Navigation: Designing the User Experience**  
*By Jennifer Fleming. 1st Edition. 1998*

This book offers the first in depth look at designing web site navigation. Author Jennifer Fleming offers design strategies to help you uncover solutions that work for your site and audience.

**Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics**  
*By William Albert, Thomas Tullis. Newnes. 2013*

This book focuses on how to quantify the user experience. In the second edition, the authors includes new material on how recent technologies have made it easier and more effective to collect a broader range of data about the user experience.
Observing the User Experience: A Practitioner’s Guide to User Research

By Mike Kuniavsky. Morgan Kaufmann. 2003

This book stresses the importance of user research. Lack of user research may cause a knowledge gap between what designers and the actual users of the product. The concepts presented in this book aims to bridge that gap by providing an understanding of how people experience products and services.

Information Appliances and Beyond: Interaction Design for Consumer Products

By Eric Bergman. Morgan Kaufmann. 2000

This book presents user interface design challenges that are only beginning to be understood. In this one-of-a-kind book, interaction designers examine the issues they confronted in their projects: Microsoft Windows CE, a vehicle navigation system, interactive children’s toys, and more.

Don’t make me think


Hundreds of thousands of Web designers and developers have relied on usability guru Steve Krug’s guide to help them understand the principles of intuitive navigation and information design. Witty, commonsensical, and eminently practical, it’s one of the best-loved and most recommended books on the subject.
Mobile Application

**Mobile Design Pattern Gallery: UI Patterns for Smartphone Apps**

*By Theresa Neil. O'Reilly Media, Inc. 2014*

This book is a great reference that provides more than 90 mobile mobile app design patterns. It also explains how mobile OSes have evolved with its own drive for design conventions and patterns. User experience professional Theresa Neil guides readers through design patterns in 11 categories, which include Navigation, Forms, Tables, Tools, Social, and etc...

**Three Layers Design Guideline for Mobile Application**

*By Nurul Zakiah binti Ayob, Ab. Razak Che Hussin, Halina Mohamed Dahlan. IEEE. April 2009.*

The research focuses on main issues of designing mobile application which is “how to display all the information and elements on the small screen of mobile device?”. This research aims to study and understand mobile human-computer interaction and other issues associated with mobile commerce application. By understanding the mobile commerce environment, a framework for mobile application can be purposefully designed.

**Usability of mobile applications: literature review and rationale for a new usability model**

*Rachel Harrison, Derek Flood and David Duce. Journal of Interaction Science. 2013*

This article demonstrates that cognitive overload can be an important aspect of usability.
Web Front End

**JavaScript and JQuery: Interactive Front-End Web Development**
By Jon Duckett. Wiley Publishing. 2014

This book adopts a visual approach to teaching JavaScript and jQuery. The audiences is shown how to make web pages more interactive and interfaces more intuitive through the use of inspiring code examples, infographics, and photography.

**HTML and CSS: Design and Build Websites**

This book introduces HTML and CSS in a way that makes them easily understandable to any interested party, whether they are hobbyists, students, or professionals. The approach used in this book utilizes information graphics and lifestyle photography to explain the presented topics. It is a simple and engaging way to learn HTML and CSS for readers of any level or occupation.
Design Process

Approach

WeFish is a mobile application that improves user satisfaction by comparing different user groups’ requirements. The final design project is a web-based interactive prototype. All of the visual assets are designed in Adobe Photoshop and Adobe Illustrator. The prototype is created in WebStorm, using HTML, CSS, JavaScript, Bootstrap, and JQuery.

- Do research on fishing factors, basic fishing knowledge, and those competitors.
- Define the target groups.
- Design the hierarchy, wireframe, interfaces of the mobile application.
- Develop an interactive prototype.
- Create user survey and gather feedback.
- Polish mobile application by gathering feedback and comparing to the previous version.
The design process includes 12 steps (see details in process flowchart graphic). There are two versions so the user research will occur twice before making a conclusion.

Figure 1 Process flowchart
**Research**

**Question 1: How to prepare to fish?**

1. Go where the fish are.

Fishermen should pick a place that they will enjoy spending several hours outdoors and a place one has a high probability of catching fishes. Most of the time, lake, rivers, and ponds are usually a good bet. Fishermen can also find good fishing spots from websites and fishing store staff.

2. Fish at the right time

Most freshwater fishes come out to eat at dawn and at dusk, making sunrise and sunset the most effective fishing hours. Fishermen should consider weather as a factor which will affect the likelihood of catching fish.

3. Prepare suitable fishing equipment

Fishermen should pick an appropriate rod and reel to get started with. The right bait, fishing line, and hook are necessary, as well as something to keep the fish in.

---

Question 2: How to catch fish?

Tie the hook on the fishing line
- Thread the end of the line through your hook, then wrap it 4-6 times around itself, going back toward the reel.
- Feed the end of the line back through the loop and pull it tight. You might need to use a little spit on the line to lubricate it and make sure it pulls tight.

Attach your weights and bobbers
- If the water is quite swift, as in a river or stream, it is probably best to attach weights (sinkers) to your line about 12” above your bait. By weighing down your line, you will keep your bait in place an inch or a few inches above the floor of the water—right where the fish are likely to be hunting.

Bait hook
- While it depends on the kind of bait fishermen are using, in general, they want to work the hook through your bait as many times as possible to keep it securely on the hook. Holding the hook securely in one hand, start 1/3 of the way from the bottom of the bait, and push it straight through. Bend the bait back toward the hook and pierce the bait again about halfway. At least two or three secured piercings should be fine.

2. Wikihow. “How to fish?”.https://www.wikihow.com/Fish
Cast your line

- Most beginners will cast sidearm, using the same motion used to skip a stone across the water. Bring the rod back to their side and bring it smoothly in the direction they want to cast.

Wait quietly

- Some fishermen will start reeling in very slowly, lightly jerking the bait to give fish the impression that it is alive. Depending on your experience and your bait, you might do this, or you might just sit back and wait. Experiment with different methods until you get a bite. However, do not immediately start reeling back in as soon as you’ve cast.

Hook that fish

- Once a fisherman feels a tug on the line or feel the line start to be taken, they will want to “set” their hook. To do this, simply give their fishing rod (and consequently the fishing line) a quick and firm jerk backward and up. If they have a fish on the line, it will fight back immediately and their line will follow the movements of the fish.

Pull the fish in by pumping and lifting the rod vertically while simultaneously reeling

- Don’t use the reel to pull in the fish except for very small fish. Keep the line tight and use your arms to pull it toward you and then reel in the slack line.

Bring your fish in with a net

- When fishermen have the fish tired out and reeled in, bring it out of the water and have a partner catch it in their fishing net, or carefully catch it.
Question 3: the weather factors

Solar Influence
- The sun is the largest body in our solar system and some would say exerts the greatest influence in our daily lives, as well as that of wildlife.
- The primary solar periods that are factored in weather and wildlife charts are dawn, dusk, midday, and midnight. Each of these periods is determined based on the exact time of sunrise and sunset for that specific location and date.

Lunar Influence
- The moon is also a large factor in the day-to-day lives of people, as well as wildlife. Some of the lunar influences are obvious while others are not.
- The most obvious effects of the moon on the earth are seen with tides.

Wind
- Wind can play a large role in fishing success. Wind push the bait to the far shore, with bait followed by game fish. If fishing from the shore on a windy day, fish where you have to cast into the wind. If fishing from a boat, cast with the wind on a sheltered shore.

Fronts
- Storms and changing weather patterns affect fishing success since fish are keenly attuned to changes in barometric conditions.
- With many fish, feeding increases during the hours immediately before a cold front but slows during and after a storm or front hits. Fishing after a cold front is poor and will continue to be poor for a day or two.

Cloud Cover
- Cloudy days improve fishing since the clouds prevent light penetration.
- Overcast skies cause fish to cruise for food more than they would during bright days when they tend to hide and stay close to a structure.
- On overcast cloudy days, fish are less likely to be on specific structure spots or areas and are more likely to be scattered throughout a waterway.

Rain
- Another good time to fish is during a light rain, especially a warm spring or summer rain. Rain can help you hide from the fish since the rain breaks up the view that the fish has through the water surface.

Tide

- Tides are actually vertical movements of water and are controlled by gravity. They are highly influenced by the sun and the position and size of the moon.

- Tides are the result of small differences in the combined gravitational pull of the moon and sun at different places on the earth due to differences in distance from a particular spot on the earth.

- Along the beach front, an incoming tide is best for fishing as the rising water covers the new territory where small crabs and other marine life have been hiding and allows larger predator fish access to the area.

- In salt water, tides affect water level. For example, a shallow area that might hold fish may be a very good spot to fish during a high tide but many be a bare mud bank during low tide conditions.

- A slough —, a slight depression in the bottom —, is perfect for bottom feeding fish such as flounder during a low tide situation but might be too deep and difficult to fish on a high tide.

Competitors (website and mobile application)

Fishing Monroe County (website. http://www.fishingmonroecounty.com/ )
This is a local information fishing website. It provides local basic information such as local fish species, local fishing report, and real-time weather.

Fishidy (mobile application)
The Fishidy app allows members to utilize all the features of their online service on the go. Anglers can record catches and data about their trip and, share them with friends.

Pro Angler (mobile application)
Pro Angler is an app designed to be a one-stop shop for die-hard saltwater anglers. It contains a wealth of information on over 100 species of fish, pro-tips from guides in your location, weekly updates on what's biting, a GPS based boat guide to help you navigate to hot spots and reefs, real-time marine weather updates, locations of over 1,000 bait and tackle shops, and more.

Fishbrain (mobile application)
Fishbrain is the world's largest community-based fishing app. It allows anglers to upload catches, fishing reports, and observations viewable to just themselves, their friends and family, or the community at large. Anglers can also view reports and catches from other anglers in their areas to figure out where the hot bite is.

WeFish – Process

Predefine users

The purpose of the WeFish application is to develop users habit and lure them back. But how can we do it? The hook model describes the solution to bringing users back again and again without depending on costly advertising or aggressive messaging.

The hook model is a four-step process (Trigger, action, variable reward, investment) embedded into the products of many designers and companies to subtly encourage customer behavior.

Before defining the target users, designers need to consider addressing five questions to evaluate target groups:

1. What is my application’s purpose?
2. What is my application’s goal?
3. What type of audience would values my application?
4. How effectively am I communicating with this audience?
5. Am I monitoring industry trends?

Designers also need to consider different factors which will affect users’ behavior and preference, such as age, gender, location, occupation, lifestyle, their problems and so on.

It is a good practice to create a user profile of your ideal customer, which can help you have a clear, sharp image in your head (not just a table of data or a graph). The profile can include users’ demographics. Designers should focus on target users’ needs and help them find a solution that meets their needs depending on the user profile.

Target users

Persona one:

<table>
<thead>
<tr>
<th>Fishing beginner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name: Rishi Prasadh</td>
</tr>
<tr>
<td>“I want to know where to catch fishes in local.”</td>
</tr>
<tr>
<td>Location: Rochester, NY</td>
</tr>
<tr>
<td>Occupation: Office Assistant</td>
</tr>
<tr>
<td>Personal device: iPhone (iOS)</td>
</tr>
</tbody>
</table>

**Personal life**

<table>
<thead>
<tr>
<th>mobile application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social network</td>
</tr>
<tr>
<td>New Technology</td>
</tr>
</tbody>
</table>

**Target attributes:**

- He is a fishing beginner who wants to know more.
- He is not familiar with the fishing spots.
- He is also not familiar with local fishing news and other information.
- He knows how to use a mobile application in daily life and wants to find a fishing application which can help him learn the local information.
Persona two:

<table>
<thead>
<tr>
<th>Name:</th>
<th>Lingfeng Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>Shenzhen, China</td>
</tr>
<tr>
<td>Occupation</td>
<td>Engineer</td>
</tr>
<tr>
<td>Personal device</td>
<td>Samsung Galaxy (Android)</td>
</tr>
</tbody>
</table>

**Personal life**

- **mobile application**: 

  ![Rating](image)

- **Social network**: 

  ![Rating](image)

- **New Technology**: 

  ![Rating](image)

**Target attributes:**

- He is an experienced fishing amateur.
- He is familiar with fishing spots but wants to know the detail of real-time information.
- He wants to organize fishing activities with other friends, or discuss about local fishing.
There are two versions of WeFish. The flow charts of version one and version two are different. Version two combines the main pages of the home page and local from version one. Version two also adds the sub-pages of saved fishing places, saved fishing stores and saved fishing species. The home and map pages provide the local information. Account pages will provide a social network and saved information to users. Catch pages support catching fishes details. All of the changes were based on core users’ suggestions. Each content element is categorized by a different color.

Figure 4 Version 1 flowchart
Figure 5 Version 2 flowchart
User Experience Map

Fishing beginner experience map

<table>
<thead>
<tr>
<th>Stage</th>
<th>1. Past experience</th>
<th>2. Awareness</th>
<th>3. Choose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think</td>
<td>“I want to know where to catch fish in local.”</td>
<td>“Where to buy fishing tools?”</td>
<td>“Nice. It can help me find suitable fishing spots.”</td>
</tr>
<tr>
<td></td>
<td>“What kind of fish I can catch?”</td>
<td>“Does this application looks interesting?”</td>
<td>“It is easy to download and use it.”</td>
</tr>
<tr>
<td></td>
<td>“What should I prepare fishing?”</td>
<td></td>
<td>“It has local fishing information what I need.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“I like to try.”</td>
</tr>
</tbody>
</table>

Doing

<table>
<thead>
<tr>
<th>Experience / Feeling</th>
<th>Surprised</th>
<th>Unhappy</th>
<th>Interesting</th>
<th>Exciting</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Stage</th>
<th>4. Purchase</th>
<th>5. Use</th>
<th>6. Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Think</td>
<td>“I wish it can help me catch fish.”</td>
<td>“I will buy it if it is good.”</td>
<td>“I don’t need to go around to websites or newspaper anymore.”</td>
</tr>
<tr>
<td></td>
<td>“Wait it as good as the reviews.”</td>
<td></td>
<td>“It is easy to use, the forum and app page help me a lot.”</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“My other friends should also use it.”</td>
</tr>
</tbody>
</table>

Doing

<table>
<thead>
<tr>
<th>Experience / Feeling</th>
<th>Curious</th>
<th>Satisfied</th>
<th>Curious</th>
</tr>
</thead>
</table>

Figure 6 User experience map 1
### Fishing amateur experience map

<table>
<thead>
<tr>
<th>Stage</th>
<th>1. Past experience</th>
<th>2. Awareness</th>
<th>3. Choose</th>
</tr>
</thead>
<tbody>
<tr>
<td>think</td>
<td>&quot;I want to know new fishermen and talk with them.&quot;</td>
<td>&quot;I want to improve fishing efficiency.&quot;</td>
<td>&quot;Many, it can help me find more fishermen.&quot;</td>
</tr>
<tr>
<td>doing</td>
<td>He wants to go to different fishing spots by himself</td>
<td>He will check weather forecast from weather websites</td>
<td>&quot;I like the user interface, color and layout.&quot;</td>
</tr>
<tr>
<td>experience</td>
<td>Unhappy</td>
<td>Interested</td>
<td>Excited</td>
</tr>
<tr>
<td>feeling</td>
<td>Curious</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stage</th>
<th>4. Purchase</th>
<th>5. Use</th>
<th>6. Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>think</td>
<td>&quot;I wish it can help me find more fishermen.&quot;</td>
<td>&quot;It is easy to share and see other fishermen’s catch moments.&quot;</td>
<td>&quot;A friend tells me it is a good fishing app.&quot;</td>
</tr>
<tr>
<td>doing</td>
<td>Download WeFish</td>
<td>Rate the app</td>
<td>Personal mention to his friends</td>
</tr>
<tr>
<td>experience</td>
<td>Make a decision to buy and use it.</td>
<td>Satisfied</td>
<td>Exciting</td>
</tr>
<tr>
<td>feeling</td>
<td>Curious</td>
<td>Curious</td>
<td>Curious</td>
</tr>
</tbody>
</table>

Figure 7 User experience map 2
The home page has six buttons and can click to each sub-page. There is a title and some images below the six buttons. Users can click each image to the news web pages.

The fishermen can each create different lists. Each list has a profile picture, ID, information and buttons which can be clicked to open the profile page. There are filter buttons on the top of fishermen list, where users can click to categorize all of the fishermen nearby.

The profile page has three parts. The first part has the profile picture, background images, and personal information. The second has two buttons and clicks to the next pages. The third part has images and basic information.
The weather page has a big rounded rectangle button in the center where users can click to check the weather diagram. There are also three buttons on the top which users can click to see the weather forecast. The real-time weather information is easy to find right below the big button.

The weather diagram page has a big weather diagram to show recent weather changes. The 7 day weather forecast is below it, as this can help users determine better fishing times.

The stores/places page has two buttons on the top and can help customers filter the search results. The search result will show as a list, and each list has a picture, name, rate, and button which can click to the detail pages.
The detail page has a big placeholder at the top where users can see and recognize the store or fishing place. The name, rate, and other basic information will show on the detail page. There is also a map which shows the location of stores or fishing places. There is other information that users can find on this detail page, such as photos, hours of operations, comments, and the link to their home web page.

The location page has a search bar where users can type location information to find stores in different cities or places. Users can see their real time location and other important cities in an alphabetical list.
The map page shows the real-time map in the background. Users can see the fishing spots here and can click the button to see a small frame which shows the information and rates. They can also click the button to see the details about each fishing spot.

The catch page can show different catch photos from fishermen. The layout will change depending on the number of photos. Users can click on each photo to go to the catch details page.
There are different buttons on the login page and users can choose different ways to go to their profile pages. There are also two inputs in which users can enter their account and password.

There are different lists on the profile page, which have picture information and buttons and users can click to access different sub-pages. There are profile pictures on the top and users can also see other basic information here. Additionally, users can see their catch details below the list.
Catch details page has a picture slideshow to show the catch moment. Users can click the left or right button to see previous or next pictures. There are lists below the slideshow where people can see basic information on what the fishermen have typed and have shown to others.

The submit catch page has a lot of lists. Some of the lists are for inputting data and fishermen can type basic information. Some of them are buttons and people can choose different options. There is a big input field below the lists and customers can type their mood and conclusions in it.
The idea of the logo comes from the fishes and fish hook, which can help people to visually connect to the theme of fishing easily. The final sketch includes both symbols. The first version is a salmon fish and it is too complicated as a logo. The second, third, and fourth versions show the fishing tools, but it looks like a fishing store’s logo. The fifth version is the fishing net and fish, it is not clear or interesting. The final sketch is of a fish as it prepares to bite the hook. Everyone can understand the brand is about fishing when they see the logo. The last one was chosen as the final logo; the representation of the fish preparing to bite the hook symbolizes an important moment in the fishing experience and is easily recognizable.
Typography

Helvetica Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
0123456789!#$%^&*()_+

Helvetica Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
0123456789!#$%^&*()_+

Helvetica Narrow

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
0123456789!#$%^&*()_+

Toledo

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
0123456789

Type choices were made based on the target audience and the importance of legibility. As a result, Helvetica Regular was chosen for this reason, in addition to accessibility for digital/screen use on mobile applications. Additionally, Toledo was used for the WeFish logo. Users can find the Toledo logo in the home page and the demo.
The primary colors are #005ca9 and #053973. One is bright blue and another the other one is dark blue. This mobile application is a fishing application and the blue color can help users visualize a river or an ocean. The bright color represents normal status and the dark blue represents the clicked or active status.

The secondary colors are used in different icons.
The final logo uses the primary color (#005ca9), blue, and white. It is the version used on the demo screen after people click the WeFish logo. The demo shows animated water, bubbles, and waves.
Icon

Home page:

Local page:

Account page:

Other:

Figure 25 Home page icons

Figure 26 Local page icons

Figure 27 Account page icons

Figure 28 other icons
The home page has a slideshow on the top section where users can click buttons to change the pictures and click on the pictures to go to the sub-pages. Users can also click the fishers, places, and stores icons to get local information.

The recommendation section will show the popular catch moment. People can click the “more” button to go to the moment pages. Users need to login if they want to leave comments for other users’ catch moment. The recommendation part has the title, catches moment pictures, fishermen’s profile, ID name, date, and location.
The local page has four big buttons: fishermen, weather, places, and stores. Users can click them to get the local information from different sub-pages.

The weather page has a big button in the center which shows the time and catch conclusion. It has basic information with three click buttons on the bottom which can be clicked to check the real-time weather and the three days weather forecast.

The moment page has pictures to show significant fishing moments. It has basic information about fishermen ID, profile, catch time, and location. The “log catch” button can help users to submit their recent catch picture and share the details.
The home page has six buttons on the top: fishermen nearby, local weather, fishing places, fishing stores, fish species, and location. Users can click each button to go to different sub-pages and get the local information. The recent local news has different news titles and images where fishermen can click them to read the local news. It combines the home and local pages’ contents from the previous version.

When users click the first fishermen button, they will go to the fishermen page. There are two buttons that can help people filter the search results. One is distance and the other is last online time. The fishermen lists show pictures, ID name, distances, last online time, and an “add” button to add new friends.

Users can click the list to go to other fishermen home pages where they can text message, cancel, or add them as a friend. Users can also see other fishermen catch moments and can click pictures to go to the catch detail page.
The weather page shows the real-time weather information. Users can click top buttons to check the weather forecast in next 3 days. The basic weather information includes temperature, humidity, wind, precipitation, sunrise time and sunset times. A big button in the center shows the time and the fishing conclusion whether fishermen should go catch fish. such as great, good, not so good and bad. This will be indicated with phrases such as Great, Good, Not so good and Bad.

Users will see other information by clicking the center button or by scrolling down. The weather diagram shows the recent 24 hour weather record. Users can click different buttons to check the weather details. The list shows the next 7 days' weather forecast to help fishermen make a decision whether they should plan to catch fishes.

The weather page changes the layout and moves the weather forecast buttons to the top. It also adds the weather diagram and lists to help users choose the right time.
The layout of the fishing stores/ places page is similar to the fishermen pages; users can filter the search results by distances, ratings, or reviews. The lists have pictures, names, rating, and add buttons. Users can click the add buttons to save those fishing stores or places and find them on their personal account page.

The fishing stores/ places details page has a big background image on the top of the page. Customers can also find the name, rating, distance from current location, and web link below the big image. The google map preview can help people find the location, address, and check the hours of operation.

Additionally, the photo gallery can help people become familiar with the environment. Users can also check other user comments to make a decision on whether it is a good place to go fishing or buy fishing equipment.
The fish species page uses a list style to show the different types of fish. Users can find pictures of various local fishes and select their name from the list. They can click the “add” button to save their favorite fishes to their own account. They can also click on the list to see the fish species details pages.

The fish species details page has a big image on the top to help users distinguish what the fish looks like. There is a description of each fish’s habits, typical locations, and other basic information. Fishermen can also find the most popular bait and the latest catches for many different species.
Users can type keywords to find cities and location. The local page shows your city, trending cities, and an alphabetical list of all cities. All of the local information will be changed if the user chooses another city button. People can also click the list button on the right side to find their favorite cities quickly.
Interactive map

Users can use the mouse to move the map background image to see all the locations of different fishing spots. They can find the rate, fishing spots’ name, and an entry point to the fishing spot’s sub-pages.

Fishermen can find different catch information from the sub-pages, and the number icons can be clicked as links to the individual catches’ pages. Users can also click on the rating button to leave their personal rating. The catches diagram shows the amount of catches over time.
Users should login first if they want to use the Account page. There are a few different ways that they can log in: email to create a new account, or login directly with Google or Facebook.

Fishermen can visit their personal Account page and see their friends list, messages, saved fishing places, saved fishing stores and saved fish species. They can also see and manage their catch history here.

Users can click the top right setting button to manage their account and change their personal information, email address, name, password, profile picture, and account background image.
The Friend list page, saved Fishing places, saved Fishing stores, and saved Fish species have the same layout. Users will see the font’s orange color to indicate an item was added. They can delete the saved item by clicking the right button, which will turn the front color to blue (not added) and disappear from the list if they refresh the page.

The message page has a number of messages, sender’s profile, ID, and the latest message time. Users can also click the arrow button to read the messages and send messages to their friends.
The Catch page has filter buttons similar to the fishermen and stores/places pages. Users can also find the catch moment here. Each catch moment will show pictures, as well as the fisherman’s profile, name, catch time, and location. The layout of pictures will change depending on the number of pictures that the fisherman submits to the database. Other users can click on the like button or comment button to leave their personal reviews.

Fishermen can click on the catch pictures to read more details about the catch, find larger images, the sender’s description, and other people’s comments.
Fishermen also can read about metadata for the catch such as the fish species, weight, length, fishing method, bait, location, and weather. They can click the right button behind each catch slideshow to get that information.

Users can also submit their catches by clicking the log catch button on the bottom of the Catch page. There they can choose pictures from their camera roll and submit details, showing their own catch moment to the public.
WeFish prototype used web front end to finish the part of prototype development. It includes HTML, CSS, JavaScript.

HTML is used to build the web prototype’s structure, such as head section and body section.

CSS is used to define the style such as color, width, height, background-image, font size, font weight, and so on.

JavaScript is used to define each function such as the click, window ready and window load functions.

The software is WebStorm. WebStorm is a lightweight yet powerful JavaScript IDE which is perfectly equipped for client-side development and server-side development with Node.js.
Figure 61 folder

Figure 62 HTML file
Technology challenge

There are multiple prototype tools such as InVision and Justinmind that designers can use to create a prototype that looks similar to a mobile prototype. The most challenging aspect is how to create a web front end prototype using these prototype tools.

The biggest difference between prototype tools and web front end prototypes is that the code can define unrestricted function or animation. A web front end prototype can connect to the database and build dynamic web pages. WeFish has a lot of details to make it look like a real mobile app. For example, users can click Add friend and find the added friends or stores, fishing spots, fish species color will be changed from blue to orange.

Lynda.com is a good tutorial resource website that can be used to solve coding problems. Youtube, Stack Overflow, and other tutorial websites can also help solve technology problems.
There are different ways to do user research. One is the online surveys and another one is face-to-face surveys.

SurveyMonkey is the world’s most popular free online survey tool which can help project planners get target user feedback quickly.

The WeFish version1 survey got 12 responses and version2 got 15 responses.
WeFish
An interactive information design mobile app for local fishing

**Personal information**

Q1: What is your fishing level?
- fishing beginner
- fishing amateur
- fishing expert

**About fishing app**

Q2: Have you used another fishing app before?
- yes
- no

Q3: If yes, which one? __________

Q4: Why do you use a fishing app? __________

Figure 67 Face to face questionnaire
About WeFish

Q5: Are you interested in using the WeFish app?
○ yes ○ no

Version 1

Q6: Rate the following aspects of the WeFish app (version1)

<table>
<thead>
<tr>
<th></th>
<th>Very weak</th>
<th>Weak</th>
<th>Fair</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Local page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Catch page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Visual style</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>User navigation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Usability</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Type readability</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>User orientation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q7: Suggestions for improvement / general comments ____________
________________________________________________________________
________________________________________________________________
________________________________________________________________

Figure 68 Version1 questionnaire
### Version 2

Q8: Which version do you prefer?
- ○ version 1  ○ version 2

Q9: Rate the following aspects of the WeFish app (version 2)

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Very weak</th>
<th>Weak</th>
<th>Fair</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Map page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Account page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Catch page</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Visual style</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>User navigation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Usability</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Type readability</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>User orientation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Q14: Suggestions for improvement / general comments

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Figure 69 Version 2 questionnaire
There are two ways to do a face-to-face survey:

The first one finds fishermen in local fishing spots and surveys them. There are many local fishing spots in Rochester which are good places to find fishermen, such as Lake Ontario, Mendon Ponds State Park, and Genesee River.

Another one is prepared surveys in Imagine RIT and show the web prototype.
There were 32 responses total, 8 of them which are incomplete.

There were 24 completed user responses, 11 of them are of version 1 and 13 of them are of version 2.

From the data, 18 of those users are fishing beginners and 5 of them are fishing amateurs. Only one user believes he/she can be designated as a fishing expert.

Conclusion:
Target users are fishing beginners who have interest in catching fish and few of them are fishing experts.
Question 1: Have you used another fishing app before?

There are 20/24 people that indicated they have used other fishing apps before and 4/24 said they have never used another fishing app.

Conclusion:
Target users have had experience using other fishing apps and they may want to find another fishing app which can help solve specific problems.
Question2: Why do you use a fishing app?

Answer: 1. Fishing more efficiently.  
2. Buy some fishing tools.  
3. Want to know how to fish.  
4. Check the tide daily.  
5. Keep records about fishing.  
6. See other people’s catch.

There are different reasons why people want to use a fishing app. Fishing beginners want to improve their fishing efficiency. They also want to know how to fish and buy some fishing tools (local information). Fishing amateurs want to check the tide daily and keep records of fishing. Both of them want to see other people’s catch.

Conclusion: 
Different users may have different requirements and demands. Beginners focus more on basic knowledge and local information while amateurs focus on social network and professional data.
Question 3: Are you interested in using the WeFish app?

It is a good research result that everyone thinks WeFish is a good fishing app and they are interested in using it.

Conclusion:
WeFish will meet the growing demand for a fishing app that assists fishermen of all skill levels efficiently in pursuing a more meaningful catch.

WeFish will enhance and improve the fishing experience!
Rate the following aspects of the WeFish app

Figure 74 User response

Rate the following aspects of the WeFish app

It is clear that the response rate of version 2 is higher than version 1.

The ratings in this diagram range from 1 to 5. A rating of 1 means very weak, 2 means weak, 3 represents fair, 4 means good, and 5 means very good. The average rating of version 1 is 3.435 and version 2 is 4.1525. So, the overall feedback improved from fair to good.

The biggest gap is user navigation which was 3.13 in version 1 and is 4.25 in version 2. Only the rating for user orientation is lower than 4.0, with a rating of 3.9. All the ratings in version 1 are lower than 4.
Conclusion:

Version 2 of the prototype changed a lot of things compared to version 1, such as layout and icons. All of the changes were based on user feedback. The biggest change was combining the home page and local page, because our largest group of users are fishing beginners and they want to get more local information easily. The results from feedback show that the version 2’s user navigation was much better than version 1.

The rate of visual style also improved a lot from 3.15 to 4.13. The primary color, images, typography, and icons are changed in version 2. Most of the feedback on visual style came from face to face interviews. Designers can introduce WeFish to users and help them learn how to use WeFish, understand their preference, and gather key information from them.
Suggestions for improvement / general comments (version 1)

1. Bottom navigation in the subpage.
2. Maintain the unity of each page.
4. Low user navigation.
5. Repeat information.
6. Unnecessary recommendation.
7. Focus on information or social?

Most of the user feedback about WeFish version 1 is about layout, navigation, visual style, and information.

The designer used most of their feedback to improve WeFish in these areas. For example, changes include keeping the bottom navigation in each subpage, making the pictures clearer and bigger, combining the home page and local page, deleting the repeat information and focusing more on information.
Suggestions for improvement / general comments (version 2)

1. Search fish places all around the world.
2. Add the tide information.
3. Weekly ranking of users.
4. Share the catch details in social media.
5. Forecast in the home page.

Version 2’s user feedback is more focused on social and interactive function when compared to information in version 1. Only one feedback wanted to change the layout and add forecast on the home page.

It means that the new version can satisfy most of the users in the field of layout, usability, visual style, and so on.
Conclusions

Designers can prepare different examples of real personas for various core target users. Designers should choose specific demographics to target depending on the product, for example, age, location, gender, education level, and occupation. They can also consider the psychographics of your target market, for example, personality, attitudes, lifestyle, and hobbies. Also, user experience maps are a good way to help designers understand their potential user behavior and demands.

There are three popular ways that designers can conduct research with target users: online survey, face-to-face interview, and phone interview. The online survey is the most efficient way, but some of the surveys may be submitted incomplete and can’t be used. Face to face interview requires designers to find the target users in real life and book a time to meet them. It will take a lot of time, but designers can get a lot of important information and comments from users. Designers can introduce and help users understand the product and, they can also ask more questions to target users. The phone interview may face a problem of how to find target users. Designers need to find the solution and then they can use this way to do user research.

After usability testing, users provided positive feedback for this project. Both fishing beginners and fishing amateurs believe WeFish can help them catch fish and satisfy their different requirements. The average rating improved from “fair” to “good” and all of the changes were based on user feedback.
Designers should understand one rule: Design everything based on user feedback and don’t believe good products can be created without user feedback. It will be beneficial to the product development if designers can find some potential users who can give feedback for each step. These new potential users should not be person who have already attended the user test before or has already become familiar with the products. Designers should find new users who can help them find the products’ bugs or issues with the product.

In conclusion, WeFish provides an excellent example by engaging visual design, interaction design, user experience design, and web front end skill. Through the design and development process of this web prototype, the thesis candidate learned how to define potential core users, how to get user feedback, how to produce a web prototype which looks like a real mobile prototype, and how to find a solution to satisfy different user demand in one product.
Appendix
original thesis proposal

Thesis Proposal

WE FISH
An Interactive Information Design
Mobile App for Local Fishing

Liyang Wang
MFA Visual Communication Design
School of Design
College of Imaging Arts and Science
Rochester Institute of Technology
<table>
<thead>
<tr>
<th>Title</th>
<th>We Fish: An Interactive Information Design Mobile App for Local Fishing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submitted by</td>
<td>Lijing Wang</td>
</tr>
<tr>
<td>Thesis Committee Approval</td>
<td>Chief Advisor&lt;br&gt;Daniel Deluna, School of Design</td>
</tr>
<tr>
<td></td>
<td>Associate Advisor&lt;br&gt;Chris Jackson, School of Design</td>
</tr>
<tr>
<td></td>
<td>Associate Advisor&lt;br&gt;Nancy Cooke, School of Design</td>
</tr>
<tr>
<td>Signature of Chief Advisor</td>
<td>Date</td>
</tr>
<tr>
<td>Signature of Associate Advisor</td>
<td>Date</td>
</tr>
<tr>
<td>Signature of Associate Advisor</td>
<td>Date</td>
</tr>
</tbody>
</table>
Abstract

How to satisfy the target group's demand? Every designer should have the answer before they design any product. In a way, the goal of designing is to address the requirements of the target group. But, it is clear that different target users have different demands. Apparently, most of the interactive products are mainly focused on a particular group. However, the problem will come up if a product is required to satisfy two or more target groups. How would one design a premium application to satisfy broad clients' requirements?

This thesis project will build an interactive app that focuses on multiple target groups. The research will do an analysis of different sections, and focus on the relationship, interface satisfaction and usability through users' feedback. The research result will show various groups' feedback, which will help truly helps designers to keep a balance within those different users while processing the design.

keywords: user experience, iOS, user interface design, target groups, interaction design, mobile application
Situation Analysis

Compared with other competitor's products, an interactive app has obvious advantages such as convenience, high efficiency, immediacy and diversity. The core ideology is to meet the needs of different users and improve customers' satisfaction.

When a person is ready to go fishing, he often needs to get real time information such as current weather data. He may also want to know about the local fishing store and fishing spot if he is a fishing beginner. He may also want to find out about more amateur fishermen. At this time, an instant, efficient and versatile fishing app can meet the needs of different users.

There are multifarious fishing app and web in the current market. Some of them only provide basic information such as local fishing stores, local news and fishing places. Some provide a weather forecast and some focus on the social network, real time fishing messages. It is therefore difficult to find a simple, convenient and versatile fishing app. It is obvious that the main target group of a fishing app is a fisherman. But fishermen can be divided into different groups such as beginner, amateur or expert. They basically have the same needs, but at the same time they have different requirements. Fishing amateurs may want to get more instant fishing information, but those beginners want to learn the basic information such as how to be prepared for fishing. In addition, the target people can also be classified as fixed and random user groups, so the randomness of the user can be analyzed. Therefore, fishing app is a suitable app, which can help to achieve the purpose of research.
Problem Statement

If designers want to design a good product, it is important that they need to analyze the target group such as gender, age, education, work, hobby and so on. Different users always have different habits, preferences and requirements, such as color, fonts, graphics, diversification and function. For instance, children prefer to use pictures instead of words to learn knowledge, old people prefer to use simple and direct function products rather than complex products. In general, a design product only has one main target group, but sometimes the target group can be classified. When a main user group is subdivided into two or more individual groups, it is obvious that they have common needs and different requirements. How to produce a useful interactive product for different groups, keep balance between them, better meet user requirements, improve the user experience degree will be the thesis research direction. There are different parts of the solution, such as an analysis of the product's structure and layout, use a unified questionnaire which is carried out in the target population, to improve the quality of the product around the users. Finally, the product can meet the needs of different target groups.

This case does more analysis of the user experience. In the initial design stage, designers complete work according to experience and skill. After the completion of the design process, the study adopts the researching methods of questionnaires to both random and fixed user groups, understand their feedback on the product. After obtaining the effective feedback, improve design structure and capacity. The final results will be summarised in the form of graphics and text. The research can help designers learn individual differences between experienced and new users of the app.
Design Ideation

Comparative analysis

Fishing Monroe County (website)
A website to help people know the local fishing news and relative information such as fish species, local stores and real-time weather.

Fish Brain (app)
A professional fishing app which allows fishermen to share their fishing experiences with friends and build their own social network.

Fish Hawk (app)
Users can submit their photos and other information after they catch fishes. Fish Hawk also provides the weather forecast such as wind, waves.
Survey of Literature

Designing Web Usability: The Practice of Simplicity
Jakob Nielsen
1999
The book delivers the full weight of wisdom and experience. From content and page design to designing for ease of navigation and users with disabilities, the writer delivers complete direction on how to connect with any web user, in any situation.

User experience - a research agenda
Marc Hassenzahl & Noam Tractinsky
2011
Taylor & Francis.
This book provides a cursory sketch of UX and how we think UX research will look like in the future. It is not so much meant as a forecast of the future, but as a proposal a stimulus for further UX research.

Measuring the User Experience: Collecting, Analyzing, and Presenting Usability Metrics
William Albert, Thomas Tullis
2013
New Riders.
Measuring the User Experience was the first book that focused on how to quantify the user experience. Now in the second edition, the authors include new material on how recent technologies have made it easier and more effective to collect a broader range of data about the user experience.

Observing the User Experience: A Practitioner’s Guide to User Research
Mike Kanjiwsky
2003
Morgan Kaufmann.
The gap between who designers and developers imagine their users are, and who those users really are can be the biggest problem with product development.
Survey of Literature

Web Navigation: Designing the User Experience
Jennifer Fleming
1998
1st Edition
Web Navigation: Designing the User Experience offers the first in-depth look at designing website navigation. Author Jennifer Fleming offers design strategies to help you uncover solutions that work for your site and audience.

User Interface Management Systems: Proceedings of the Workshop on User Interface Management Systems held in Seebheim
Gunther E. Fiall
2012
Springer Science & Business Media

Mobile Design Pattern Gallery: UI Patterns for Smartphone Apps
Theresa Neil
2014
O'Reilly Media, Inc
Much has changed since this book's first edition. Mobile devices have become increasingly different, driving their own design conventions and patterns, and many designers have embraced mobile-centric thinking. In this edition, user experience professional Theresa Neil walks product managers, designers, and developers through design patterns in 11 categories.

Inventing the Medium: Principles of Interaction Design as a Cultural Practice
Janet H. Murray
2011
The MIT Press
Digital artifacts from iPads to databases pervade our lives, and the design decisions that shape them affect how we think, act, communicate, and understand the world.
Survey of Literature

Shaping Web Usability: Interaction Design in Context
Albert Badra
2002
Addison-Wesley Professional
The author has written this book to instill in web interface developers the need for a constant focus on users. He shows that designing usable web sites requires employing a web-specialized methodology of designing for context.

Information Appliances and Beyond: Interaction Design for Consumer Products
Eric Bergman
2000
Morgan Kaufmann
Information appliances and other interactive products “beyond the desktop” present user interface design challenges that are only beginning to be understood.

Thoughtful Interaction Design: A Design Perspective on Information Technology
Jonas Lowgren, Erik Stolterman
2004
The authors of Thoughtful Interaction Design go beyond the usual technical concerns of usability and usefulness to consider interaction design from a design perspective. This book is not a how-to manual, but a collection of tools for thought about interaction design.

Don’t Make Me Think
Steve Krug
2014
Hundreds of thousands of Web designers and developers have relied on usability guru Steve Krug’s guide to help them understand the principles of intuitive navigation and information design. Witty, commonsensical, and eminently practical, it’s one of the best loved and most recommended books on the subject.
The idea comes from WeFish's layout and structure, other related websites or apps. A fisherman needs to know local places and fishing spots. The target group should have basic information such as location, local stores and weather, gender, education, level and age. The weather information is also very important in fishing. Those experienced fishermen make conclusion depending on the weather. Someone also might want to make friends. The app should help them filter search and it is a good way to help fishermen meet people with the same hobby.
There are five main sections of this fishing app: home, local, map, account and moment. The home page has two sub-pages: city and weather. The section of local has four parts: fishermen, weather, places and stores. Account holders need to login, and then users can enter the profile page, and there are five sub-pages under it, there are edit, messages, moment, places and stores. Users can use the submit page to share fishing moment in the moment section.
Logo Design

The idea of the logo comes from the fishes and fish hook, which can help people to visually connect to theme of fishing easily. So the final sketch includes both of them. The first version is a salmon fish and it is too complicated as a logo. The second, third and fourth show the fishing tools, but it looks like fishing store's logo. The fifth is the fishing net and fish, it is not clear and interesting. The last one is the final sketch. The fish prepare to bite the hook and everyone can understand it is about fishing when they see the logo. The last one was choose as the final logo, the demonstration of the fish preparing to bite the hook symbolizes about fishing and can easily recognize by people.
Wireframe

The fishing app wireframe will help designers understand its layout and structure. There are five main sections, home, local, map, account and moment.
Wireframe
Typography and Color

The type is Helvetica (regular).

The color combination is blue and orange. The blue color can visually connect to the water. The orange color always be used in active mode.
Deliverables

Web Prototype

The web prototype will be built using Adobe Photoshop, Adobe Illustrator and wetome. The web prototype like a real app and people can use the mouse to click the buttons as they use a finger to control mobile app. There are five sections and separate web pages to help users understand the layout, function, capacity and usability. The prototype will be published in a website and users can use it and click the testing link to give feedback.

Users can also click a link to the questionnaire page and answer questions, give feedback to designers.
Methodology

The design of the fishing app will be accomplished by utilizing a variety of software applications. The logo and graphic elements will be designed with Adobe Illustrator and Photoshop.

The challenge is to create a simple and consistent fishing app with multiple functions. The project will target fishing beginners and fishing amateurs, when they use the app. It will help target audiences access basic local information, communicate with other fishermen and access the fishing forecast in the app.

Research will be conducted in order to understand the principles of creating a professional fishing app. There are five buttons in the main menu, which represents five sections: weather, location, map, account and moment. The weather and location sections provide the relative fishing information to users, and the other sections help people connect with others, and get suggestions from the fishing app.

This fishing app is a user-centered design, visual identity and interactivity of the app will be improved based on user's feedback. The part of coding work will be finished in weebly after finishing the logo, icon and interface design. Users can give feedback or comments in promotional websites.

The skills required for this project need to have the ability to rapidly prototype for iterative design improvements, comprehensive knowledge of designing user centric applications and relative professional knowledge. Besides, the designer should be familiar with HTML, CSS, JavaScript and Bootstrap.
Target users

Rishi Prasad (fishing beginner)

Lives in Rochester, NY
Office Assistant
Studied at RIT
From India

Target attributes:
He is a fishing beginner who wants to know more.
He is not familiar with the fishing spots.
He also not familiar to local fishing news and other information.
He knows how to use apps in daily life and wants to find a fishing app which can help him.
Layout for beginners

It is clear that beginners like to know the basic information such as where to go fishing and weather forecasting. Many beginner fishermen do not have knowledge of local fishing areas, advices of weather for best fishing time slot, and a network of local fishermen.
Target users

Lingfeng Mo (fishing amateur)
Lives in Rochester, NY
Engineer
Studied at Clarkson University
From China

Target attributes:
He is an experienced fishing amateur.
He is familiar with fishing spots but wants to know the detail of real time information.
He wants to organize fishing activities with other friends, or discuss about local fishing.
Layout for amateurs

The amateurs are interested in getting information from the interactive map and dashboard. And they want to find out more fishermen, learn from other people and share experiences. Sometimes, they will also read the weather forecast, but they have no interest in the screen of location, especially those local fishing amateurs.
Target users | fixed users
---|---
Those fixed users give feedback on the web. Designers can get their feedback immediately, compare users' feedback in different test rounds and improve app structure and capacity.

merits
Designers can find those fixed users from their friends and someone who is really interested to use the fishing app. They will give feedback immediately and efficiently. They are patient and always try to help designers to find problems.

demerits
Those users familiar to the products and they are experienced users. Their feedback does not represent the new users.
<table>
<thead>
<tr>
<th>Target users</th>
<th>random users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Those random users represent the new users who use the product for the first time.</td>
<td></td>
</tr>
<tr>
<td>merits</td>
<td>merits</td>
</tr>
<tr>
<td>Those random users who attend the user testing random through website or link. They are not familiar with the products and provide their own feedback.</td>
<td></td>
</tr>
<tr>
<td>demerits</td>
<td>demerits</td>
</tr>
<tr>
<td>It is a challenge to find many suitable random users to attend the user testing.</td>
<td></td>
</tr>
</tbody>
</table>
Implementation Strategies

As a fishing amateur, I had a passion to design a fishing app and do research for user experience in this field. I have taken several classes including interaction design, web & UI. I am capable of creating identity design and design a prototype for an iOS app. The implementation will be done in Adobe Illustrator and Adobe Photoshop. I would also utilize HTML, CSS, JavaScript and bootstrap for this project, as I spent six months to learn them and apply for the project. The prototype will be finished in webstorm and users can click buttons to know the interactive interface. After that, it will have a questionnaire link for users and they can complete the questionnaire to give feedback.

Dissemination

On campus dissemination
Imagine FIT – May 2017
Thesis Show – May 2017

Off campus dissemination
Adobe Design Achievement Awards – June 2017
Communication Arts Design Competition – May 2017
How Interactive design awards – August 2017
Interaction awards – July 2017
Evaluation Plan

The evaluation criteria and process are essential in determining if objectives were successfully achieved and people clearly understand the subject matter of the thesis. The feedback will be gained from the online survey. In addition, usability testing will be implemented in order to test through the website.

Content

- Usability
- Visual parts (color, logo, icon)
- Consistency and simplicity
- Validity
- Satisfaction
- Suggestions

Result

The final results and data will be published in the form of diagrams and text. The form of diagram includes pie chart and bar chart. All conclusions and analyses are based on user feedback.
<table>
<thead>
<tr>
<th>Pragmatic Considerations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotional Website</td>
<td>$20</td>
</tr>
<tr>
<td>Software Copyright</td>
<td>$100</td>
</tr>
<tr>
<td>Tutorial expense</td>
<td>$1500</td>
</tr>
</tbody>
</table>
Timeline
Bibliography


Rachel Harrison, Derek Flood and David Duce. “Usability of mobile applications: literature review and rationale for a new usability model.” Journal of Interaction Science. 2013


