HAPPY HAPAI:
Evaluating the Usability of a Pregnancy and Childbirth Preparation Website

Demi Yoshimoto
dmkyoshi@hawaii.edu
University of Hawai‘i at Mānoa

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About Me

Demi Yoshimoto
Honolulu, Hawai`i

B.Ed.
Early Childhood & Elementary Education
University of Hawai`i at Mānoa

M.Ed. Candidate
Learning Design & Technology
University of Hawai`i at Mānoa
Things to keep in mind…

- *Hāpai* - to carry, be pregnant
- “*Ua ola loko i ke aloha*”
  - Hawaiian proverb or wise saying
  - Translation: “Love gives life within.”
Presentation Outline

Background  Design  Methods  Results
BACKGROUND
Quick Poll

Have you or do you know someone who has been pregnant and/or given birth on the island of O`ahu?

1. Click Participants at the bottom of your screen:

2. Select one option on the screen to the right:
2018 Live Birth Data

State of Hawai`i: 17,027 births
O`ahu: 12,559 births
  74%

Retrieved from https://health.hawaii.gov/
Expecting Parents

- 9 months of pregnancy and time to prepare
- Gathering information & making decisions about childbirth, classes, delivery location, necessary items, etc.
“Being mentally, physically, and psychologically prepared for the experience of childbirth is critical to the well-being and overall experience for mother and newborn alike,” (Koehn, 2008).
“Having a sense of choice and control creates a positive impact on a woman’s overall childbirth experience,” (Cook and Loomis, 2012).
While there is a wealth of information available, expecting individuals and couples on the island of O`ahu are in need of a comprehensive source of online information that focuses on pregnancy and preparing for the birth of a child.
For many expecting parents...

- 9 months go by quickly
- Need a resource to meet all of their needs
  - quick and easy to access
  - comprehensive
  - location-based
  - reliable
Solution

Happy Hāpai Website

- Health
- Classes
- Delivery Locations
- Birth Methods
- Baby’s Arrival
Target Audience

Individuals and couples living on O`ahu who are expecting or planning to have child(ren) in the near future

● Males & Females
● Age: 18+
● Seeking information on pregnancy and childbirth preparation
DESIGN
Considering the Content and Design

Why?
● Need a resource to meet all of their needs
  ○ quick and easy to access
  ○ comprehensive
  ○ location-based
  ○ reliable

Target Audience
● Men and women living on O`ahu who are expecting or planning to have child(ren) in the near future
● Seeking information on pregnancy and childbirth preparation
Subtopics Selection
- Ocular reconnaissance
- Personal experience
- Informal interviews with previously pregnant women

Resource Selection
- Ocular reconnaissance
- Personal experience
- Informal interviews with previously pregnant women
- Local - O`ahu-based
- Reputable companies
- Positive reviews
Visual Design

Showcase

● Pregnancy & Childbirth
  ○ pregnant women
  ○ Infants

● Hawaiʻi
  ○ nature
  ○ multiculturalism
Engagement with Content

● **User Friendly**
  ○ Consistent page layouts
  ○ Navigation bar
  ○ Large titles
  ○ Concise descriptions
  ○ Quick links

● **Interesting and Engaging Media**
  ○ Relatable photos
  ○ YouTube videos
  ○ Links to Social Media
Wireframe

Happy Hapai

Pregnancy & Childbirth

Nutrition

Wellness

Upcoming Events on Oahu

Exercise

Nutrition

Wellness

Oahu Resources

Nutrition

Oahu Resources

Exercise

During pregnancy, nutrition is extremely important for both mother and child. Eating healthy and taking daily prenatal vitamins are a couple of steps to take to having a happy and healthy mother and child. Explore some local resources to keep everyone healthy.
Prototype

Wellness

Taking care of your health is especially important during pregnancy. Eating a nutritious diet and including regular light exercises has proven to be beneficial. Below are some tips to keep both mother and baby healthy and happy.

Nutrition

Prenatal Vitamins
Taking a daily vitamin is important for the health and well-being of both mother and child.

Read More

Foods to Eat
The food you eat during pregnancy is the nutrition that your baby needs to grow and develop.

Read More

Foods to Avoid
Learn about some of the foods to avoid during pregnancy as they can put your baby at risk.

Read More

Local Recipes
Browse through some yummy and nutritious recipes by Momtold.

Read More

Exercise

Methods

Prepare and empower your birthing experience by knowing your options. Below are some tips to keep both mother and baby healthy and happy.

Birthing Methods

Natural
Vaginal births are the most recommended method for giving birth.

Read More

Cesarean
Roughly 30% of all births are Cesarean births, whether scheduled or emergency.

Read More

Assisted
Some vaginal births require the assistance of special medical equipment to help the baby into the world.

Read More
METHODS
Development Process

Cognitive Walkthrough

Wireframe

Data Analysis & Modifications

Protoype

3 iterations

Pre-survey

Usability Tasks

Post-survey

Data Analysis & Modifications

Share with stakeholders

Website
The purpose of this usability study is to evaluate the **functionality**, **navigability**, and **ease of use** of an O`ahu-based pregnancy and birth preparation website, and the participants’ **satisfaction** with the content.
Research Questions

**Purpose**
How easy is it for participants to **identify** the **purpose** of the website?

**Navigation**
How easy is it for participants to **effectively** and **efficiently navigate** the website and **find information** that best fits his or her **needs**?

**Satisfaction**
How **satisfied** are participants with the website’s overall **content** in regards to making **decisions** about pregnancy and childbirth?
Implementation

Usability Study Sessions

- Virtual meetings on Google Hangouts
Usability Study Sessions

- 3 iterations
- 3 participants in each iteration
Usability Study

<table>
<thead>
<tr>
<th>Before Study</th>
<th>• Pre-survey</th>
</tr>
</thead>
</table>
| During Study | • Interview: determine purpose  
               • Rate difficulty of Usability Tasks |
| After Study  | • Post-survey  
               • Nielsen’s Severity Rating Chart |
Data Collection

Pre-survey

- Google Forms
- Collect demographic & background information
  - Gender
  - Age
  - Years spent on O`ahu
  - Likelihood of researching information on topic
  - Sense of values on topic
Data Collection

Interview (Pre-task)

- Focus on homepage
  - Initial reaction
  - Purpose of website
  - Content
  - Design & layout
  - Target audience

Usability Tasks Worksheet

Test Facilitator: ____________________  Test Subject: ____________________
Test Date: ____________________  Test Location: ____________________

Scenario: You are planning to have or expecting a child in the near future. Having a child takes a lot of preparation and planning, so you decide to visit a website that provides a comprehensive source of information about pregnancy and childbirth specific to the island of Oahu.

Pre-Task: You navigate to the website and see the landing page.
1. What initially catches your attention?

2. What do you think the purpose of this website is?

3. How do you think this website applies to your current situation?

4. What do you think you are supposed to do with this information?

5. What information would you find most useful?
Usability Tasks

- Verbal comments from think-aloud
- Suggestions to make task easier
- Participant rates level of difficulty

Task 1: Search for ways for you or your partner to take care of yourself or herself during pregnancy.

Participant’s Verbal Comments:

Suggestions for making this task easier:

Please rate the level of difficulty of this task.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Zero frustration)</td>
<td>(Minimal frustration)</td>
<td>(Medium frustration)</td>
<td>(High frustration)</td>
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Please rate the participant's ability to complete the task.

0 = Participant completed task with zero difficulty.
1 = Participant completed task with minor problem(s).
2 = Participant completed task with more time and effort.
3 = Participant did not complete the task.
<table>
<thead>
<tr>
<th><strong>Pre-Task</strong></th>
<th>Based on the look and content of the landing page, what is the <strong>purpose</strong> of the website?</th>
</tr>
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<tbody>
<tr>
<td><strong>Task 1</strong></td>
<td>Based on your needs and interests, search for ways for you or your partner to <strong>take care</strong> of yourself or herself during pregnancy.</td>
</tr>
<tr>
<td><strong>Task 2</strong></td>
<td>Based on your needs and interests, search for a <strong>course</strong> that you and/or your partner would be interested in taking.</td>
</tr>
<tr>
<td><strong>Task 3</strong></td>
<td>Based on your needs and interests, search for information about your preferred <strong>location</strong> to give <strong>birth</strong>.</td>
</tr>
<tr>
<td><strong>Task 4</strong></td>
<td>Based on your needs, search for information about your preferred <strong>way of giving birth</strong>.</td>
</tr>
<tr>
<td><strong>Task 5</strong></td>
<td>Determine how you would create a <strong>birth plan</strong>, and if writing one is something you want to do.</td>
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Nielsen’s Severity Rating Scale

- Identified problems were rated based on this scale
- Reason for rating
- Prioritized by severity
- Revisions made

### Nielsen’s Severity Rating Scale

<table>
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<th>Problem</th>
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<td>Home page is structured like a single page application. It has all of the information available on one page, so the user has to scroll quite a bit to find the information he/she needs.</td>
<td>3</td>
<td>What is the point of having other pages if the home page has all of the information? The intent of this website is to get reliable information quickly.</td>
<td>• Keep information concise, and condense onto carousel slides/pictures</td>
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| Terminology of items on navigation bar can be confusing and/or misleading. | 3      | The items on the navigation bar need to be clear so that the audience knows exactly which link to click to get the information they need. | • Wellness → Health  
• Locations → Delivery locations  
• Methods → Birth methods |
| Images on the homepage take some time to load before | 2      | These images are on the homepage, and are therefore the first thing the user sees. | • Change the speed of progression from image to image |

**Project:** Happy Hapai: Evaluating the Usability of a Pregnancy and Childbirth Preparation Website

The following 0 to 4 rating scale can be used to rate the severity of usability problems:

- 0 = I don’t agree that this is a usability problem at all
- 1 = Cosmetic problem only: need not be fixed unless extra time is available on project
- 2 = Minor usability problem: fixing this should be given low priority
- 3 = Major usability problem: important to fix, so should be given high priority
- 4 = Usability catastrophe: imperative to fix this before product can be released
Data Collection

Post-survey

● Google Forms

● Collect participants’ opinions & feedback
  ○ Navigation
  ○ Usefulness
  ○ Satisfaction of content & design
  ○ Recommendations
RESULTS
Demographics

N=9

Gender

- Female: 67%
- Male: 33%

Age

- 21-30: 67%
- 31-35: 11%
- 36-40: 22%
Demographics

N=9

Education

- High School: 33%
- Bachelor's: 45%
- Associate's: 11%
- Master's: 11%

Employment

- Full-time: 89%
- Part-time: 11%
Demographics

N=9

Number of Children

- 22% None
- 67% 1 child
- 11% 2 children

Years Spent on O`ahu

- 22% 11-20 years
- 78% 21+ years
N=9

Importance & Likelihood of Researching Information
Background

N=9

Method of Gathering Information

- Blogs: 2
- Advice from others: 4
- Informational texts: 5
- Mobile apps: 7
- Social media: 7
- Informational websites: 9
- Medical professionals: 9
Determining the purpose:

- 100% of participants in 3 iterations of study
- Purpose:
  - Pregnancy & childbirth information
  - O`ahu residents
- Determined based on:
  - Website Title
  - Content
  - Images
- Target audience
  - 7 out of 9 participants: Website for moms
Frustration Rating of Tasks

RQ Focus: Navigation

N=9

The chart shows the frustration rating of tasks across iterations for tasks 1 to 5. The x-axis represents the tasks (Task 1: Health, Task 2: Classes, Task 3: Delivery location, Task 4: Birth method, Task 5: Birth plan) and the y-axis represents the number of participants. The chart uses different colors to indicate the level of frustration: 0 (Zero frustration), 1 (Low Frustration), 2 (Medium Frustration), and 3 (High Frustration).
N=9

Frustration Rating of Tasks

RQ Focus: Navigation
Frustration Rating of Tasks

N=9

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RQ Focus: Navigation
Data Collection

Nielsen’s Severity Rating Scale

- Identified problems were rated based on this scale
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### Nielsen’s Severity Rating Scale

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#### Iteration 1

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| Images on the homepage take some time to load before                    | 2      | These images are on the homepage, and are therefore the first thing to be checked. | - Change the speed of progression from image to... |
Revisions

1st → 2nd Iteration
- Revise Homepage layout
- Revise Wellness page layout
- Terminology of items on navigation bar

2nd → 3rd Iteration
- Terminology of items on navigation bar
- Revise Classes & Location page layout to be consistent with other pages

After 3rd Iteration
- Additional resources page
- Consistent layout throughout website
Revisions

Pre-task: Purpose (Homepage)
- Single page application → Slideshow with items
Revisions

Task 1: Wellness
- Exercise & Nutrition → More specific options
Revisions

Task 2: Classes

- Listing classes → Short descriptions with specific classes & locations
Task 3: Birthing Locations

- Listing locations → Short descriptions with specific locations
Revisions

Task 4: Birthing Methods

- Wordy lists → Visuals with short descriptions
Revisions

Task 5: Birth Plans

- Birth Plans page → Baby’s Arrival page
Feedback

RQ Focus: Satisfaction

![Bar chart showing feedback ratings for different categories across iterations.](chart.png)

- **Overall Ease of Use**
  - Iteration 1: 4
  - Iteration 2: 3.7
  - Iteration 3: 4.7

- **Overall Usefulness**
  - Iteration 1: 4.3
  - Iteration 2: 4
  - Iteration 3: 5

- **Overall Satisfaction with Content**
  - Iteration 1: 3.7
  - Iteration 2: 4
  - Iteration 3: 4.3

- **Overall Satisfaction with Design**
  - Iteration 1: 4
  - Iteration 2: 4.3
  - Iteration 3: 5
Feedback

- Overall Value of Website:
  - Iteration 1: 4
  - Iteration 2: 4.7
  - Iteration 3: 4.7

- Recommend to Others:
  - Iteration 1: 4.3
  - Iteration 2: 4.7
  - Iteration 3: 5
“I love the simplicity and how easy it is to use this website. Most of the resources had a lot of useful and relevant information.”
“Excellent resource for expecting couples and those planning to have a child.”
“I really would’ve liked to have had access to this website years ago when I was pregnant. Awesome site to get all the important information you need!”
DISCUSSION
Take Aways

- Design process requires a lot of considerations
- Evaluation process takes time and flexibility on the part of the researcher
- Allot an appropriate amount of time between iterations to make necessary revisions and analyze data
- Prototypes don’t have to be perfect before sharing
Future of Happy Hāpai

- Share out to others
- Include resources for fertility treatment, adoption, & surrogacy
- Include local events calendar
- Further develop social media presence
- Mobile friendly version of website
- Happy Hāpai app
Thank you!

Any questions?

https://dmyoshimoto.wixsite.com/happyhapai