

HI Mommy Website – A Usability Study

Routhie Ann B. Senoren
University of Hawai'i at Manoa
rsenoren@hawaii.edu
<https://rsenoren.wixsite.com/hi-mommy>

Abstract: Moms of newborns may experience emotional, physical, and mental fatigue due to the demands of motherhood. Importance is placed on caring for the baby that moms tend to overlook the fact that they need to also take care of themselves. Moms search for postnatal care information which are readily available to them, especially online, however, moms do not search for information on postpartum self-care, are even aware of what it is, and its importance to their overall health as a mom, spouse, and friend. The purpose of this usability study was to create and evaluate the ease-of-use of and satisfaction of available content provided on the HI Mommy website. The website provides suggestions for self-care activities that O'ahu moms can do at home and outside of the house, with or without the baby. The website was developed using Wix, a cloud-based development platform. The design of the website was guided by Gestalt principles and best practices for web designers as suggested by Susan Weinschenk on the psychology of design. The usability study recruited 10 participants who gauged the navigability of the website and the value of its content. Verbal feedback during the study and results from data collected via post-surveys indicated that participants agreed or strongly agreed that the website was easy to use and were satisfied with the available information.

Statement of the Problem

New moms and multipara moms use the Internet to search for information that will supplement and increase their knowledge on baby care and postpartum care. They want to make sure that they are providing the best care for their baby and their body after giving birth. While information on infant care and postpartum healing can be obtained from the pediatrician, obstetrician/gynecologist, family, friends and mobile applications, the Internet provides just-in-time information and resources that best fits what a mom is looking for. Moms search for postnatal baby care information (such as burping, feeding, and swaddling, etc.) from online forums, like thebump.com, whattoexpect.com, and babycenter.com, where moms seek advice and answers from other moms. Guerra-Reyes, L., Christie, V., Prabhakar, A., Harris, A., & Siek, K. (2016) indicated that website forums offers a form of emotional and social support for the mom during this transition to motherhood. In addition, moms search for information on the physical healing process after childbirth and how to care for your body after giving birth naturally or from a

cesarean. Moms also search for websites that provide tips on what to eat especially information to help increase milk supply if breastfeeding.

However, McVeigh, Moran, and Sword and Watt (as cited in Guerra-Reyes et al., 2016, para. 4) reported that, with all the information available, women expressed that their prenatal education was not enough to prepare them for the postpartum period and the “realities of self-care and infant care.” While searching for baby care information is valuable, moms neglect to look for information on postpartum self-care. The term “self-care” addressed in the report goes beyond the routine care, such as caring for cesarean incisions and perineum soreness, that women need to perform after giving birth. The act of self-care discussed in the report is a mother’s ability to care for her overall physical, mental, and emotional well-being. Moms overlook the value of practicing self-care because they feel worry and pressure, especially for new moms, to provide the best care for baby and to bounce right back to excellent physical and mental health after birth. There seems to be a lack of awareness for moms to practice self-care beyond the physical care required after childbirth, why self-care is important to the physical and mental health of moms, and understanding that self-care is not entirely equivalent to postpartum care. Baby care and postpartum care websites need to highlight and provide more information on why postpartum self-care is important, not just for mom, but also for the baby.

The purpose of this usability study was to create and evaluate the learnability (ease-of-use) and content perception of the HI Mommy website for mothers in O’ahu who need ideas for postpartum self-care activities and information to help them understand the importance of practicing self-care. There are Internet resources available for O’ahu moms that provide information for activities geared towards mom and baby activities, however, there is a lack of websites geared towards moms in O’ahu that consolidate suggested activities found on the island for moms to partake in with or without their baby, and most importantly content that incorporates what and why postpartum self-care is important.

Literature Review

The transition from pre to postnatal can be a stressful time for the mother. The duties and demands of motherhood do not allow a mom to “take a break” and set aside time for herself. Physical fatigue can occur due to lack of sleep and taking care of a newborn 24/7. Changes in hormones can also affect the mother and cause emotional fatigue, being happy one moment and sad the next. Mothers who experience postpartum depression (PPD) or postpartum anxiousness (PPA) can exacerbate the stress and fatigue that is felt which can negatively affect the baby as well as the mom. The World Health Organization (n.d.) states that, worldwide, about “13% of women who have just given birth experience a mental disorder, primarily depression.” However, if addressed immediately, the effects of PPD and PPA can be minimized. In fact, randomized controlled trials (RCTs) conducted on mothers 3+ weeks postpartum found that physical activity has the potential to decrease depression (Lewis, B. A., Gjerdingen, D. K., Avery, M. D., Sirard, J. R., Guo, H., Schuver, K., & Marcus, B. H., 2013; Norman, E., Sherburn, M., Osborne, R.H., Galea, M., 2010). The RCT conducted by Lewis et. al (2013), which lasted six months, examined the effectiveness of physical activity as an intervention to prevent postpartum

depression. Participants were asked to increase their physical activity from moderate to vigorous intensity, five days a week for thirty minutes or more a session. After the study, participants completed the Patient Health Questionnaire-9 indicating participants had fewer depressive symptoms. These RCTs studies support the need for moms to take the time to take care of herself and practice self-care.

A mother's overall quality of life along with her physical and mental health can have an adverse effect on the baby. Moms who want to practice postpartum self-care, especially taking care of their emotional well-being, may need support. The study by McLeish and Redshaw (2017) conducted qualitative interviews with 47 women who received peer support and found two key themes that developed during the sessions: emotional needs identified by the mothers themselves, and how mothers are affected by peer support. There were three types of peer support models used for the study: a telephone support from trained volunteers who have experienced and recovered from emotional distress; a peer group where moms talk to each other about their emotions; and lastly, a one-to-one visit from trained volunteers who may or may not have undergone mental health problems. Participants in the study stated that peer support had an impact in minimizing their anxiety and low mood. The peer support that they received increased their self-esteem, self-efficacy, and competence as a parent (McLeish and Redshaw, 2017). Seeking peer support and taking care of one's overall mental wellness is also considered self-care. Peer support allows moms to feel heard, builds social connections, and builds their confidence as a mom. Results from this study confirms the importance of postpartum self-care so that a mom can provide better care to her child.

Barkin, J.L., Wisner, K.L., Bromberger, J.T., Beach, S.R., & Wisniewski, S.R. (2010) refers to self-care as "the mother's ability to care for her own physical and emotional needs." Examples of self-care are, "[p]roper nourishment, attention to hygiene and physical appearance, adequate sleep, and willingness to delegate" (Barkin et. al; 2010). A qualitative study conducted by Barkin and Wisner (2013) identified barriers that hinder moms from practicing and applying self-care in their lives: lack of time, limited resources, and difficulty in accepting help and setting boundaries. Participants in the study stated that self-care is important, but they struggle to balance taking care of a child and themselves. Moms, especially those new to motherhood, tend to decline help from others because they want to fulfill the idea of being able to handle everything. This hinders their ability to practice self-care and to take time out for themselves. Motherhood demands so much of a mom's time that she may ignore the need to take care of herself, sometimes even doing the simple act of combing her hair or brushing her teeth, or even eating a meal.

Methodology

Research Questions/Goals. The goal of the usability study was to gauge the participants' learnability of the HI Mommy website as they navigated and located information based on task-based scenarios, and their perception, specifically the effectiveness and participant satisfaction of the website content. The study focused on the following research questions:

1. How easy or difficult is it for a mother to locate activities on the website based on a specific interest?
2. How can a mother find information on the website for activity(ies) that would best fit her schedule?
3. How easy or difficult is it for a mother to find information about support groups in O'ahu?

Participants were asked to complete the following four tasks read aloud to them during the study where they provided verbal feedback through a think-aloud process:

Task 1. Search an activity from information based on interest: You have some free time and want ideas on activities that you can do based on your interest. How would you find this information?

Task 2. Determine activity to select based on time: You only have a specific amount of free time allotted and want to make sure that you can fit an activity in your schedule. How can you determine which activities will fit your schedule?

Task 3. Search for activities with baby: You want to spend time with your baby and want to find an activity that socializes him or her with other kids. How would you go about searching for this information?

Task 4. Getting Additional Information: You want to get additional information on postpartum self-care. Where would you go to get this information?

Task-based scenarios executed by participants during the usability study identified what was or was not working on the website from the participants' perspective; the success or failure of participant learnability as a result of the design; and satisfaction of content and overall design of the website. After each usability session, participants were given an opportunity to provide suggestions to improve the website and the testing procedure during an open-ended general discussion period.

Content Analysis. The HI Mommy website is a resource site that provides end-users with consolidated content found on the Internet. The website and its contents were not meant to be prescriptive, nor do they provide any medical advice or guidance. It was created to provide O'ahu moms with recommendations on how to practice self-care as well as increase their awareness of why it is important. By practicing self-care, moms may have a better chance of improving their sense of self-efficacy as a mother, wife, and friend, and to heal emotionally, mentally, and physically.

Wireframe. The initial wireframe design for the website (See Appendix A) had the following options on the navigation menu: Home, About, Activities for You, Activities for Baby, and Support. In addition, the initial content for the website did not include a separate page addressing postpartum self-care. In fact, this information was found on the initial website prototype's "Finding Support in O'ahu" page. However, after careful

consideration, a new page for self-care information was created and titled “Why is Postpartum Self-care Important?” This page discussed postpartum self-care and included related resources that moms could use to help them better understand the topic.

Cognitive Walkthrough Prototype. During the development of the prototype, the navigation menu name for the postpartum self-care page changed from “About” to “Learn” to indicate to users that they could navigate to this page to learn about the aspects of postpartum self-care (See Appendix B). The investigator conducted a cognitive walkthrough for the prototype with participants from the Learning Design and Technology (LTEC) 687 online cohort using a standardized protocol, script and tasks (See Appendix C). The walkthrough revealed insights as to what worked and did not work. For example, one participant was unable to successfully complete a task when asked where one should navigate to look for information on postpartum self-care. The participant selected the “Support” option from the menu instead of “Learn.” As a result, the participant was taken to the “Finding Support in O’ahu” page. The participant was unable to successfully complete the task of finding information on self-care. This exposed, not just a design problem, but a problem of getting to the content on self-care. Content for postpartum self-care can be found when selecting “Learn” from the menu, however, this naming convention was not clear enough for the participant. Therefore, the name of the menu item was changed from “Learn” to “Learn About Self-Care” to make it more explicit.

Moreover, feedback from the cognitive walkthrough sessions and class meetings lent themselves to the content updates made on the website. One participant from the cognitive walkthrough session suggested adding content or resource information for breastfeeding, acknowledging that even though this action is caring for your baby, knowing how to take care of one’s body and how to help it produce milk is a form of postpartum self-care. As a result, resources on breastfeeding support groups in O’ahu were added to the “Finding Support in O’ahu” page. Furthermore, a suggestion area in the “Activities for You” and “Activities for You and Baby” pages were added to each page based on the class’ recommendation. This would allow O’ahu moms to share other fun activities that can be included in the website. The future result would be a growing list of resources available to O’ahu moms. This update was implemented immediately before conducting the next cognitive walkthrough in order to gauge its impact on the participant’s satisfaction with content. In fact, one participant from the cognitive walkthrough found the addition very helpful. The investigator made additional modifications to the layout of the content pages before the initial usability study to help with the look and feel of the website.

Usability Study Prototypes. The initial HI Mommy prototype had four main content pages with the following titles: “Learn About Self-Care,” “Activities for You,” “Activities with Baby,” and “Finding Support in O’ahu” (See Appendix D for screenshots of the initial HI Mommy prototype). This prototype was used for the first iteration of the usability study. Since the target audience are comprised of new and experienced moms living in O’ahu, the website offered activities and information on support groups that are available on the island that are appropriate for their situation.

Content layout in the four main content pages were redesigned prior to the usability study to enable ease-of-use and readability for the target audience. The horizontal boxes on the pages that were aligned in one column were converted to boxes that displayed in two or three columns. Moreover, the website also included articles on postpartum self-care, and links to videos and blogs created by moms. These resources could be accessed directly from the website as a PDF download or viewed using a link to an external website. The goal of including postpartum self-care information, suggested activities, and support resources was to give moms with ideas on how to take care of their emotional, mental, and physical well-being.

Feedback from participants during the three iterations of the usability study prompted the evolution of the initial prototype. Content updates and additional informational content pages were added to support the topic of postpartum self-care, and existing content layout and language were revised for ease-of-use. Furthermore, new offerings of suggested activities were added to both activities pages to provide more options for participants as they completed their task-based scenarios.

Recruitment and Participants. Potential participants were recruited informally via a phone call or text message asking them if they were interested in participating in the study. Only participants who confirmed their interest from the first touchpoint were formally invited by the investigator to participate in the via e-mail (See Appendix E). Emails were sent to participants a week before the designated testing dates scheduled for a specific iteration. The e-mail introduced the purpose of the study, what is required from them should they choose to participate (e.g., time commitment, data collection, and the timeframe for the usability study). Participants were informed in the body of the e-mail, as well as in the consent form, that they can opt out of the study at any time if they begin to feel uncomfortable. The e-mail also included two attachments, the mandatory consent form (See Appendix F) and a document that provided the script and tasks scenarios as a reference (See Appendix G and Appendix H). Additional information regarding compensation, benefits, and risks in participating in the study were included in the attached letter. Participants who did not respond to the initial e-mail were contacted via text message to follow-up on their possible interest in participating in the study. Those who responded to the follow-up text message and expressed their interested were asked to review the initial e-mail. No further communication was conducted with individuals who did not respond to the follow-up text message. Participants who expressed their initial interest in participating in the study and then decide to opt out of the study were no longer contacted. Participants who agreed to take part in the study completed and returned a copy of the consent form. These individuals were sent a second e-mail by the investigator confirming a testing date and time which also included a Google Form links for a pre-survey and demographic survey (See Appendix I) that they completed prior to the agreed upon meeting. Participants were sent an e-mail thanking them for their participation and a request to complete a post-survey (See Appendix J) in Google Forms.

Both Krug (2010) and Nielsen (2012) agree that a usability study can be conducted successfully with only a few people. One of the motivations for the study was to identify “major problems and make the thing better by fixing them” (Krug 2010, pg. 28). Krug

also stated that it is very likely for the first three testers to encounter the most significant problems based on or related to what is being tested (Krug 2010, pg. 43). In addition, Nielsen (2012) points out that “5 people lets you find almost as many usability problems as you'd find using many more test participants.” The HI Mommy usability study was conducted using a combination of Krug and Nielsen’s best practices for testing a website by ensuring that there were least three participants in each iteration and no more than five.

A total of ten moms participated in this study (See Table 1). Five participants (50%) were between the ages of 36 – 40. Three participants (30%) were between the of ages 31 – 35 and two (20%) were between 41 – 45 and over. Participants with a Bachelor’s degree made up the largest group at seven (70%), while for occupation, 80% were employed full-time, 1% was employed part-time, and 1% was employed part-time and also a student. In addition, 50% had one child, 30% had two children, and 20% had more than two children.

Table 1.

Participant Age, Education Level, Employment, Number of Children, n = 10

Characteristics	Number	Percent
Age		
31-35	3	30%
36-40	5	50%
41-45+	2	20%
Education		
Bachelor's Degree	7	70%
Master's Degree	2	20%
Doctorate Degree	1	10%
Employment		
Part-time	1	10%
Part-time and a Student	1	10%
Full-time	8	80%
Number of Children		
1	5	50%
2	3	30%
More than 2	2	20%

Only six participants matched the target audience of new and experienced moms (those with one or more children over a year old) residing in O’ahu. The other four participants fit the characteristic of a new or experienced mom, but they lived in the continental U.S. Moms who lived outside of O’ahu were selected because they were in the investigator’s locus of control and had ties to the island of O’ahu. They either had immediate family, close friends, or both, and had also visited the island. These participants were able to provide an external perspective of the website’s overall content as well as feedback on its design and presentation. All ten participants shared the same character traits as the intended target audience because they maintain a strict daily schedule and organize their time and activities around their children. These participants were also comfortable using the computer and can efficiently navigate and search the Internet for information.

Since the target audience are moms (especially new moms) who do not have the time to search for information on a busy website, HI Mommy provides straightforward and succinct content. The website limits the number of available options on the menu bar and utilizes a simple layout designed as such so that it persists to other subsequent pages to provide continuity and predictability. Moreover, the site has bright colors and positive images of women participating in fun activities with and without their baby.

Evaluation Instruments. Data for the usability study were collected online and in person (for the investigator). Online data was collected through pre and post surveys using Google Forms. The pre-survey which included demographic questions, such as age, level of education, frequency of internet use, and their current self-care activities. The post-survey gathered information on their experience with the website, such as experience navigating it and their satisfaction with the website content. The Google Form surveys did not collect any identifiable data from participants (e.g., their names and email addresses). Each participant was given the name “Participant” in an Excel workbook and a number to organize the raw data extracted from the surveys, for example, “Participant 1”. Participant data from interview questions and verbal feedback from task scenarios were entered in person by the investigator on the usability task worksheet using her own laptop.

A modified usability script based on Krug’s book (2010), *Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems*, was used to standardize the information communicated to the participants (See Appendix G). Data for each session was collected on the usability task worksheet. This worksheet included their first name and the date of the study so that additional data could be entered when reviewing the audio and/or video recording after the usability study session.

Participants were orally led through a series of interview questions, encouraged to think out loud and respond to what they were looking at, and were solicited questions about their thought processes and decisions as they worked, without being intrusive or leading. This method prompted the study participants to communicate their thought processes verbally as they provided feedback on the website through a task-based think-aloud method. They were asked to vocalize their actions as they searched for information, had questions that they asked themselves, and thoughts on what surprised or confused them as they navigated the website and completed four specific task scenarios. When study participants identified a problem, they were asked how they would fix it. Additional questions were kept open-ended and neutral to clarify participant feedback, such as “What did you mean by that?” or “What did you expect to happen?”

Once participants completed the usability task scenarios, participants were asked to complete a post-survey rating the ease-of-use of the website, their satisfaction with the website and its contents, and attitudinal data on postpartum self-care. No further communication took place with participants once the usability study session was over. All study participants were unable to meet and complete the study face-to-face. Therefore, the entire study was conducted virtually using Google Hangouts on Air as the

meeting platform to accommodate the participants. YouTube's recording feature along with Google Hangouts on Air's screensharing component were used to capture and record (if consent was granted) the participant's actions as she navigated the website on their desktop and provided her verbal feedback. The participant's body language and facial expressions were not observed during the study because displaying both their desktop and video changed the image shown on the screen every time the participant provided feedback. This would have caused the investigator to miss key moments of the participant's navigation steps. Therefore, the participant turned off the video allowing the investigator to only see the participant's navigation of the HI Mommy website.

Audio and/or video recordings of participants occurred if consent was granted. These recordings were stored online in the investigator's personal YouTube account that is password protected. Moreover, the investigator was the only one able to view these recordings because they were marked "Private." All audio and video-recordings were erased or destroyed after the investigator has entered notes from the interviews and feedbacks received during the usability session, and after data analysis was completed.

Project Design Strategies. Jakob Nielsen's Law of Internet User Experience (2000) states that, "[u]sers spend most of their time on other sites. This means that users prefer your site to work the same way as all the other sites they already know." This assisted in the design of the HI Mommy wireframe, prototype, and any modifications made to the prototype during each iteration of the usability study in defining the site navigation, positioning of content, and overall layout.

A wireframe of the HI Mommy website (see Appendix A) was created using NinjaMock, a free web-based wireframe tool, to produce a general representation of the website's navigation (i.e., menus and buttons), content placement, and naming conventions. This wireframe was used to conduct one cognitive walkthrough session with one participant from the LTEC 687 online class cohort to identify possible usability problems during the development stage. A cognitive walkthrough protocol (See Appendix B) was used to guide the walkthrough as the participant tested and provided feedback on the clarity of the navigation tools, labels, and overall look and feel of the website. According to Krug (2010), testing wireframes during the web design process allows you to identify if the site navigation, location of items, and labels are clear to the end user (Krug, 2010, pg. 36). After completing the cognitive walkthrough, Nielsen's (1995) severity rating scale (See Appendix K) was used to organize each identified problem. Each problem was assigned a severity rating to prioritize if an immediate change was required or could be left alone for future modification. All identified problems were also given a reason for the rating. This assisted in the development of the prototype.

The prototype of HI Mommy (see <https://rsenoren.wixsite.com/hi-mommy>) was developed using Wix, a free cloud-based website builder, because it had the necessary out-of-the-box tools to create, customize, and design the website using the Gestalt principles and Susan Weinschenk's guidance on the psychology when designing a website. In addition, Wix allows participants to access and navigate the published site without requiring membership. A continuation of the cognitive walkthrough was

conducted using the prototype with two participants from the LTEC 687 online class cohort. The cognitive walkthrough for the prototype focused on gathering feedback on the navigation, ease-of-use, overall website structure, and available content.

Pixabay.com and Wix stock images were used to populate images for the website. Images from Pixabay were used because they contain photos applicable to the content of the website, are released under Creative Commons CC0, and can be used freely without the requirement for attribution. In addition, stock images from Wix were used because the images apply to the overall content of the site and are also free to use.

The Gestalt theory's five design principles, (1) similarity, (2) continuation, (3) closure, (4) proximity, and lastly, (5) figure and ground, were utilized in the overall design of the HI Mommy prototype, e.g., placement of graphics, color, content, and background. Gkogka's (2018) guidance and recommendations on how to use Gestalt's design principles were also used to develop the web design. Furthermore, best practices from Susan Weinschenk's book on the psychology of design (2011) assisted in the design of the website. Like the Gestalt principles, Weinschenk also advised using patterns, grouping, color coding, and white space to organize a website and to allow ease-of-use which was implemented on the HI Mommy website. The website also reflects Weinschenk's guidance to use the normal reading pattern that one's users are familiar with, such as reading from left to right. Moreover, the suggested best practice of using *perceived affordance*, also known as visual cues, for hyperlinks and buttons on the website was implemented to enable users to easily perceive and figure out the action that will take place. For example, the primary font color on HI Mommy's navigation menu is black, but when the user is on a specific page within the site or if the user hovers over a menu item the font color is baby blue. Another example is when the color of a button changes when a user's mouse hovers over it.

Design and content modifications during the usability study were prioritized using Nielsen's Severity Rating Scale (See Appendix L for the usability study's rating scale worksheet by iteration). The prioritization and rating of identified problems during each iteration were based on whether the design changes would improve the user's navigability of the website; content additions and revisions would clarify information and increase user satisfaction; and updates could be completed before the next iteration, based on the difficulty of the modification.

The application of Gestalt's five principles to the HI Mommy website are explained in the following paragraphs. The descriptions are from the most current version of the website that was presented to participants in the last iteration of the study (See Appendix M for screenshots of current prototype).

Similarity. The principle of *similarity* focuses on visual characteristics such as size, shape, color, or value that will enable end users to focus on specific content on the webpage. To do this, the same colors (e.g., orange, dark pink, teal blue, golden yellow) are used throughout the website. Moreover, content pages were assigned a specific color to correspond with the topic boxes presented on the Home page (See Appendix M Home

Page screenshot). In addition, clickable images and buttons were designed to have similar size and shape to provide a balanced look and feel to the website. Furthermore, the principle of similarity also helps organize and classify objects and information on the website, like the menu bar, because it persists on the header bar when one navigates the website and scrolls up and down.

Continuity. The second principle, *continuity*, was applied to help end users recognize grouped information on a page. Continuity of the webpage layout throughout the website also allows predictability and ease-of-use for the end user. For example, the information for “Activities for Mom” page and the “Activities with Keiki” (See Appendix M for both activity pages) pages are grouped the same way, uses the pattern of displaying three columns and five rows.

Closure. The principle of *closure* was applied to the email icon in the suggestion section on the “Activities for Mom” and “Activities with Keiki”, and the footer pages (See Appendix M for activity pages and website footer). This simplifies the necessary elements that informs users on what to do in a relatively minimal space and called their attention if they missed any additional descriptive text.

Figure and Ground. The principle of *figure and ground* was applied to the background images and website colors to ensure that they do not distract from the focus of the page. Furthermore, the principle of closure, which uses white and negative space to assist with the flow of an object, was used to direct the flow of each page. This helps the end user determine if they need to scroll down on the page to view additional content. In fact, a centered borderline with the same color that corresponded to the page color is used to separate grouped information.

Proximity. The principle of *proximity* states that objects close to each other will be viewed as belonging together. Therefore, contents on the website are grouped together using whitespace, centered borderlines, and colored boxes for end users to recognize grouped content. This principle is also applied to the bulleted list provided on the top of the home screen.

Procedures. The research study was implemented after all required CITI Certifications were completed and passed (See Appendix N), and approval was received from the Institutional Review Board. The study had three iterations which were all conducted virtually and took three weeks to complete, from January 23, 2019 to February 13, 2019. The first and second iteration comprised of three participants each, and the last iteration had four participants. To preserve the integrity of the study, the investigator made sure that the first and second iterations each had one participant that represented the target audience. All four participants in the third iteration matched the target audience. On the day of a usability study, the investigator created a new YouTube Live session an hour before the scheduled meeting time. Each live session was given a unique name only known to the investigator and was marked “Unlisted” allowing only the participant to enter the Google Hangouts on Air virtual room via a unique link. The investigator sent an e-mail to the participant after the virtual room was opened. The e-mail contained links to

the Google Forms pre- and post-surveys, the virtual meeting, the HI Mommy website, and language thanking the participant for agreeing to the study. It is important to note that a Google account was required to access the Google Hangouts on Air virtual room. The investigator created a Google account, ltec690himommy@gmail.com, that was used by participants who did not have a Google account.

The investigator ensured that the participant completed the pre and demographic survey before continuing the session. If participants somehow feel fatigued or any other physical discomfort during the study, they have the option to take a break or to stop the usability session. The investigator continued the session by asking the participant to open the HI Mommy website and not to navigate away from the home screen. The usability script was read out loud by the investigator and then asked the participant to answer a series of interview questions (See Appendix G). Participant responses were keyed into the usability study script document.

The participant was informed that she could navigate the entire website as she completed the four task-based scenarios. The participant was encouraged to provide verbal feedback about the website using the think-aloud method and prompted her to communicate her thought processes as she worked on each task. Participant feedback was entered in the usability study worksheet. Moreover, the investigator solicited suggestions on how the task could be made easier. At the end of each task, the participant was asked to rate the difficulty of task with the following four options, 0 (Zero Frustration), 1 (Little Frustration), 2 (Medium/High Frustration), and 3 (Point of Failure). The investigator also used a separate rating scale to indicate if the participant completed the task (See Appendix H).

After completing the tasks, the participant was asked to provide any last-minute feedback about the website and experience participating in the usability study. The investigator informed the participant that the session recording has ended. Lastly, the investigator thanked the participant for volunteering and gave the reminder to complete the post-survey.

Results

The goal of the usability study was to gauge the participants' learnability (ease-of-use) of the HI Mommy website as they navigated and located information following task-based scenarios, and their perception of the website's content, specifically the effectiveness and participant satisfaction of the content. Qualitative and quantitative data collected from the pre-survey, interview questions, task-based scenarios, and post-survey were used to determine if the study met its research goals.

Background on Participant Self-Care. To gauge how often participants had time for self-care, one of the pre-survey questions asked how often they were able to take time for themselves during the week using a 5-point Likert scale with the lowest value being "Never" (1) and the highest being "Always" (5). Five (50%) of the participants rarely had time for themselves during the week, 3 (30%) participants sometimes have time

during the week to spend on themselves, while only 2 (20%) participants answered that they often had time for themselves (See Appendix U).

The pre-survey also asked participants to select reasons that hindered them from taking time out for themselves and/or spending time with other people. They were able to select multiple items from the following options: “Budget,” “Limited resources available,” “Unable to part with baby,” and “No time available.” They could also enter their own reason by selecting “Other.” They were required to select at least one option from the list. The bar chart in Appendix O shows 8 (36%) participants who indicated that *not having enough time* was one of the foremost reasons hindering them from having time for themselves and/or others, 6 (27%) identified *limited resources* being available as an issue, 4 (18%) selected *budget* as a factor, 2 (9%) chose *parting with their baby*, and two additional options (being overwhelmed with work and study schedules and not spending time with family outside of work) with 1 (5%) participant for each item indicating the reason as a hindrance. The top four results supported Barkin and Wisner’s (2013) study of what mother’s feel are the main barriers hindering the practice of self-care.

A pre-survey question also asked the participants to provide examples of websites that they found easy to use and visually appealing. One participant entered, “Shopping websites such as target and amazon are really easy to use, visually appealing with items that are advertised, and easy to navigate through.” In fact, five participants mentioned the online shopping website, *Amazon*, as a website that was easy to use. This feedback assisted in the current design of the website which has the look and feel of an online shopping website.

Learnability (Ease-of-Use). Participants in all three iterations performed the same four task-based scenarios (See Appendix H) to determine the navigability of the website, and how easy it was to locate information based on the design and layout. Tasks 1, 3, and 4 examined if participants were able to navigate and locate certain activities using information on the website. Task 2 assessed if participants found the suggested time or filtering feature of the website that would all them to select suitable activities to do based on the time that they have available. The investigator also rated participant task performance based on whether the participant completed the task, and the degree of difficulty that it was completed based on verbal feedback and how the participant navigated the website (See Appendix Q for task rating scale criteria). The bar chart in Appendix R shows that participants from all three iterations completed tasks 1, 2, and 3 without much difficulty indicating that the website’s overall design and layout was easy to use; however, only two out of the three participants from the first iteration completed Task 4 while all participants from the second and third iterations completed the task.

Participants rated the difficulty of completing each task using a four-point rating scale: 0 (zero frustration), 1 (little frustration), 2 (medium/high frustration), and 3 (point of failure). Figure 1 below displays participants’ ratings of how difficult it was to complete tasks 1, 2, and 3.

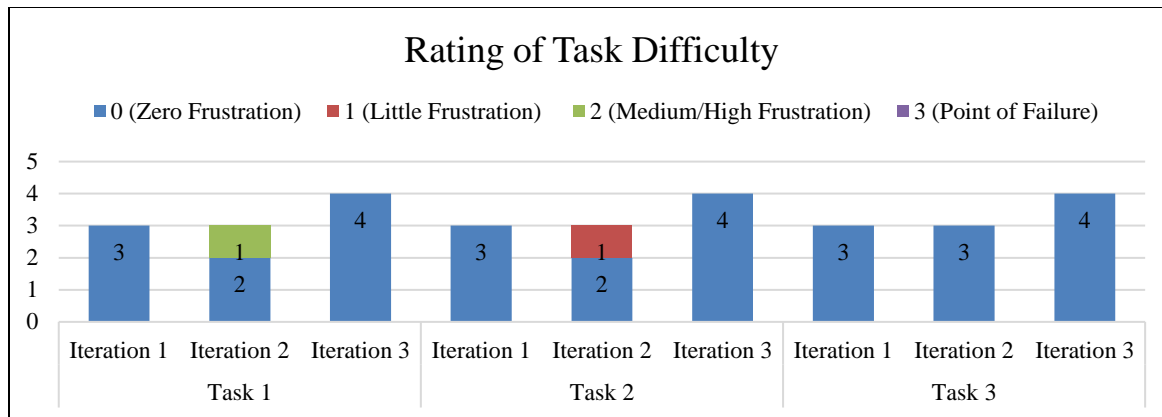


Figure 1. Bar chart illustrating how participants rated the difficulty of completing usability tasks 1, 2, 3.

Overall, majority of the participants from all three iterations experienced zero frustration completing Task 1, Task 2, and Task 3 (See Appendix T for additional explanation). For Task 4 (See Figure 2), 6 out of 10 participants experienced zero frustration searching for information on postpartum self-care and support groups. Two participants from the first iteration and one participant from the second iteration experienced medium/high frustration which could have been attributed to the name of the postpartum self-care page on navigation menu. One participant from the third iteration experienced little frustration looking for the information.

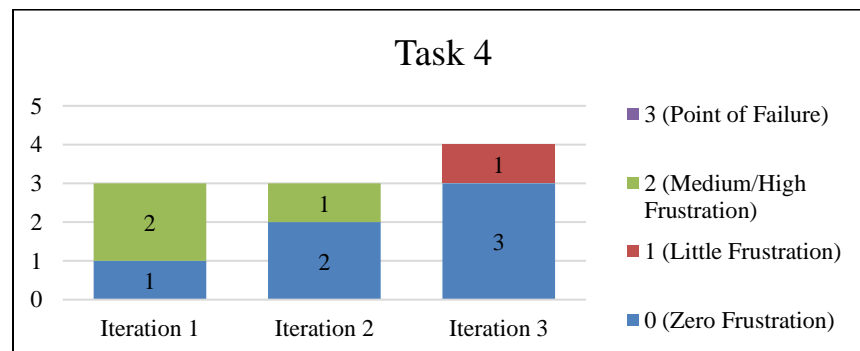


Figure 2. Stacked bar chart showing participant rating from all three iterations on the difficulty to complete Task 4.

A post-survey question asked participants to rate their overall experience navigating the website using a five-point Likert scale: 1 (Very Hard), 2 (Fairly Hard), 3 (Moderate), 4 (Fairly Easy), and 5 (Very Easy). The grand mean (GM) of 4.56 from all three iterations rated the website between fairly easy and very easy to use (See Appendix P for table and graphical representation of data).

Perception (Effectiveness and Satisfaction). Three post-survey questions asked participants to use a five-points Likert scale (See Appendix S) to rate: their satisfaction of available activities on website, the helpfulness of the information provided for self-care, and if they would recommend the site to other moms. The average rating scale for the first and second iteration was a 4 indicating that they “probably would” recommend the

site, while the last iteration “definitely would” recommend the site with an average rating of 5.

Figure 3 illustrates a decrease in the average rating scores from Iteration 1 to Iteration 2 for overall satisfaction of available activities (3.67 to 3.33) and whether participants would recommend the website to other moms (4 to 3.67), and then scores increasing from Iteration 2 to Iteration 3 for both questions by over a point for each one (3.33 to 4.75 and 3.67 to 5, respectively). The scores dropping for Iteration 2 could be attributed to the limited time that was available between iterations to successfully complete all modifications before conducting the study for the next iteration. Participants from Iteration 1 stated that it would be great to have more inclusive activities on the website, and a way to search activities, especially by duration, using a filtering or search feature. The entire design and layout of the “Activities for Mom” page was modified so that it had a similar look of an online shopping website, which includes a “Filter by” feature for duration of activity and location of activity as suggested. There was no time to conduct a quick functional test to ensure that the new feature worked as desired. This resulted in one participant finding an error after selecting a filter option where she was, “a bit surprised because no activity showed up on the selection that I found.” This error was fixed for Iteration 3. Moreover, the filter update took longer than anticipated and limited the amount of content updates to the “Activities for Mom” and “Activities for Keiki” pages, and more postpartum self-care information on “Maternal Self-Care” page.

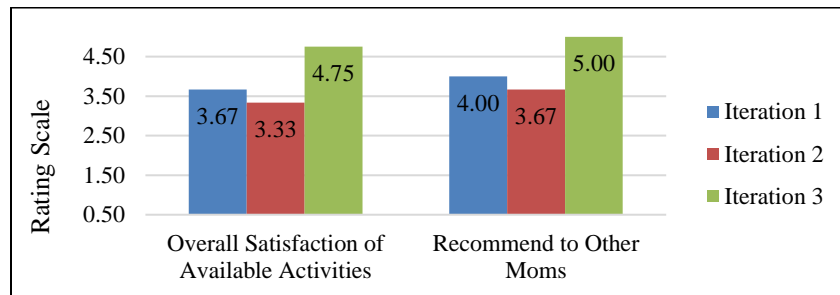


Figure 3. Clustered bar chart illustrating a decrease in the average rating scores from Iteration 1 to Iteration 2 for overall satisfaction of activities on the website and whether to recommend the website to other moms.

Overall, participants were moderately to extremely satisfied with the available activities and content found on the website. The overall effectiveness of the website’s design, layout and content was based on participant engagement during the study. Participants asked if they could continue navigating the site even though they were informed that they completed the last task. One participant noted in the post-survey that “this would be an excellent link [website] to have in new family packets that are given out at hospitals [] or maybe a small brochure to refer new moms to the website. Another comment given was, “Great website! It’s nice to have a website with all of the content in one place.”

Discussion

There are a myriad of websites that provide information on how a mom should care for herself after giving birth, however, this information focuses more on the medical aspect of self-care. For example, how to care for one's body after a cesarean or natural birth. There is also currently a lack of websites that consolidates information and resources on postpartum self-care, why it's important, ideas for activities to help moms practice self-care, and available support groups especially for new moms and experienced moms in O'ahu. The overall goal of the usability study was to create and design a website that is easy to use, as well as gauge the perception of the suggested activities provided on the site, and information about the importance of postpartum self-care.

Cognitive walkthroughs and feedback from the project's design and development stages indicated the importance of testing links, buttons, and the recommended browser(s) to access and view the website prior to conducting a test session. In addition, tasks conducted during the implementation and analysis process indicated that Search and filtering options are important features to website users. Regardless of a website's simplistic design and content presentation, end users still look for Search and filtering functionalities to help them quickly locate information as they navigate a website. Therefore, an important website enhancement to HI Mommy requires updating the backend structure in order to provide better Search and filtering features. The activity pages are currently using an online shopping template to display content and filtering options for the activity pages, and the product page to display the selected activity. While this current template sufficed for the usability study, it is not the ideal backend solution to maintain content for the activity pages grow as more options for self-care activities are added to website. This template also limits the filtering options and how it is structured. The solution is to create and populate an activity database and leverage Wix developer tools to program Search and filtering options. Another update is to make the website mobile friendly so that the site displays properly on handheld devices.

The website gives the opportunity to provide O'ahu moms ideas for activities that they can do at home and outside of the house with or without their baby. While the suggested activities on the website are not meant to be prescriptive, it is the hope that new moms and multipara moms in O'ahu will be able to use its resources as a motivational tool to take care of themselves in order so that they in turn can provide better care for their child.

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APPENDICES

APPENDIX A

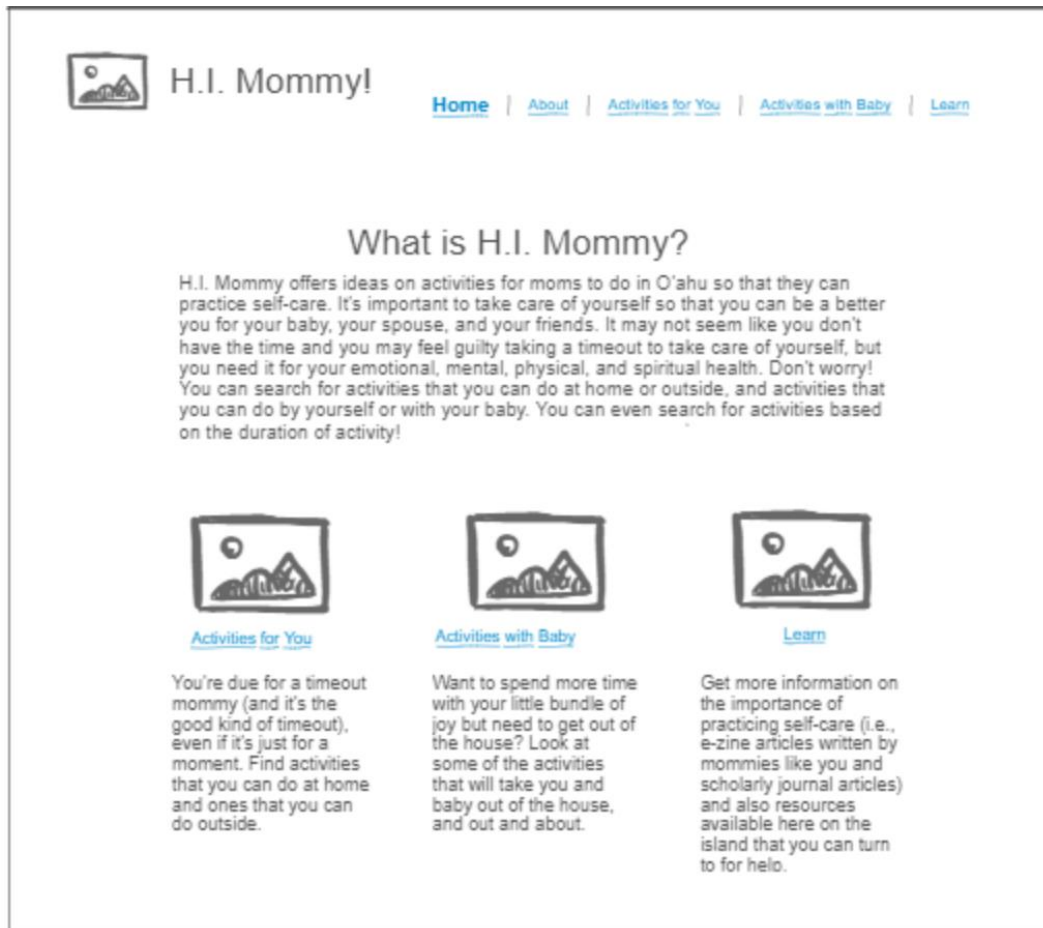
HI Mommy Wireframe with Initial Navigation Menu

Figure A1. Wireframe image of HI Mommy Home Page.

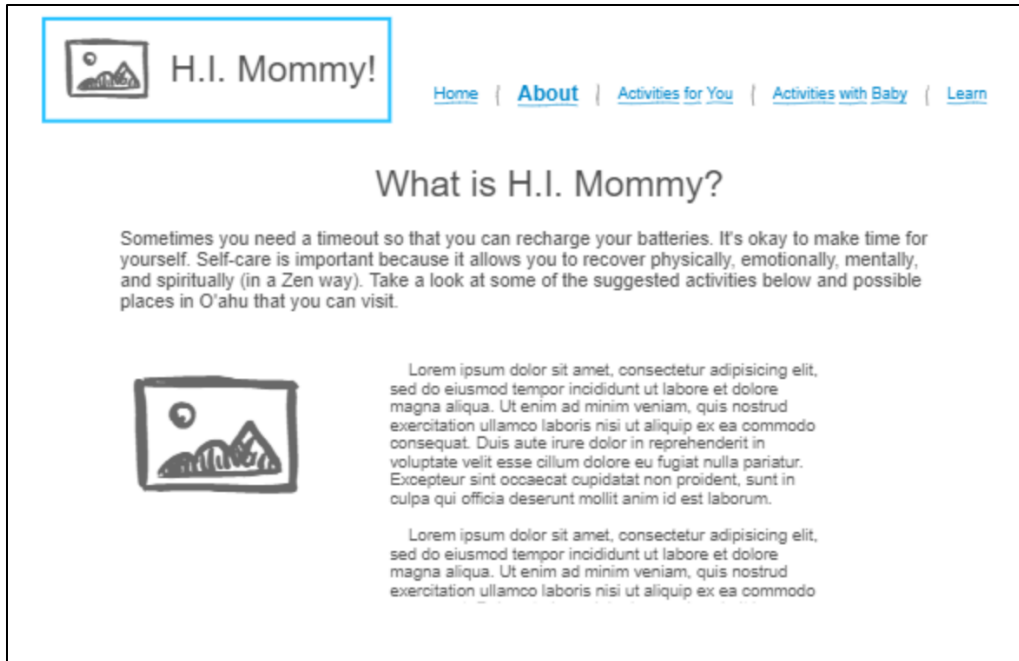


Figure A2. Wireframe image of HI Mommy About Page.

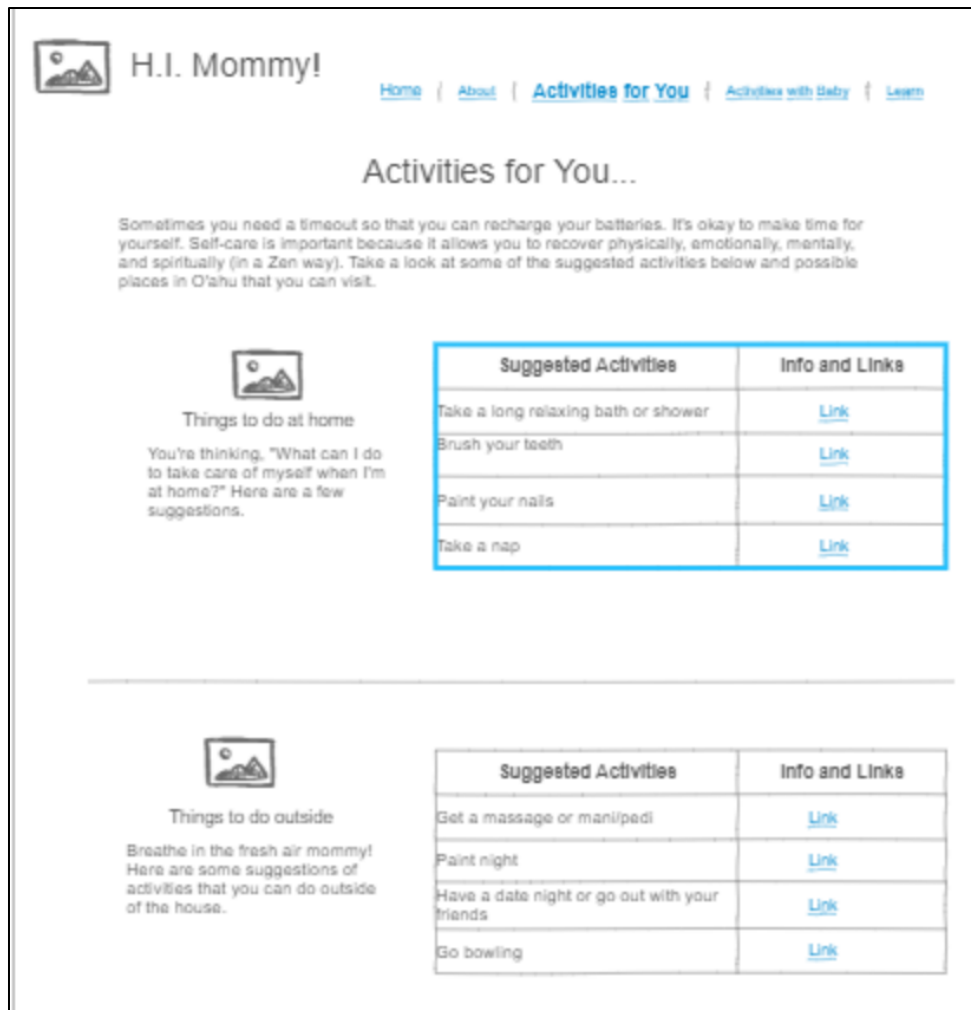


Figure A3. Wireframe image of HI Mommy *Activities for You* Page.

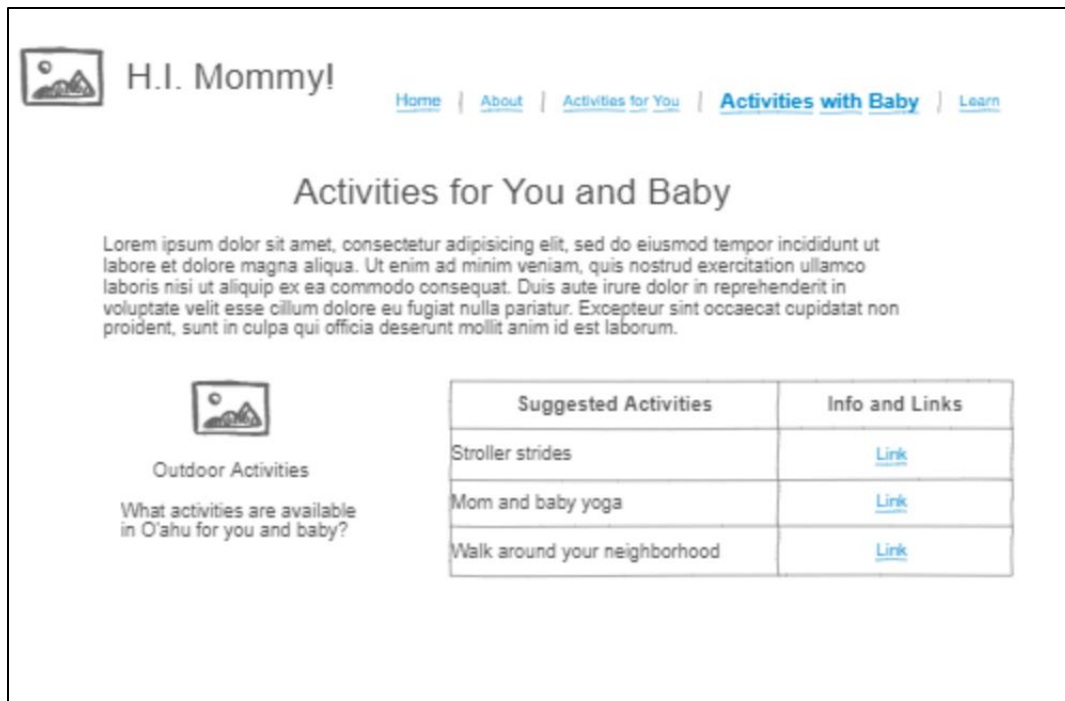


Figure A4. Wireframe image of HI Mommy *Activities with Baby* Page.

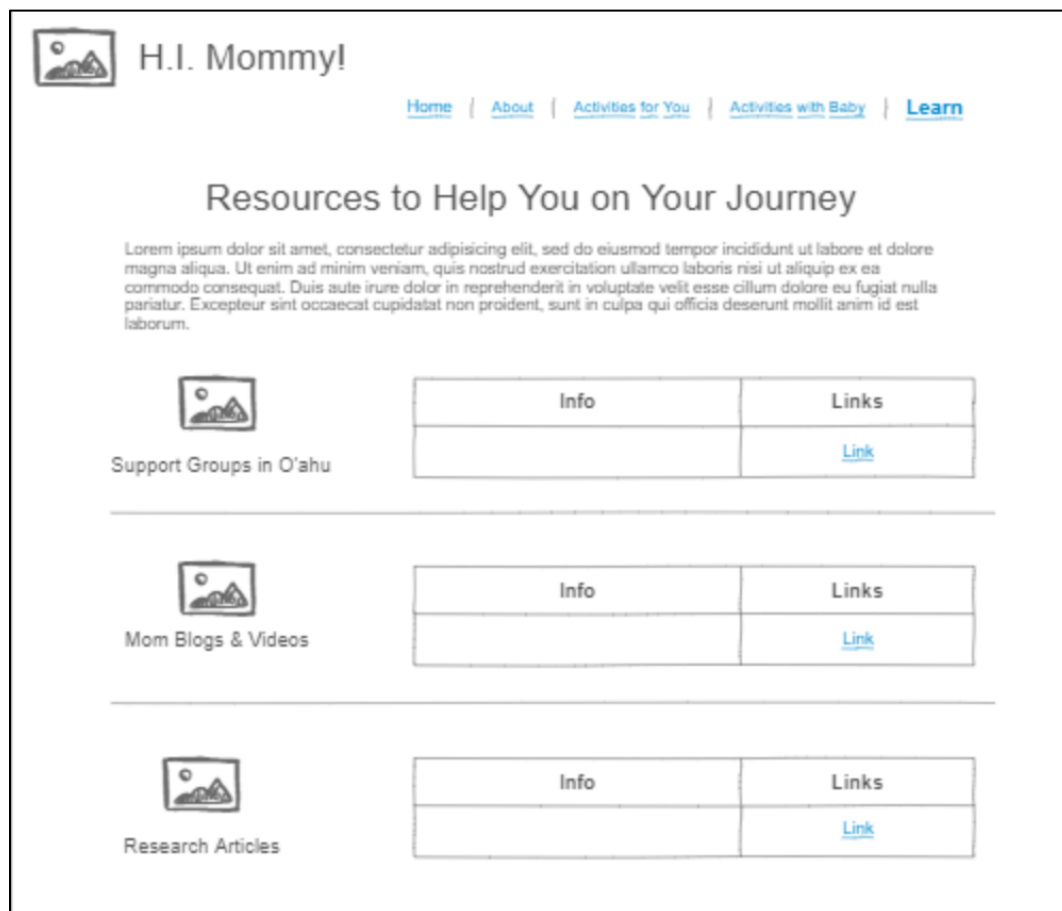


Figure A5. Wireframe image of HI Mommy *Learn* Page.

APPENDIX B

Cognitive Walkthrough Prototype of HI Mommy Website

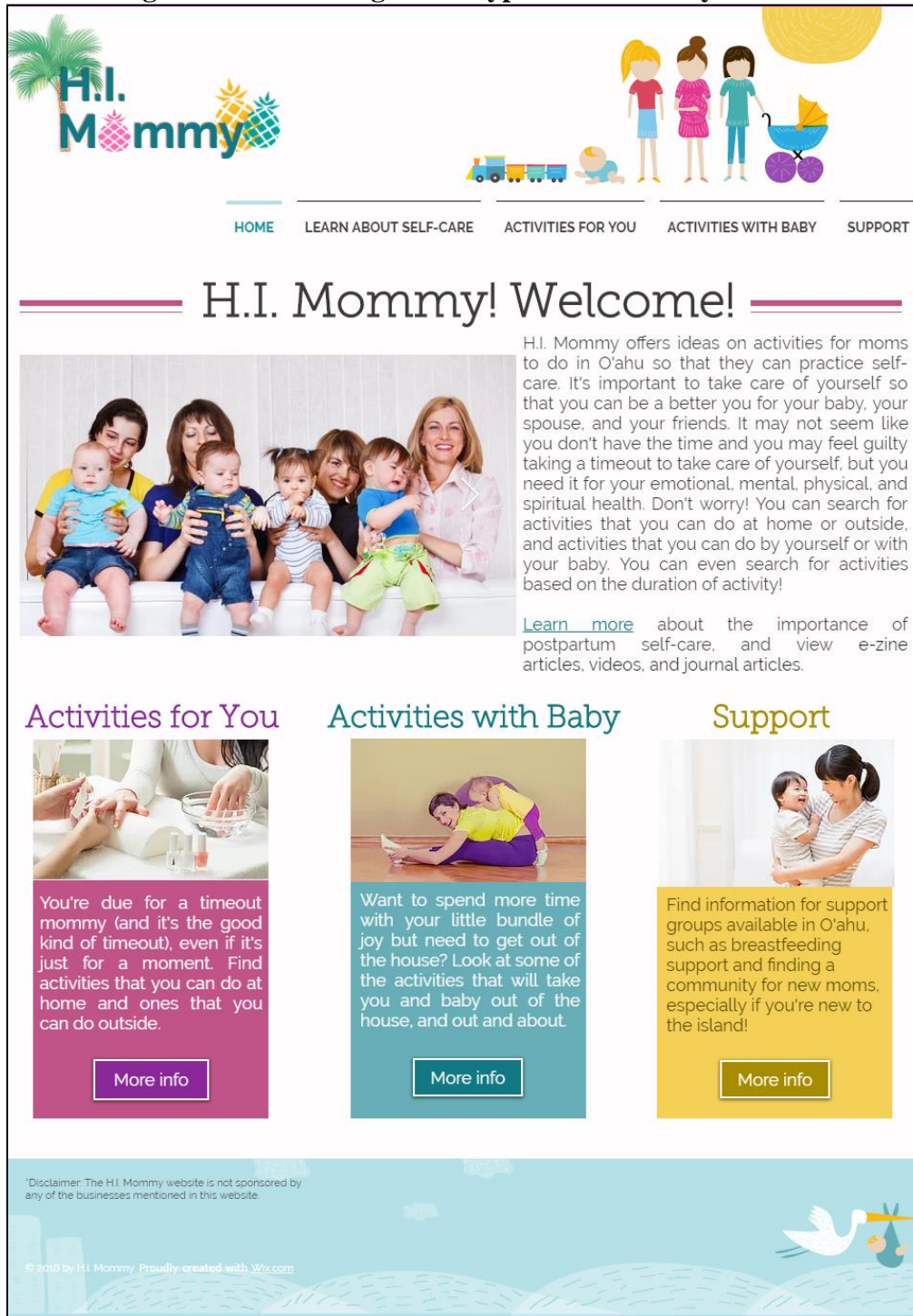


Figure B1. Cognitive walkthrough image of HI Mommy Home Page.



Figure B2. Cognitive walkthrough image of HI Mommy *Learn About Self-Care* Page, top section.

When you have that extra time...



...Take Moment to Read One of These Articles (30 mins.)

Research Study
This qualitative study addresses postpartum self-care and asks new moms if they know why it's important to practice self-care, and what keeps them from practicing self-care.

- [The Role of Maternal Self Care](#) by Jennifer L. Barkin, PhD, and Katherine L. Wisner, MD

E-zine Article
This article from *Motherly* ...

- [The Self-Care Checklist that Will Refresh New Mamas](#) by Julie Burton



...Watch Kristina Kuzmic's Hilarious and Informative Videos on Being a Mom (10 to 15 mins.)

Need a little laughter to help your tired self? Take a look at some Kristina's hilarious videos on mom life. She takes common scenarios experienced by moms and talks about them in a way that will make you laugh! You might end up spending more than 15 minutes watching her videos!

- [To the Brand New Mom...](#) (One of her recent videos and a great watch for new moms!)
- [Kristina Kuzmic's YouTube Homepage](#)



...Get Advice on Feeling "Mom Guilt" (10 to 15 mins.)

It happens to the best of us even when we think we would never feel this way: the mom guilt. Take a moment to read these short articles and see if they can help you deal with "mom guilt."

"What to Expect" Article

- [7 Ways to Deal with Mom Guilt](#)

"The Bump" Article

- [How to Deal When the Mom Guilt Comes for You](#)

Have other articles that you would like to suggest to moms? Send us a message so that we can include it in our list!



Figure B3. Cognitive walkthrough image of HI Mommy *Learn About Self-Care* Page, bottom section.

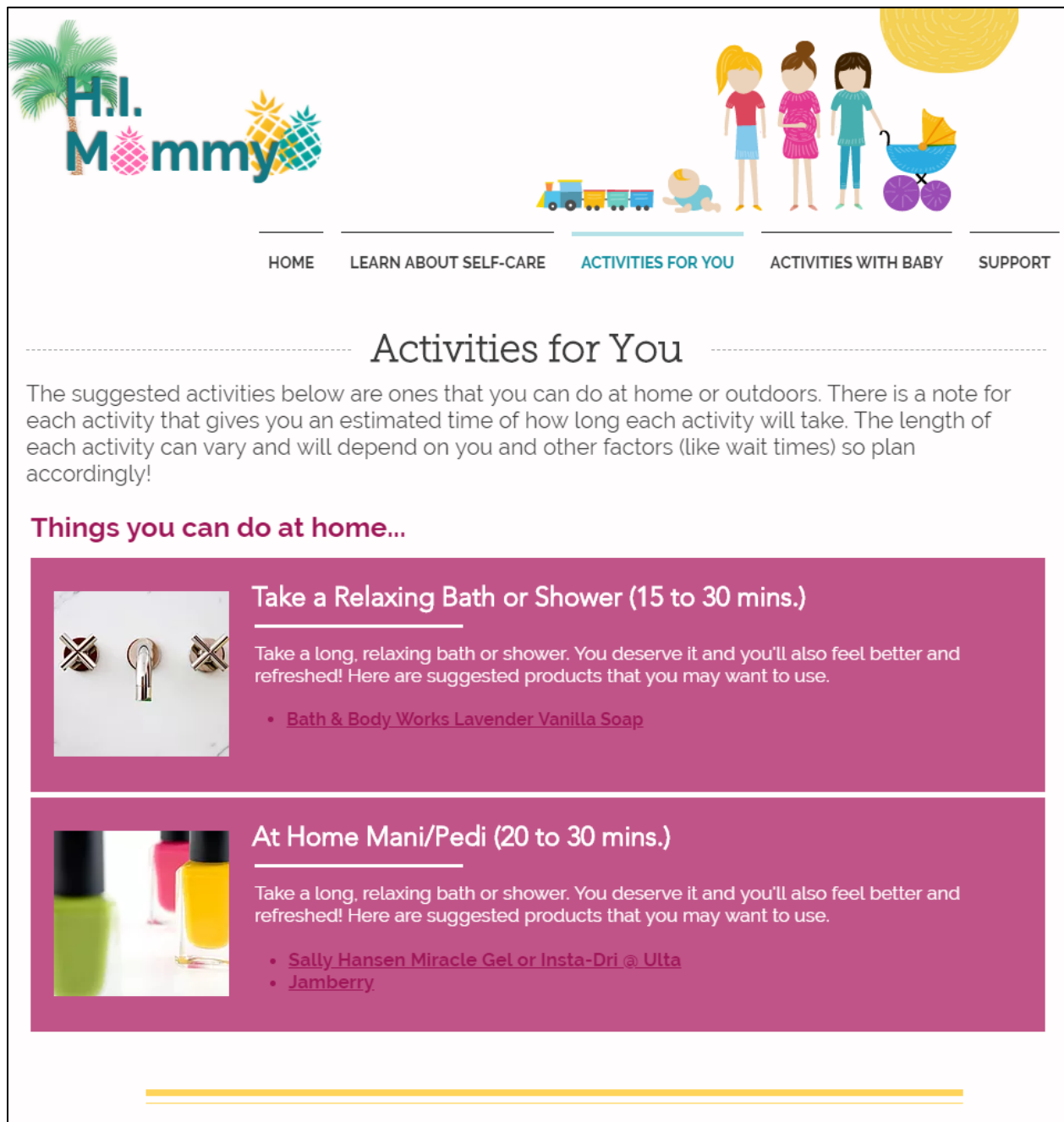



Figure B4. Cognitive walkthrough image of HI Mommy *Activities for You* Page, top section.


Things you can do at outside...



Pamper Yourself w/ a Massage or Mani/Pedi (60 to 90 mins)

You deserve a spa day or even a spa hour. Here are some locations that you can look into for your spa treatment.

- [Massage Envy](#)
- [Hoala Spa](#)



Date Night or Out w/ Friends (2 to 3 hours)

You need to breathe some fresh air, have a date night with your spouse or hangout with some friends. Here are some activities that you may want to do.

- [Paint Night](#)
- [Bowling at Lucky Strike](#)

Have other activities that you would like to suggest to moms? Send us a message so that we can include it in our list!




Figure B5. Cognitive walkthrough image of HI Mommy *Activities for You* Page, bottom section.

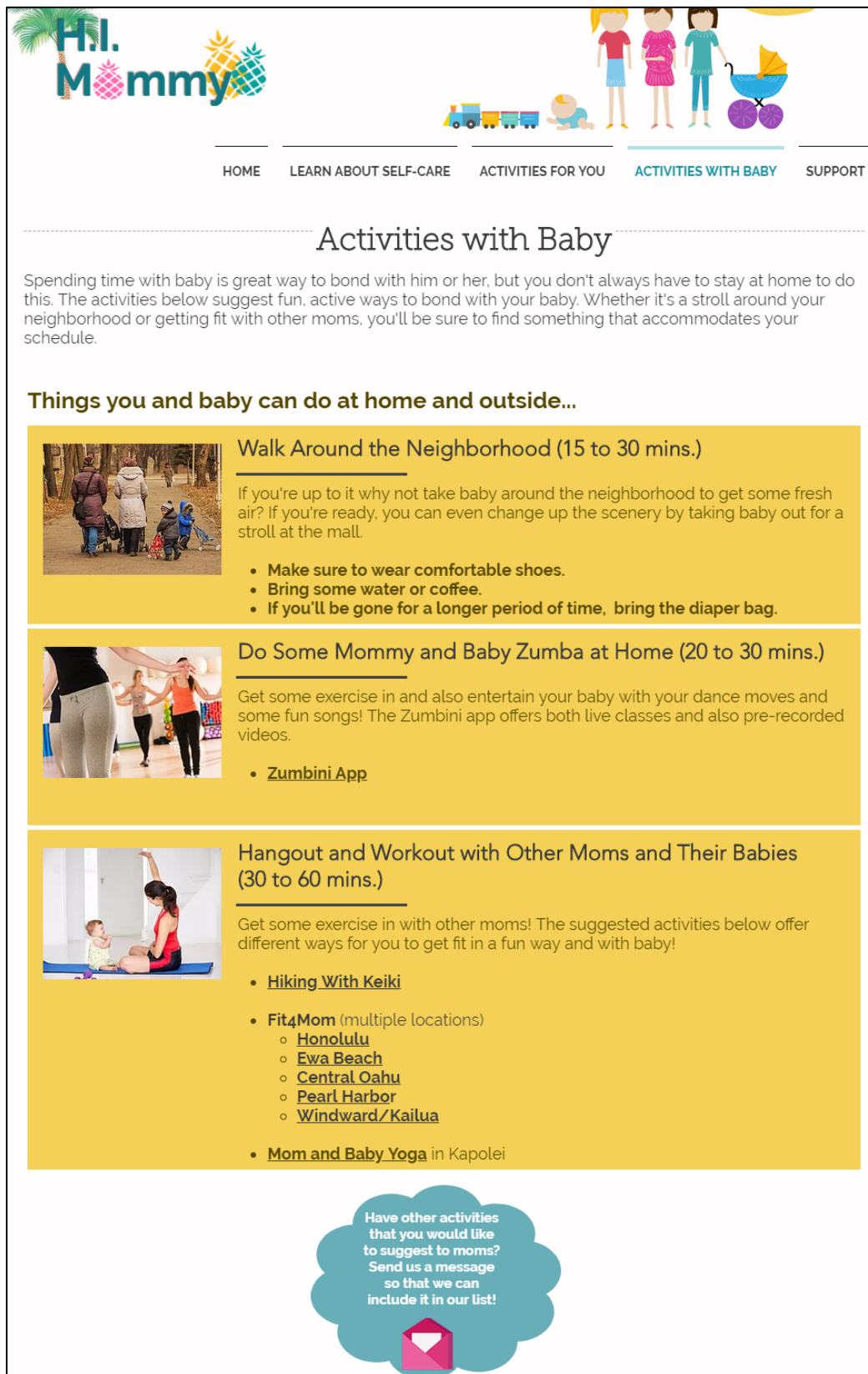


Figure B6. Cognitive walkthrough image of HI Mommy Activities with Baby Page.

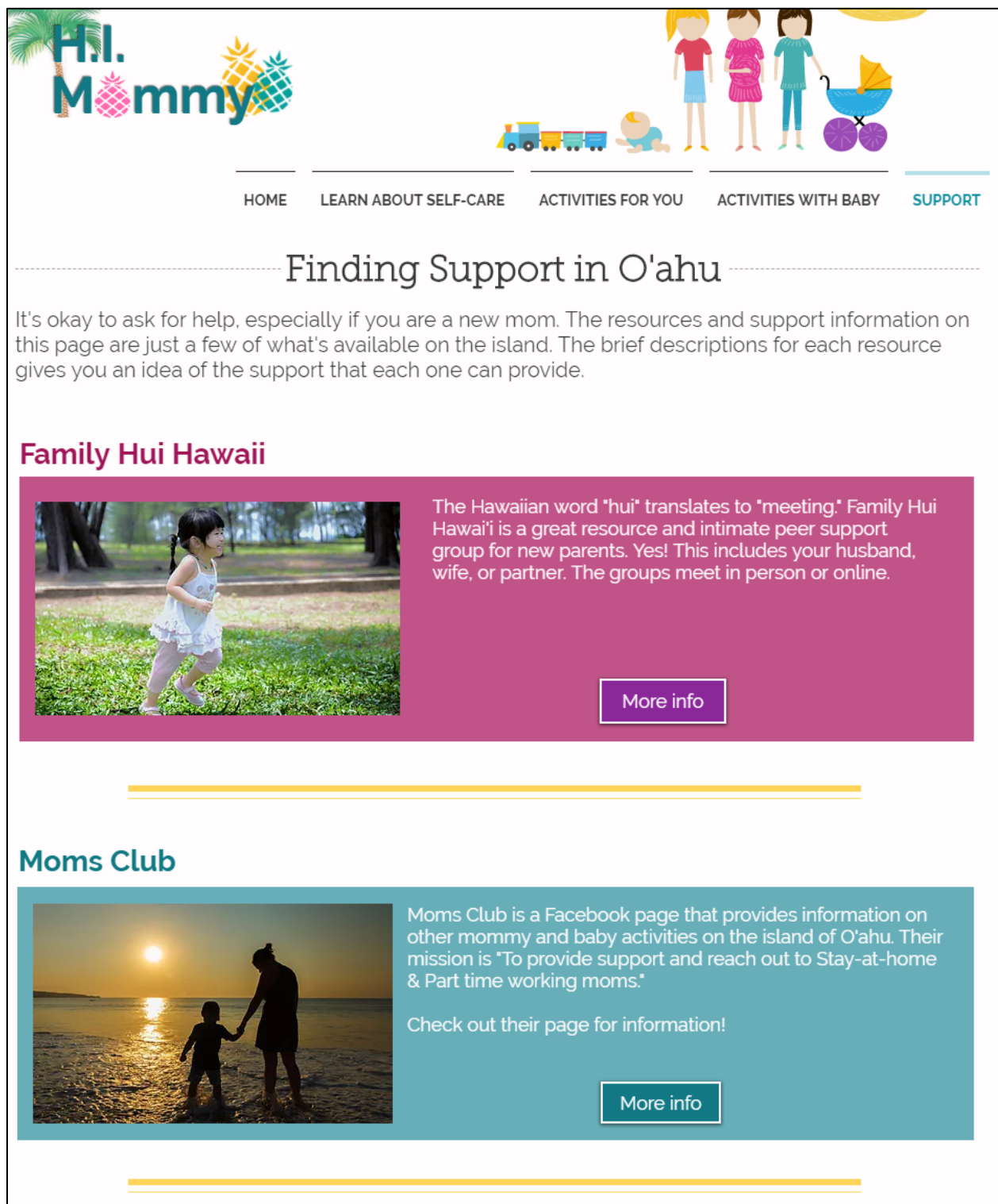


Figure B7. Cognitive walkthrough image of HI Mommy Support Page, top section.

Healthy Mothers Healthy Babies Coalition of Hawaii



Healthy Mothers Healthy Babies provides many different programs for mothers and new parents. Their website is filled with helpful resources before pregnancy, during, and after. According to their website, they "are a local nonprofit agency that is part of a national network of organizations and individuals committed to improving Hawai'i's maternal, child and family health through collaborative efforts in public education, advocacy and partner development."

[More info](#)

Breastfeeding Assistance



Nursing your little one can be tough on your and your body. You may find these resources helpful if you have questions on breastfeeding or have concerns about your milk supply.

- [Hawaii Mothers Milk](#)
- [WIC Program](#)
- [Hawaii Pacific Health \(Kapiolani\) Breastfeeding Hui](#)
- [Castle Hospital Mommy & Me Hui](#)
- [Best Birth Hawaii Listing of Lactation Consultants](#)

Figure B8. Cognitive walkthrough image of HI Mommy Support Page, bottom section.

APPENDIX C

Cognitive Walkthrough Protocol
HImommy.com
Routhie Ann Senoren

Modified from Usability Script- Rocket Surgery Made Easy © 2010 Steve Krug

Technology Set-Up Checklist (Facilitator Computer) □

1. Facilitator should set up his/her computer and attach all cords/peripherals - make sure to use a wired mouse
2. Plug in to a power outlet (don't trust the battery)
3. Make sure computer is connected to the Internet if you are using online resources
4. Prepare Google Hangouts on Air for screenshare and do a brief test to ensure
 - a. Participant is logged in (if conducted virtually and not face-to-face)
 - b. Participant can start and stop screen share
5. Prepare screencasting software and do a brief test to ensure
 - a. Video of screen is captured
 - b. Video from webcam is captured
 - c. Audio is captured

After computer is set up:

1. Load your wireframes in whatever presentation software you choose to use
2. Start the screencasting software

Facilitator Script

Hi, [insert participant's name]. My name is Routhie, and I'm going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

Since you are in this class, you probably already have a good idea of why you are here, but let me go over it again briefly. I'm asking people to take a look at some interface mock-ups (we call them wireframes) I have designed for my Learning Design and Technology master's project. I would like to see what you think of

them and how you think you would complete a few tasks with an interface like this. The session should take about 10-15 minutes.

The first thing I want to make clear right away is that I'm testing the *wireframes*, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

As you complete the tasks, I'm going to ask you as much as possible to try to *think out loud*: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help to me.

Also, please don't worry that you're going to hurt my feelings. I'm doing this to improve the designs, so I need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since I'm interested in how people do when they don't have someone who can help. But if you still have any questions when we're done I'll try to answer them then.

And if you need to take a break at any point, just let me know. Do you have any questions so far?

- ***Ask participant a few preliminary questions:***

OK. Before we look at the site, I'd like to ask you just a few quick questions about your experience using the Internet.

1. How often do you use the Internet during the week?
2. What do you mostly spend time doing on the Internet?
3. In your opinion, what features or characteristics makes a website easy-to-use and makes you return to it?

OK, great. We're done with the questions, and we can start testing out the site.

- ***Have participants do a narrative of the wireframes' overall appearance for one or two minutes, at most:***

I'm going to ask you to look at this wireframe of the homepage and tell me what you make of it: what strikes you about it, whose site you think it is, what you can do here, and what it's for. Just look around and do a little narrative. You can scroll around if you need to.

- *Ask participant to complete a few specific tasks (be sure to give the participant a handout of the scenarios):*

Thanks for doing that. You did a great job. Now I'm going to ask you to try doing some specific tasks. I'm going to read each one out loud. **You should have received a copy of these before this study.** Again, as much as possible, it will help us if you can try to think out loud as you go along.

Allow the user to proceed from one task to the next until you don't feel like it's producing any value, or the user becomes very frustrated. Repeat for each task or until time runs out.

|

Scenarios (“tasks”) for Cognitive Walkthrough**Himommy**

You are a new mom and finally have some free time to yourself. You remember a friend telling you to check out a website called HiMommy.com for information.

Scenario 1:

You navigate to the website and see the landing page:

1. What catches your attention when you first navigate to the site?
2. How, if any, does the website apply to your current situation
3. What information on the page would you find helpful in your current situation?
4. What would you do next?

Scenario 2:

Now that you have browsed through the website, find an activity that you can do outside of the house.

1. How did you find this page?
2. What can you use on this page?
3. What is helpful and not helpful on this page that addresses your current situation?
4. What would you do next?

Scenario 3:

You want to find a support group that will help you through your journey as a new mom.

1. Go to a page that offers you resources in O’ahu.
2. What other resources does this page offer?
3. How do these resources help you as a new mother?
4. What would you do next?

Thanks, that was very helpful.

We are done with the main questions, but I have a few more general questions to ask you.

Note: *If you ask yes/no, true-false, and ranking follow-up questions, be sure to follow up with questions about WHY. This is because design teams will ask, "Well, what was the cause? What exactly were they thinking when they answered this? How should the product design respond to this? Give us something we can use!"*

1. On a scale of 1 to 5, with 1 representing very difficult and 5 representing very easy, how would you rate your experience during today's testing? Why?
2. After participating in this study, to whom would you recommend this website? Why?

That's the last question. Do you have any questions for me, now that we're done?

I want to thank you for your time and willingness to be a participant in this study.

- **Stop the screencasting software**

After the Session:

1. Ensure that the screencast is saved to the desired location
2. Quickly scrub through the video to ensure the integrity of the audio and video
3. Ensure that the sharing options for the videos is set to "Private" or is only available to people given the link

APPENDIX D

Initial Prototype of HI Mommy Website (First Iteration of Usability Study)

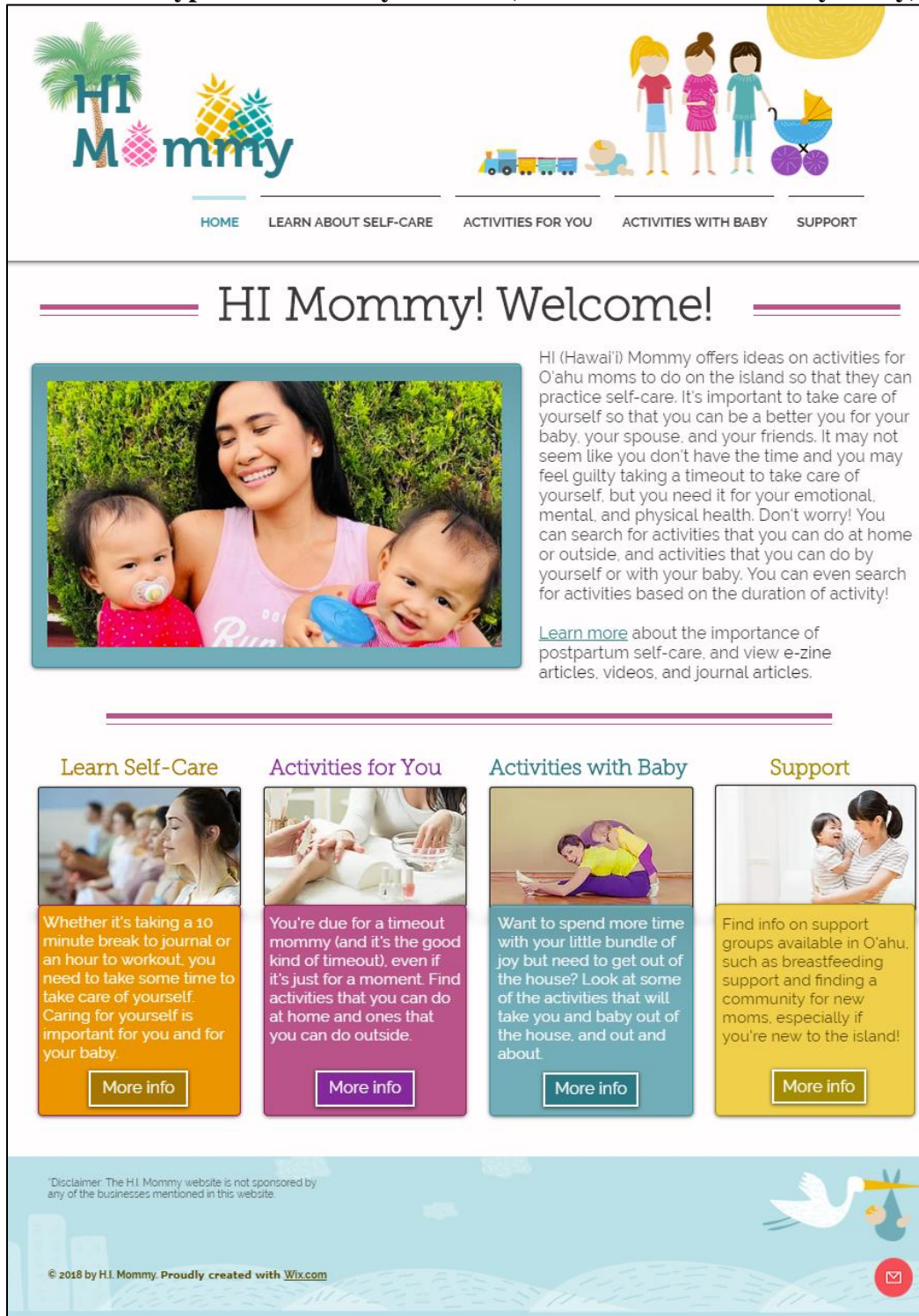


Figure D1. Initial prototype image of HI Mommy Home Page.



Figure D2. Initial prototype image of HI Mommy *Learn About Self-Care* Page, top section.



Figure D3. Initial prototype image of HI Mommy *Learn About Self-Care* Page, bottom section.

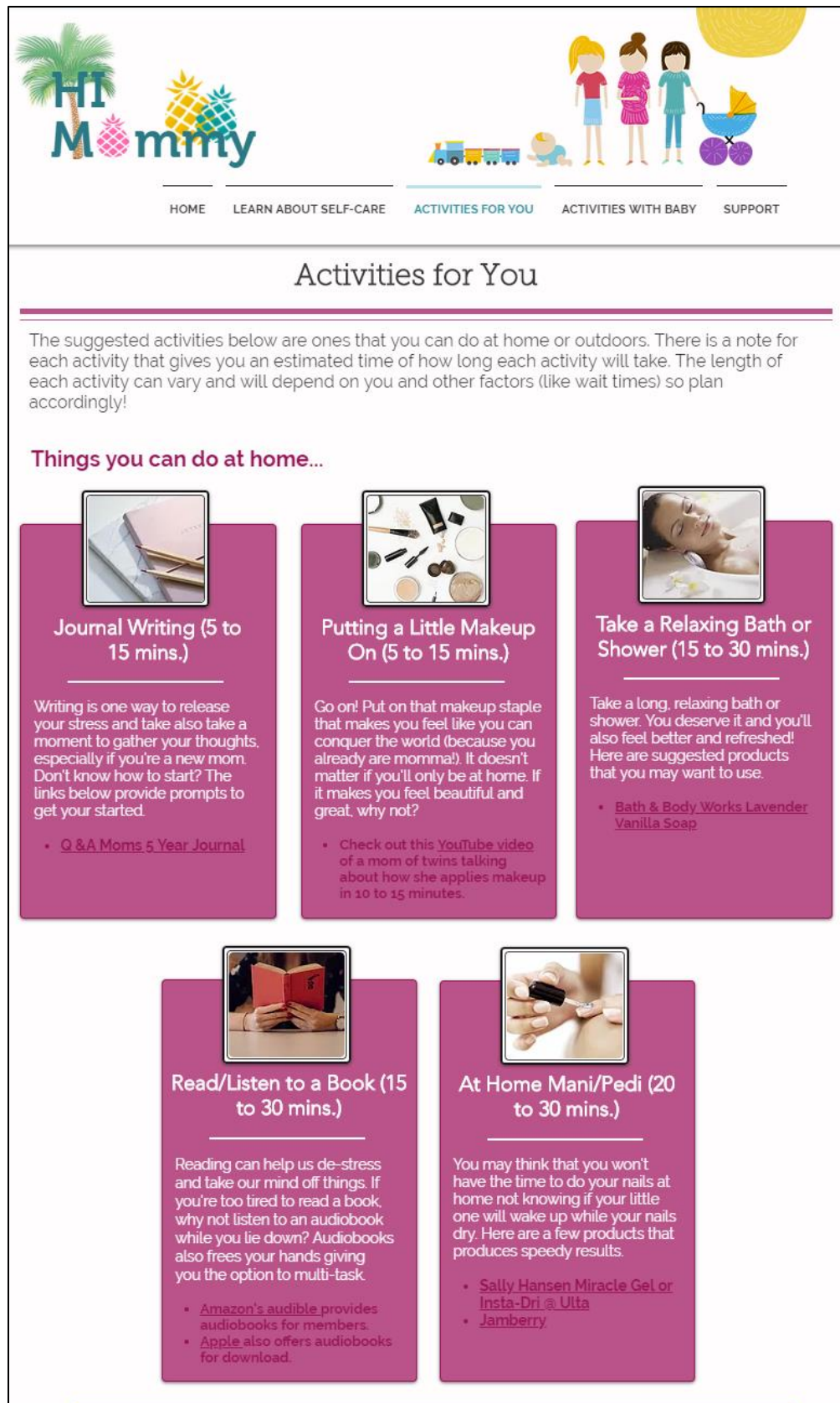


Figure D4. Initial prototype image of HI Mommy Activities for You Page, top section.

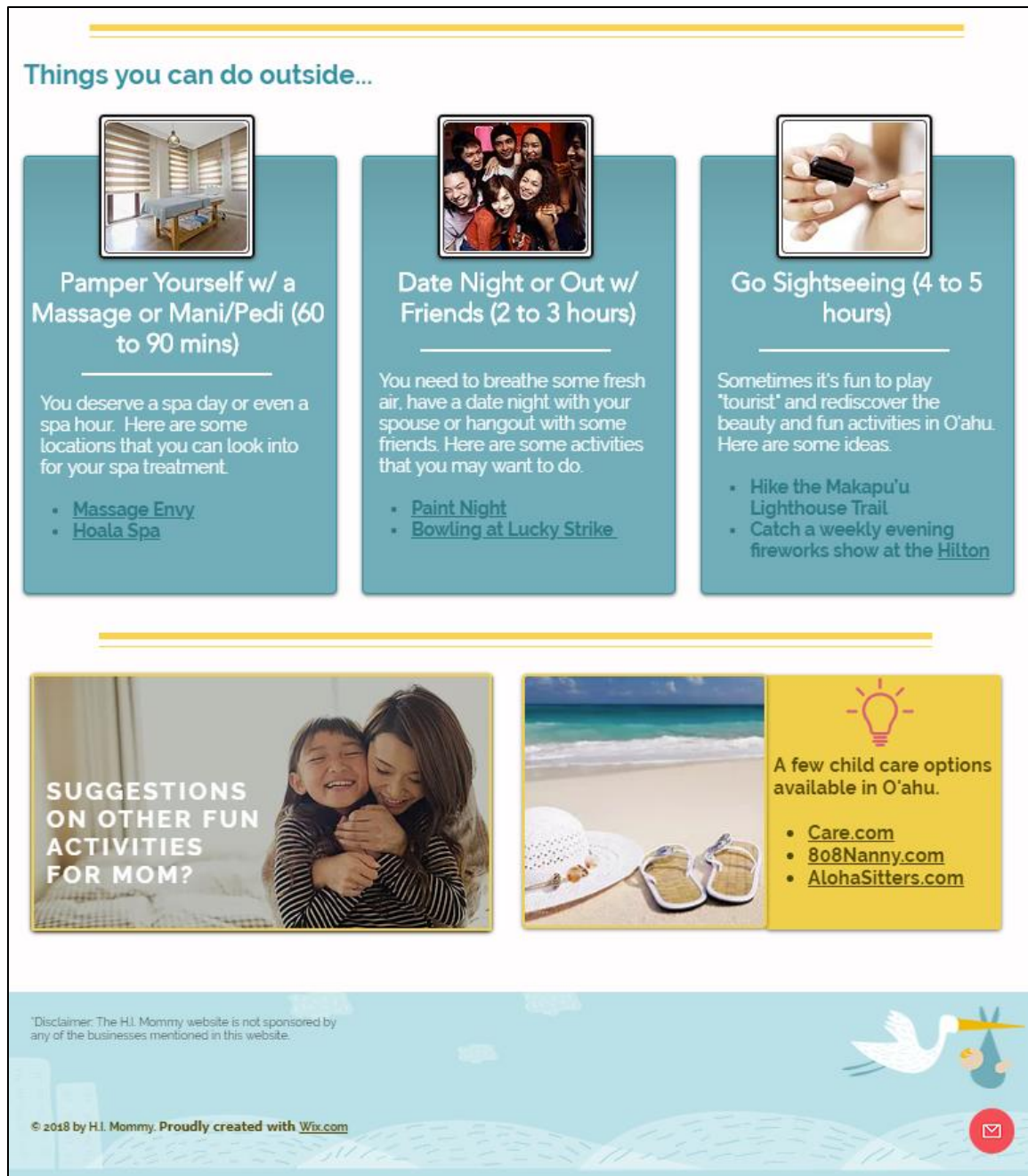


Figure D5. Initial prototype image of HI Mommy Activities for You Page, bottom section.



Figure D6. Initial prototype image of HI Mommy Activities with Baby Page, top section.

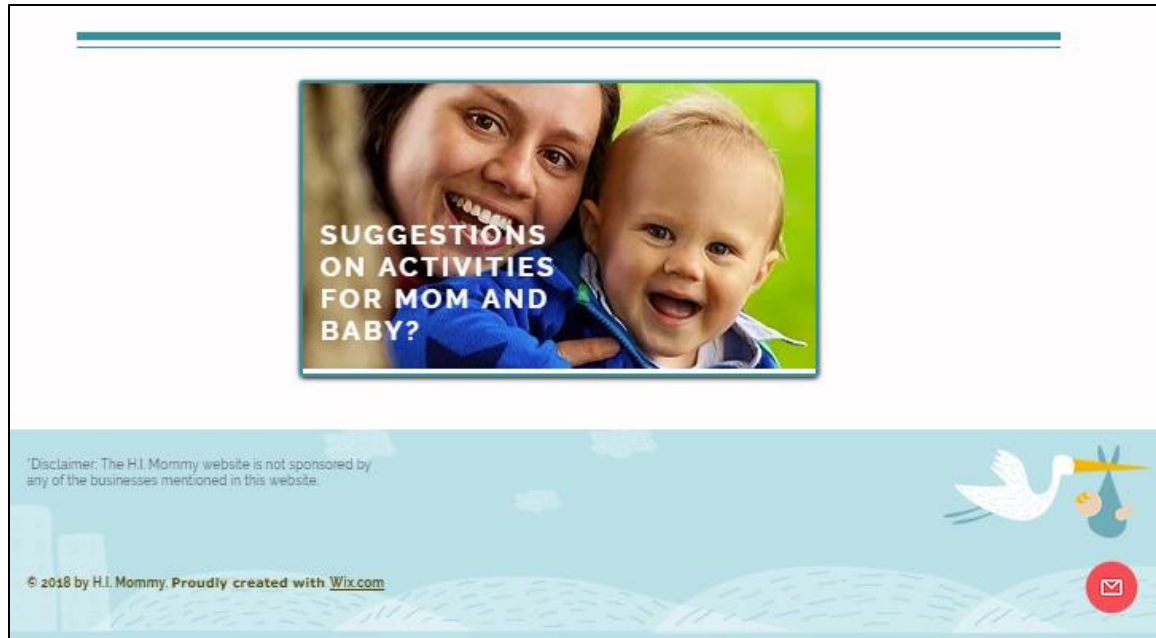


Figure D7. Initial prototype image of HI Mommy Activities with Baby Page, bottom section.

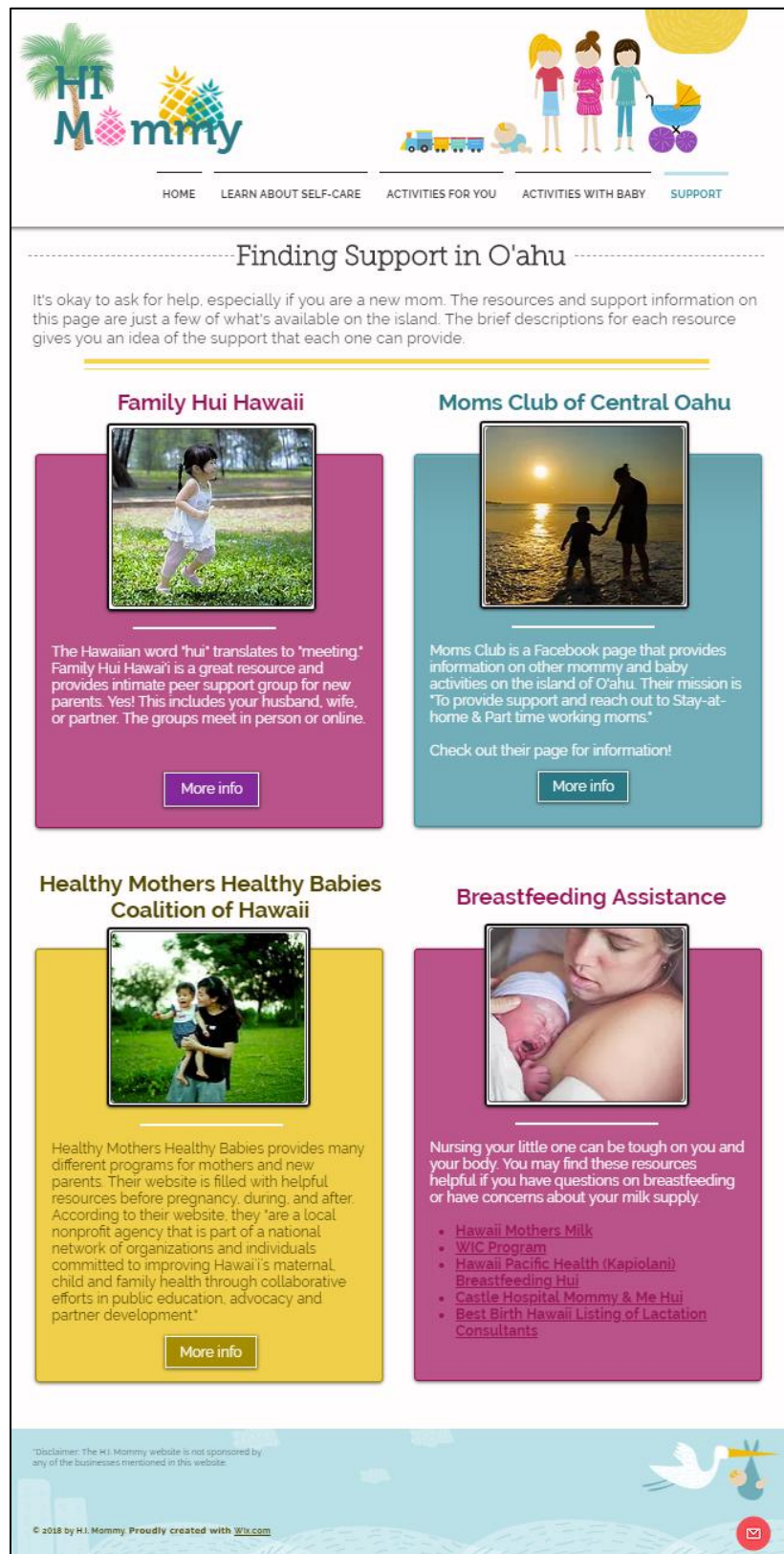


Figure D8. Initial prototype image of HI Mommy Support Page.



HOMELEARN ABOUT SELF-CAREACTIVITIES FOR YOUACTIVITIES WITH BABYSUPPORT

Contact Us

We look forward to hearing from you. Send us your suggestions and feedback.



Leave us a message...

First NameLast Name

Email

Type your message here...

Submit

Thanks for submitting!

*Disclaimer: The H.I. Mommy website is not sponsored by any of the businesses mentioned in this website.

© 2018 by H.I. Mommy. Proudly created with [Wix.com](#)

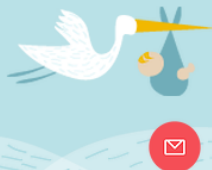


Figure D9. Initial prototype image of HI Mommy *Contact Us* Page.

APPENDIX E
Participant Recruitment Letter

Dear (Insert Participant's Name),

My name is Routhie Ann Senoren. You are invited to take part in research study. I am a graduate student at the University of Hawai'i at Manoa in the Department of Learning Design and Technology. As part of the requirements for earning my graduate degree, I am doing a usability study of a website. The purpose of my project is to create and evaluate the ease-of-use and content perception of the H.I. Mommy website for mothers in O'ahu who need ideas for postpartum self-care activities and information to help them understand the importance of practicing self-care. The time commitment for the study will be 60-90 minutes in total, which includes completing surveys. I am asking you to participate in this study because you fit the target population: A new mother or an experienced mother to one or more than one child.

There will be a follow-up to this recruitment letter. You will receive a phone call within the week. You have the option to opt of the study by calling, texting, or emailing me to request that no further communication be made. Even if you agree to participate in the study, you can opt out of the study at any time. You are not obliged to participate in the study even if you requested for additional information.

If you would like additional information about this study, please call Routhie Ann Senoren at (917)721-1511 or email at rsenoren@hawaii.edu.

Thank you again for your time and considering this research opportunity.

Sincerely,

Routhie Ann Senoren

APPENDIX F

Participant Consent Form



University of Hawai'i
Consent to Participate in a Research Project
 Routhie Ann Senoren, Principal Investigator
Project title: HImommy.com - Usability Study

There will be no direct benefit to you for participating in this interview. The content you review on the website may prompt you to conduct further research and find additional information on the topic on your own time.

Privacy and Confidentiality:

I will keep all study data secure in a locked filing cabinet in a locked office/encrypted on a password protected computer. Only my University of Hawai'i advisor and I will have access to the information. Other agencies that have legal permission have the right to review research records.

After I write a copy of the interviews, I will erase or destroy the audio-recordings. When I report the results of my research project, I will not use your name. I will not use any other personal identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

Compensation:

No compensation will be provided in your participation in this research project.

Future Research Studies:

Even after removing identifiers, the data from this study will not be used or distributed for future research studies.

Questions:

If you have any questions about this study, please call or email me at (917)721-1511 & rsenoren@hawaii.edu. You may also contact my advisor, Dr. Curtis Ho at (808)956-7771 & curtis@hawaii.edu. You may contact the UH Learning Design and Technology at (808) 956-7671 or ltec-dept@lists.hawaii.edu to discuss problems, concerns and questions; obtain information; or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit <http://go.hawaii.edu/jRd> for more information on your rights as a research participant.

If you agree to participate in this project, please sign and date this signature page and return a scanned copy to: rsenoren@hawaii.edu

Keep a copy of the informed consent for your records and reference.

Signature(s) for Consent:

I give permission to join the research project entitled, "*HImommy.com - Usability Study*."

Please initial next to either "Yes" or "No" to the following:

____ Yes ____ No I consent to be audio-recorded for the interview portion of this research.

____ Yes ____ No I consent to being video-recorded for the interview portion of this research.



University of Hawai'i
Consent to Participate in a Research Project
Routhie Ann Senoren, Principal Investigator
Project title: HImommy.com - Usability Study

Name of Participant (Print): _____

Participant's Signature: _____

Signature of the Person Obtaining Consent: _____

Date: _____

Mahalo!

APPENDIX G

Usability Study Protocol, Script, and Tasks**Technology Set-Up Checklist (Facilitator Computer)**

1. Facilitator should set up his/her computer and attach all cords/peripherals - make sure to use a wired mouse
2. Plug in to a power outlet (don't trust the battery)
3. Make sure computer is connected to the Internet if you are using online resources
4. Prepare YouTube and Google Hangouts on Air for screenshare, audio and video recording (if consent is given), and do a brief test to ensure
 - a. Participant is logged in (if conducted virtually and not face-to-face)
 - b. Participant can start and stop screen share
5. Prepare screencasting software and do a brief test to ensure
 - a. Video of screen is captured
 - b. Video from webcam is captured
 - c. Audio is captured

After computer is set up:

1. Load the website homepage in whatever presentation software you choose to use
2. Start the screencasting software

Hi, [insert participant's name]. My name is Routhie, and I'm going to be walking you through this session today.

Before we begin, I have some information for you, and I'm going to read it to make sure that I cover everything.

I want to let you know that you still have a chance to withdraw your participation from this study. Also, if you experience any fatigue during the study, please let me know and we can take break. You can also refuse to answer any of the questions posed during the study.

Now I want to talk a little about why you are here. I'm asking participants to try

navigating and using a website to see if it works as intended. The session should take about 60 minutes. If you haven't completed the pre-survey it will take 70 minutes.

The first thing I want to make clear right away is that I'm testing the *website*, not you. You can't do anything wrong here. In fact, this is probably the one place today where you don't have to worry about making mistakes.

As you use the website, I'm going to ask you as much as possible to try to think out loud: to say what you're looking at, what you're trying to do, and what you're thinking. This will be a big help.

Also, please don't worry that you're going to hurt my feelings. I'm doing this to improve the website, so I need to hear your honest reactions.

If you have any questions as we go along, just ask them. I may not be able to answer them right away, since I'm interested in how people do when they don't have someone who can help. But if you still have any questions when we're done I'll try to answer them then.

And if you need to take a break at any point, just let me know. Do you have any questions so far?

OK. Before we look at the website, I want to verify if you have taken the pre-survey. If not, please click on the tab to view the survey. You will need to complete it before we look at the website.

Ask participant to take Pre-survey [If they haven't taken it]

Thank you for completing the pre-survey. We can start testing out the website.

[If consent was granted.] I want to let you know that I will **now start recording the audio and/or video** for this session.

Start Usability Test.

I'm going to ask you to look at the first screen of the website and tell me what you make of it. You can scroll down and scroll up but do not click on any of the links

just yet.

Please do a little narrative around the following questions:

1. What do you notice first? What strikes you about it?
2. What are your initial impressions about the layout of the website?
3. What are your thoughts of the text on this website?
4. What do you think this website is about? Why do you think so?
5. For whom is the website target? What makes you think so?
6. What do you think people can do on this website? How can you tell so?
7. If you were allowed to navigate anywhere on this screen, where would you go to first?
8. Do you have any other comments?

Thanks for doing that. You did a great job. Now I'm going to ask you to try completing some specific tasks. I'm going to read each one out loud. You should have received a copy of these in your email before this study.

Proceed with task-based scenarios.

As much as possible, it will help me if you can try to think out loud as you go along.

APPENDIX H

Usability Tasks Worksheet**Test Facilitator:**

Test Subject:

Test Date: _____**Test Location:** _____

Task 1: Search an activity from information based on interest: You have some free time and want ideas on activities that you can do based on your interest. How would you find this information?

Participant's Verbal comments:

Any suggestions for making this (task) easier?

Can you indicate/rate the difficulty of this task?

0
[Zero Frustration]

1
[Little Frustration]

2
[Medium/
High Frustration]

3
[Point of Failure]

0 = Participant completed task with zero difficulty.

1 = Participant completed task with only minor problem(s).

2 = Participant completed task with more effort/time/dead-ends.

3 = Participant did not complete task.

Task 2: Determine activity to select based on time: You only have a specific amount of free time allotted and want to make sure that you can fit an activity in your schedule. How can you determine which activities will fit your schedule?

Participant's Verbal comments:

Any suggestions for making this (task) easier?

Can you indicate/rate the difficulty of this task?

<u>0</u>	1	2	3
[Zero Frustration]	[Little Frustration]	[Medium/ High Frustration]	[Point of Failure]

- 0 = Participant completed task with zero difficulty.
- 1 = Participant completed task with only minor problem(s).
- 2 = Participant completed task with more effort/time/dead-ends.
- 3 = Participant did not complete task.

Task 3: Search for activities with baby: You want to spend time with your baby and want to find an activity that socializes him or her with other kids. How would you go about searching for this information?

Participant's Verbal comments:

Any suggestions for making this (task) easier?

Can you indicate/rate the difficulty of this task?

0
[Zero Frustration]

1
[Little Frustration]

2
[Medium/
High Frustration]

3
[Point of Failure]

- 0 = Participant completed task with zero difficulty.
- 1 = Participant completed task with only minor problem(s).
- 2 = Participant completed task with more effort/time/dead-ends.
- 3 = Participant did not complete task.

Task 4: Getting Additional Information: You want to get additional information on postpartum self-care. Where would you go to get this information?

Participant's Verbal comments:

Any suggestions for making this (task) easier?

Can you indicate/rate the difficulty of this task?

0	1	2	3
[Zero Frustration]	[Little Frustration]	[Medium/ High Frustration]	[Point of Failure]

- 0 = Participant completed task with zero difficulty.
- 1 = Participant completed task with only minor problem(s).
- 2 = Participant completed task with more effort/time/dead-ends.
- 3 = Participant did not complete task.

Allow the user to proceed from one task to the next until you don't feel like it's producing any value or the user becomes very frustrated. Repeat for each task or until time runs out.

I want to thank you for your time and willingness to be a participant in this study.

Stop the screencasting software

APPENDIX I
Pre-Survey with Demographic Questions

HI Mommy Pre and Demographic Survey

Thank you for your participation in the HI Mommy website usability study. Please complete this survey prior to the study. It contains 19 questions and should take approximately 10-15 minutes to complete. Your name and email address information will not be collected in this survey to maintain anonymity.

Q1. Age Group *

- ☐ 25-30
- ☐ 31-35
- ☐ 36-40
- ☐ 41-45+

Q2. What is the highest degree or level of school you have completed? If currently enrolled, highest degree received. *

- ☐ Less than high school degree
- ☐ High school graduate, diploma or the equivalent (for example: GED)
- ☐ Some college credit, no degree
- ☐ Trade/technical/vocational training
- ☐ Associate degree
- ☐ Bachelor's degree
- ☐ Master's degree
- ☐ Doctorate degree

Q3. Which of the following best describes your employment status? Select all * that apply.

- ☐ Homemaker/Unemployed
- ☐ Employed - Full-time
- ☐ Employed - Part-time
- ☐ A student

Q4. What is your marital status? *

- ☐ Single
- ☐ Married or domestic partnership
- ☐ Divorced
- ☐ Separated
- ☐ Prefer not to say

Q5. Number of Years Using the Internet (Select from drop-down.) *

- 1. 1
- 2. 2
- 3. 3
- 4. 4
- 5. 5
- 6. 6
- 7. 7
- 8. 8
- 9. 9
- 10. 10+

Q6. How often do you use the Internet? *

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ Occassionally
- ☐ Never

Q7. What do you usually do on the Internet? (Select all that apply.) *

- ☐ E-mail
- ☐ Read news
- ☐ Search for helpful tips (e.g., cooking websites, parenting blogs, forums, etc.)
- ☐ Entertainment (e.g., games, YouTube videos, online shows, etc.)
- ☐ Shopping
- ☐ Reference materials (e.g., encyclopedias, dictionaries, journals, etc.)
- ☐ Other...

Q8. What Internet Websites Do You Think is Easy to Use and is Visually Pleasing? *

Long answer text

Q9. How many kids do you have? Select from the drop-down. *

1. 1
2. 2
3. More than 2

Q10. Select all applicable age range of your kid(s). *

- ☐ 6 months - 1 yr.
- ☐ 2 yr. - 4 yrs.
- ☐ 5 yrs. - 7 yrs.
- ☐ 8 yrs. - 10 yrs.+

Q11. Where do/did you obtain information on POSTNATAL CARE (baby care after birthing)? Select all that apply. *

- ☐ Medical professionals (e.g., ob/gyn, pediatrician, nurses, etc.)
- ☐ Internet forums and/or blogs (e.g., whattoexpect.com, thebump.com, babycenter.com, etc.)
- ☐ Mobile applications
- ☐ Online media (e.g., parenting magazines, YouTube videos, journal articles, etc.)
- ☐ Social Media (e.g., Facebook, Instagram, Twitter)
- ☐ Other...

Q12. Where do/did you obtain information on POSTPARTUM CARE (taking care of yourself after birthing)? Select all that apply. *

- ☐ Medical professionals (e.g., ob/gyn, pediatrician, nurses, etc.)
- ☐ Internet forums and/or blogs (e.g., whattoexpect.com, thebump.com, babycenter.com, etc.)
- ☐ Mobile applications
- ☐ Online media (e.g., parenting magazines, YouTube videos, journal articles, etc.)
- ☐ Other...

Q13. As a mother, what expectations do you currently feel is placed on you? *
Select all that apply.

- ☐ Cook three meals a day for my family.
- ☐ Keep the house clean.
- ☐ Provide income for my family.
- ☐ Take care of the kids (e.g., bathed, fed, entertained, etc.)
- ☐ Make time for husband.
- ☐ Make time for friends.
- ☐ Other...

Q14. What keeps you from taking time out for yourself and/or spending time *
with your spouse, family, and friends? Select all that apply.

- ☐ Budget
- ☐ Limited resources available (e.g., options for reliable babysitter)
- ☐ Unable to part with baby
- ☐ No time available
- ☐ Other...

Please use this legend to assist you in answering the following questions below:

1-Never 2-Rarely 3-Sometimes 4-Often 5-Always

Q15. How often do you exercise for more than 20 minutes a day? *

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Q16. How often do you make time to relax or nap during the week? *

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Q17. How many hours of sleep do you get a night? *

- ☐ 1 - 3 hours
- ☐ 4 - 6 hours
- ☐ 7 - 9 hours
- ☐ 10 or more hours

Q18. How often are you able to take time for yourself during the week (e.g., a bath, putting on makeup, reading, etc.)? *

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

Q19. Do you make time to participate in things you enjoy (e.g., eating out, hiking, pampering yourself, etc.)? *

	1	2	3	4	5	
Never	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Always

APPENDIX J

Post-Survey

HI Mommy Post-Survey

Thank you for participating in the HI Mommy usability study. Please complete this post-survey so that we can continue to improve the website. The survey will approximately take 10 minutes to complete. Your responses will be kept anonymous.

Here is the link to the website if you need to refer back to it again to answer the questions below
<https://rsenoren.wixsite.com/hi-mommy>

Q1. Can you please rate your overall experience of navigating the website? *
 (1=Very Hard, 2=Fairly Hard, 3=Moderate, 4=Fairly Easy, 5=Very Easy)

	1	2	3	4	5	
Very Hard	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very Easy

Q2. As a mother, how satisfied are you with the suggested activities provided *
 on the website? (1=Not Satisfied, 2=Slightly Satisfied, 3=Neutral, 4=Satisfied, 5=Extremely Satisfied)

	1	2	3	4	5	
Not Satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Satisfied

Q3. What other suggested activities or content would you like to have seen *
 on the website?

Long answer text

Q4. How helpful is the overall website as a self-care resource for new moms *
 and moms in O'ahu? (1=Not Helpful, 2=Slightly Helpful, 3=Moderately Helpful, 4=Very Helpful, 5=Extremely Helpful)

	1	2	3	4	5	
Not Helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely Helpful

Q5. Would you recommend the website to other moms? (1=Definitely *
 Wouldn't, 2=Probably Wouldn't, 3=Neutral, 4=Probably Would, 5=Definitely
 Would)

	1	2	3	4	5	
Definitely Wouldn't	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Definitely Would

Q6. I knew about the importance of postpartum self-care before participating *
 in the study. (1=Strongly Disagree, 2= Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree)

	1	2	3	4	5	
Strongly Disagree	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly Agree

Q7. Please provide additional feedback about the website.

Long answer text

APPENDIX K
Nielsen's Severity Rating Scale

Severity rating based on the following scale (Nielsen, 1995):

0 = I don't agree that this is a problem at all

1 = Cosmetic problem only: need not be fixed unless extra time is available on project

2 = Minor problem: fixing this should be given low priority

3 = Major problem: important to fix, so should be given high priority

4 = Usability catastrophe: imperative to fix this before product can be released

Problem	Severity	Reason for Rating
1.		
2.		
3.		

APPENDIX L

Nielsen's Severity Rating Scale by Iteration

Iteration 1

Nielsen's Severity Rating Scale

Severity rating based on the following scale (Nielsen, [1995]):

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

Iteration 1

Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
1. Activities found in Activities for Mom (AfM) are limited and participants were discouraged that she may not find one that she would want to partake in.	3	The current activities provided on the page for indoor activities focus on physical self-care and does not offer other options for mental or emotional self-care, like reading a book or journal writing.	<ul style="list-style-type: none"> Add more inclusive, broad activities in Activities for Mom (AfM) Add walking around neighborhood for AfM Create categories for activities and place appropriate activities (new and existing) in these categories 	Yes
2. Selected "Support" from navigation menu instead of "Learn About Self-Care"	3	User should be aware that postpartum self-care information can be obtain on the website, not just on the external resources provided.	Change navigation label and page name to something more specific, like "Maternal Self-Care" and make sure to highlight postpartum self-care even more in the content.	Yes
3. Description on top of Home screen is wordy	3	One of website user experience goal is ease-of-use. Changing layout and updating content will help reach this goal.	Rewrite content as bullet points to eliminate extraneous text and bold key words and phrases	Yes
4. Option to search for activities based on timeframe	3	For ease of use, users want to only view activities based on specific duration.	Create a filter for activities based on duration	No

Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
5. AfK are not separated by location, like AfM	3	Need to maintain consistency between both activity pages to provide predictability and standardized layout.	Create a filter for activities based on location	Yes but only for AfM
6. Navigation menu "Support" connotes monetary donation page instead of page providing information on support	3	Menu option should not cause confusion or second guessing.	Change navigation label and page name to "Finding Support"	Yes
7. Participant has to scroll back to top of page to view and select navigation menu	3	Ease of use is necessary especially if page length is long.	Pin header/navigation menu to top of page to allow users to still access menu even as they scroll up or down on the page.	Yes
8. No Search bar option to locate information which means user must click on every navigation option/page	1	Website contains a small number of pages. Participants are still able to find information without a Search bar. As site grows and evolves, implementing Search functionality will be helpful.	As site grows, design, develop and implement a Search bar that crawls the site and opens a Search Results page	No
9. Description in four boxes on Home screen are wordy	1	Content can be updated later and currently still concise and short	N/A	N/A

Iteration 2

Iteration 2				
Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
1. No Search bar option to locate information which means user must click on every navigation option/page	2	Participants in previous iteration looked for Search bar but this functionality is still not implemented. Increasing rating from 1 to 2.	Design, develop and implement a Search bar that crawls the site and opens a Search Results page.	No
2. Boxes on bottom of page placed vertically causing user to scroll up and down to read the information	3	Study is to improve ease-of-use and satisfaction. Changing the layout of the boxes may improve ease-of-use and user satisfaction when reading content.	Change layout of boxes from vertical two columns to single column, horizontal boxes.	Yes
3. Postpartum Self-Care info just an explanation of what it is and does not offer ideas on self-care	3	One of the main reasons for website is to educate moms about postpartum self-care and activities that will help, but this info on this page is not explicit enough and may need additional content and reorganization of content.	<ul style="list-style-type: none"> Create two new pages, “Postpartum Self-Care” and “About Self-Care” Make “About Self-Care” the parent page for the navigation menu with “Postpartum Self-Care” and “Maternal Self-Care” as subpages Create new content for the following pages: “About Self-Care”, “Postpartum Self-Care”, and “Maternal Self-Care” Move appropriate content from “Maternal Self-Care” page to “Postpartum Self-Care” page. Make sure to include links in these pages to “Activities for Mom” and “Finding Support” 	Yes

Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
4. May not be obvious that participants can view additional info about an activity on <u>AFM</u>	2	Two out of three participants knew that selecting an activity option would open a page with additional info. If time permits, will make the change to eliminate any second guessing.	Add a “More Info” button for each activity	Yes
5. <u>Wix</u> banner is found on top of page and is distracting	0	<u>Wix</u> banner is small and doesn’t really distract from the overall website. The only way to remove this is to pay for domain.	N/A	N/A
6. When participant returns to list of activities page, participant <u>has to</u> deselect filter options to reset list or view specific activities.	0	Filter options are minimal. Users can easily deselect filter options. Filter section also has a “Clear filters” option to quickly reset the page.	N/A	N/A

Iteration 3

Iteration 3				
Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
1. Activity filters in Activities with Keiki (<u>AwK</u>) does not include option for different age groups.	3	Moms visiting the website have kids from different age groups. Creating a filter for age groups will add to the ease-of-use and efficiency of the website.	Add and “Age Group” filter option in <u>AwK</u> for 0-1 (Infant), 1-3 (Toddler), 4+ (Children)	No
2. Extra fun videos/info on bottom of “Postpartum Self-Care” and “Maternal Self-Care” pages can be inundating.	1	The extra content found in these pages aren’t too distracting to the users.	If time permits, create a new page to house extra info and videos.	No
3. Activities for Mom filter label “Duration” is acceptable but suggest changing to something more “catchy” like “Mommy Free Time”	0	While this is a good suggestion and is catchy, filter label “Duration” will not change to keep consistency because “Duration” is the same label found in Activities with Keiki.	N/A	N/A
4. Participant was confused as to why “Go Sightseeing” and “Date with Spouse” activities located inside the “Strut Your Stuff” activities page.	3	These activities shouldn’t be found in the “Strut Your Stuff” activities page and need to be removed to prevent confusion in the future.	Remove the “Go Sightseeing” and “Date with Spouse” activities located inside the “Strut Your Stuff” activities page.	Yes
5. The listing of duration are not organized from longest to shortest, or vice-versa for both filters	3	Listing the duration times from longest to shortest, or shortest to longest will prevent confusion in the	Fix the Duration filter options for <u>AwM</u> and <u>AwK</u> so that it displays the options from longest to shortest to longest, or longest to shortest.	No

Problem	Severity	Reason for Rating	Change to Make	Completed for Next Iteration?
found in Activities for Mom and Activities for Keiki.		future and will also organize the information presented.		

APPENDIX M

Current HI Mommy Website Screenshots



Figure M1. Current image of HI Mommy Home Page.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)

[POSTPARTUM SELF-CARE](#)
[MATERNAL SELF-CARE](#)

Self-Care

WHAT is **Self-Care**?

- A deliberate activity that we do in order to take care of our physical, mental, and emotional health.

WHY is **Self-Care** Important?

- Practicing self-care can improve our well-being and improve our health.


HOW Do I Practice **Self-Care**?

As a mom, the first step is to take some time for yourself and not feel guilty or selfish for doing so.

You can take a look at the [suggested activities for mom](#) on HI Mommy as a starting point towards your self-care.


Check out additional info on:

- [Postpartum self-care](#) and
- [Maternal self-care](#) on this site.



How Can HI Mommy Help Me with Self-Care?

- Provides suggested self-care activities that you can do with or without your child.
- For activities for you to do sans child, take a look at [Activities for Mom](#).
- For activities that you can enjoy with your child, take a look at [Activities with Keiki](#).
- There are activities that you can do at home or outdoors in O'ahu.



Take a look at the suggestions to see if any of them interests you and fit your schedule. In fact, you can already do a few of the suggested activities at home.

One last note as you explore this website: **Be kind to yourself**. You deserve some mommy "me" time. And lastly, don't be afraid to ask for help.

Figure M2. Current image of HI Mommy About Self-Care Page, drop-down options.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)

About Self-Care

WHAT is **Self-Care**?

- A deliberate activity that we do in order to take care of our physical, mental, and emotional health.

WHY is **Self-Care** important?

- Practicing self-care can improve our well-being and improve our health.


HOW Do I Practice **Self-Care**?

As a mom, the first step is to take some time for yourself and not feel guilty or selfish for doing so.

You can take a look at the [suggested activities for mom](#) on HI Mommy as a starting point towards your self-care.


Check out additional info on:

- [Postpartum self-care](#) and
- [Maternal self-care](#) on this site.



How Can HI Mommy Help Me with Self-Care?

- Provides suggested self-care activities that you can do with or without your child.
- For activities for you to do sans child, take a look at [Activities for Mom](#).
- For activities that you can enjoy with your child, take a look at [Activities with Keiki](#).
- There are activities that you can do at home or outdoors in O'ahu.



Take a look at the suggestions to see if any of them interests you and fit your schedule. In fact, you can already do a few of the suggested activities at home.

One last note as you explore this website: **Be kind to yourself.** You deserve some mommy "me" time. And lastly, don't be afraid to ask for help.

Figure M3. Current image of HI Mommy About Self-Care Page.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)

Maternal Self-Care

WHAT is **Maternal Self-Care**?

- Taking the time out of your role as a mom to care for yourself mentally, physically, and emotionally. This is especially difficult for **new moms** to do.

HOW is Self-Care, Postpartum Self-Care, & Maternal Self-Care Different?

- They aren't much different from each other since all three calls for you to take care of yourself, **however**:
 - postpartum* is recovery and caring for yourself **right after** birth, and
 - maternal* is caring for yourself **beyond** the postpartum stage as a mom.

WHY is **Maternal Self-Care** Important?

Maternal self-care is not a selfish act. In fact, taking care of yourself will help you become a better mother to your child. How? By doing little things that can make you feel refreshed.

While taking care of your kids, you may have overlooked the importance of taking care of yourself.

- For **experienced moms** (those with a baby and/or more than one child), can also feel the mental, emotional, physical drain.



3 Reasons Why **Maternal Self-Care** is Difficult

An article on a study conducted by [Barkin and Wisner \(2013\)](#) asked mothers what keeps them from practicing self-care, or why they don't often practice it. Mothers in the study gave three reasons:


- Time
- Limited Budget
- Difficulty Accepting Help and Setting Boundaries



It is difficult to carve out time for yourself and doing so may make you feel guilty, maybe even selfish. But you need to realize that you must also take care of yourself, even if you take 15 minutes to just sit down, close your eyes, and think of nothing.

Figure M4. Current image of HI Mommy *Maternal Self-Care* Sub-Page, top section.

When you have that extra time... (and you will)



...Get Advice on Feeling "Mom Guilt" (10 to 15 mins.)

It happens to the best of us even when we think we would never feel this way: the mom guilt. Take a moment to read these short articles and see if they can help you with "mom guilt."

"What to Expect" Article

- [7 Ways to Deal with Mom Guilt](#)

"The Bump" Article

- [How to Deal When the Mom Guilt Comes for You](#)

Excerpt from "7 Ways to Deal with Mom Guilt"

"Guilt becomes a problem, however, when you spend too much time sweating the small stuff and lose the big-picture perspective (like how adorable your baby is and how it doesn't matter if you didn't get all the laundry folded). Unchecked guilt can even be dangerous, leading to unhealthy behaviors and depression."


Excerpt from "How to Deal When the Mom Guilt Comes for You"

"Mommy and daddy guilt... we've all experienced it. Did you ever ask yourself, "Am I making a big mistake?" or, "Am I forgetting anything important?" How about: "Am I being too hard on my child?", "Will I regret my decisions later?" Yup, we've all been there."

SUGGESTIONS ON ARTICLES OR VIDEOS FOR MOM TO VIEW?

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Figure M5. Current image of HI Mommy Maternal Self-Care Subpage, bottom section.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)

Postpartum Self-Care

WHAT is **Postpartum Self-Care**?

- **New** and **experienced moms** who just birthed may think that the term only applies to caring for oneself in a more medical, physical way (like resting if one had a c-section), but postpartum self-care is **more** than just that.
- It is caring for your **mental, physical,** and **emotional health** after giving birth.



WHY is Practicing **Postpartum Self-Care** Important?

Taking care of yourself after giving birth will help you become a better mother to your child. **Do not feel bad or guilty** about caring for yourself. **Postpartum self-care is NOT a selfish act.**

- **New moms** may feel the mental, emotional, and physical stresses after giving birth, with the 24/7 baby watch, the feedings, diaper changes, and everything else in between,
- **Experienced moms** (those with a baby and/or more than one child), can also feel the mental, emotional, and physical drain.

HOW can I practice **Postpartum Self-Care**?

Physical. Other than the required physical self-care given to you by your medical provider (hospital, midwife, etc.), you can start by doing little things, like:

- brushing your teeth (yep, sometimes this is overlooked),
- taking a bath,
- taking a nap (if possible),
- eating a meal (snacking doesn't count mommy!), and
- maybe listening to your favorite songs.

These little actions can **reinvigorate you** and make you **feel refreshed.**

If you're up to it, you can go for a walk or do lightweight exercises at home.

Breastfeeding also falls under postpartum self-care. If you are having trouble and need help, get info on breastfeeding assistance on the [Finding Support](#) page.

Mental and Emotional. With your hormones trying to get back to normal, your emotions may go on a roller-coaster ride, up and down, happy then sad and then happy again. You may want to write your feelings down, or share your feelings with your partner, or a trusted family member or friend.


Don't feel guilty, ashamed, and embarrassed if you are feeling this way.

- If you need to talk to someone or need a helping hand, take a look at the [Finding Support](#) page.
- Healthy Mothers Healthy Babies (HMHB) also has info on [O'ahu Postpartum Depression Support Group](#).



Figure M6. Current image of HI Mommy *Postpartum Self-Care* Subpage, top section.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)




Where Can I Find Postpartum Self-Care Ideas on HI Mommy?

HI Mommy offers suggestions on activities that you can do to practice postpartum self-care.

Check [Activities for Mom](#) to see if any of them interests you and fit your schedule. In fact, you can already do a few of the suggested activities at home.


When you have that extra time... (and you will)




...Watch Kristina Kuzmic's Hilarious and Informative Videos on Being a Mom (10 to 15 mins.)

Need a little laughter to help lift up your tired self? Take a look at Kristina's hilarious videos on mom life. She takes common scenarios experienced by moms and talks about them in a way that will make you laugh! You might end up spending more than 15 minutes watching her videos!

- [Kristina Kuzmic's YouTube Homepage](#)



Here's one that you may want to watch - "To the brand new mom..." (3 mins.)



...Take a Moment to Read One of These Articles (30 to 45 mins.)

Research Study
This qualitative study addresses postpartum self-care and asks new moms if they know why it's important to practice self-care, and what keeps them from doing so.

- [The Role of Maternal Self Care](#) by Jennifer L. Barkin, PhD, and Katherine L. Wisner, MD

E-zine Article
This article from *Motherly* ...

- [The Self-Care Checklist that Will Refresh New Mamas](#) by Julie Burton

Excerpt from "The Role of Maternal Self-Care"

"One mother described her struggle to balance infant care and self-care: 'Because I really didn't pay attention to myself. Like my main focus was on him. Making sure he was eating every hour. And as far as me, when a counselor came in and she was like, 'Well, are you eating breakfast?' 'Are you eating lunch?' And you really have to stop and look back and think like okay, yes, I need to take care of myself as well as the baby'. But you don't really think about that until someone brings it to your attention.'"

Excerpt from "The Self-Care Checklist that Will Refresh New Mamas"

"The postpartum phase is not the same for every mom, but most often the above-mentioned euphoria sends a new mom into caretaker action without much thought or effort. Until... the exhaustion, residual pain from childbirth and the sometimes abrupt realization that you do in fact have other responsibilities outside of the baby set in."

Figure M7. Current image of HI Mommy *Postpartum Self-Care* Subpage, middle section.

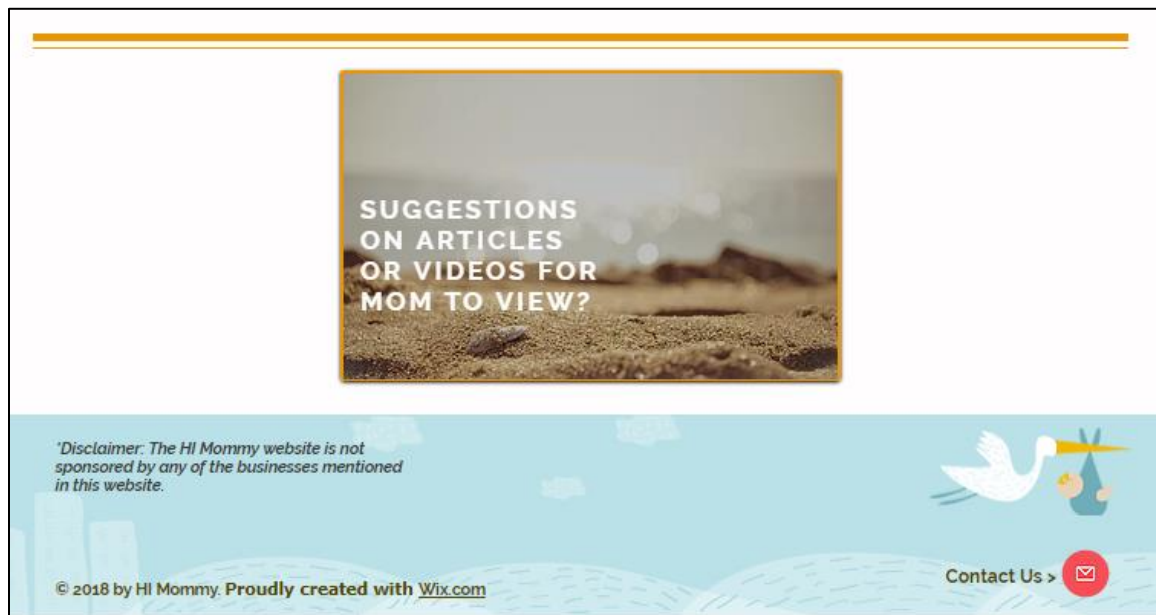


Figure M8. Current image of *Postpartum Self-Care* Subpage, bottom section.

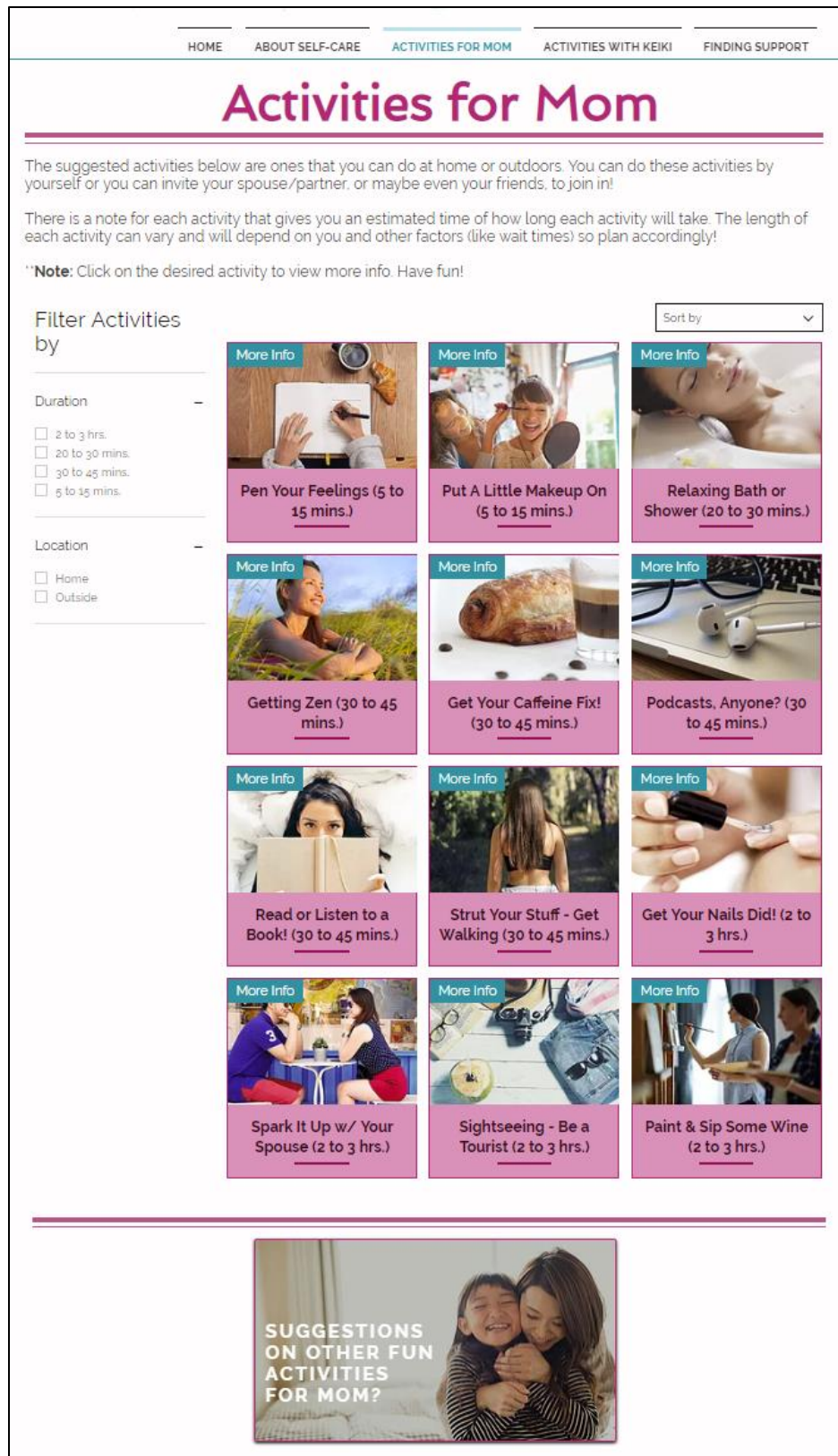



Figure M9. Current image of HI Mommy Activities for Mom Page.

[HOME](#) [ABOUT SELF-CARE](#) [ACTIVITIES FOR MOM](#) [ACTIVITIES WITH KEIKI](#) [FINDING SUPPORT](#)

Go to [Activities for Mom >](#) OR Go to [Activities with Keiki >](#)



Strut Your Stuff - Get Walking (30 to 45 mins.)

Getting some fresh air or a change in scenery can help boost your energy! Taking a walk outside and getting some fresh air can be relaxing.

You can listen to music, podcasts, or an audio book as you enjoy some free time to yourself.

Duration

30 to 45 mins. ▾

Location

Outside ▾

Listen to Podcasts While Strutting

Want to Track Your Walk?

Here are some free walking apps found on [verywellfit.com](#)

- [Map My Walk](#) (available for iOS and Android)
- [Argus by Azumio](#)
- [Fitbit App MobileTracker](#) (No Fitbit Required)

*See more free walking apps at [verywellfit.com](#)

Figure M10. Current image of HI Mommy Sample Activity Page for Mom Activity.

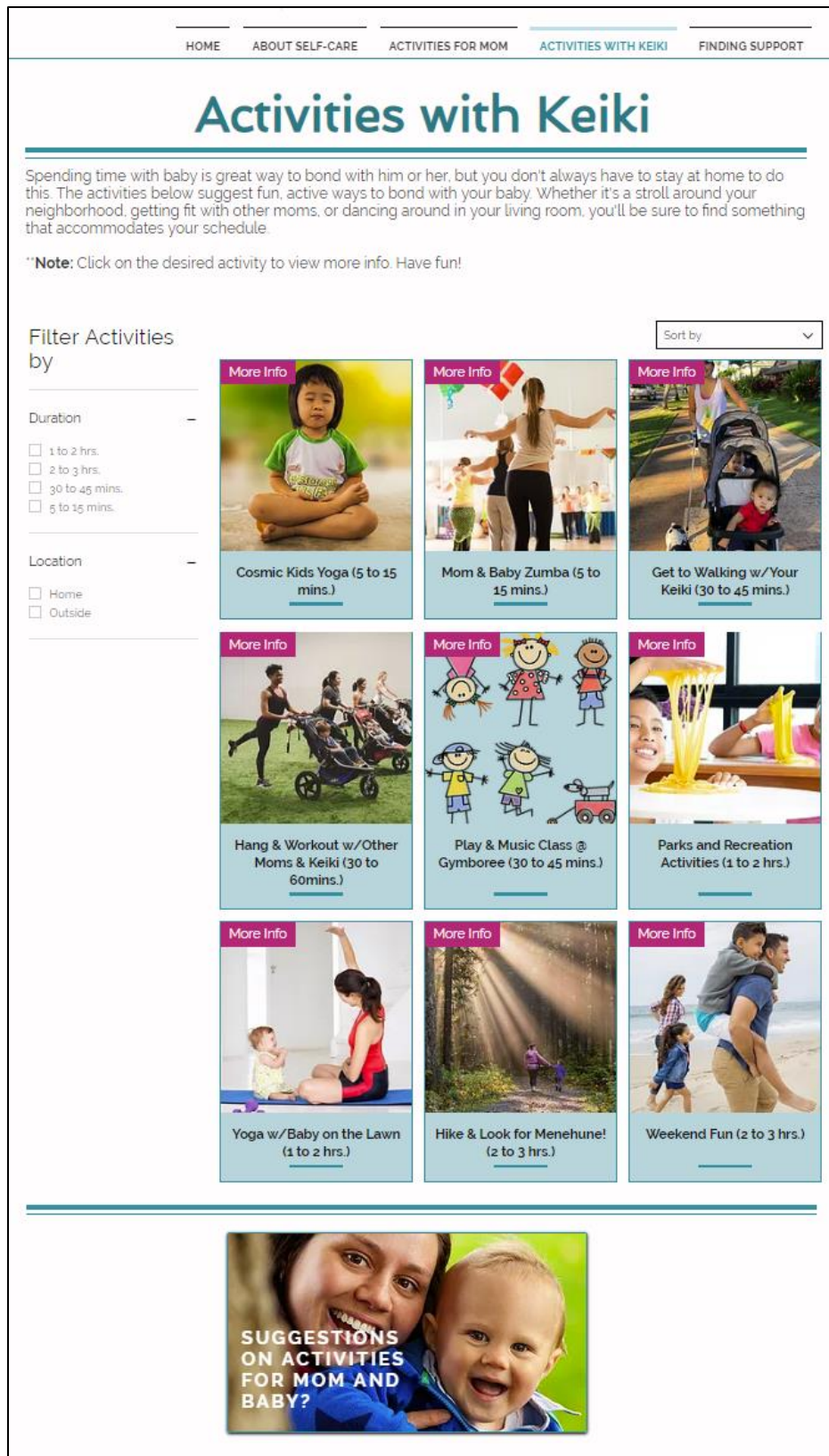



Figure M11. Current image of HI Mommy *Activities with Keiki* Page.

[HOME](#) [ABOUT SELF-CARE](#) [ACTIVITIES FOR MOM](#) [ACTIVITIES WITH KEIKI](#) [FINDING SUPPORT](#)

Go to [Activities for Mom >](#) OR Go to [Activities with Keiki >](#)



Play & Music Class @ Gymboree (30 to 45 mins.)

Socialize your keiki while she or he plays and dances to music! [Gymboree Play & Music](#) offers classes suited for specific age groups.

Duration

Select ▾

Location

Outside ▾

Learn About Gymboree Classes

Gymboree offers "specially designed classes incorporate innovation with classic learning techniques to engage young minds."


- [Infant \(0 to 6 months\)](#)
- [Baby \(6 to 16 months\)](#)
- [Toddler \(12 to 29 months\)](#)
- [Preschooler \(2 to 5 years\)](#)

Figure M12. Current image of HI Mommy Sample Activity Page for Keiki Activity.

[HOME](#)
[ABOUT SELF-CARE](#)
[ACTIVITIES FOR MOM](#)
[ACTIVITIES WITH KEIKI](#)
[FINDING SUPPORT](#)

Finding Support

It's okay to ask for help, especially if you are a new mom or a mom who just needs extra support. The resources and support information on this page are just a few of what's available in O'ahu. The brief descriptions for each resource gives you an idea of the support that each one can provide.



Family Hui Hawai'i


The Hawaiian word "hui" translates to "meeting."

One of their mottos is "It takes a Hui to Raise a Child...and a Hui to Raise a Parent!"

[More info](#)

Family Hui Hawai'i:

- is a great resource and **provides intimate peer support group for new parents**. Yes! This includes your husband, wife, or partner.
- have groups that meet **in person** or **online**.
- also ***encouragels**, & **empower families** to meet the challenges of raising children by providing a safe and nurturing environment for them to grow, thrive, and learn from each other."




Healthy Mothers Healthy Babies Coalition of Hawaii

They "are a local nonprofit agency that is part of a national network of organizations and individuals committed to improving Hawaii's maternal, child and family health through collaborative efforts in public education, advocacy and partner development."

[More info](#)

Healthy Mothers Healthy Babies provides:

- many different programs for mothers and new parents.
- helpful **resources before, during, and after pregnancy**.
- programs and services like
 - Piko Pals** new parent support program (babies age 0-4);
 - MothersCare Services** (e.g., trying to conceive, **postpartum depression** and **anxiety**, parenting, **loss**, and other support resources.



Moms Club of Central Oahu

Moms Club is a Facebook page that provides information on other mommy and baby activities on the island of O'ahu.

Check out their page for information!

[More info](#)

Moms Club of Central Oahu

Their mission is "To provide **support and reach out to Stay-at-home & Part time working moms**."

Figure M13. Current image of HI Mommy *Finding Support* Page, top section.

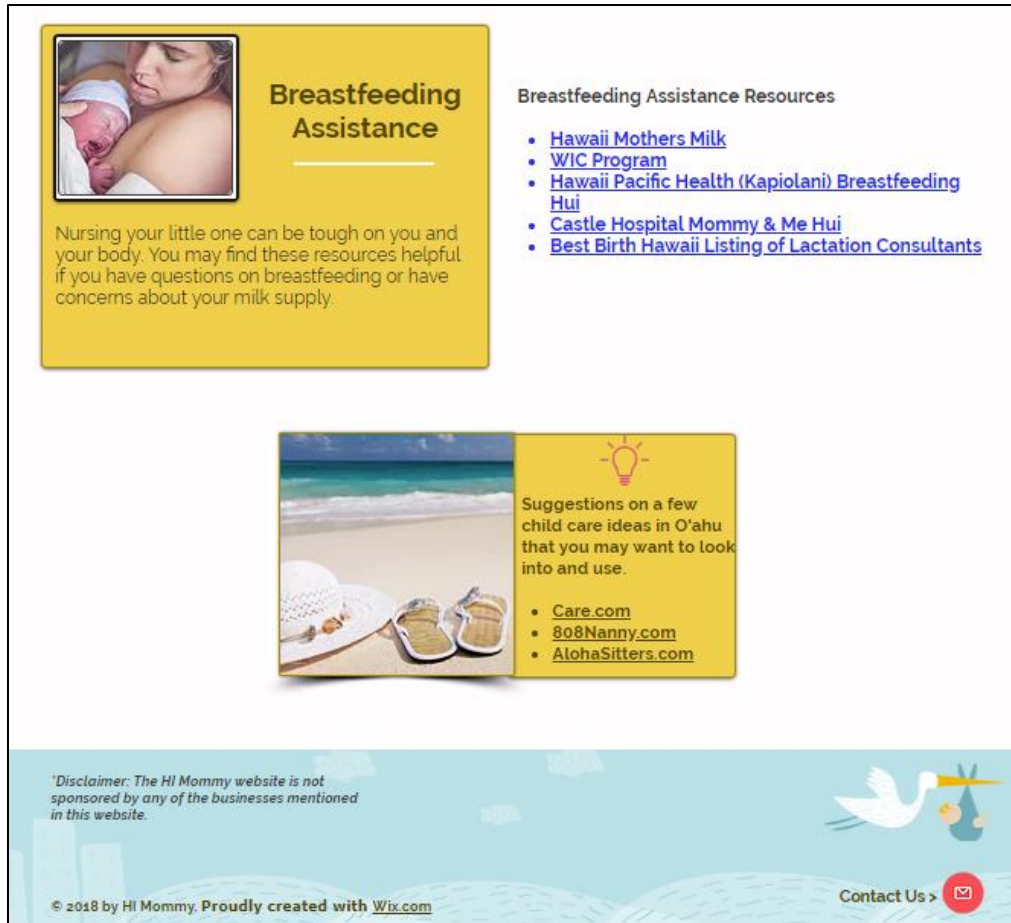



Figure M14. Current image of HI Mommy (*Finding Support* Page, bottom section).



HOME ABOUT SELF-CARE ACTIVITIES FOR MOM ACTIVITIES WITH KEIKI FINDING SUPPORT

Contact Us

We look forward to hearing from you. Send us your suggestions and feedback.

Leave us a message...

First Name Last Name

Email

Type your message here...

Submit

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Figure M15. Current image of HI Mommy Contact Us Page.

APPENDIX N
**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)
 CERTIFICATIONS**



Figure N1. CITI Exempt Researchers Key Personnel.



Figure N2. CITI Exempt Researchers Key Personnel IPS.

APPENDIX O
Bar Chart Displaying Deterrents of Self-Care for Participants

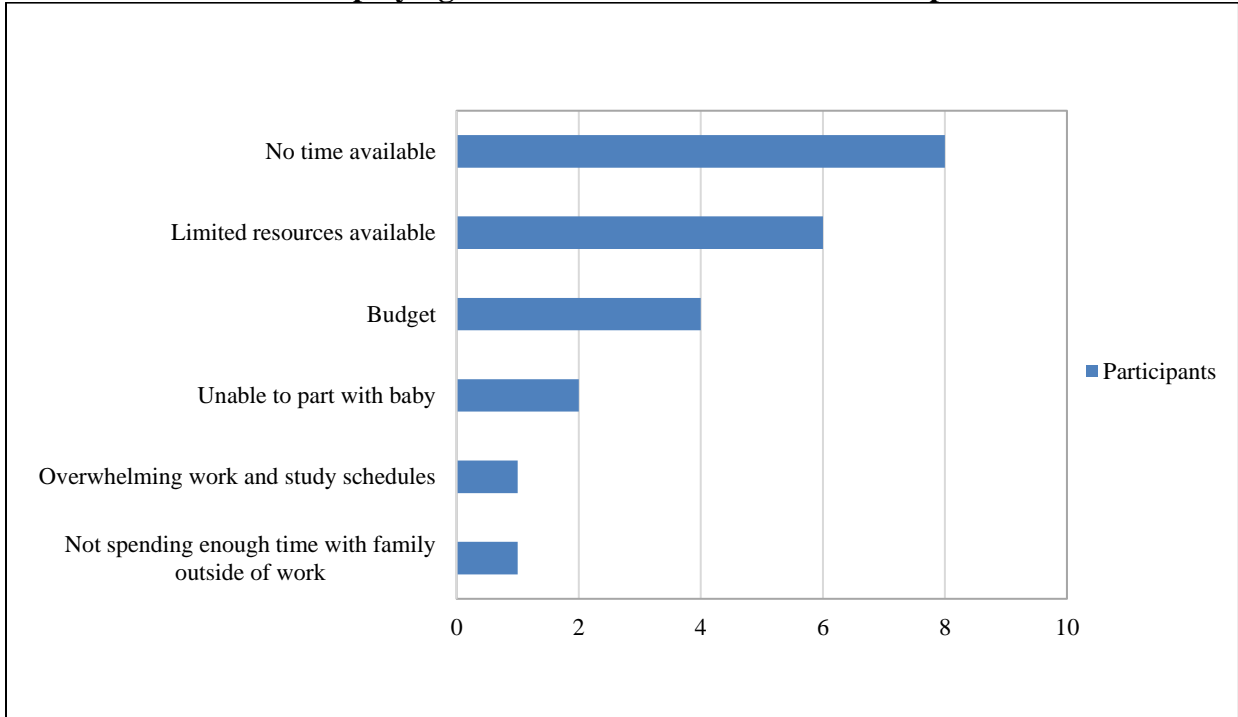


Figure O1. Bar chart showing factors that keep participants from practicing self-care.

APPENDIX P
Overall Rating Scores of HI Mommy Website by Iteration

Table P1.

Participant Rating Scores of HI Mommy Website by Iteration

	Experience with Navigation	Satisfaction of Available Activities	Helpfulness as Self-Care Resource Site	Recommend to Other Moms
Iteration 1	4.67	3.67	4	4
Iteration 2	4	3.33	4	3.67
Iteration 3	5	4.75	5	5
Grand Mean	4.56	3.91	4.3	4.22

Note. Rating scores for each criteria are averages from participants in each iteration. There were 10 participants in the study.

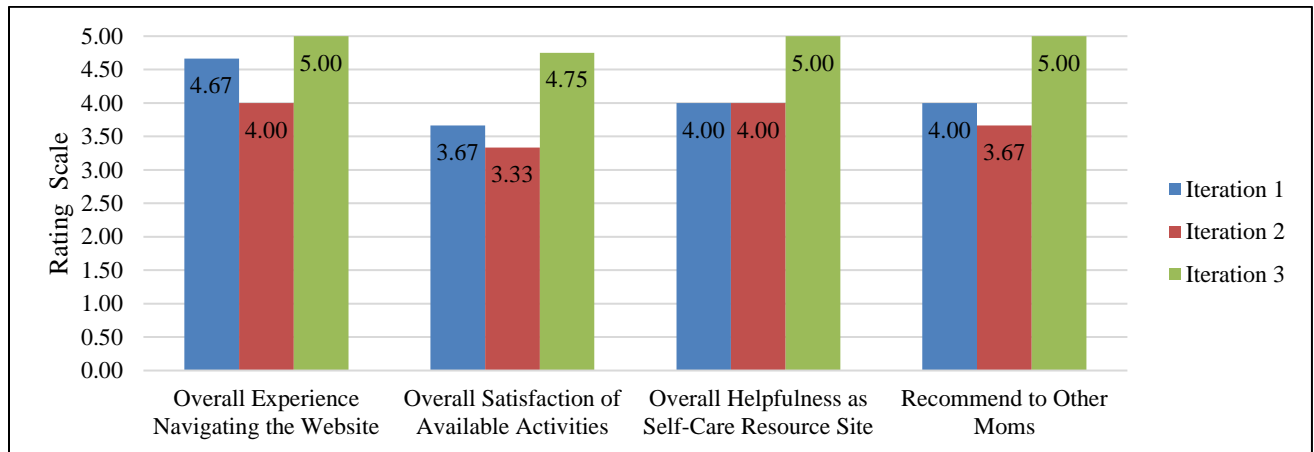


Figure P1. Clustered bar chart of participant rating scores for the HI Mommy Website.

APPENDIX Q
Task Rating Scales for Participant and Investigator

Participant - Rating Scale for Task Difficulty

Can you indicate/rate the difficulty of this task?

0 = Zero Frustration

1 = Little Frustration

2 = Medium/High Frustration

3 = Point of Failure

Investigator Rating Scale for Completion of Task

0 = Participant completed task with zero difficulty.

1 = Participant completed task with only minor problem(s).

2 = Participant completed task with more effort/time/dead-ends.

3 = Participant did not complete task.

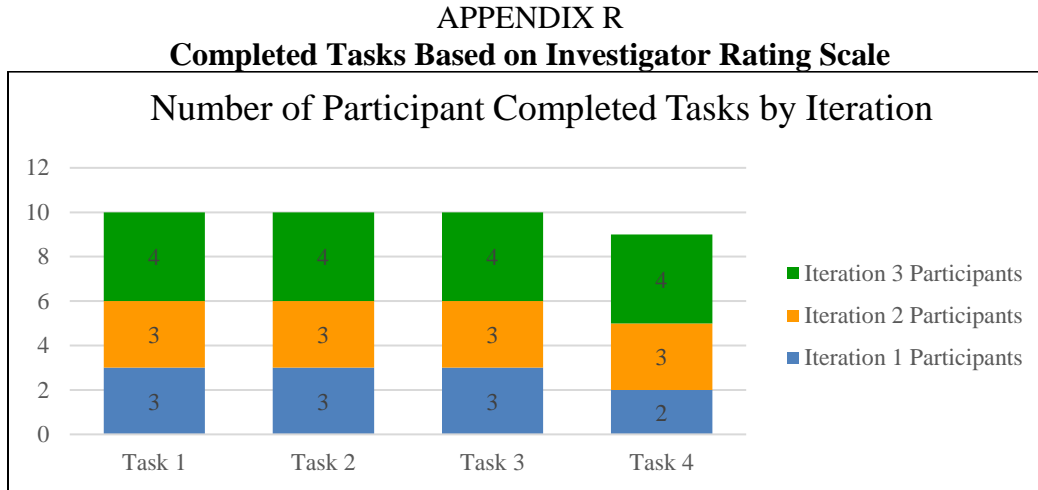


Figure R1. Chart displaying the number of participants that completed the task from each iteration.

APPENDIX S
Post-Survey Likert Rating Scales

Rating scale for overall experience of navigating the website.

- 1=Very Hard
- 2=Fairly Hard
- 3=Moderate
- 4=Fairly Easy
- 5=Very Easy

Rating scale for overall satisfaction of the suggested activities provided on the website.

- 1=Not Satisfied
- 2=Slightly Satisfied
- 3=Neutral
- 4=Satisfied
- 5=Extremely Satisfied

Rating scale for overall helpfulness of website as a self-care resource for new moms and moms in O'ahu.

- 1=Not Helpful
- 2=Slightly Helpful
- 3=Moderately Helpful
- 4=Very Helpful
- 5=Extremely Helpful

Rating scale for recommending the website to other moms.

- 1=Definitely Wouldn't
- 2=Probably Wouldn't
- 3= Neutral
- 4=Probably Would
- 5=Definitely Would

APPENDIX T

Explanation of Participant Task Ratings for Tasks 1, 2, and 3

For Task 1, 9 out of 10 participants experienced zero frustration when they were searching for information based on their interest, while one participant from Iteration 2 experienced medium/high frustration while she worked on the task. For Task 2, 9 out of 10 participants experienced zero frustration locating the duration of time provided for all the suggested activities. One participant from the second iteration experienced medium/high frustration finding this information. For Task 3, all participants experienced zero frustration searching for activities that would socialize their keiki. Even though they were presented with limited options on the “Activities with Keiki” page, participants instinctively knew that they needed to look for outdoor, group activities.

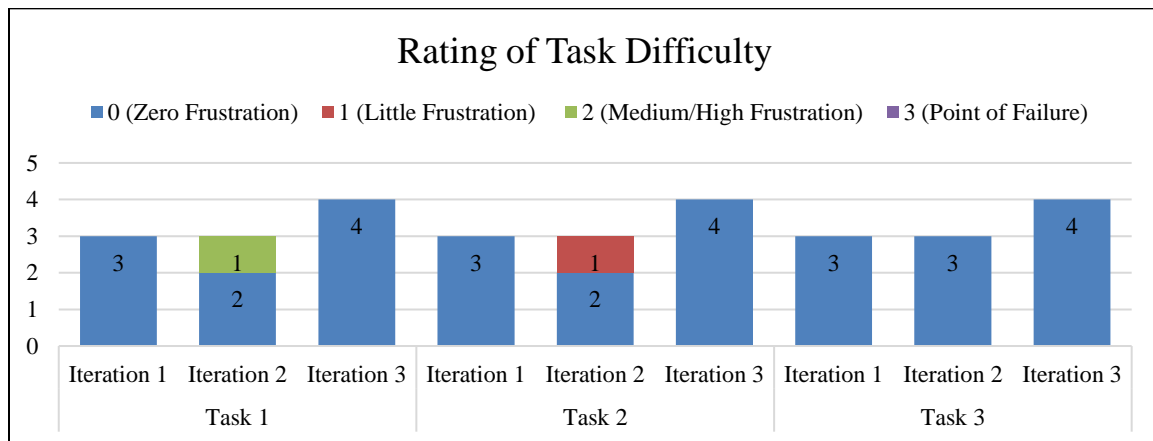


Figure T1. Bar chart illustrating how participants rated the difficulty of completing usability tasks 1, 2, 3.

APPENDIX U
Pre-Survey Question on Participant Time for Self During the Week

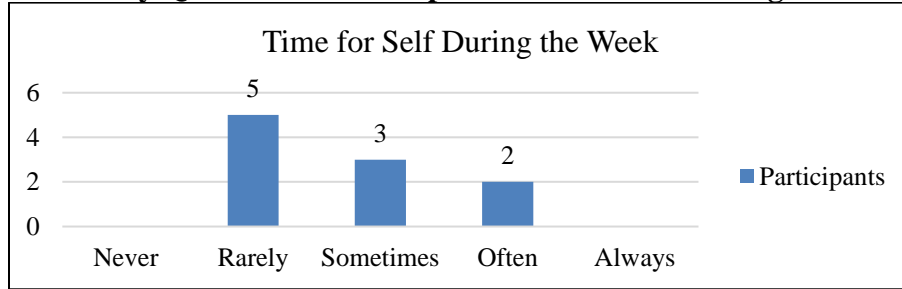


Figure U1. Bar chart showing how often participants have time for themselves during the week.