

2016-
2017

Website Usability Testing Protocol

KAINALU ELEMENTARY SCHOOL
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Introduction

Kainalu Elementary School (KES) recently launched a redesigned website in July 2016. The older website, kainaluonline.net was aesthetically and functionally out of date. Administration, faculty/staff, and parents were asking for a cleaner, fresher look. The new website, www.kainalu.org boasts an updated appearance but site functionality is barely improved compared to the old site. There has been no formal content strategy or user needs assessment conducted for the website. No usability testing was done prior to either the redesign or the new site launch. It is optimal for organizations to conduct these tests early in the design process and periodically after site launch to ensure that the website is supporting the institution's goals and fulfilling the varying user groups' needs. However, user needs assessments and usability testing can be performed at any time in the website lifecycle to enhance functionality and performance. A beautiful website is useless if the intended audience cannot extract the information that the organization would like for them to receive or if users are unable to accomplish the tasks that the organization would like for them to complete. This proposal will attempt to:

- help stakeholders identify the needs of the user groups for which the website is intended
- demonstrate how to set up and conduct usability tests of the website
- identify areas of the website that may need to be updated/fixed
- suggest a schedule for additional evaluation to make sure that the website stays relevant to organization and audience.

User Needs Assessment

There are four distinct user groups that are expected to access the Kainalu website:

administrators/faculty/staff, parents, students, and new families. Prior to the redesign, the technology coordinator solicited input from faculty/staff about what kind of information they wanted to see on the website. Responses were open ended and submitted via email. During PTSA meetings, parents informally communicated a desire to have an “updated website.” The overwhelming majority of input was focused on aesthetics. No input was sought from the other two user groups. Little guidance was supplied by the administration about the purpose of the site in the context of KES’s goals and users’ needs. After the redesign launch, response towards site appearance has been favorable but stakeholders have concerns about whether the site hierarchy and site functionality address user needs.

Other HIDOE school sites were consulted and comparatively, other local elementary school websites contain similar information to KES’s website (e.g. cafeteria menu, faculty/staff index, links to PTSA resources, links to online learning resources, policies and procedures, after/before school programs and groups and clubs). Schools vary their site hierarchy; some organize their information by grade level, others by parent pages and student pages. This indicates the KES has some flexibility in determining which hierarchy is appropriate for its unique user community.

Each group has different reasons for visiting the site and therefore, different information needs. In order to clarify these information needs, we suggest that the school conduct a preliminary survey (either on paper or via a site like SurveyMonkey) to identify each user groups’ needs for

the website. The survey(s) will help shape the task scenarios that are given during the usability study (see “Test Administration/Tasks” below). The survey(s) could contain questions like:

- Which device(s) would you use to access site? Computer, tablet, phone
- What do think the purpose of the web site should be? Open ended response
- What information is most important to you to find/provide on this website? Check all that apply (Give list that could contain the following elements: calendar of events, school supply list, cafeteria menu, links to learning software (e.g. IXL, Achieve 3000), PTSA contact information, KES’s recent testing data, school ranking, after school activities and clubs, T-shirt order form, homeroom teacher contact information, homework assignments, photos, links to social media, bell schedule, mission and vision statement, library borrowing policies, parent forms, pay for lunch account, school closing information)
- What tasks would you like to be able to perform on the website? Check all that apply. (Give list that could contain the following elements: share photos, view school newscast, post a comment on school’s FB site, check out and eBook, buy a T-shirt, add money to child’s lunch account, email teacher, get homework assignments, sign up for PTA membership)

Test Preparation

Once KES has identified user needs, it can design and conduct a usability test to determine if the website is fulfilling those needs.

Preparing for Testing

Testing Location

When possible, testing should be conducted in the school library. There is adequate room to set up for testing and most of the audio/visual equipment is housed in the library. The observation room can be set up in the teacher workroom which is adjacent to but not visible from the library.

Testing Budget

The first year of testing should cost about \$1000. \$600 will be used for incentives for test subjects and \$400 will be for recording equipment, software, and temporary storage for testing footage. Additional years may only cost about \$300 because there will be fewer subjects and less frequent sessions and the equipment and software will have already been purchased.

Testing Schedule

Pick a consistent day and time to conduct testing (e.g. the third Thursday of each month between 9am-12pm). Determine a testing schedule for the different user groups (e.g. July - faculty/staff, August – parents, September – students, October – newcomers). Additional rounds of user testing could be repeated in January-April to identify additional areas of concern or to test usability on alternate devices. Testing should last about 45 minutes to 1 hour per subject with additional time scheduled at the end of the morning for a debriefing session. After the first year, additional usability testing would be much less frequent, perhaps twice a year, and would test fewer subjects.

IRB Requirements

Because the results of the usability tests are for internal use only, they do not technically fall under the IRB standard of research with human subjects (Collaborative, 2016). There is little to no risk to the subjects when they participate in the testing process. Therefore, KES should request a waiver from the IRB. Regardless, participants (or their parent/guardian) should still sign a consent form indicating that they (or their child) are taking part in the survey and are aware that they are being recorded. A sample consent form can be found in Appendix B.

Preparation checklist

In the weeks leading up to the test date, use Steve Krug's checklist Appendix A (Krug, 2010) as a template to prepare. Modify any criteria as needed to suit the school's and test administrator's schedule.

Recruiting subjects

The usability study team should recruit 3-5 participants per session. According to Google developers (Guerilla Testing, 2015) and Jakob Nielsen (2000), testing five people will show you 85% of your usability problems. Though 5 participants would be ideal, time constraints will likely make 3 subjects more realistic. Krug (2013) counters that testing just three subjects will reveal enough problems with your website to keep your web designer busy until the next round of testing.

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Recruiting for faculty/staff will be done at staff meetings; attempt to get representatives from lower, middle, and upper elementary grades. Recruiting for parents will be done via the Thursday folder handouts, PTA meetings, School Community Council (SCC), and word of mouth. Students will be recruited through teachers, the school librarian, SCC, and Thursday folder handouts. It is important that students have parent/guardian permission before participating. Recruiting for the newcomer group will likely be the most challenging but could be facilitated by SCC, PTA, social media, and advertising with flyers at the community colleges, public libraries, senior and community centers, military bases, etc. The “newcomer” group does not necessarily need to be someone who intends to enroll students at Kainalu, rather someone who is largely unfamiliar with the school’s procedures and services. Recruitment information should clearly state location, time, place, contact information, and incentives for participation (if applicable).

A final note about recruitment: Hawai‘i is a melting pot of different cultures, all of whom might experience and interpret Kainalu’s web page in unexpected ways. Take into account and be inclusive of various cultures and learning abilities when designing the surveys and tasks, interacting with test subjects, and evaluating their interactions with the website (Collaborative, 2016).

Recruiting observers

Ideally, the panel of observers would contain a diverse group of representatives from the administration, the faculty/staff, the PTSA, and the SCC. The PTSA in particular will want to be

involved since they link their web content to the school website. Observers should be given a set of instructions and a sheet to fill out their observations (see Appendix C).

Setting up for testing

For testing room (library): table/desk, chairs, computer w/ Internet, mouse, keyboard, microphone, screen sharing software like GoToMeeting or WebEx screen recording software Camtasia, waiver forms, incentives.

For observation room: computer with Internet, screen sharing software, large monitor or screen projector, external speakers, observation forms, pens/pencils, drinks and snacks.

For mobile device testing: similar to computer testing but instead of screen recording software the testing administrator could record the subject's session with a webcam mounted to a homemade clip that attached to the mobile device or with a GoPro attached to a head-strap. As a last resort, the session could be recorded with a digital video camera (having the user keep the phone within the frame is difficult and the resulting footage is often jumpy and hard to watch).

Test Administration

Welcome

Use Krug's (2010) template script from rocketsurgerymadeeasy.com which can be found in Appendix D. The test administrator should read the script nearly word for word so that important information is not left out. Be sure to collect the consent form before testing begins.

Questions

Ask the test subject a few questions about themselves to put them at ease and to get a feel for their computer abilities and ease at navigating the web (see Appendix D). Feel free to ask student test subjects simpler questions to determine their computing abilities.

Home Page Tour

Spend about 3-4 minutes watching the user interact with the home page. While they should not click on anything yet, encourage them to talk aloud and tell you what they see and what they are thinking (see Appendix D).

Tasks

There are distinct groups of users who will be using the site for different purposes. We recommend testing each group of users with slightly different tasks. Read each subject a set of scenarios have them try to complete the tasks described. For example, faculty/staff may be asked to:

- sign up for a faculty PTSA membership;
- find out the scheduled date for Fun Fair;
- access Kainalu's online library catalog and check out a book.

Parents may be asked to:

- find out what lunch is being served on August 23rd;
- buy school t shirt;

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- contact child's classroom teacher;
- find out the school's sick child policy.

Students may be asked to:

- log in to IXL learning program;
- see what clubs/activities are available to join at KES;
- access Kainalu's online library catalog and check out a book;
- look for pictures of their classmates.

Newcomers may be asked to:

- list the documents that are required in the school registration process;
- find Geographic exemption (GE) forms;
- look at examples of PTSA fundraisers.

Have enough tasks ready to fill in available time. It is important to refrain from asking leading questions or helping the test subjects. Appropriate responses or comments for the tester to make during the test session can be found in Appendix E.

Debriefing/Plan of Action

Observers should identify the top 3 problems that they saw during each subject's session. The group should record all problems observed and prioritize that list; choosing the most serious problems to be fixed in the month before the next testing session. After debriefing is completed, destroy any documents, video files, etc. that contains identifying information of the test subjects.

Once the first round of usability testing has been completed and changes have been made, the work is not done. Additional assessment should be done to see if the changes made were effective or if there are additional areas of the website that can be improved. The following are recommendations to continue to maximize website effectiveness:

- Review site yearly in terms of relevance, web traffic, updates, do users need to be retaught how to use website?
- Review after major software, hardware, or operating system changes
- Identify certain audience needs that are not being met at this time (e.g. lunch payments, school closing information, social media)
- Complete easy fixes. “E Komo Mai” button on Home Page is not functional but looks clickable, could jump users down to lower page content. Correct typos, strangely formatted hyperlinks, broken links, and incomplete information on other pages

Conclusion

Kainalu Elementary School is on its way to having an effective website that meets the needs of its users and supports the mission of the school. Even though the site has already launched, KES wants to be responsive to issues with website structure and content. With this proposal, the administration and faculty/staff have the tools they need to identify user needs, design purposeful usability tests to measure if the website is meeting those needs, and to identify the content and functionality of the website that is most in need of improvement.

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Appendix A: Usability Testing Checklists

Three weeks before

- Figure out what you're going to be testing (site, wireframes, prototype, etc.)
- Create your list of tasks to test
- Decide what kind(s) of users you want to test with
- "Advertise" for participants
- Book a test room for the entire morning with Internet access, table or desk and two chairs, and speakerphone
- Find a place near the test room for participants to sit and wait when they arrive
- Book an observation room for the entire morning with Internet access, table and enough chairs for observers, speakerphone, and projector and screen (or plan to bring a projector or large monitor)
- Book the observation room or a similar-size room for the debriefing lunch

Two weeks before

- Get feedback on your list of tasks from the project team and stakeholders
- Arrange incentives for participants (e.g., order gift certificates, requisition cash)
- Start screening participants and scheduling them into time slots
- Send "save the date" email inviting team members and stakeholders to attend

One week before

- Send email to the participants with directions, parking instructions, location of the test room, name and phone number of someone to call on the test day if they're late or lost, and the non-disclosure agreement if you're using one
- Line up a stand-by participant in case of a no-show
- If this is your first round of testing, install and test the screen recording and screen sharing software

One or two days before

- Call participants to reconfirm and ask if they have any questions
- Email reminder to observers

- Finish writing the scenarios
- Do a pilot test of the scenarios
- Get any user names/passwords and sample data needed for the test (e.g., account and network log-ins, dummy credit card numbers, or test accounts)
- Make copies of handouts for participants
 - Recording consent form
 - Sets of the scenarios on individual pieces of paper
 - Extra copies of the nondisclosure agreement (if using one)
- Make copies of handouts for observers
 - Instructions for Usability Test Observers*
 - List of scenarios
 - Copy of the test script
- Recruit someone to manage the observation room for you, and give him/her a copy of the *Hall Monitor's Guide*
- Make sure incentives for participants are ready
- Make sure you have your USB microphone, external speakers, extension cords, and thumb drive or CDs for screen recording files
- Order snacks and beverages for the observation room
- Verify that no one has double-booked your test and observation rooms
- Find someone (your Designated Greeter) who can welcome the participants when they arrive, give them a comfortable place to sit while they're waiting, and then escort them to the test room when you're ready to start

Test day (before the first test)

- Order lunch for the debriefing
- Put observer handouts in the observation room
- Make sure whatever you're testing is installed on the test computer or accessible via the Internet and is working
- Test the screen recorder: do a short recording (including audio) and play it back
- Test screen sharing (video and audio) with the observation room
- Turn off or disable anything on the test computer that might interrupt the test (e.g., email or instant messaging, calendar event reminders, scheduled virus scans)
- Create bookmarks for any pages you'll need to open during the test
- Make sure you have any phone numbers you might need:

Observation room: _____

Test room: _____

Greeter: _____

Developer: _____ (for problems with prototype)

IT contact: _____ (for network or server problems)

- Make sure the speakerphones in the observation room and test room are working

Before each test

- Start screen sharing session, if necessary
- Reload sample data, if necessary
- Clear the browser history
- Open a “neutral” page (e.g., Google) in the Web browser

While the participant signs the consent form

- Start the screen recorder!

At the end of each test

- Stop the screen recorder!
- Save the recording!
- End the screen sharing session, if necessary
- Take time before the next session to jot down a few notes about things you observed
- If it's the last test of the day and you've been using a desktop computer, copy the screen recording files to a CD or thumb drive

Appendix B: Recording Consent Form

Thank you for participating in our usability research. We will be recording your session to allow [ORGANIZATION NAME] staff members who are unable to be here today to observe your session and benefit from your comments.

Please read the statement below and sign where indicated.

I understand that my usability test session will be recorded. I grant [ORGANIZATION NAME] permission to use this recording for internal use only, for the purpose of improving the designs being tested.

Signature: _____

Print your name: _____

Date: _____

Appendix C: Instructions for Usability Test Observers/Usability

Problem Form

Thanks for coming to today's tests. Each of the three sessions will last about 50 minutes, with a ten-minute break in between.

To get as much as we can out of these tests, we need your help with a few things:

- **Take notes.** Please make notes about anything interesting you notice, particularly points where the user was confused or couldn't get the tasks done. We'll be comparing notes during the debriefing session at lunchtime today.
- **Make a list at the end of each session.** During the break between sessions, use the attached sheet to jot down the three most serious usability problems you noticed in that session.
- **Come to the debriefing. (Free lunch!)** If at all possible, we'd love to have you join us at ___ pm in room _____, where we'll compare notes and decide what usability problems we're going to fix in the next month.
- **If you think of a question you'd like to ask the participant, write it down.** Near the end of each session, we'll check to see if you have any questions.
- **Stay as long as you can.** We know you have other commitments, but there are only a few sessions, and each one will offer different lessons. Even if you start to lose interest, try to keep watching and listening—you never know when the participant will say something revealing. You can come and go if you need to, but please try to do it unobtrusively.
- **Try to avoid distracting others.** Following a test can require concentration. Try to limit your conversation to what you're observing. If you need to have another kind of discussion or answer a phone call, please step outside the room. Think of it as a movie theater: don't talk loud enough or long enough that the people around you can't follow the plot.

Thanks for your help!

Top Three Usability Problems

After each test session, list the three most serious usability problems you noticed.

Participant #1

1.
2.
3.

Participant #2

1.
2.
3.

Participant #3

1.
2.
3.

Appendix D: Usability Test Script (Reprinted from *Rocket Surgery*

Made Easy© 2010 Steve Krug)

Web browser should be open to Google or some other “neutral” page

Hi, _____. My name is _____, 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.

You probably already have a good idea of why we asked you here, but let me go over it again briefly. We’re asking people to try using a Web site that we’re working on so we can see whether it works as intended. The session should take about an hour.

The first thing I want to make clear right away is that we’re testing the *site*, 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 site, 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 us.

Also, please don’t worry that you’re going to hurt our feelings. We’re doing this to improve the site, so we 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 we're interested in how people do when they don't have someone sitting next to them to 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.

You may have noticed the microphone. With your permission, we're going to record what happens on the screen and our conversation. The recording will only be used to help us figure out how to improve the site, and it won't be seen by anyone except the people working on this project. And it helps me, because I don't have to take as many notes.

Also, there are a few people from the Web design team observing this session in another room. (They can't see us, just the screen.)

If you would, I'm going to ask you to sign a simple permission form for us. It just says that we have your permission to record you, and that the recording will only be seen by the people working on the project.

- Give them a recording permission form and a pen**
- While they sign it, START the SCREEN RECORDER**

IF YOU ARE USING A NON-DISCLOSURE AGREEMENT (optional):

I know we also sent you a non-disclosure agreement that says that you won't talk to anybody about what we're showing you today, since it hasn't been made public yet. Do you have that with you?

- Accept the NDA and make sure that it's signed. If they don't have it with them, hand them a copy and give them time to read and sign it.**
-

Do you have any questions so far?

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

First, what's your occupation? What do you do all day?

Now, roughly how many hours a week altogether—just a ballpark estimate— would you say you spend using the Internet, including Web browsing and email, at work and at home?

And what's the split between email and browsing—a rough percentage?

What kinds of sites are you looking at when you browse the Web?

Do you have any favorite Web sites?

OK, great. We're done with the questions, and we can start looking at things.

Click on the bookmark for the site's Home page.

First, I'm going to ask you to look at this page 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 if you want to, but don't click on anything yet.

Allow this to continue for three or four minutes, at most.

Thanks. Now I'm going to ask you to try doing some specific tasks. I'm going to read each one out loud and give you a printed copy.

I'm also going to ask you to do these tasks without using Search. We'll learn a lot more about how well the site works that way.

And again, as much as possible, it will help us if you can try to think out loud as you go along.

- Hand the participant the first scenario, and read it aloud.**
- Allow the user to proceed 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.**

Thanks, that was very helpful.

If you'll excuse me for a minute, I'm just going to see if the people on the team have any follow-up questions they'd like me to ask you.

- Call the observation room to see if the observers have any questions.**
- Ask the observers' question, then probe anything you want to follow up on.**

Do you have any questions for me, now that we're done?

- Give them their incentive, or remind them it will be sent to them.**
- Stop the screen recorder and save the file.**
- Thank them and escort them out.**

Appendix E: “Things a therapist would say”

While the participant is doing the tasks, to maintain your neutrality you’re going to be saying the same few things over and over, which turn out to be the same kind of non-directive things a therapist typically says to a patient. Here’s a handy chart of “permissible” phrases.

When this happens:	Say this:
You’re not absolutely sure you know what the participant is thinking.	“What are you thinking?” “What are you looking at?” “What are you doing now?”
Something happens that seems to surprise them. For instance, they click on a link and say “Oh” or “Hmmm” when the new page appears.	“Is that what you expected to happen?”
The participant is trying to get you to give him a clue. (“Should I use the _____?”)	“What would you do if you were at home?” (Wait for answer.) “Then why don’t you go ahead and try that?” “What would you do if I wasn’t here?” “I’d like you to do whatever you’d normally do.”
The participant makes a comment, and you’re not sure what triggered it.	“Was there something in particular that made you think that?”
The participant suggests concern that he’s not giving you what you need.	“No, this is very helpful.” “This is exactly what we need.”
The participant asks you to explain how something works or is supposed to work (e.g., “Do these support requests get answered overnight?”).	“What do you think?” “How do you think it would work?” “I can’t answer that right now, because we need to know what you would do when you don’t have somebody around to answer questions for you. But if you still want to know when we’re done, I’ll be glad to answer it then.”
The participant seems to have wandered away from the task.	“What are you trying to do now?”

There are also three other kinds of things you can say:

- **Acknowledgment tokens.** You can say things like “uh huh,” “OK,” and “mm hmm” as often as you think necessary. These signal that you’re taking in what the participant is saying and you’d like them to continue along the same lines. Note that they’re meant to indicate that you understand what the participant is saying, not that you necessarily agree with it. It’s “OK.” Not “OK!!!”
- **Paraphrasing.** Sometimes it helps to give a little summary of what the participant just said (“So you’re saying that the boxes on the bottom are hard to read?”) to make sure that you’ve heard and understood correctly.
- **Clarifying for observers.** If the user makes a vague reference to something on the screen, you may want to do a little bit of narration to make it easier for the observers to follow the action. For instance, when the user says “I love this,” you can say, “The list over here on the right?” (Since you’re sitting next to the participant, you sometimes have a better sense of what they’re looking at.)

From *Rocket Surgery Made Easy: The Do-It-Yourself Guide to Finding and Fixing Usability Problems*.

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