

UNIVERSITY OF HAWAII AT MĀNOA

ETEC MASTER'S PROGRAM



Evaluating the Usability of a Teacher-Created Website



Ryan Yoshizawa

ryoshiza@hawaii.edu



Background Information

- ❑ Library Media Specialist at a Leeward, Oahu High School
- ❑ Became school's Senior Project Coordinator 2 years ago
- ❑ Senior Project completion required for Hawaii BOE Special Recognition Diploma (Graduating with Honors)
- ❑ Realized that changes needed to be made





The Website



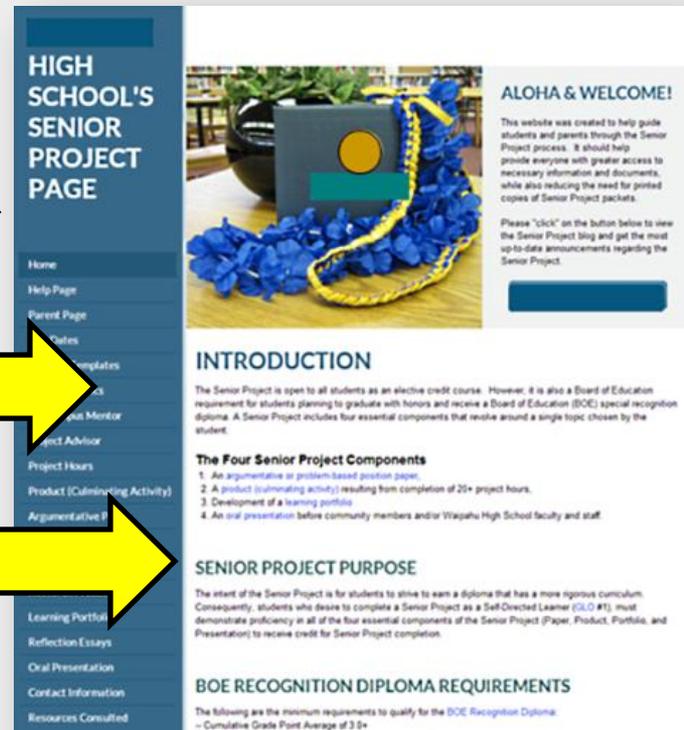
- Interviewed Senior Project completers
- Senior Project website suggested
- 7 Senior Project information packets used
- Created Senior Project Website using free Weebly.com account



Website Prototype



Senior Project Information Packet
SY 2013-2014
Name: _____



HIGH SCHOOL'S SENIOR PROJECT PAGE

- Home
- Help Page
- Parent Page
- Dates
- Templates
- Links
- Project Advisor
- Project Hours
- Product (Culminating Activity)
- Argumentative P
- Learning Portfolio
- Reflection Essays
- Oral Presentation
- Contact Information
- Resources Consulted

ALOHA & WELCOME!

This website was created to help guide students and parents through the Senior Project process. It should help provide everyone with greater access to necessary information and documents, while also reducing the need for printed copies of Senior Project packets.

Please "click" on the button below to view the Senior Project blog and get the most up-to-date announcements regarding the Senior Project.

INTRODUCTION

The Senior Project is open to all students as an elective credit course. However, it is also a Board of Education requirement for students planning to graduate with honors and receive a Board of Education (BOE) special recognition diploma. A Senior Project includes four essential components that revolve around a single topic chosen by the student.

The Four Senior Project Components

1. An argumentative or problem-based position paper.
2. A product (culminating activity) resulting from completion of 20+ project hours.
3. Development of a learning portfolio.
4. An oral presentation before community members and/or Waipahu High School faculty and staff.

SENIOR PROJECT PURPOSE

The intent of the Senior Project is for students to strive to earn a diploma that has a more rigorous curriculum. Consequently, students who desire to complete a Senior Project as a Self-Directed Learner (SLO #1), must demonstrate proficiency in all of the four essential components of the Senior Project (Paper, Product, Portfolio, and Presentation) to receive credit for Senior Project completion.

BOE RECOGNITION DIPLOMA REQUIREMENTS

The following are the minimum requirements to qualify for the BOE Recognition Diploma:
- Cumulative Grade Point Average of 3.0+



Why a Usability Study?

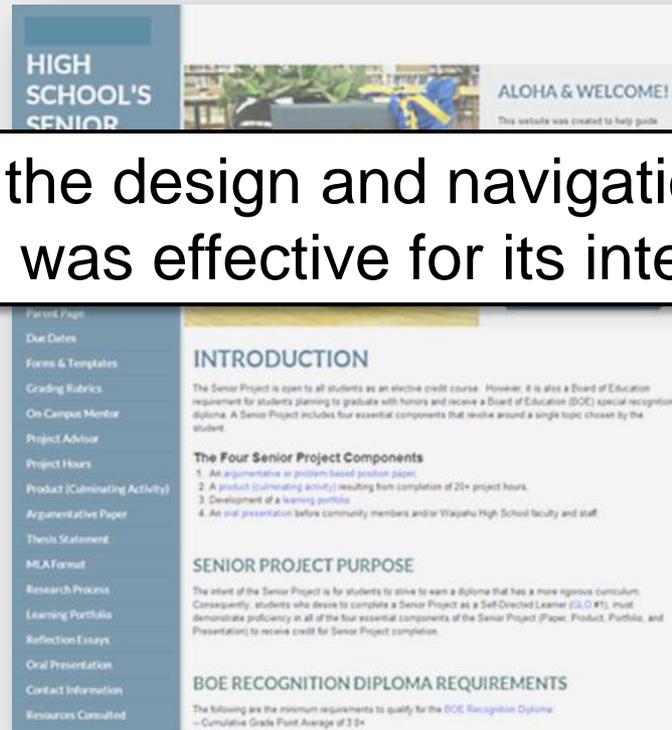
A screenshot of a website titled "HIGH SCHOOL'S SENIOR PROJECT PAGE". The page has a dark blue sidebar on the left with a list of navigation links: Home, Help Page, Parent Page, Due Dates, Forms & Templates, Grading Rubrics, On Campus Mentor, Project Advisor, Project Hours, Product (Culminating Activity), Argumentative Paper, Thesis Statement, MLA Format, Research Process, Learning Portfolio, Reflection Essays, Oral Presentation, Contact Information, and Resources Consulted. The main content area features a header with a photo of a blue lei and a yellow lei. Below the photo is a "ALOHA & WELCOME!" section with introductory text and a "click" button. Further down are sections for "INTRODUCTION", "The Four Senior Project Components" (listing: 1. An argumentative or problem-based position paper, 2. A product (culminating activity) resulting from completion of 20+ project hours, 3. Development of a learning portfolio, 4. An oral presentation before community members and/or Waiapahu High School faculty and staff), "SENIOR PROJECT PURPOSE", and "BOE RECOGNITION DIPLOMA REQUIREMENTS" (listing: The following are the minimum requirements to qualify for the BOE Recognition Diploma - Cumulative Grade Point Average of 3.0+).

- Website published in July 2013
- Received positive feedback from faculty on content and design
- Question of usability remained
- Was the website meeting its intended purpose?



Purpose

To determine if the design and navigation of the Senior Project website was effective for its intended purpose





Study Details

- ❑ **Target Audience:** Parents of high school students (vs. students and school staff)
- ❑ **Participants:** Researcher acquaintances





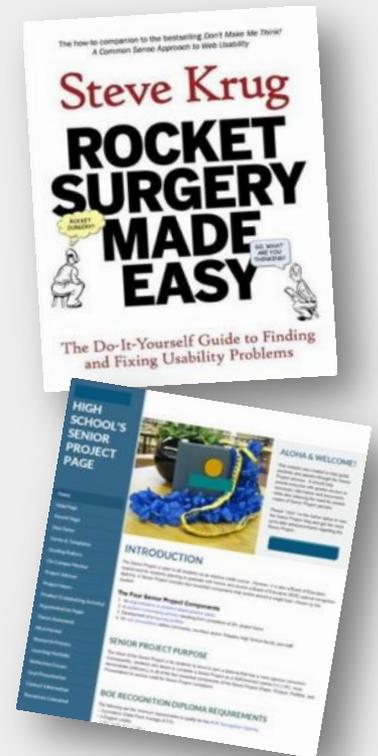
Participant Characteristics

<p>Cognitive</p> <ul style="list-style-type: none">• Ability to read & follow directions• Ability to problem solve• Able to speak clearly• Experience using a laptop with Apple OS• Basic Internet & web browsing experience• Ability to persevere and stay on task for 1 hour	<p>Physiological</p> <ul style="list-style-type: none">• Able to operate a laptop computer w/out accommodations• Able to view written instructions w/out special accommodations• Able to sit at a computer workstation for at least 1 hour
<p>Affective</p> <ul style="list-style-type: none">• Genuinely interested in helping to improve a teacher-created website• Willing to be voice and screen recorded for research purposes	<p>Social</p> <ul style="list-style-type: none">• Willing to participate in a study despite possible lack of personal benefit from participation• Children may or may not attend the high school who's website is being evaluated



Study Design

- ❑ Based on *Rocket Surgery Made Easy* by Steve Krug (pronounced Kroog)
- ❑ 2 iterative cycles (3 participants per cycle)
- ❑ Utilized face-to-face interviews
- ❑ Interview locations varied according to participants' convenience
- ❑ Participants performed 5 representative tasks





Representative Tasks

1. Identify the four required Senior Project components
2. Locate Senior Project due dates
3. Identify who should be contacted to request a due date extension
4. Identify the qualifying criteria for a Project Advisor
5. Locate grading rubrics used to evaluate the four Senior Project components





Procedure & Equipment

- ❑ Camtasia recording software



Wordle™





Procedure & Equipment

- ❑ Camtasia recording software
- ❑ Website revised after each round of interviews



Wordle™





Procedure & Equipment

- ❑ Camtasia recording software
- ❑ Website revised after each round of interviews
- ❑ Transcribed Camtasia recordings



Wordle™





Procedure & Equipment

- Camtasia recording software
- Website revised after each round of interviews
- Transcribed Camtasia recordings
- Thematic coding used to separate comments



Wordle™





Procedure & Equipment

- Camtasia recording software
- Website revised after each round of interviews
- Transcribed Camtasia recordings
- Thematic coding used to separate comments
- Coded comments uploaded to Wordle.net



Wordle™





Procedure & Equipment

- ❑ Camtasia recording software
- ❑ Website revised after each round of interviews
- ❑ Transcribed Camtasia recordings
- ❑ Thematic coding used to separate comments
- ❑ Coded comments uploaded to Wordle.net
- ❑ Word clouds used to determine participants' impression of website



Wordle™





Procedure & Equipment

- ❑ Camtasia recording software
- ❑ Website revised after each round of interviews
- ❑ Transcribed Camtasia recordings
- ❑ Thematic coding used to separate comments
- ❑ Coded comments uploaded to Wordle.net
- ❑ Word clouds used to determine participants' impression of website
- ❑ Participants' search behaviors identified



Wordle™





Website Revisions

- 1) Post “Contact Information” in multiple locations





Website Revisions

- 1) Post “Contact Information” in multiple locations
- 2) Use “red” colored font to highlight important information



***Attention:** Failure to complete Senior Project assignments on time will result in the student being dropped from the program and he/she will receive a "N" grade on his/her official transcripts and final report card.

Students having difficulties meeting Senior Project deadlines should consult with Assistant Principal _____ for a possible due date extension.





Website Revisions

- 1) Post “Contact Information” in multiple locations
- 2) Use “red” colored font to highlight important information
- 3) Reduce number of “fly out” sub-menus (confused 2 participants)





Results

Participant Demographic Information

Participants (n=6)

Gender

Female 2

Male 4

Average Hours per Week Spent on Internet

23.5 Hours per week

Self-Assessment of Internet Browsing Skill

Average 3

Proficient 3



Results Continued



Word Clouds by *Wordle*



Results Continued

		Actions																			
		Task 1				Task 2				Task 3				Task 4				Task 5			
		Scrolling	Navigation Clicks	Scanning	Reading	Scrolling	Navigation Clicks	Scanning	Reading	Scrolling	Navigation Clicks	Scanning	Reading	Scrolling	Navigation Clicks	Scanning	Reading	Scrolling	Navigation Clicks	Scanning	Reading
Participants	1	3	0	3	1	6	1	5	2	0	0	1	0	1	2	2	0	0	1	0	1
	2	0	0	0	2	0	1	0	1	0	0	0	1	2	3	1	1	2	1	3	1
	3	2	0	1	1	2	1	1	0	0	0	1	1	0	1	1	0	0	1	1	0
	4	0	0	1	0	1	1	1	0	7	1	7	1	2	1	1	0	1	1	1	0
	5	0	0	1	0	3	1	3	1	2	2	2	0	0	1	2	0	2	2	2	0
	6	3	2	2	2	3	1	2	0	0	0	1	0	1	1	2	0	1	1	2	0

Participant Search Behavior Counts



Results Continued

Participant	Task Completion Time (in seconds)					Total Task Times
	Task 1	Task 2	Task 3	Task 4	Task 5	
1	40	61	8	10	8	2.12 minutes
2	26	42	1	106	58	3.88 minutes
3	49	41	4	32	13	2.31 minutes
4	13	34	62	64	15	3.13 minutes
5	7	170	52	33	58	5.33 minutes
6	77	33	12	14	10	2.43 minutes

Participant Task Completion Times



Discussion

Domain Knowledge: The content of a particular field of knowledge (thefreedictionary.com)

- Most serious usability issues almost always have nothing to do with domain knowledge (Krug, 2010)
- Frustration with content vocabulary can affect users' search efficiency and discourage website use





Discussion Continued

Visual Literacy: The ability to interpret, negotiate, and make meaning from information presented in visual formats

- ❑ Many website design considerations rely on users' knowledge of common website conventions and their ability to recognize visual cues
- ❑ Efficient online searches depend on users' ability to distinguish between reading and scanning web content



Discussion Continued

“Satisfice” Behavior: Describes users’ likelihood to choose, or click on, the *first reasonable choice* (Krug, 2014)

- Distractibility as a part of users’ search strategy
- Website interactivity can be a distraction
- Website’s purpose determines its features and design





Conclusion

Based on the following:

- ❑ Participants' comments

A screenshot of a website titled "HIGH SCHOOL'S SENIOR PROJECT PAGE". The website has a blue sidebar with a navigation menu containing the following items: Home, Help Page, Parent Page, Due Dates, Forms & Templates, Grading Rubrics, On-Campus Mentor, Project Advisor, Project Hours, Product (Culminating Activity), Argumentative Paper, Thesis Statement, MLA Format, Research Process, Learning Portfolio, Reflection Essays, Oral Presentation, Contact Information, and Resources Consulted. The main content area features a header with the text "ALOHA & WELCOME!" and a sub-header "INTRODUCTION". Below the introduction, there is a section titled "The Four Senior Project Components" with a numbered list: 1. An argumentative or problem-based position paper, 2. A product (culminating activity) resulting from completion of 20+ project hours, 3. Development of a learning portfolio, and 4. An oral presentation before community members and/or Waipahu High School faculty and staff. Further down, there is a section titled "SENIOR PROJECT PURPOSE" and another titled "BOE RECOGNITION DIPLOMA REQUIREMENTS" which lists minimum requirements: Cumulative Grade Point Average of 3.0+, 4 English credits, and 2 Social Studies credits. A decorative image of a blue lei and a yellow lei is placed between the introduction and the four components section.



Conclusion

Based on the following:

- Participants' comments
- Ability to complete all tasks

A screenshot of a website titled "HIGH SCHOOL'S SENIOR PROJECT PAGE". The website has a blue sidebar with a navigation menu containing links such as Home, Help Page, Parent Page, Due Dates, Forms & Templates, Grading Rubrics, On-Campus Mentor, Project Advisor, Project Hours, Product (Culminating Activity), Argumentative Paper, Thesis Statement, MLA Format, Research Process, Learning Portfolio, Reflection Essays, Oral Presentation, Contact Information, and Resources Consulted. The main content area features a header with the text "ALOHA & WELCOME!" and a paragraph explaining the website's purpose. Below this is an "INTRODUCTION" section with a paragraph and a list of "The Four Senior Project Components". Further down is a "SENIOR PROJECT PURPOSE" section with a paragraph, and a "BOE RECOGNITION DIPLOMA REQUIREMENTS" section with a paragraph and a list of requirements. A photograph of a blue lei and a grey box with a yellow circle is positioned between the header and the introduction section.



Conclusion

Based on the following:

- ❑ Participants' comments
- ❑ Ability to complete all tasks
- ❑ Avg. completion time (41.33 sec)

HIGH SCHOOL'S SENIOR PROJECT PAGE

Home
Help Page
Parent Page
Due Dates
Forms & Templates
Grading Rubrics
On-Campus Mentor
Project Advisor
Project Hours
Product (Culminating Activity)
Argumentative Paper
Thesis Statement
MLA Format
Research Process
Learning Portfolio
Reflection Essays
Oral Presentation
Contact Information
Resources Consulted

ALOHA & WELCOME!

This website was created to help guide students and parents through the Senior Project process. It should help provide everyone with greater access to necessary information and documents, while also reducing the need for printed copies of Senior Project packets.

Please "click" on the button below to view the Senior Project blog and get the most up-to-date announcements regarding the Senior Project.

INTRODUCTION

The Senior Project is open to all students as an elective credit course. However, it is also a Board of Education requirement for students planning to graduate with honors and receive a Board of Education (BOE) special recognition diploma. A Senior Project includes four essential components that revolve around a single topic chosen by the student.

The Four Senior Project Components

1. An argumentative or problem-based position paper.
2. A product (culminating activity) resulting from completion of 20+ project hours.
3. Development of a learning portfolio.
4. An oral presentation before community members and/or Waipahu High School faculty and staff.

SENIOR PROJECT PURPOSE

The intent of the Senior Project is for students to strive to earn a diploma that has a more rigorous curriculum. Consequently, students who desire to complete a Senior Project as a Self-Directed Learner (GLO #1), must demonstrate proficiency in all of the four essential components of the Senior Project (Paper, Product, Portfolio, and Presentation) to receive credit for Senior Project completion.

BOE RECOGNITION DIPLOMA REQUIREMENTS

The following are the minimum requirements to qualify for the BOE Recognition Diploma:

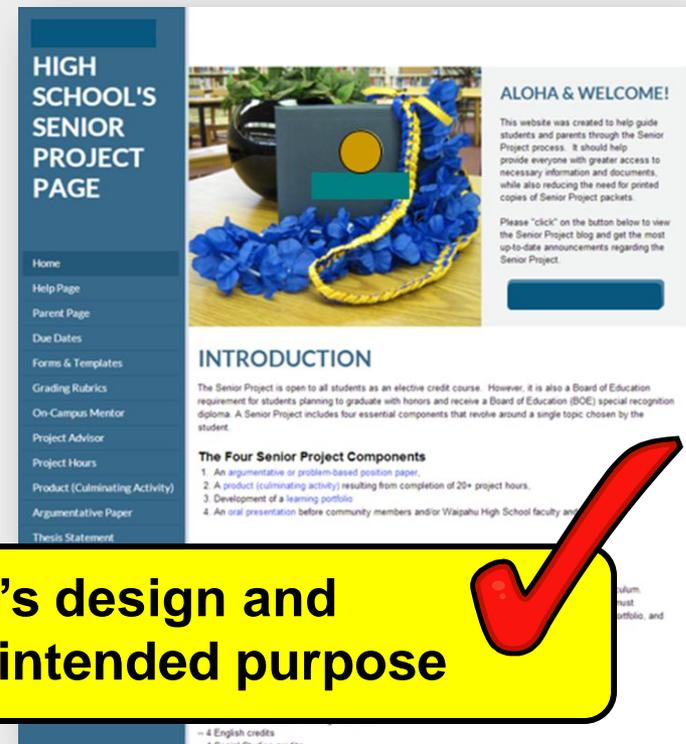
- Cumulative Grade Point Average of 3.0+
- 4 English credits
- 2 Social Studies credits



Conclusion

Based on the following:

- Participants' comments
- Ability to complete all tasks
- Avg. completion time (41.33 sec)



The Senior Project website's design and navigation was effective for its intended purpose



Acknowledgements

HIGH SCHOOL'S SENIOR PROJECT PAGE

- Home
- Help Page
- Parent Page
- Due Dates
- Forms & Templates
- Grading Rubrics
- On-Campus Mentor
- Project Advisor
- Project Hours
- Product (Culminating Activity)
- Argumentative Paper
- Thesis Statement
- MLA Format
- Research Process
- Learning Portfolio
- Reflection Essays
- Oral Presentation
- Contact Information
- Resources Consulted

ALOHA & WELCOME!

This website was created to help guide students and parents through the Senior Project process. It should help provide everyone with greater access to necessary information and documents, while also reducing the need for printed copies of Senior Project packets.

Please "click" on the button below to view the Senior Project blog and get the most up-to-date announcements regarding the Senior Project.

INTRODUCTION

The Senior Project is open to all students as an elective credit course. However, it is also a Board of Education requirement for students planning to graduate with honors and receive a Board of Education (BOE) special recognition diploma. A Senior Project includes four essential components that revolve around a single topic chosen by the student.

The Four Senior Project Components

1. An argumentative or problem-based position paper.
2. A product (culminating activity) resulting from completion of 20+ project hours.
3. Development of a learning portfolio.
4. An oral presentation before community members and/or Waipahu High School faculty and staff.

SENIOR PROJECT PURPOSE

The intent of the Senior Project is for students to strive to earn a diploma that has a more rigorous curriculum. Consequently, students who desire to complete a Senior Project as a Self-Directed Learner (GLO #1), must demonstrate proficiency in all of the four essential components of the Senior Project (Paper, Product, Portfolio, and Presentation) to receive credit for Senior Project completion.

BOE RECOGNITION DIPLOMA REQUIREMENTS

The following are the minimum requirements to qualify for the BOE Recognition Diploma:

- Cumulative Grade Point Average of 3.0+
- 4 English credits
- 2 Social Studies credits

- ❑ Dr. Peter Leong
- ❑ Dr. Menchaca & Dr. Irvine
- ❑ Ritsuko Iyoda (critical friend)
- ❑ ETEC 690 Classmates





Questions?



Ryan Yoshizawa
ryoshiza@hawaii.edu



References

Krug, S. (2010). *Rocket surgery made easy: The do-it-yourself guide to finding and fixing usability problems*. Berkeley, CA: New Riders.

Krug, S. (2014). *Don't make me think revisited: A common sense approach to web and mobile usability* (3rd ed.). Berkeley, CA: New Riders Press.

Microsoft Office Clip Art

TechSmith | Camtasia Studio

Thefreedictionary.com

Wordle.net

