A Usability Study of Oktavamod.com

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Abstract

Oktavamod.com sells various upgrades to mid-to-upper-level “prosumer” studio microphones, as well as new, modified versions of these microphones. The primary storefront of their business is their e-commerce website through which they sell these products. They occupy an interesting niche market. By getting to know potential users of this website and understanding their interactions with it, they might more effectively occupy this niche. This project is an attempt to study such users and interactions through the use of several analyses. These include a study of search engine logs, a study on perception, an analysis of tasks relevant to Oktavamod.com, open discussions with users, and a healthy dose of theory-based interpretation and qualification of the results. The synthesis of these studies and theories suggest several changes to the website that may help improve its usability, and ultimately make it more effective.
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1. Introduction

1.1 Report Structure

The recommendations made on the basis of these investigations are made with an eye to the synthesis of their conclusions; accordingly, the investigations are presented together rather than allotting each its own section. It is hoped that in doing so, the reader can gain a better understanding of broad concepts like *usability study theories* (Introduction) and *usability studies methods* (Methods). By grouping these things based on their structure, rather than their content, it might make clearer the diversity inherent in that content, and better prepare the reader to construct their own theories and methods, or at least to assess those of others. To reiterate the Abstract above, the investigations include a study of search engine logs, a study on perception, an analysis of tasks relevant to Oktavamod.com, and open discussions with users.

1.2 Usability Studies

The people who use technology are an inherent part of the systems that they use (p. 1) In their forthcoming book, *The Basics of Human-System Interaction*, Ritter et al. thus note the importance of understanding the person who uses technology: the user. This is especially so when the user is not forced to use the technology in question. Users typically learn to adapt to systems that they *must* use, where alternatives are limited such ATMs and gas stations (Ritter et al., p. 136). This is emphatically not the case with e-commerce websites, of which the ‘quality’ is really measured by the way that the user interacts with this website; roughly, it indicates whether the website helps or frustrates the user in accomplishing what they want, be it purchasing a product or simply ‘window shopping’. As Kuan et al. argued in a 2008 study of the effects of website quality on e-commerce website users:

To succeed in the highly competitive e-commerce environment, it is vital to understand the impact of website quality in enhancing customer conversion and retention... Creating quality websites with attributes that attract both first-time purchase and repeat visits from customers are important objectives for e-commerce websites. (p. 3)
Kuan et al. go on to discuss how the website plays the role of storefront for the products offered. Users can, with a few clicks of the mouse, simply choose another store. Thus, it is important to create a good and lasting impression on the user to ensure that they don’t go elsewhere, and that they return in the future (p. 4).

While website quality encompasses more than just usability, usability plays a large role in its determination (Kuan et al., p. 4). As such, the studies that follow aim to go some distance in assessing the usability of Oktavamod.com, with the intention of improving its overall quality.

1.3 Search Engine Optimization

The way people search for information on the web is constantly changing. Just a decade ago, few had heard of Google, and as of early 2010, Google was handling over 4 billion searches each day (Sullivan, 2010). Obviously much has changed over the past decade. Using information about how people use search engines is more critical than ever to creating a web presence that is engaging for the user or visitor. One way to do this is to ensure that your website is ranked well on search engine lists for specific queries. Much more traffic is directed at websites who appear towards the top of the page in search engines such as Google. According to SEOmoz, AOL.com’s first ten links receive 89.71% of all click-through traffic. The endeavor of making sure one’s page appears towards the top is the business of search engine optimization (SEO). One of the most important aspects of outfitting a website to be search engine optimized is making sure the phrases and words used in it are those that a potential searcher will be using when they make a query for something that your website may provide. The software that “crawls” web pages and gathers information about their relevancy to search queries identifies keywords used in your web page and uses these to categorize and rank your page. Thus, any information about what terms users actually use in their search queries has an enormous relevance for website developers.
1.4 What SEO Means for Oktavamod.com: A Searchlog Analysis

Oktavamod.com can generate much more traffic with a few simple improvements to SEO. A quick look at Alexa.com, a website that gives free search analytics, shows that of the top 10 queries driving traffic to Oktavamod.com from search engines, only three (boutique microphones, microphone mods, and scorpion oil tools- these account for about 13% of total traffic)\(^1\) do not contain the terms ‘Joly’ or ‘oktavamod.’ This could mean that the majority of users who use Oktavamod.com are repeat users. It could also mean, more dubiously, that Oktavamod.com does not drive many new users to itself through search engines.

While a complete SEO overhaul of any website could be the subject of an entire report on its own, the focus here will be much more narrow. This focus was on search logs from the early 2000s, totaling about 0.5 gigabytes of data, and some research conducted with Google AdWords’ Keyword Traffic Estimator, which were analyzed for terms relevant to Oktavamod.com for the purpose of identifying appropriate keywords. It must be admitted that the various intents of the authors of the search terms in the data set analyzed are not known. Although they cannot be assumed to have been searching for microphone modifications or upgraded microphones, the data remains relevant insofar as it provides insight to the types of search terms relevant groups of people use most frequently. Specifically, these groups include people who it is safe to assume, based on their various search queries, have a higher-than-usual propensity to purchase or at least possess an interest in what Oktavamod.com may have to offer.

In addition to allowing insight into SEO strategies for Oktavamod.com, this investigation relates to the larger goal of becoming more familiar with users, or at least potential users, of Oktavamod.com. Ritter et al. note that “...users have different tasks, needs, and capabilities when searching. If you want to support a set of users, you will have to understand them and their tasks.” (p. 163) It is wise to reiterate the point that simple search query terms are far from definitive in cuing one into a user’s task. They are, however, in their aggregate, powerful indicators of exactly how users might search for solutions to their various tasks. It is certain terms among these search queries that denote

their various authors as potential users of Oktavamod.com. These are the terms the
searchlog analysis seeks to uncover. As Ritter says in summary, “...how users search for and
use information have been productive concepts and approaches to studying users and
supporting them in their tasks.” (p. 163)

1.5 Perception

A company’s website not only serves as a source of information, but as an
advertisement as well. Any good storefront incorporates good advertising practices. As
McMillan et al. note in a 2003 edition of the Journal of Advertising Research:

The corporate website can build a brand while offering depth of information that cannot be
provided in traditional media-based advertising... [corporate websites] meet the conceptual
definition of advertising, they resemble ads in physical appearance, and they perform the
same basic functions— to inform and to persuade. (p.401)

To support the important role that corporate websites can play, it is essential that
they both are easy to use, and posses an overall aesthetic that any good advertisement
carries. Creating this consistent aesthetic often involves many factors, from font choice to
page layout. One of the more difficult factors to get a grasp on is how to best use images to
enhance a website, both as an advertisement and a source of information. Images can be
infinitely more complex (and thus confusing, or alternatively, helpful) than the relatively
simple arrangement of pixels in font and containment elements such as buttons and menus.
The old adage “a picture is worth a thousand words,” seems expressive of this very thought.

Oktavamod.com uses pictures of microphones, along with their names, as links to
pages with more information about purchasing upgrades or purchasing a pre-upgraded
version. Since these microphone images are a primary focal point of the website, it is
important that they contribute to the aesthetic of the website, as opposed to being
distracting. Additionally, they ought to be effectively informative, rather than frustrating
the user’s attempt to find his or her microphone of interest.

A simple way in which images of microphones can be altered is to alter the color of
the background. If pictures are taken with a solid background color, the resulting digital
image is easy to manipulate to make the background any other color, even transparent. Oktavamod.com uses solid color backgrounds for all of their microphone images. Unlike Oktavamod.com, 2010’s industry-leading retail websites like Amazon.com, Staples.com, and Apple.com (“The Top 500 List,” 2010) use primarily transparent backgrounds in images of their products. Thus, it would seem prudent for Oktavamod.com to at least consider the potential benefits of changing their microphone images to ones with transparent backgrounds.

A further reason to consider the backgrounds of Oktavamod.com’s images is the effects of what is commonly called a Hermann grid. Although the images on Oktavamod.com are not organized in such tight grids, the principle behind its often undesirable effects still apply. As Ritter et al. note, “It is possible to experience odd effects around areas of high-to-low brightness boundaries.” (p. 91) The loose grids and columns of images with dark backgrounds on Oktavamod.com would seem prime candidates for exhibiting such odd effects. Minimizing these ought to be a concern for Oktavamod.com.

In the perceptual investigation, we investigated the effect of an opaque versus a transparent background in images when searching through a set of such images to find a specific target. We chose to use images of cell phones to emulate the kind of cognitive processes that we think are going on when a user searches Oktavamod.com for a specific microphone. There are two primary reasons for this assumption. First, Oktavamod.com offers a fairly specialized service, in that they only modify and sell studio-quality microphones. Thus, the potential users of the site are most likely quite familiar with the microphone or microphones they plan to upgrade or buy. Similarly, the subjects we collected for our study were quite familiar with their target (their own cell phone). Second, studio-quality microphones tend to resemble each other much in the same way that modern cell phones tend to resemble each other: very closely. Certainly there are exceptions on both sides, but a cell-phone user searching through images of cell phones may be confronted with some difficulty due to image similarity not unlike that difficulty a studio-quality-microphone user may have in searching through images of studio-quality microphones.

Our hypothesis for the perception study was that it would be easier, and hence
faster, for a subject to find a target image when it and the surrounding images have transparent backgrounds as opposed to opaque backgrounds. For the purpose of a statistical analysis (see results section below), this hypothesis stands as the alternative hypothesis to the null hypothesis, which is that it is no faster for a subject to find a target image when it and the surrounding images have transparent backgrounds as opposed to opaque backgrounds.

1.6 Task Analysis

Task analyses are a family of approaches for representing what users do in the performance of a task. Their focus is on describing what users learn and need to know in the completion of a task, the hierarchy of subtasks, and other factors related to the specific procedure involved in task completion. The uses of task analysis can vary widely. Because this report is aimed at recommendations derived from empirical as well as theoretical results, certain uses of task analysis will prove more relevant than others here.

The systematization of a task through a task analysis model sets up an easily scalable perspective on how users complete a task. This is done through the categorization of things like atomic actions and decisions that are made during the completion of a task. This is useful in giving a description of how users actually complete a task, rather than a normative account of how they are expected to. This in turn can be a kind of structural mental model that the designer can consult when assessing how to make certain tasks easier (Ritter et al., p. 283-285).

Task analysis has proven to be one of the most cost-effective ways of improving interface usability. It requires relatively few resources such as time, money, and skills, and yet yields relatively high usability improvement. This technique, although it may seem suspiciously novel, has been proven to offer suggestions for increasing the quality websites. (Renaud and Van Dyk, p. 248)

Task analyses are descriptions of users' tasks and subtasks, the structure and hierarchy of these tasks, and the knowledge required to perform the tasks. (Ritter et al., p. 282)
Task analyses have proven to be useful in a variety of fields, from business procedures to computer interfaces. While they are always approximations of the actual human cognition behind carrying out a task, they are still helpful to the designer because they allow a thorough look at how users carry out tasks and what knowledge is required to complete that task. Renaud and Van Dyk note that “task analysis is essential for providing an easy to use and learn system, while not exceeding human limitations” (p. 249).

1.7 GOMS Model

The task analyses carried out on Oktavamod.com used the GOMS approach (goals, operators, methods, selection rules). The application of GOMS, rather than another task analysis approach, was chosen in order to yield results that may be of particular interest to the webmasters of Oktavamod.com. GOMS is well suited to represent the cognitive structure and sequence of users in the carrying out of tasks. Thus, GOMS may help us shed some light on the relatively unknown area (to the lay person) of highly-specific product marketing and sales. This is especially so in regards to the way in which the relevant user, who is very different from the typical user (i.e. shopper), shops for the product they want. They are much more likely to know more about the product or category of products they are searching for, and care less for extraneous information that does not help them learn about or purchase their target product or product category. Thus, GOMS, as a user cognition-centered model, is well suited for our task of investigating this special group of people.

The task analysis model presented below may seem cryptic at first, looking strangely similar to a programming language. This similarity lies in the rigor with which the model is systematized, so that once understood, there is no ambiguity in understanding and applying any portion of it. That kind of clarity lends itself to understanding of things like individual user’s task performance, or a designer’s attempt to create an interface that will support users in their tasks (Ritter et al, p. 283-285).
1.8 GOMS Model: Two Oktavamod.com Tasks

Notes:
1) Subtasks that are followed by stars indicate that at any point in this subtask, the user can opt to go straight to appendixed subtask 4, which details the use of the search bar.
2) Several operators below read, “check_if_correct_page.” It is assumed that the subject will simply use the browser's back button if they think the page they are currently on is not the one they intended to navigate to, or if the page is not helping them achieve their subtask.

GOMS Model: Task 1: Ordering a Modification for a MXL v87

Procedure: order_MXL_v87_mod

Task 1: Goal: order_MXL_v87_mod
-Subtask_1: Goal: order_MXL_v87_mod
Selection Rule 1: choose_link_or_search
  · "Mic Mods" in_text
  · mic.mods_link
  · search <user_input_text>
If <"Mic Mods" in_text || mic.mods_link> chosen {
  goTo_Appendixed_Subtask_1
}
If <search [MXL v87 || v87]> chosen {
  - Selection Rule 2: back_or_retry
    · browser_back
    · retry_search
  If <browser_back> chosen {
    goTo_Selection_Rule_1
  }
  If <retry_search> chosen {
    goTo_Selection_Rule_2
  }
}
-Subtask_2: Goal: find_MXL_v87_onPage*
-[Operator: scroll_atleast_4cm] –this operator skipped if search query used (from appendixed subtask 4)
-Operator: locate_MXL_v87_mod
-Selection Rule 3: choose_one_link
  · image
  · "Buy Now" button
  · title_text
If <image || title_text> chosen {
  goTo_Appendixed_Subtask_2
  goTo_Appendixed_Subtask_3
}
If <"Buy Now" button> chosen {
  goTo_Appendixed_Subtask_3
}
-Subtask_3: Goal: Login
  -Operator: enter_email
  -Operator: enter_password
  -Operator: choose_sign_in
**Task 1 Accomplished**

Appendixed Subtasks: These subtasks not to be completed unless called by another subtask. Once an appendixed subtask is completed, return to the non-appendixed subtask following the subtask from which the appendixed subtask is called.

Appendixed_Subtask_1: Goal: find_LDC (Large Diaphragm Condensor)_microphone_page*
  - Operator: locate_select_LDC_link
  - Operator: check_if_correct_page

Appendixed_Subtask_2: Goal: find_addToCart
Operator: locate_select_addToCartLink
Operator: check_if_correct_page

Appendixed_Subtask_3: Goal: checkout
  Operator: check_for_order_accuracy
  Operator: locate_select_checkout_button

*Appendixed_Subtask_4: Goal: search_find_MXLv87
  Operator: enter_search_term
  Operator: search_button
  goTo_Subtask_2

**GOMS Model: Task 2: Ordering a New Modified MXL v87**

Procedure: order_new_modified_MXLv87

*Task 2: Goal: order_new_modified_MXLv87*
- Subtask_1: Goal: order_new_modified_MXLv87
  Selection Rule 1: choose_link_or_search
    · “Buy New Mics” in_text
    · buy_new_mic_link
    · search <user_input_text>
  If <“Buy New Mics” in_text || buy_new_mic_link> chosen {
    goTo_Appendixed_Subtask_1
  }
  If <search [MXL v87 || v87]> chosen {
    - Selection Rule 2: back_or_retry
      · browser_back
      · retry_search
      If <browser_back> chosen {
        goTo_Selection_Rule_1
      }
  }
  If <retry_search> chosen {
    goTo_Selection_Rule_2
  }
  }
- Subtask_2: Goal: find_MXL_v87_onPage*
  - [Operator: scroll_atleast_4cm] – this operator skipped if search query used (from appendixed subtask 4)
    - Operator: locate_MXL_v87
    - Selection Rule 3: choose_one_link
      · image
· “Buy Now” button
· title_text
If <image || title_text> chosen {
    goTo_Appendixed_Subtask_2
    goTo_Appendixed_Subtask_3
}
If <“Buy Now” button> chosen {
    goTo_Appendixed_Subtask_3
}
- Subtask_3: Goal: Login
  - Operator: enter_email
  - Operator: enter_password
  - Operator: choose_sign_in

Task 2 Accomplished
Appendixed Subtasks: These subtasks not to be completed unless called by another subtask. Once an appendixed subtask is completed, return to the non-appendixed subtask following the subtask from which the appendixed subtask is called.

Appendixed_Subtask_1: Goal: find_LDC (Large Diaphragm Condensor)_microphone_page*
  - Operator: locate_select_LDC_link
  - Operator: check_if_correct_page

Appendiced_Subtask_2: Goal: find_addToCart
Operator: locate_select_addToCartLink
Operator: check_if_correct_page

Appendiced_Subtask_3: Goal: checkout
  Operator: check_for_order_accuracy
  Operator: locate_select_checkout_button

*Appendiced_Subtask_4: Goal: search_find_MXLv87
  Operator: enter_search_term
  Operator: search_button
  goTo_Subtask_2

1.9 Survey

Verbal protocols (roughly, verbal descriptors of aspects of a user’s interaction) have proven to be useful in understanding how users tackle problems as they interact with some technology. One type of verbal protocol, the concurrent protocol, tends to be more reliable than other types such as retrospective (Ritter et al., p. 314). In analyzing the usability of Oktavamod.com, an important factor is the overall impression of the site (McMillan et al, p. 401). Thus, a concurrent protocol of a user’s browsing of a website and actively reflecting on the impressions they are forming can be a helpful usability study. In pursuing such a
study, it is important to keep structure to a an open format, because doing so minimizes reflective behavior, the effect of which is data that is generally skewed by things like “expected task performance and the user’s (often incorrect) theories of how their own mind works” (Ritter et al., p. 314).

2. Methods

2.1 Searchlog Analysis

For this lab, two different eras of datasets were used. One set was from the early 2000s, which included the searchlogs of 3 different search engines. Each of these was roughly 100 mb of search queries collected from the following search engines in the corresponding year: AlltheWeb (2001), AlltheWeb (2002), Excite (2001), and AltaVista (2002). To look for the prevalence of different search queries, we used a Linux/Unix terminal tool known as ‘grep.’ This allowed us to quickly search the files for the number of times a specific term appeared in the file. Below are two tables (tables 1 and 2) that shows the prevalence across the various data sets. The terms searched for were based on a review of Oktavamod.com for specific ideas and keywords that were thought to relate to the subject of the site and that might be used by potential visitors (i.e. people interested in microphones and/or their modification).

The later era of data was present in Google AdWords’ Traffic Estimator tool.² This tool simply gives monthly global searches for various search terms. The relevant search terms were typed into the tool and the Max Cost Per Click was set at 1. This number, although required for operation of the tool, does not effect the global monthly search estimate output from the tool.

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² AdWords Traffic Estimator can be found at: https://adwords.google.com/o/Targeting/Explorer?__c=1000000000&__u=1000000000&__o=kt&ideaRequestType=KEYWORD_STATS
2.2 Perceptual Investigation

For this lab, we carried out an investigation involving visually searching through pictures to find a unique specified picture of an item that the searcher was familiar with. To do this, we first compiled a series of images of cell phones that all looked relatively similar. The cell phones were each rectangular in shape, mostly black, with relatively large color screens, and were all pictured length-wise and front-facing with their screens illuminated with various colors and backgrounds. Each image was rendered as two separate files: one with a transparent background and another with a grey, muted pink, or muted yellow background. This was done with the use of Gimp, an image manipulation program for Mac. In total there were 15 different cell phones used for the images, each being used in two different images (one with a transparent background, the other with a opaque background).

The images with the transparent backgrounds were arranged in a 4x8 grid on a PowerPoint slide, allowing the grid to completely fill the 15-inch screen of the Macbook Pro laptop on which the study was carried out. To fill all 32 spots of the 4x8 grid, each image had to be duplicated at least once. It was ensured that no two identical images were touching in the grid. The arrangement of images in the grid was not technically random, although there was no effort made to create, nor an observable instance of an explicit order, other than identical images not touching. The same was done on another slide for the images with the opaque backgrounds. It was ensured that the arrangement of opaque-backgrounded images in the grid did not resemble that of the transparent-backgrounded images. It was attempted to keep the ratio of grey-backgrounded to colored-backgrounded images in the grids at about 4:1, similar to that ratio seen on Oktavamod.com. Once these grids were assembled, two slides were added to the PowerPoint presentation that stated the directions for the subjects, one before each grid slide.

The subjects selected were a sample of convenience, including two group members who were not part of the making of the PowerPoint slides, three classmates, three friends of one of the group members, and one of the group members' mother. When a subject was first selected, they were asked what type of cell phone they possessed and how long they'd had it. An image of that cell phone was then found online, and rendered as two separate
files, one with a transparent background, and the other with an opaque background, similar to those images done previously. These images were then used to replace one image in each of the image-grid slides. The image that they replaced was not chosen with any predetermined specificity, although it was attempted to keep the position of the new image changing with each subject. See figures 1 and 2 for the image grids used on subject 7.

Subjects were asked if they were familiar with the touch-pad sort of mouse common on many modern laptops, as well as the ‘tapping’ rather than ‘clicking’ method of selecting something on screen. If they were not, they were allowed to surf the web for about 30 seconds to familiarize themselves with this type control.

Subjects were told that they would see a collection of very similar cell phone images all at once and that they were to click on the image of their cell phone. To begin searching the image, they were instructed to hit the space bar, taking them from the directions slide to the slide with the images on it. After they found and clicked on the image of their cell phone, they were presented with another slide with similar directions to that of the first. They were instructed that the images they would see on the next slide were similar, but slightly different looking and arranged in a different order. The subject again hit the space bar to pull up the image-grid slide, and clicked on the picture of their cell phone. All steps involving the subjects were carried out with the PowerPoint presentation running and filling the screen so as to avoid any distractions on screen. The order in which the set of images was presented was transparent-backgrounded first for the first 4 subjects, and opaque-backgrounded first for the last 5 subjects.

During the running of the study on each subject, an instance of the command-line application RUI was running in the background, recording the keystrokes of the subjects. The keystrokes were recorded in a text file. The hitting of the space bar was recorded as the time at which each subject began each test, and the subsequent click was recorded as the time at which each subject ended that test. Subjects were monitored carefully to ensure that they did in fact select the correct cell phone. If they selected the wrong one, the phone image selected in error was noted. It was also noted for each subject how long they had had their phone.
**Figure 1:** Transparent-backgrounded image grid shown to subject 9

**Figure 2:** Opaque-backgrounded image grid shown to subject 9
2.3 Task Analysis

To carry out this task analysis, five subjects were chosen from a sample of convenience. All were male, college-aged individuals who are frequent users of the Internet. None of the tasks had seen or heard of Oktavamod.com before, and none had any experience with or understanding of high-quality microphones. Each task was carried out on a 15-inch Macbook Pro laptop at a desk with a standard computer mouse. The Internet connection during each test was at least 5 Mbps, a speed fast enough to make any differences due to connection speed negligible.

Before beginning Task 1 (ordering a microphone upgrade), each subject was shown the Amazon.com webpage of an MXL v87 microphone, the microphone for which they were to purchase an upgrade. It was explained that they were to find and purchase an upgrade from Oktavamod.com for this microphone. They were allowed to examine the picture and name of the microphone for about 15 seconds, and were also informed that it was a Large Diaphragm Condenser microphone, also known as an LDC microphone. It was then explained that they would be adding the modification to a cart and checking out with their own email and password credentials, despite the fact that this check out procedure would inevitably fail since they had not yet made an account on Oktavamod.com.

Before beginning Task 2 (ordering a new, upgraded microphone), subjects were told that this task would be similar in its process, but that instead of ordering a microphone upgrade they would be ordering a new upgraded microphone of the same type (MXL v87).

Subjects 4 and 5 were instructed to carry out Task 2 first, then Task 1. The appropriate instructions were given to acquaint these subjects with both the microphone and Task 2, similar to those instructions given to subjects 1, 2, and 3.

Timing of the subjects began when the Oktavamod.com page had loaded, or selected in the case of the second task each subject carried out. Timing stopped when the subject clicked the “sign in” button.

2.4 Survey

Follow-up discussions were held with each of the subjects of the Task Analysis about four weeks after the initial task analysis. These discussions were held in an open format, each being one-on-one, via phone. Subject 4 was unavailable for a follow-up
discussion. Each subject was first reminded of the nature of Oktavamod.com’s business. Each subject was then shown http://www.johnbonnell.com/micmods.html and http://www.jjadiomatic.com/. These websites offer services similar to Oktavamod.com and would seem to be competitors. Each subject was instructed to look over each website for a few minutes, and then was instructed to navigate to Oktavamod.com. Browsing multiple sites simultaneously and switching back and forth was allowed.

Throughout the browsing, subjects were asked to answer and elaborate on two questions: What should websites that offer these services look like, and what functionality should they include? What is Oktavamod.com doing right and what are they doing wrong? It was stressed that the subjects were to “say out loud everything that you say to yourself” regarding their impressions of Oktavamod.com. Throughout the process the subjects were encouraged to talk freely, and the experimenter took informal notes (see table 5 below).

Also included in table 5 is the feedback of a 6th and 7th subject, who did not complete the task analysis in the weeks prior. Subject 6 was simply asked, via email, to give feedback on the website as to its usability. He is a Senior Lecturer in the Information Sciences and Technology Department at Penn State who is also an accomplished musician and recording enthusiast with a home studio that includes several MXL-brand microphones listed on Oktavamod.com. The email response from subject 6 is written into the “Notes” section of table 5. Subject 7 is a Professor of Information Sciences and Technology and Psychology at Penn State. He is the professor of the class for which this report was compiled (IST 331), and his feedback was given over the phone and notes were taken by the experimenter.
**Figure 3:** Homepage of JJAudioMic.com with link tabs highlighted

Welcome to the JJ Audio Website.

At JJ Audio we take readily available tube and FET microphones and transform them into custom one of a kind pieces that rival the best. We offer many choices that include various bodies, capsules and transformers. Each microphone is customized to provide the optimum result, for both the body and soul of the circuit.

JJ Audio is proud to source components from the best in the industry, to ensure the highest build quality possible. Our microphones are in use all over the planet and offer excellent results. Our products were recently used to record the world famous Ronnie Spector, Slim Thug, Z-Ro, Paula De Anda and multi-platinum Hip Hop artist Baby Bash.

Thank you for visiting our new and improved website, we have added some new products and features to better accommodate new and repeat visitors. We are going to be updating the prices on all of our microphones in January 2012. We have started new contracts with machine shops, suppliers and powdercoating facilities to improve the quality and branding of the JJ Audio Product line. We will be implementing powder-coating, machined bodies and heavy duty cases to better serve our client base. Due to these changes, there will be price increases effective on January 1st, 2012.

JJ Audio has consistently tried to offer products at the lowest price possible and we will continue to do so but we could not offer the new improvements without adjusting our prices to reflect these changes.

**Figure 4:** Homepage of JohnBonnell.com/micmods.html with link tabs highlighted

**Condenser Mic Mod Service**

*Would you like your condenser mic to sound better? To sound as good as a vintage studio mic?*

You may have noticed many problems with modern condenser mics: edginess, high-end peaks, uneven response in general, noise. Even in some quality branded mics, there is excess noise and other issues. The common problem, however, is this, grainy, overly bright sound.

If you own a Rode mic: You’ve probably noticed the edgy qualities in the Rode mics, and there’s a high end peak that really accentuates plosives and noise. If you’ve done many overdubs, you may have noticed they don’t blend easily, plus a number of other odd noises, or accentuations, which may not make the mic seem immediately horrible, but are certainly problematic... In general, there's a lot of EQ'ing to get the Rodes to sound decent. If you put one side-by-side with a good vintage mic, even a dynamic like an MD421, the problems leap out.
Figure 5: Homepage of Oktavamod.com

3. Results

3.1 Searchlog Analysis

Table 1: Early 2000s Searchlog: Search query occurrences by data file (correspond to different samples of search queries taken).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>mic</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td>microphone</td>
<td>28</td>
<td>34</td>
<td>24</td>
<td>71</td>
<td>157</td>
</tr>
<tr>
<td>microphones</td>
<td>56</td>
<td>37</td>
<td>38</td>
<td>71</td>
<td>202</td>
</tr>
<tr>
<td>mod</td>
<td>75</td>
<td>146</td>
<td>36</td>
<td>63</td>
<td>320</td>
</tr>
<tr>
<td>modify</td>
<td>4</td>
<td>15</td>
<td>1</td>
<td>32</td>
<td>52</td>
</tr>
<tr>
<td>modification</td>
<td>4</td>
<td>17</td>
<td>46</td>
<td>35</td>
<td>102</td>
</tr>
<tr>
<td>music &amp; studio</td>
<td>24</td>
<td>24</td>
<td>3</td>
<td>32</td>
<td>83</td>
</tr>
<tr>
<td>music &amp; equipment</td>
<td>12</td>
<td>5</td>
<td>28</td>
<td>12</td>
<td>57</td>
</tr>
<tr>
<td>audio &amp; studio</td>
<td>14</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>19</td>
</tr>
<tr>
<td>audio &amp; equipment</td>
<td>6</td>
<td>32</td>
<td>13</td>
<td>31</td>
<td>82</td>
</tr>
</tbody>
</table>
*The && operator means that both the first and the second words appeared in the same query and in the order shown, though possibly separated by other terms.

**Table 2:** Google AdWords Keywords Tool current estimated global searches per month

<table>
<thead>
<tr>
<th>Search Query</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>mic</td>
<td>13,600,000</td>
</tr>
<tr>
<td>microphone</td>
<td>5,000,000</td>
</tr>
<tr>
<td>microphones</td>
<td>2,240,000</td>
</tr>
<tr>
<td>mod</td>
<td>45,500,000</td>
</tr>
<tr>
<td>modify</td>
<td>9,140,000</td>
</tr>
<tr>
<td>modification</td>
<td>2,740,000</td>
</tr>
<tr>
<td>music studio</td>
<td>450,000</td>
</tr>
<tr>
<td>music equipment</td>
<td>550,000</td>
</tr>
<tr>
<td>audio studio</td>
<td>450,000</td>
</tr>
<tr>
<td>audio equipment</td>
<td>450,000</td>
</tr>
</tbody>
</table>
3.2 Perceptual Investigation

Table 3: Perceptual Investigation: Results, averages, and standard deviations for all subject

<table>
<thead>
<tr>
<th>Subject</th>
<th>Elapsed Time Transparent (seconds)</th>
<th>Elapsed Time Opaque (seconds)</th>
<th>Length of Time Had Phone (yrs)</th>
<th>Target Phone</th>
<th>Errors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.96</td>
<td>12.14</td>
<td>0.50</td>
<td>iPhone 4 Black</td>
<td>clicked black iPhone 3 on opaque background</td>
</tr>
<tr>
<td>2</td>
<td>2.22</td>
<td>1.59</td>
<td>1.00</td>
<td>iPhone 4 White</td>
<td>None</td>
</tr>
<tr>
<td>3</td>
<td>5.58</td>
<td>6.51</td>
<td>2.00</td>
<td>Blackberry Bold</td>
<td>None</td>
</tr>
<tr>
<td>4</td>
<td>2.01</td>
<td>13.85</td>
<td>2.00</td>
<td>iPhone 3 Black</td>
<td>clicked black iPhone 4 on opaque background</td>
</tr>
<tr>
<td>5</td>
<td>3.96</td>
<td>2.84</td>
<td>1.00</td>
<td>LG Octane</td>
<td>None</td>
</tr>
<tr>
<td>6</td>
<td>13.79</td>
<td>12.62</td>
<td>1.00</td>
<td>LG Octane</td>
<td>None</td>
</tr>
<tr>
<td>7</td>
<td>4.97</td>
<td>10.54</td>
<td>0.25</td>
<td>HTC Inspire 4g</td>
<td>None</td>
</tr>
<tr>
<td>8</td>
<td>1.84</td>
<td>2.2</td>
<td>0.66</td>
<td>iPhone 4 Black</td>
<td>None</td>
</tr>
<tr>
<td>9</td>
<td>12.94</td>
<td>14.65</td>
<td>1.00</td>
<td>Motorola Droid Professional</td>
<td>clicked on Blackberry Curve on opaque background</td>
</tr>
<tr>
<td>Average</td>
<td>5.81</td>
<td>8.55</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>4.51</td>
<td>5.29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results of a paired t-test on the set of data collected yielded a p-value of 0.1051, which is higher than the highest commonly accepted p-value of 0.10 for studies of this type. This means that the evidence we have collected is not enough to reject the null hypothesis that it is no faster for a subject to find a target image when it and the surrounding images have transparent backgrounds as opposed to opaque backgrounds.
### 3.3 Task Analysis

**Table 4:** Task Analysis: Subjects 1-5 task times and details.  
*Note: All subjects followed the tasks laid out above unless otherwise noted. The only selection necessarily encountered in every case were 1 and 3; these are addressed in the test notes.*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Task</th>
<th>Time (min:sec)</th>
<th>Test Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>2:06</td>
<td>Selection rule 1: chose buy_new_mic_link. While on LDC mic modifications list, used browser find function using hotkeys to pull it up. Searched for &quot;mxl.&quot; This returned many results. Duplicated current browser tab. Then used search bar in web page when on duplicated tab (beginning of subtask 2). Searched &quot;v87&quot;; returned two results. Selection rule 3: Clicked on title_link.</td>
</tr>
<tr>
<td>2</td>
<td>0:45</td>
<td></td>
<td>Selection rule 1: First tried mic_mods_link. Then navigated back with browser back button, clicked buy_new_mic_link. Used website search bar to search &quot;v87&quot;. Selection rule 3: clicked title_link.</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>1:57</td>
<td>Selection rule 1: clicked mic_mod_link. Selection rule 3: Clicked on &quot;MXL 990&quot; title_text from LDC mic mods page (subtask 2)- wasn’t sure if the suffix number (87) would change if microphone were upgraded. Used link_text presented during appended subtask 2 to discover incorrect microphone selected. Used browser back button to go back to LDC mic mods page (subtask 2). Selection rule 3: clicked MXL v87 title_text.</td>
</tr>
<tr>
<td>2</td>
<td>0:27</td>
<td></td>
<td>Selection rule 1: clicked buy_new_mic_link. Selection rule 3: clicked title_text.</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>1:54</td>
<td>Selection rule 1: clicked mic_mod_link. Used search bar on LDC mic mods page (subtask 2). Searched &quot;mxl v87.&quot; Selection rule 3: clicked title_text.</td>
</tr>
<tr>
<td>2</td>
<td>0:45</td>
<td></td>
<td>Selection rule 1: clicked mic_mod_link. Used search bar on new modded LDC page (subtask 2). Searched &quot;mxl v87.&quot; Selection rule 3: clicked title_text.</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>0:22</td>
<td>Selection rule 1: clicked mic_mod_link. Selection rule 3: clicked title_text.</td>
</tr>
<tr>
<td>2</td>
<td>0:53</td>
<td></td>
<td>Selection rule 1: clicked mic_mod_link. Seemed to not know where to go from mic mods page (appendixed subtask 1). Tried &quot;ribbon mods&quot; link, which carries picture of microphone similar to MXL. Did not find MXL v87 on subsequent page. Used browser back button to return to mic mods page. Subsequently remembered (vocal &quot;ah-ha&quot;) that LDC stood for large diaphragm condenser. Selection rule 3: clicked title_text.</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>0:21</td>
<td>Selection rule 1: chose mic_mods_link. Selection rule 3: clicked buy_now_button.</td>
</tr>
</tbody>
</table>
## 2.4 Survey

### Table 5: Open follow-up discussions with task analysis subjects plus subjects 6 and 7

<table>
<thead>
<tr>
<th>Subject</th>
<th>Notes</th>
</tr>
</thead>
</table>
| 1       | Icons or photos should be with main links on the homepage- these are too bland for the main links  
-Homepage doesn’t feel as “full” as other pages. Doesn’t feel “complete” as other pages  
The larger amount of pictures in pages after homepage is better  
-Could be a prices link- i.e. that would show the lowest price of certain types of mods  
-Tabs across the top of homepage with main links, perhaps with link  
-Explicitly confused about how to get back to the homepage from mic mods page- the directory structure of >> >> was not very clear with its names, but the presence of them is good. Just keep them more consistent  
The main links of the homepage should stay in the same place on every page- the directory setup should always be the same so user knows where they are on the page  
-Expect to see visuals of things like mic mods when accordant links clicked on  
-Search bar is good  
-Good that on specific microphone details page, the review shown to the left matches the microphone that one is looking at currently  
-Shopping cart is good |
| 2       | The main links in the red box should be in tabs like JohnBonnell.com- these are the most important part of the site  
-Could use a more professional look- JohnBonnell and JJAudioMic look more professional- could be colors. Could also be the variety of different sizes of fonts, types, bolds, italics, underlines in Oktavamod (“tacky”)  
-Other sites’ homepages have more information about the site in general. Like a “mission statement”- more explanatory homepages. Oktavamod.com is more just “there” and not as self-explanatory. Takes too much time to figure out what everything is  
-High number of links on the homepage makes it seem more spread out/confusing- link redundancy is unnecessary- makes page too “busy”  
-Showcased items should be separate from the main links and secondary |
| 3       | Links on homepage too hard to find- should be horizontal, at the top, big and noticeable  
-Too many different ideas presented on homepage  
-Blog page is confusing- needs more dividers between blog posts ect  
-Army green on the sides doesn’t really match the rest of the site  
-Buttons could be bigger (continue, check out, ect)  
-Bigger font on mic mods page- also some descriptions about what LDC, ribbon microphones |
5. Try to maintain high signal to noise ratio— not too many options, esp. on front page: try to focus on important functionality of the website, esp the links to main pages— might consider making these more prominent above everything else.

- Maintain few clicks to get to a product into something like a cart. Something like Amazon where user does not have register to purchase.
- Consistent background colors.
- Differing sizes and colors to drive users to specific products.
- Overall pleasing aesthetics.
- Large images that prominently display the product without distraction.
- Differentiation between sidebar color and other content color backgrounds.
- High contrast between backgrounds and text.
- Shopping carts are good.

6. "1. Since I'm into mics also, I would comment that it was a bit hard to figure out exactly which mods he does, versus which he doesn't. For example, on the large diaphragm condensers, there's a laundry list of mics, but I finally found a little link at the bottom of the text blurb that said 'contact me if you don't see your mic'. I think it would be useful to make that more clear - both on each mic type page, and also on the front page. I don't think most people read the text blurbs fully.

2. What does 'risk-free' mean? I didn't see a definition anywhere on the site. If it means he'll return your money if you don't like the mic or mod, it should say that. If it doesn't, it should say what it means - otherwise, it just sounds like marketing mumbo-jumbo. My opinion.

3. Not to do with the website, but I think that adding an additional sound comparison with an un-modded mic (like MXL-990 and so on) would be very useful. I honestly couldn't hear a lot of difference in the recordings between his modded mics and, e.g., a U87, which is good. But as a technical guy, I wonder how much of that is due to the mod and how much of that is due to the quality of my laptop's sound card. I am running it into decent speakers, but to me, the distinction between a decent LDC mic and a really good one is sometimes hard to discern through a cheap sound system. But if I heard a big difference between the modded vs unmodded, it would sell me immediately."

7. - Descriptions of ribbon vs LDC microphones may be helpful

- Make processes of ordering different types of mics (modded vs unmodded) the same

- Frequency spectrum and technical specifications might be helpful if mic-owners are into such statistics

- All mics that can be modified should be listed, rather than requiring user to use email to find out
4. Discussion

4.1 Searchlog Analysis

Analysis of the early 2000s searchlog analysis data reveals several things. First, it is interesting to note that out of the terms ‘mic’, ‘microphone’, and ‘microphones’, the term ‘microphones’ was searched for the most and ‘mic’ the least. The search term ‘mic’ was very rarely searched for. Current Google AdWords search estimates, however, place the number of searches for ‘microphone’ at over twice what for ‘microphones’. This is a very interesting development, and may point to a much larger change over the past decade in the ways in which people use search engines. The term ‘mic’ still remains rarely searched, comparatively.

In the early 2000s data, ‘mod’ was searched for much more frequently than was ‘modification’ and especially ‘modify’. However, further analysis of the entire search queries in which the term ‘mod’ appears quickly shows why; search queries that use the term ‘mod’ in reference to computer and video game equipment vastly outnumber those relating to modifying anything else. Search queries including the terms ‘playstation’ and ‘mod’ alone account for 99 of the 146 queries that include the term ‘mod’ in AlltheWeb_2002. The current Google AdWords estimation seems to point to a similar phenomenon, although more in depth study was impossible with this tool. Another interesting difference between the early 2000s and current data was that in the former, the term ‘modify’ was searched for half as much as ‘modification’, whereas in the latter, ‘modify’ was searched for three times as much as ‘modification’.

In the early 2000s data, the final four search queries, ‘music’ && ‘studio’, ‘music’ && ‘equipment’, and ‘audio’ && ‘equipment’ all were searched for relatively the same amount of times. The terms ‘audio’ && ‘studio’ were only searched for 19 times throughout the data sets. A similar trend was seen in the current data, with ‘audio’ && ‘studio’ catching up to its counterparts.

For the purposes of keyword research, this data points to a few preferences in terms that should be used in the relevant places of Oktavamod.com (see recommendation 1). According to SEOmoz, these keywords ought to be placed in places like title tags and meta
tags. It should be noted that the concept of “keyword density” is no longer relevant in SEO. If a site uses one term much more frequently than another, they are not more likely to obtain a higher ranking (SEOmoz, 2011). A full description of just how these keywords should be used is beyond the scope of this report.

4.2 Perceptual Investigation

Opaque versus Transparent-Backgrounded Images

Our hypothesis for this study was that it would be easier, and hence faster, for a subject to find a target image when it and the surrounding images have transparent backgrounds as opposed to opaque backgrounds. Although there was a substantial increase (nearly 50%) in the average time taken to find one’s phone in the opaque-backgrounded image grid, this difference is not enough to be statistically significant. This is due to the relatively large deviations seen in the data. The variability in the times recorded from subject to subject reveals that the means of the two sets of data may not be representative of the larger population (Motulsky, 2007). Because of the statistically inconclusive results of this investigation, it cannot be reasonably suggested whether or not transparent-backgrounded images may be any better than opaque-backgrounded images for Oktavamod.com. Common sense might suggest that the generally light colors of the microphones make a darker background more appropriate for offering contrast and a kind of pop-out effect (see below) for each individual picture. This is one of the areas in this report in which a larger sample would be appropriate.

Pop-Out Effect

One thing to note was the speed with which subject 2 found their phone on both backgrounds. Subject 2 had a white iPhone 4, which was the only phone in either grid that was not primarily black. This is perhaps the clearest instance of the pop-out effect, the useful effect of certain stimuli standing out from others (Ritter et al., p. 94). While this one subject is certainly far from conclusive, what Oktavamod.com might draw from this is that the use of the pop-out effects could be used to drive traffic to specific microphones or upgrades that they want to push.
Errors in Perception

Three of our subjects recorded errors in selecting their phone. It can be speculated that the errors arose because of the similarity of their target phones and the phones the actually clicked on. For subjects 1 and 4, the similarities between the iPhones 3 and 4 may have caused their errors. Subject 9's target phone, the Motorola Droid Professional, also looks very similar to the phone they actually clicked on, the BlackBerry Curve. Interestingly, however, the errors all occurred in the selection of the opaque-backgrounded images. It may be that the subtleties and details of the phone images are partially obscured by the opaque-background or that the smaller relative size of the image of the phone may been the obscuring factor. This is pure speculation and should be taken as such.

The implication of the errors seen here may be that Oktavamod.com ought to take special care to keep text prominent in links where the attendant images appear similar. This is a risk with the microphones Oktavamod.com deals with, as many of them are very similar in appearance, and can easily be mistaken for one another.

4.3 Task Analysis

Novice Users vs. Expert Users

The results above reveal several interesting things about the tasks completed. The first thing to notice about is the amount of confusion and/or what might be called “errors.” Only subject 3 used task processes on both tasks 1 and 2 that did not backtrack or encounter anything they would likely not encounter again if they repeated the task. The most likely explanation of this is the users' lack of experience with the website, and particularly the website's subject: high-quality microphones. The users of Oktavamod.com that should be of most interest to its webmaster are those who are probably already relatively familiar with the microphones they offer. Most of their new microphones start at around $500, and upgrades start at about $400. Likewise, the descriptions and audio clips offered on Oktavamod.com regarding their products are rather technical. It is clearly not tailored to those new to the field of high quality microphones (the 'novice' user). [Whether
or not it should be may be the subject of a more broad study of the market rather than particular users]. As such, the subjects in this investigation lack crucial skills and experience that make their experience much different from that of Oktavamod.com’s implicit target user (the ‘expert’ user).

Specifically, this difference between our subjects and Oktavamod.com’s target user is probably most marked in the way in which options appear on-screen to the user. It has been well-documented that recognition is easier, albeit slower, than recall memory. (Ritter p. 123) Thus, when the novice subjects were looking through items in the Mic Mods page and LDC Mics page, they were most likely looking to recognize, rather than explicitly recall the MXL v87. Their quick creation of a memory of the MXL v87 before the website was viewed was almost certainly better suited for recognition rather than recall. The expert user, on the other hand, would be likely to possess a memory better suited for recall; they could hold the MXL v87 in the mind’s eye while they search for a match, while the novice must wait for an image to provoke this memory.

A design implication that may be drawn from this is to make the text more prominent in item menus as opposed to images. Users are better at recognition when they are presented with words as opposed to icons or images (Ritter, p. 123). Thus, the novice user, while perhaps not as important as expert user who is more likely to make a purchase, can still be led through item menus more effectively by presenting them with information that is easier to recognize (see Figure 6 for screenshot of Oktavamod.com’s current Mic Mods page). The images associated with “Ribbon Mods” and “LDC Mic Mods,” for example, may be too similar to be helpful in distinguishing which link the user should click to navigate to their target microphone (see recommendation 2).
Figure 6: Oktavamod.com’s current Mic Mods page with relatively small link text; feedback directory is highlighted

Learning

Another aspect of the tasks made apparent by the results above is that significant learning occurred in all of the subjects. Both tasks 1 and 2 had similar task models, as made clear by the GOMS model, and they both present a similar number of options to choose from in the menus used to navigate to them. They should have taken about the same amount of time, if the subjects had not learned anything from the tasks. [It is worth noting that subjects 4 and 5 were IST and Computer Science majors, respectively, and that subjects 1 through 3 were Engineering, Engineering, and Biology majors; the relative time spent using computers and the Web probably accounts for the differences in task completion time seen across these groups.] Each of the subjects decreased the time with which they completed their second task with respect to the first (subjects 1, 2, and 3 completed task 1 followed by task 2, subjects 4 and 5 completed task 2, followed by task 1).

One design implication of this may be that Oktavamod.com ought to design their website to encourage learning. It would seem as though the current design actually
supports learning quite well. The layout of pages is similar, although things like the ordering of microphone types in various pages could be more consistent (e.g. the relative location of the LDC microphone link on the Mic Mods page is not where it is on the New Modded Mic page). More long term, the site should try to maintain as consistent a theme and structure as is feasible; no major breaks in this consistency have been noted over the past 3 months during which our studies of Oktavamod.com have taken place (see recommendation 3). In addition, more succinct feedback given to the user as to the content the current page, such as more prominent directory structure relations may be helpful to know where the user is, and where they want to go (see figure 6).

One negative impact of the learning that occurred in the website was the effect of the broken search bar on the home/welcome page. Subject 5 tried the broken search bar twice, and after having discovered that it was not going to help him or her complete their task, they pursued other means. It may be the case that he subsequently took all of the search bars to be broken on the website. This learning demonstrates the importance of making visible only those capabilities of the website that are currently functioning in order to prevent this ‘negative learning’ (see recommendation 4).

4.5 Survey and Synthesis

Through the synthesis of the discussions of the studies conducted in this report, it can be made into more than the sum of its parts. Several conclusions are drawn below in this pursuit:

“Risk Free Guarantee”

Oktavamod.com offers risk-free modifications of microphones. Subject 7 of the survey noted that there is no explanation of this guarantee. While he was alone in this observation, the worry of users like himself may be easily avoided with a simple, general statement of what the Oktavamod.com guarantee consists in.

Sound Samples of Unmodded versus Modded Microphones

Subject 7 of the survey also noted that his speaker system might not have been good enough to hear the sound samples that are currently on Oktavamod.com: those comparing
modded microphones to industry-leading ones that cost considerably more. He expressed interest in hearing the difference between a modded and an unmodded microphone of the same type. His concern over the sound quality of his speakers may be reason enough to avoid putting this type of ‘before and after’ sound samples on the site. Users may not have the sound quality to tell the difference, and thus conclude that there is no difference. Such a potential masking of sound quality improvement by poor sound systems ought to be considered before any modded-versus-unmodded microphone sound samples are put on Oktavamod.com.

*Feedback*

Subject 1 of the survey, in the course of their browsing, tried to navigate back to the homepage. They because confused when trying to get back by the >> >> directory structure highlighted in figure 6 above. This structure, familiar to the subject, was less helpful than it could have been because they did not recognize the root “OktavaMod.” The were expecting to find something more descriptive of the page, such as “Homepage” rather than simply “OktavaMod” (see figure 6). This is reflective of a larger need for feedback for the user. In addition to helping the user recover from errors, it encourages learning, such as that seen in the task analysis; specifically, the structure of the website can be much more quickly learned when this feedback is kept consistent. The error encountered by subject 1 of the task analysis prompted them to use an extra browser tab, suggesting a lack of confidence to get back to the page they were currently on should they make another mistake. More feedback as to where the subject was may have made this unnecessary. The discussion of the task analysis results seem to also support this conclusion that while the feedback structure is good, the names of the pages one has navigated through must be made as descriptive as possible (see recommendation 5).

*Navigation*

Subjects 1, 2, 3, and 5 all noted that the main links the left of the homepage should be in some way more prominent. Subjects 1, 2, and 3 suggested the use of tabs across the top like those seen in JJAudioMic.com and JohnBonnell.com/micmods.html (see figures 3
and 4). Some of the most popular websites in world, including Apple.com, Amazon.com, Microsoft.com, and Google.com all have some sort of tabbed structure horizontally across many of their pages. It can be speculated that such widespread use of tabs across the top of pages for navigation have epitomized them into a kind of mental model. As Ritter et al. note:

If the user’s mental model matches the device, the user can use the mental model better to perform their tasks, to troubleshoot the device, and to teach others about the task and device (p. 169).

These tabs can also be used to provide feedback to the user by highlighting the tab that denotes the page the user is currently on. Thus, they could contribute to both the navigation, and simplicity of Oktavamod.com (see recommendation 6).

Parallel Structure

Subject 7 of the survey suggested making the processes of ordering different types of microphones the same. This is structurally the case with Oktavamod.com, but there could be some improvements in the placement of links like ‘LDC Mics’ on pages relative to their analogs (i.e. the ‘Buy New Mics’ page and the ‘Mic Mods’ pages should have the same layout of links). The use of parallel structure matches users’ mental models of ordering process, and could support the learning evident in the task analysis (Ritter et al., 169) (see recommendation 7).

Simplicity

Subjects 1, 2, 3, and 5 of the survey all expressed, in various ways, the lack of simplicity in the homepage. Subjects 1 and 2 noted the way that the homepage just did not feel “complete.” Subjects 2 and 5 noted that there might be too many links on the homepage, specifically redundant links that also exist in the main navigation pane to the left. Subject 2 also noted that the presence of a widespread variety of italics, bold, and font sizes might contribute to what they noted as a certain “busyness.” There is some theory that supports this concern: Ritter et al. note, “a general rule of thumb is to use no more than three fonts” (p. 157). Although Oktavamod.com obeys this rule, it might evaluate the extent
to which the variety of ways it employs its font detract from a simple, as subject 5 put it, “mission statement” homepage.

Completeness of Product Listing

Subjects 6 and 7 noted the prompt to email Oktavamod.com if one did not see their microphone listed in the ‘Mic Mods’ page. They both suggested that Oktavamod.com make an effort to list all of their products. By making a website easier to use (e.g. avoiding opening one’s email client), it can be made more efficient and provide the user a better overall experience. The inclusion of all products would also offer immediate feedback about finding one’s desired product on the site, as opposed to waiting for an email response. Obviously this may present logistical issues, especially with regards to special orders and prices. A simple solution may be to list the price as, “inquire about price.” This way, all users are more likely receive the feedback that is immediately available: whether or not Oktavamod.com currently does modifications on their microphone (see recommendation 8).

5. Recommendations

The following are recommendations made on the basis of the theories, data, and analysis presented above. More recommendations may be suggested or implicit in other areas of the report. Those below are only those that we feel are either currently well-supported enough or low-risk enough to be safely implemented at the present time.

1. Use the words ‘microphone’ and ‘microphones’ rather than ‘mic’ when optimizing Oktavamod.com for search engines using keyword tactics.
3. Continue to apply broad policy of consistency to website themes and structure, both across pages and across time. This policy ought to include careful consideration of any changes before they are implemented (including those suggested here), to avoid prevention of learning by constantly changing website theme and structure.
4. Fix or remove the broken search bar on the homepage
5. Change feedback directory structure to use more descriptive name for homepage.
6. Institute horizontal tabbed structure of main links (Mic Mods, Buy New Mics ect.) across all pages. Consider building a feedback mechanism into tabs.
7. Make layout of links on ‘Mic Mods’ and ‘Buy New Mics’ pages more similar.
8. List all mic mods offered by Oktavamod.com.

6. Conclusion

It seems appropriate here to contextualize and extend the studies conducted. The searchlog analysis, perceptual investigation, and task analysis performed here, while useful on their own, could certainly be more so in conjunction with a more comprehensive analysis of users of Oktavamod.com. In a 2005 study of a university website homepage that heavily utilized task analysis, Ritter, Freed, and Hackett lay out a three-part approach to task analysis, that really synthesizes it with a holistic understanding of the user. First, the designer needs to know their users. Next, they need to know what their users want to do and the information requisite for fulfilling such desires. Finally, they need to know what their users actually spend the majority of their time doing. The task analysis here was clearly aimed at the middle portion, with the perceptual investigation and searchlog analysis supplementing.

Further task analysis, with a more focused sample of users who are likely to be interested in Oktavamod.com, might illuminate all three areas of this tri-parte. Especially useful might be questionnaires given to these specialized users. The other two portions, knowing the user and what the user spends their time doing, may be the subjects of further fruitful study. Studying the weblogs of Oktavamod.com users may be a good way of approaching both of these. It is hoped that the middle portion of the above tri-part model of task analysis, understanding what the users want to do, has been more fully explained through these investigations.

It also ought to be noted that evidence has indicated that while usability studies are good for improving website quality, the variable of user satisfaction (as measured both quantitatively by things like efficiency and error rate) is only loosely tied to buying habits:
In assessing website quality, the measurement of user satisfaction is not a good gauge of actual customer online buying behaviour. (Kuan et al, p. 4)

Tying actual purchase history to dimensions of website quality, while more intensive, may yield more pertinent results.

The studies conducted throughout this semester on Oktavamod.com point to a few recommendations that can be made for Oktavamod.com. Obviously these are contingent on the limited experience of the experimenters, as well as limitations imposed by the nature of the experiments themselves, certainly the most glaring of which is the lack of an appropriate sample of users who are like those Oktavamod.com would seem to want to target. Still, it is hoped that the recommendations made above may be taken into consideration, or at least help direct any further usability studies Oktavamod.com wishes to pursue.

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8. References


