

Team 23: Subtle Changes Result in Great User Experience

INFO I-399
Fall 2012
Final Paper

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Table of Contents

- I. Abstract
- II. Introduction
 - a. Statement of Research Problem
- III. Background and Related Works
- IV. Research Methodology
- V. Analysis
- VI. Results
- VII. Conclusion and Recommendations for Future Work

Subtle Changes Result in Great User Experience

I. Abstract

The project began by investigating what users identify as a great product experience. The focus is then to understand how a user's great experience compares with previous versions of the same product or to similar products. By analyzing the user experiences, product characteristics that contribute to positive and negative user experience are identified. The identified characteristics are grouped by category to conclude that distinct differences from version to version of the same product or between similar products can allow a user to have a greater experience.

II. Introduction

Everyday people interact with hundreds of objects, from their alarm clock that wakes them up, sneakers that they find comfortable, or iPhone that they use to communicate with friends. It is from these interactions that a user develops feelings about the specified product, system, or service. This is the definition that our group attached to "user experience."

User experience is entirely subjective in nature because, simply put, it is the way that a person feels and what they think about something. Due to ever-changing technology and circumstances, user experience is dynamic since it changes with the product or object. Perhaps two of the most important aspects of user experience are that it exists everywhere and impacts human behavior either negatively or positively. By realizing the subjectivity of the topic, it was our objective to compare different designs aimed to solve the same problem. The overall goal was to understand how subtle changes do result in greater user experience.

Statement of Research Problem

The project is intended to encourage students to compare different designs aimed to solve the same problem and perceive how subtle changes result in great user experience improvement.

III. Background and Related Work

Usability metrics can successfully evaluate the user experience for any product or technology. Usability is known as the ability of the user to use something to carry out a task successfully. In contrast, user experience takes a broader view of the individual's entire interaction with the product or technology. This interaction also includes the

thoughts, feelings, and perceptions resulting from that specific interaction. “Measuring usability,” is also known as observing the overall user experience.

IV. Research Methodology

Research began by educating ourselves on ways to measure a person’s user experience with a product. Before we could do any work, it was necessary for us to gather existing research pertaining to elements relevant to our topic so that we could better understand what it is we wanted to do and craft goals, in terms of research and producing a final project conclusion.

The first method used to collect personal information, concerning user experiences, was online surveys. With this method, we were able to email or post the link to the survey on the Internet and simply wait for responses. Our first survey focused on web browsers: Google Chrome, Microsoft Internet Explorer, Mozilla Firefox, and Apple Safari.

Image 1: Initial Web Browser Survey

The image shows a screenshot of a web browser survey. The title is "Which web browser do you use?". Below the title, there is a paragraph explaining the survey's purpose: "This survey will gather information regarding which web browser(s) you prefer, why you prefer a specific web browser(s), and how you rate your preferred web browser(s)." followed by a red asterisk and the word "Required".

The first question is "Which web browser do you prefer to use? *". Below it, there is a subtext: "If your preferred web browser is not listed, please specify." The options are radio buttons for "Google Chrome", "Mozilla Firefox", "Internet Explorer", "Safari", and "Other:". The "Other:" option has a text input field next to it.

The second question is "What is the primary operating system you use? *". Below it, there is a subtext: "If you have more than one primary operating system, please check all that apply. If you operating system is not listed, please specify." The options are checkboxes for "Windows", "Macintosh", "Linux", and "Other:". The "Other:" option has a text input field next to it.

The third question is "What are the reasons you prefer this web browser? *". Below it, there is a subtext: "Please check all that apply. If other, please specify." The options are checkboxes for "Feature integration, i.e. social networking, file storage, email, account syncing.", "Customization, i.e. apply themes, tailor appearance/functions to suit preferences.", "Performance, i.e. speed, rendering, compatibility, built in plug-ins.", "Ease of use, i.e. intuitive, minimal trouble shooting.", and "Other:". The "Other:" option has a text input field next to it.

The fourth question is "Rate your overall experience with your preferred web browser. *". Below it, there are five radio buttons labeled "1", "2", "3", "4", and "5". Below these radio buttons, there is a row of five radio buttons labeled "Worst", "1", "2", "3", "4", "5", and "Best".

The survey continued with many more questions that were to be answered on a ranking system (1-5) like the last question to rate the user's overall experience with their preferred web browser. Not everyone is very familiar with web browsers or have specific reasons why they prefer one to the other. Although a narrow approach to our topic, we decided to broaden our range and construct another survey. In the second survey, we wanted to give the respondent an option to select which object they would like to elaborate on their personal experiences on.

Image 2: Second Survey

1. Which of these technologies would you say that you are most familiar with?

2. How much experience do you have with these technologies?

- ☐ No experience
- ☐ Some experience
- ☐ A fair amount of experience
- ☐ A lot of experience

*3. Based on your answer from Question 1, how would you expect the user experience to compare from A to B? Why?

Image 3: Second Survey's List of Objects

1. Which of these technologies would you say that you are most familiar with?

- ✓
- (A) Attachable webcams and (B) Built-in webcams
- (A) Headphone jack placement on the iPhone 5 and (B) Headphone jack placement on previous iterations of the iPhone
- (A) Back-lit keyboards and (B) Non-back-lit keyboards
- (A) LED TVs and (B) Non-LED TVs
- (A) Wireless game controllers and (B) Wired game controllers
- (A) iOS 6 sharing screen and (B) iOS 5 sharing screen
- None

- ☐ A fair amount of experience
- ☐ A lot of experience

*3. Based on your answer from Question 1, how would you expect the user experience to compare from A to B? Why?

Even though little effort goes into crafting a survey, and many responses can be gathered if the survey is sent out enough times, this method is not ideal for collecting personal experiences. A user's explanation of personal experiences contains emotions and body language, but this is not effectively portrayed via online surveys. What we found to best benefit our research was conducting personal interviews where we can actually interact with the user.

Image 4: Interview Questions

Identity

Gender:

Age range: 15-19, 20-24, 25-29, 30-34, 35 and over

Occupation (if student, list major):

Background (tell me about yourself):

Questions

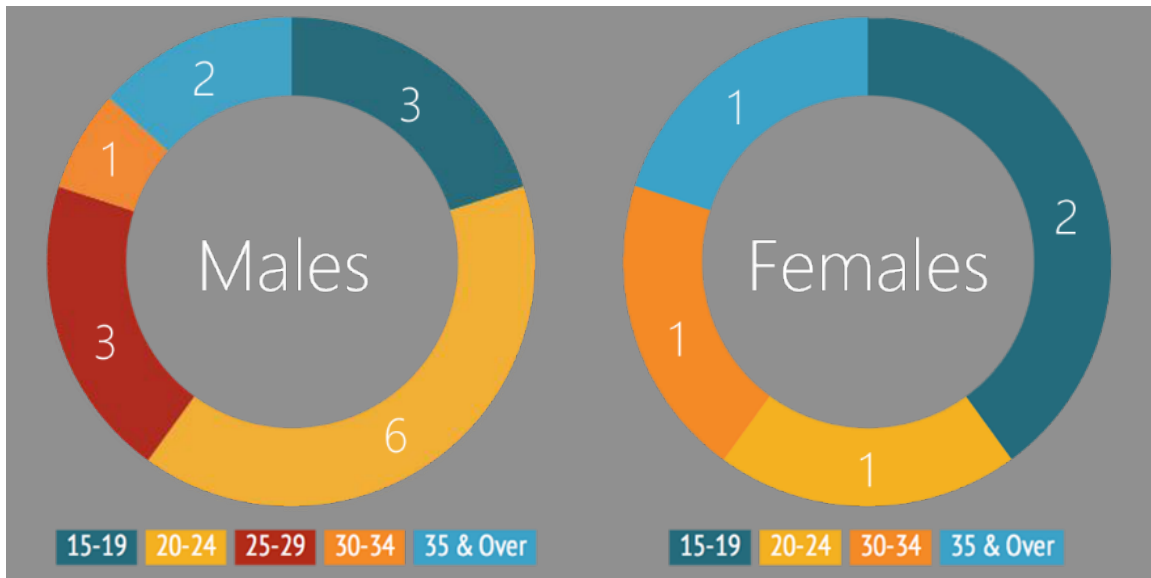
1. Take a moment to think about the products you use regularly. Recently, what product have you had a great experience using?
2. What do you like the most about this product? Why?
3. Have you used a previous version of this product? If yes, how did you like it? How does it compare to the current version? Which do you prefer? Why?
4. Have you used a similar product? If yes, what was the product? How did you like it? How does it compare to the current product? Which do you prefer? Why?
5. Do you have additional input or any questions regarding this project?

We used these questions to interview twenty people in various occupations and quite a few ages. Since user experience is subjective in nature, direct interviews were deemed the best route to take for our primary research. As the initial approach was to focus on the differences that made for a good or bad user experience, we were not entirely satisfied with this method. By redirecting our approach to focus on the experience, itself, our topic was addressed much more effectively.

V. Analysis

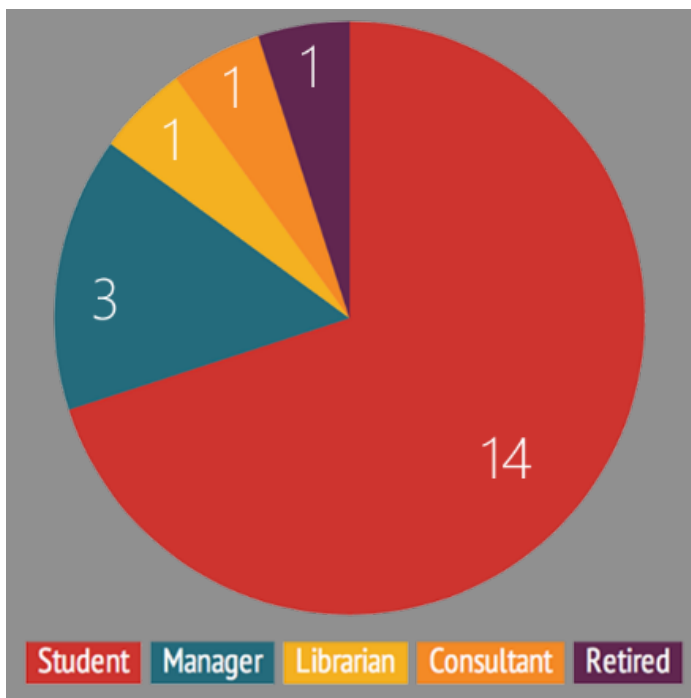
Once our group conducted twenty interviews, we started to analyze the responses from our subjects. Out of our interviews, we had several different age ranges with different genders. Fifteen interviewees were male, and the rest of the respondents were female.

Charts 1 & 2: Amount of male and female respondents + interviewees' ages



The majority of the people who we interviewed were younger, between the ages of 15 and 24. Only five of those who were questioned were above the age of thirty, where only three of them were above thirty-five.

Chart 3: Occupations of interviewees



In the chart (3) to the left, the occupations of respondents can be found. When taking a look at the age range and list of occupations, it can be noted that the majority of subjects are currently students. Students in the lesser age ranges could be expected to provide us with technological objects or products, such as a mobile phone or computer.

VI. Results

The interviews that our group conducted had many different objects or products that were mentioned. When prompted to answer why they chose or used what they responded with, the key words were documented and formed into a word cloud.

Image 5: Word cloud containing words associated with primary products



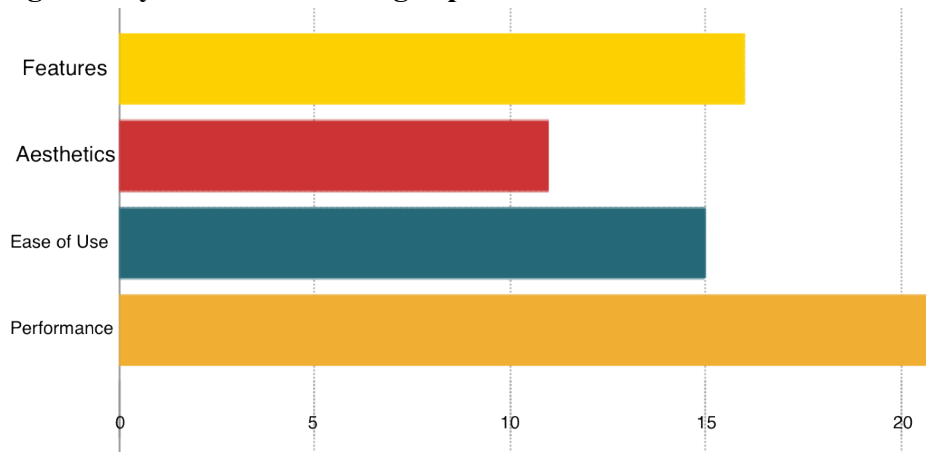
In the chart above, the larger the word, the more it was brought up within the interviews. “Features” was found most frequently, with “easy-to-use,” “communicate,” and “enjoy” at a close second. The positive connotations were clearly associated with a primary product where the user prefers their object to a previous version of that same object or a similar one.

Image 6: Word cloud containing word associated with a previous or similar version



Compared to the first word cloud, chart five is formed from words associated with a previous version of a product or a similar product. Chart number five generally has words that evoke some sort of negative feeling, where the most common that was listed in interviews was “not-preferred” in comparison to the user’s primary object. A previous version or similar product may have been thought of as other things like “inconvenient,” “problematic,” “complicated,” or just plain “slow.” From these word clouds, the reasons why the user prefers their current product were sorted into four main categories.

Image 7: Key elements affecting experience



VII. Conclusion and Recommendations for Future Work

Ultimately, we found there are four reasons why a person chooses a product over a similar product or a previous version of the same. The key elements contributing to a positive user experience are features, aesthetics, ease of use, and performance. One initial shock for our group was that ease of use was not ranked number one or number two, within the four key elements. However, people are mobile nowadays, and they like to access information very quickly. Being presented with an opportunity to have some sort of technology that is faster than another leads to an obvious decision: the more speed, the better.

An excellent example of “features” is some sort of Apple product. With the implementation of “apps,” the iPhone, iPad, or iPod can do nearly anything: GPS/maps, send messages, check email, surf the Internet, play games, do business, video chat, etc. Rather than having six devices for six different tasks, people prefer to have one device that is more universal. The more features an object has certainly plays a large role the user’s adoption of the object. With this being said, whether an object is a toiletry or a

technology, subtle changes can result in great user experience between current and previous versions of the same object or similar objects, specifically when these changes address features, performance, aesthetics, or ease of use.

In terms of future work, our group would like to conduct many more interviews to see if the graph of key elements will be skewed at all. We believe that performance and features will remain important to a user, and aesthetics should still come in fourth. Despite an object's exterior appearance, if the object performs better than its competition (or previous versions of the product and similar products) and even has plenty of features, the user will have a greater experience. As mentioned previously, our group was surprised that ease of use was not higher on the graph. By interviewing more subjects for further research, we do believe that ease of use should increase, in relation to its current ranking on our key element graph.

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