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**INFO 608: HUMAN-COMPUTER INTERACTION**

**IND-01: PERSONAS, SCENARIOS, & FLOW**

**Introduction**

User research is the methodic study of target users which includes their needs and pain points. So, designers have the sharpest possible insights to work with to make the best designs. User researchers use various methods to expose problems and design opportunities and find crucial information to use in their design process. The purpose of user research is to put your design project into context. It helps you understand the problem you're trying to solve; it tells you who your users are, in what context they'll be using your product or service, and ultimately, what they need from you, the designer!

To set out to generate these facts, you must gather data from your users through a structured approach. First you must choose methods that suit your research’s purpose and will yield the clearest information. Afterwards to get the insights you want you will need to interpret your findings from all the data, which can be tricky. You can apply user research anytime during the design process. Typically, researchers begin with qualitative measures, to discover users’ needs and motivations. They might later test their results by using quantitative measures.

I will start describing methodology which we use in my group, summarizing my individual interview and survey pools, providing some of group analysis of the accumulated data and identifying anything that went wrong or that I may be able to do better.

**Methodology**

**User Segment: Home appliances and furniture**

Users In this section, people who have just moved to a new place or their home is going to be renovated and they are looking for decorations items which attract their home, and some people will complement the things they buy from the Newegg. This category is big, so it divides the sections into a large variety like smart home automation, home appliances, home improvement, home living, floor care, etc. people between the ages 18-50 that know they have to set up the things after delivery with the help of manual and videos.

Context: Newegg provides a large category about the home and tools where you can find all the products they are providing on their website. It's more convenient to try these things while sitting at home and try to figure out where it will fit well.

Information needs: Newegg reviews your products very carefully and only then will they be allowed to ship your products from Newegg.

**Participant Selection**

After reviewing the user segment identification feedback, we decided that we wanted to know more about what types of people use Newegg and their overall interests. We also wanted to know what they felt about the site compared to the previously identified competitors.

We started by developing a survey that asked basic demographic questions such as age, gender identification, occupation, pronoun preference, occupation, and employment status. We also wanted to gauge participants’ interests and what was important to them when visiting a consumer electronics/computer parts website. We asked a series of multiple choice open-ended, and Likert-scale based questions about Newegg and four competitors (B&H Photo, Micro Center, TigerDirect, and Best Buy) to ascertain information about participants’ needs and their experiences with these five sites.

**Survey Deployment and interview Recruitment**

The survey was deployed using several methods:

1. Social media via Instagram (Matt)
2. Discord (Leander)
3. Field acquaintances (Alpha) and
4. A cultural heritage group (Mangesh and Deepak)

Of the survey deployed, Matt, Leander, and Alpha had two people who agreed to perform a follow-up interview after they concluded the survey. Both Mangesh and Deepak recruited two (new) additional people to conduct an interview who were not a part of the original survey deployment.

**Interview, Observations, and Surprises**

The interview questions were a supplement to the survey and varied in ways to collect feedback on both the participants and their experiences using Newegg. The interview started with a brief introduction and asked if they have used Newegg before. The interview then flowed into a talk aloud session where the participants was given either one or two scenarios to observe, depending on overall familiarity and skill level (e.g., a person considered “techy” vs a person who is not).

Participants were encouraged to talk and give feedback regardless of how they felt it might come across (using the “there is no wrong answer” paradigm). Probing questions during this time was often a result of observing the users’ action and attempting to extract more information about their experience.

“Did you notice the deals section? If not, tell me what would’ve made it more prominent?”

“In what ways do you use the advanced filters to narrow results?”

“I noticed that you used the Homepage Category to see the product which you are looking for. How does you feel about the categorical organization of this menu?”

After focusing on Newegg, the interview started to wind down a few general questions about the competitors, as mentioned earlier.

Two closing questions were “In one word, describe your experience with Newegg” and “I’m done with all my questions, did you have anything to ask me?”. Lastly, the participants were thanked for their time.

**Surprising Observations**

We found that interviewed participants were open with dialogue during the interview process, whereas the survey responses seemed more poignant and cooler. Watching a person while taking notes and correlating that to transcripts proved invaluable for gaining perspective on how users navigate their lives. Relying on transcripts alone can skew the data collected. For instance, once participant fumbled through the filters during a search several times, but there was no dialogue during this time in the transcript. Observations and notes captured this specific scenario. One of our other group members further demonstrated this, who conducted both of his interviews in person. Both the interviewer and the participants were able to physically point at a screen and talk about elements of what they were observing and explain how they felt about things.

**User research Surveys: A learning experience**

One thing our group struggled with was getting survey responses promptly. This may be due to the topic being niche, yielding a smaller pool of those interested in such a survey. Matt’s Instagram approach required two posts spread out over three days to meet the necessary responses. Mangesh and Deepak tapped their cultural group a few times to get the responses they needed. Alternatively, Alpha and Leander did not have an issue, but both of their survey deployments were sent to people in the computer sciences. In the future, a less niche and more diverse topic may want to be considered, as it might include a larger pool of possible participants yielding more reasonable responses.

Our interview protocol was designed quite well and allowed us to adapt to different kinds of users (primarily tech-savvy or not). However, it might have been better to limit the amount of freedom given to the flow of the interviews both because of the time constraints of the interview itself and the complexity of the subsequent needed analysis. The protocol should be a bit more rigid to not run out of time during the interview to ask all important questions.

**User Profiles**

We received a total of thirty-five responses, and each group member conducted two interviews each. The survey responses were split five ways, with each group member assigned seven surveys at random to analyze. Each group member supplied survey and interview notes, then analyzed and coded in a spreadsheet. Each category is coded with a unique color “positive” or “negative” feedback or experiences using an inverse color code. For instance, Product Selections’ code is blue, so a positive code is plain blue text, whereas a negative code is inverse blue text. This helped us track user experiences more effectively when analyzing the captured coded data. Raw survey data was retained in a separate worksheet to reference for demographic analyses.

Participants 30-35 identify as both males and females from the age groups of 18-24, and 25-34. Most of them completed their bachelor’s degree and one person has completed their master’s degree. Everyone is from a different field and doing survey feedback with different thoughts. Four participants have previously visited and bought products from Newegg. Four participants selected the TVs, soundbars, and home theaters categories as areas of interest. Three participants chose streaming devices such as Roku. The two categories are related, so it is of importance to note that they share these commonalities of interest. Three participants were interested in Apple products and furniture and toys. Two participants like to buy pre-built laptops. Two participants are interested in gaming consoles like the PS5 and the Xbox. Two participants visited the site to get the deals on PC and gaming consoles. Two were interested in reading and writing reviews. Four participants visit the website rarely, while two participants never visited the website but knew about the website. Four of the participants visited to get information on deals.

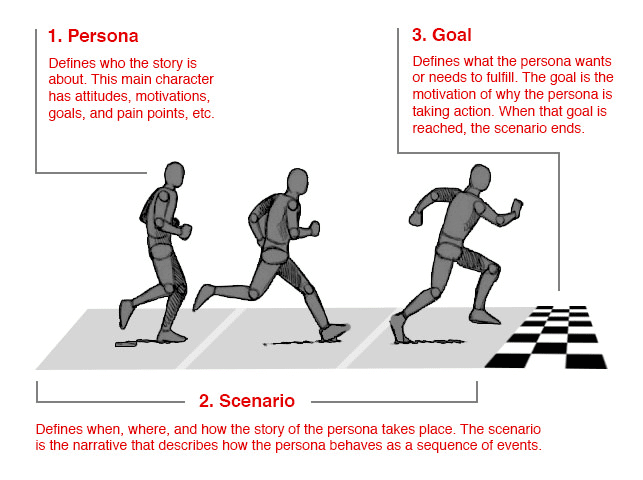
Four participants rated the homepage and the search engine high to very high. Three participants rated for content, appearance, and usability high to very high. Four participants are happy to buy products from the website and they have satisfied and achieved their objectives without any trouble and obstacles. Two participants had trouble with the lack of reviews of the products they were interested in. Four participants bought the product in the last six months from NewEgg. Some of them felt there was a high level of guarantee on products, some of them didn't have opinions on customer service, and some of them think the delivery is fast and cheap.

The general feedback from four customers was good, and in my opinion one of the highlights was that participants stated that the site is fast, organized, and easy to search for the product. Unfortunately, reviews were not scored as highly from the participants. Four participants have heard about and previously purchased from Best Buy with high to very high satisfaction. The highest rated feature about Best Buy is the in-store experience and large range of products availability. The bad thing about Best Buy is the delivery charges are high and that you must visit the store to return the products.

Four participants have heard about the B&H Photo, and of those four two participants bought products from it and noted its ease of use. B&H seems to lack search features and their operating hours can be an issue. One participant heard about and purchased from Micro Center. They rated their overall experience from high to very high. They highlighted the in-store experience and disliked that some products are only offered in store. One participant heard about and purchased from TigerDirect and rated their experience high to very high. They highlighted the organization of their product categories and disliked their customer service.

**Persona**

User personas are archetypical users whose goals and characteristics represent the needs of a larger group of users. Usually, a persona is presented in a one or two-page document (like the one you can see in the example below). Such 1–2-page descriptions include behavior patterns, goals, skills, attitudes, and background information, as well as the environment in which a persona operates. Designers usually create user persona template templates, which include a few fictional personal details to make the persona a realistic character (e.g., quotes of real users), as well as context-specific details (for example, for a banking app it makes sense to include a persona’s financial sophistication and major expenses).



Interview were scheduled a few days after reviewing both participants’ survey results. Both interviews were conducted via Zoom in the evening after the class hours of each participant. Both interviews were structured the same way; however, probes differed according to the flow and dialogue of the interview.

**Interview Participant A**

Graphical user interface, text, application

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Participant A’s interview was very natural and formal; he is very clear with the website use and describing an element with the word “picky” like he said is choose the best one to but from website. He is good while talking about he’s experience with Newegg.

He has configured a laptop for both uses like gaming and education purpose. Because of the nature of computer field student, he has configured the CPU, GPU, and Storage high also Display with 120Hz and great speakers with advanced software’s like Microsoft office for study purpose and for gaming he uses high level graphic design software like steam.

For instance, as was sharing his screen while navigating through the Newegg website, he had a smaller window in the lower right corner of the screen himself taking. Observing the participant’s body actions and face while navigating the website little difficult in capturing data (taking notes on his actions and physical responses).

Participant A does not typically use peer reviews considering what he purchases online. He tends to find them directly using search bar (search bar in top of homepage) or choose category but as he said he don’t use category at all.

He tends to do a lot of internet-based research on products ahead of time and choose the one which he wants and order it from Newegg if it’s not available he orders from Best Buy. Usually, sites like Newegg are deal site for him. He tends to shop with purpose and not just for browsing.

**Interview Participant B**

Graphical user interface, text, application

Description automatically generated

Participant B’s interview was more interesting, and she spoke with purpose. She used an aging laptop to conduct her interview, which indicates that she tends to use that laptop for long time.

She participant has some problem with voice on her laptop and camera is also not good means clear. As we waited for the website demonstration to respond to clicks her laptop takes time for that. Participant B tends to shop with purpose and explore the website for browsing.

Her goal is to find a good laptop which helps to get all the things get faster performed and does not wait for anything. Her requirements are based on the processor, which is faster example i5, i7 and i9 but expectations are less costly so the price margin should be around 550-600 dollars. She tends to use sites like Newegg and B&H Photo to buy home intelligent devices for home decoration and looking for Apple laptop.

Participant B also considers both external and peer reviews when purchasing products. Depending on the product under consideration, she researches products, reads reviews under the product information, and compares the price with other websites like B&H Photo.

She also feels that sometimes reviews under the product information is not good, so she sticks with price. This determination is primarily based on the commitment of the purchase. For example, product of higher price (like television) requires more consideration, while those that are not like a cable or an adapter.

**Scenario**

User scenarios are stories which designers create to show how users might act to achieve a goal in a system or environment. Designers make scenarios to understand users’ motivations, needs, barriers and more in the context of how they would use a design, and to help ideate, iterate and usability-test optimal solutions.

Graphical user interface

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At the beginning of the interview, both participants were asked to find a similar technology related item on Newegg that they had recently purchased. Participant A found his item (Hard Disk Drive) reasonably quickly using the search bar. Participant B found her item (Laptop powered by CPU i7) not quickly but going through the step by step like first Homepage then left-hand side category then sub-category and last filter shop by CPU.

Since both considered themselves power user, I wanted to observe how they navigate Newegg. I decided to give them both scenarios in the interview protocol: Scenario one was to find a hard disk drive with 100-dollar price range criteria. Scenario two was to find the laptop with i7 CPU one specific criteria.

During scenario one, both participants began by using the definite browsing options on left side of the website. Both selected components, hard disk drive and laptop while navigating. Both participants while confident about the results which are displayed and from that they will chose the one. They knew they were looking for the products which are new and having the latest versions available in the market. After going up they have filter option Newest or just released which help them to complete their goal and satisfy the criteria of finding the products.

Both participants commented that this was confusing, and they are looking for the new and getting all types of products like older versions that is because of deals, Newegg is famous for deals whenever you search for product, they give you the first option of products with more deals. If the product is new, it is costly that’s why they provide the appearance option like low to high, high to low, best seller and new released.

Participant A used the sort by price or price filter between 100 dollars to browse the hard disk drive selections in the product display. In contrast, Participant B used the advanced searching filters on the page of laptop which is categorized the products by CPU which is easy to get the product. Participant A ended up finding the hard drive faster than Participant B because he used the filtering options, despite the speed of her laptop cause while clicking on the shop by CPU. When asking to the participant A if he tended to use the filters on the left, he stated that he didn’t even notice that they were there just randomly search and scroll down and see the price filter and clicked on it. Participant B described additional sales options like free and fast delivery. While participant A deals on homepage with colors and flashlights that attract him.

While observing both participants, Participant A was confident and good at searching products with the help of search bar. Participant B was travelling the website and going step by step. Participant A like the font and font size with nice colors which are attracts the interface of the website. Participant B likes the free and fast delivery options and the checkout method of electronic payment which helps her to do things fast. Participant A don’t like the customer care service because they did not respond him. Participant B don’t like if the product she wants for that they don’t have free delivery she wants all the product delivered free.

While observing the physical behavior of the participants I observe Participant A has very good body language and communication skills which shows they is confident about his answers. Participant B also have very good communication skills she uses some technical words. Both the participants are point at the screen as they were observing in person while describing things with very interesting way.

The final question in the interview asked participants to describe their experience with Newegg in one word:

Participant A: “Very Good”

Participant B: “Most liked”

Both responses seemed they both like the interface of the website and answer the questions which I asked properly indicating that Newegg is the site which helps them to buy something which they want.

**User flow analysis**

User flow is the path taken by a prototypical user on a website or app to complete a task. The user flow takes them from their entry point through a set of steps towards a successful outcome and final action, such as purchasing a product.

User experience design (UX design, UXD, UED, or XD) is the process of creating evidence-based, interaction designs between human users and products or websites. Design decisions in UX design are driven by research, data analysis, and test results rather than aesthetic preferences and opinions. Unlike user interface design, which focuses solely on the design of a computer interface, UX design encompasses all aspects of a user's perceived experience with a product or website, such as its usability, usefulness, desirability, brand perception, and overall performance. UX design is also an element of the customer experience (CX), which encompasses all aspects and stages of a customer's experience and interaction with a company.

Diagram

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**Participant A user flow**

The participant A open on the browser in bowser he put the website URL in URL box as he knows the website and browsers suggest the URLs if you just put the names as he told me the way he opens the website like this. After opening the website, he gets homepage so he starts from homepage on the top of the site we have search bar where we can search the product which we want. After entering the product name Hard Disk drive, he gets the lots of hard disk drive in different models with the deals amount and everything details. He wants to find the 100-dollar range product he chooses the price filter 100-dollar range and click on it. Then at that product to the cart and while checkout he uses the debit card payment method. After the checkout screen he gets the details about product and completes the purchase.

**Participant B user flow**

The Participant B open the browser she mostly uses google because she doesn’t know the URLs. But for Newegg she knows the website that’s why she directly opens the website through the URL. After showing the first result on google she clicks on website URLs. She starts from the homepage. On homepage left-hand corner there is Category she hovers on that then it will show the sub-category then she clicks on product Laptops. After getting After getting Laptop, she uses filter shop by CPU filter and then she gets the right product which is intel i7 laptop. Then she adds the product to the cart. From the shopping cart she checkout and enter the details of delivery and payment details. After checkout she completes the purchase.

**User issues while getting the product**

Participant A always get the wrong result when he enters the URL directly on the website URL box. If it is wrong, it opens in google because the general search engine we use is google and then he clicks on first URL which is advertise URL for the website and below that on 3rd or 4th position there is homepage URL. So, the Participant A can improve this situation in this way once he opens the homepage just bookmark the website so next time, he can open the website correctly and don’t need to search also.

Participant B have issues with the clicking on anywhere on website, so she gets any results from that as she doesn’t know on homepage there is category page in that category there is sub-category. So, for the category she clicks on that where she has to just hover so she do this mistakes and having some issues with the clicking. So instead of that she can improve this situation like she doesn’t click get does not get any hover results once there is no hovering just click on that point.

User Flow for both the participants shows two possible ways revised and existing flow. So, the Existing flow which is the flow user follow through first time and once he knows what he has to do next time he will follow the revised flow. This improvement will help the participants to get the more flexible while travelling or buying something from website.

**Conclusion**

Through analysis of data based on the responses from both interviews and survey responses, we have a lot of information about the users in accepts of segment and methods we use in this course. Across there user segments feedback (whether from surveys or interviews), we identified that we initially categorized intended to demonstrate how Newegg compared its competitors.

The thing that stood out the most to us was that the brick-and-mortar aspect of browsing and shopping is still a vital component in today’s consumer market, despite any specific demographic (e.g., age, profession, education, etc.)

The things which I have learned from this individual assignment that I have explored here are the following:

– What effect does the storytelling aspect of the persona method have on the usage of personas and scenarios in website design system?

– Which considerations are important when constructing personas and scenarios and what needs to be in place for personas and scenarios to support?

– How can personas and scenarios support the communication of user needs and desires to group members.

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