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COMP 3008

Assignment #2

Website: www.aliexpress.com

Part 1: Preparing the User Study

Brief Study Description

AliExpress is an online shopping platform that offers retail service to consumers around the world. The study will feature consented participants who will interact with the website by performing a few tasks. Data in the forms of participant's explanations, objective observations, and survey responses will be collected by the researcher for further analysis on the usability of the website.

User Tasks

i) Add two Unlocked iPhones each with a price of up to $600 and 64GB ROM into your cart and then determine the total cost before tax.

ii) Find out what you can do in the situation where you have not received your refund for an item that you returned.

Example Steps to Complete the Tasks

I created this section to better demonstrate the complexity of the two user tasks. It serves as a way to show the steps that a participant might take to complete the tasks.

Task 1:

- Type "unlocked iphones" in the search bar at the top of the page;
- Put "600" in the max price text-field;
- Scroll the left-side pane until you find ROM section and select "64G" option;
- Choose any iPhone product from the listings and add 2 of them to cart;
- View cart to see all of your chosen items;
- Click on "Select All" checkbox to see the total cost.

Task 2:

- Hover over the "Help" section at the top of the page and select "Customer Service";
- Select "Refund" drop-down category and click on "More questions";
- Scroll until you find the article titled "I have not received my refund. What can I do?";
- Click on the above article and read about the refund policy and related information.

<u>Study Setup</u>

The study will be conducted remotely. Each participant will be invited one at a time to join me on a Discord call where they will share their screen. I will guide them to the AliExpress website landing page where they will log in with a test account that I have created. I will request each participant to ensure there are no distractions in order to experience an uninterrupted session. Furthermore, I will ask that they examine their computer prior to the study to ensure there will be no preventable system malfunctions. As the researcher, I will again confirm that the participant is comfortable moving forward with the study. All the participants would have already filled in their consent forms at this point. However, if a participant is not willing to continue, I will respect their decision and allow them to leave the session. Next, I will mention the purpose of conducting this study which is to see how user-friendly the website is. I will ask the participant to verbally explain the steps they take while they perform the tasks so it allows me as the researcher to understand the reasoning behind their approach. As they navigate through the website to complete each task, I will be writing down on my notepad only the key parts of what they say as they think aloud, as it is not feasible or necessary to extract every word. I opted for writing on a notepad as opposed to, for instance, a laptop because the sound of typing on the keyboard might disturb the participant which, in effect, will impact their data. I will also record whether the participant successfully completed the task or not. It will be arranged such that I will have them complete the first task and then move on to tell them about the second task. A stopwatch will be used to track the total time taken on each task. The participant will be informed that the stopwatch will begin when they say the word "Start" and stop when they say the word "Finished". Once the participant is finished with both tasks, I will ask them a few questions regarding the tasks. Next, I will send them a link to the Google Forms questionnaire. After completing the survey, they will be thanked for their time.

Survey

Below is a screenshot of the Google Forms questionnaire provided to the participants.

Part 2: Collecting Data

The study was conducted exactly as mentioned in the study setup above. I arranged an uninterrupted remote session on Discord with each of the three participants. The sessions ran for an average duration of 13.3 minutes. To respect their anonymity, we will call the three participants P1, P2, and P3.

P1 is a third-year undergraduate student studying Commerce and assumed to have a fairly high level of technical expertise. P2 is a third-year undergraduate Computer Science student and assumed to have a high level of technical expertise. Finally, P3 is also a third-year Computer Science undergraduate and assumed to have a high level of technical expertise. Only P2 had prior experience with using the website.

# Part 3: Analyzing and Interpreting Results

Analyzing the Data

Participant	Task 1 Duration	Task 2 Duration
P1	2 min. 3 sec.	2 min. 20 sec.
P2	0 min. 50 sec.	0 min. 58 sec.
P3	3 min. 11 sec.	1 min. 24 sec.

Statistics

	Task1_time in mm:ss	Task2_time in mm:ss
Mean	02:01	01:34
Median	02:03	01:24
Mode	00:50[1]	00:58[1]
Std. Dev.	01:10	00:41

1. Multiple modes exist. The smallest value shown

I measured the time taken to complete Task 1 and Task 2 for each participant. As mentioned in the study setup, the stopwatch was started when they said "Start" at the beginning of each task and stopped when they said "Finished" after the end of each task. We can see that P2 completed their tasks much faster than the other participants. This observation could be correlated to P2's past experience with the website. On average, the participants took a significantly longer time completing Task 1 than Task 2. This could be due to the fact that Task 1 covers more steps in comparison to Task 2. The standard deviation of 1 minute 10 seconds for Task 1 tells us that the data was widely spread out from the mean. On the other hand, Task 2 has a smaller standard deviation of 0 minute 41 seconds which indicates that the data is clustered closer to the mean, which also matches with the data seen in the first table. As no values were repeated, there is no singular mode.
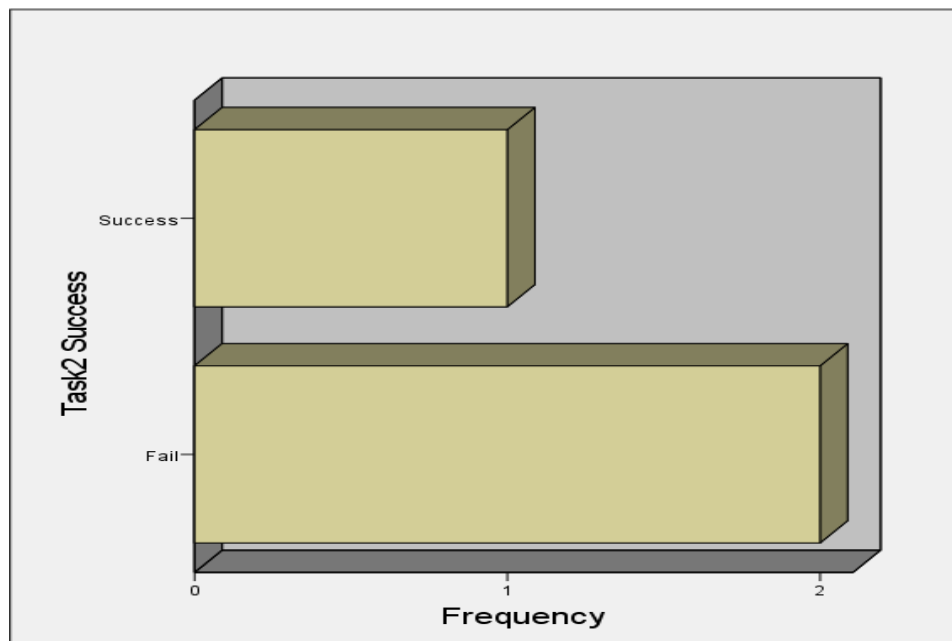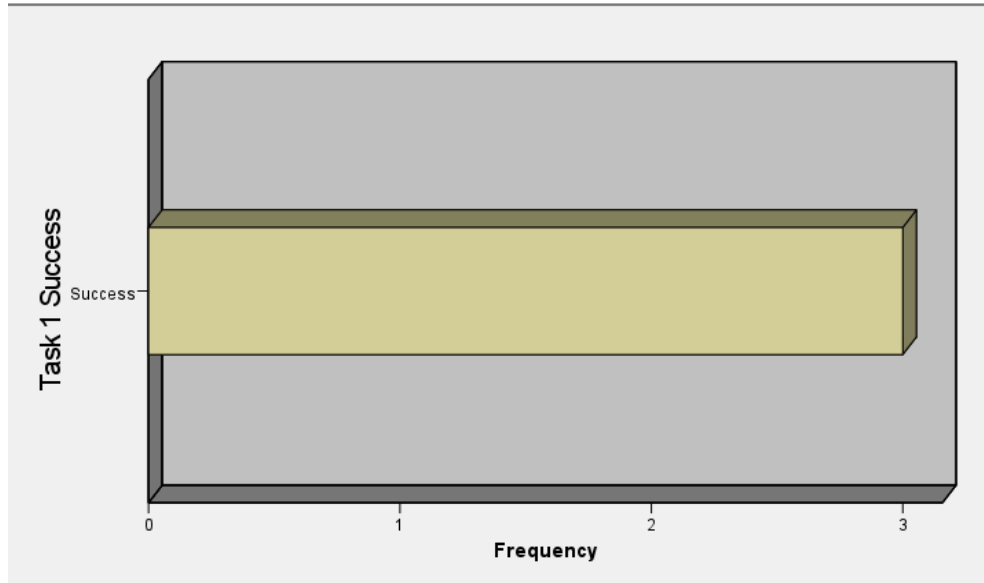
The two horizontal bar-charts above shows the success rates of Task 1 and Task 2. The X-axis defines the number of participants, and the Y-axis defines Success and Failure. A task was considered a success if the participant completed the task correctly without any assistance from the researcher. The first chart shows that all three participants succeeded in completing Task 1. In the second chart, we can see that two of the three participants failed to complete Task 2.
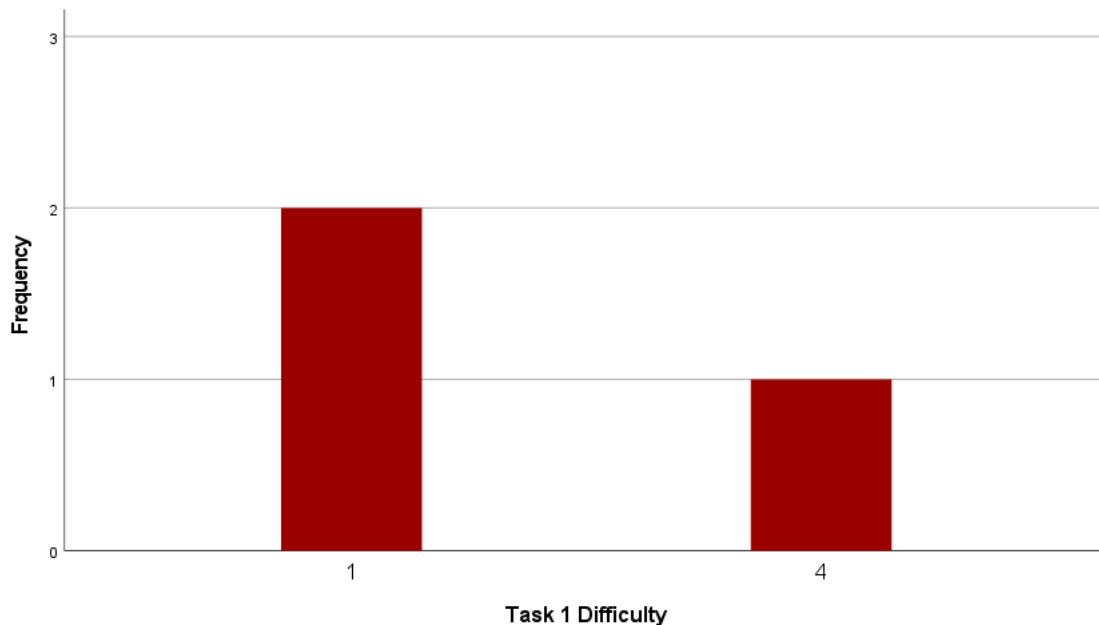
Statistics

N	3
Mean	2.00
Median	1.00
Mode	1
Std. Deviation	1.732

While the previous data were objective in that I, the researcher, collected them while I was observing the participants, this observation (and the following ones) is subjective. The participants were asked in the survey to rate the difficulty of the first task on the scale of 1 to 5, where 1 = very easy and 5 = very difficult. Two of the three participants described Task 1 to be very easy and the remaining participant found it to be difficult. As 1 was the most frequently occurring score, it is the mode. The standard deviation of 1.732 tells us that data is spread over a wide range from the mean of 2, which matches what we see on the bar chart. During the interview with the participants, their opinions on Task 1 varied from one of them stating "it was easy" and others stating that there were "unnecessary cluttering on the sides" and "irrelevant postings" (such as phone parts as opposed to actual phones) that sometimes made it difficult to choose the right items.
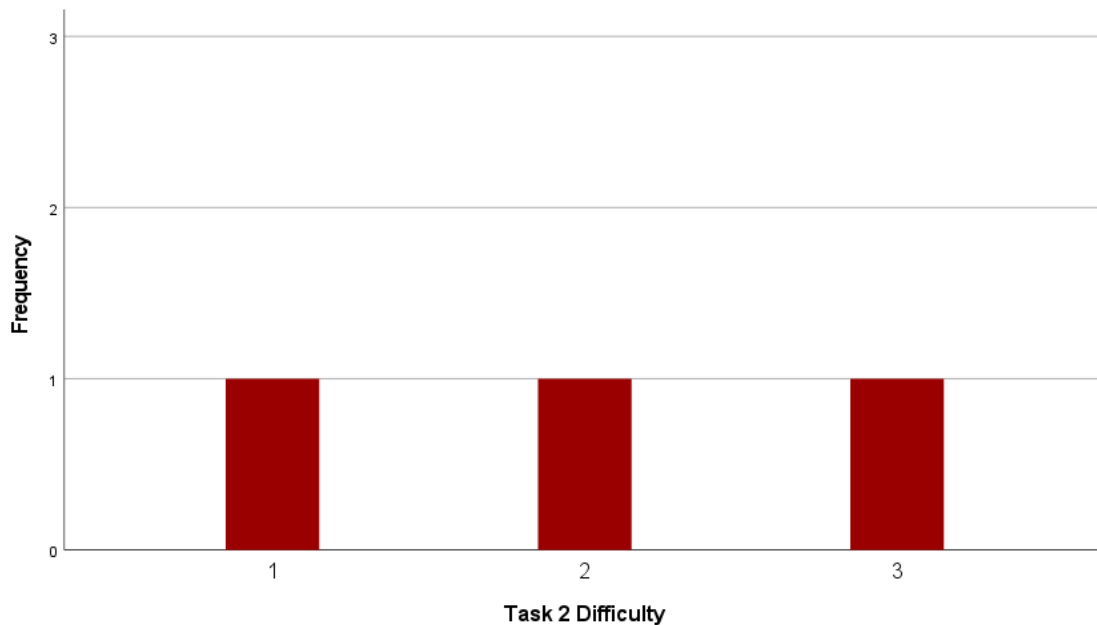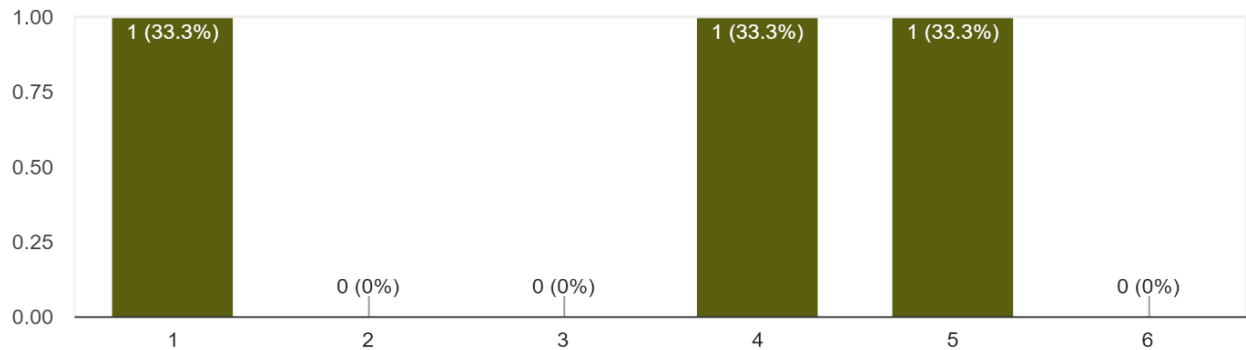
Task 2 Difficulty

Statistics

N	3
Mean	2.00
Median	2.00
Mode	1[1]
Std. Deviation	1.000

1. Multiple modes exist. The
smallest value shown

The participants were also asked to rate the difficulty of Task 2; again on the scale of 1 to 5 in the survey where 1 = very easy and 5 = very difficult. By looking at the bar chart, the difficulty ratings seem to be more distributed in comparison to Task 1. This time, the standard deviation is smaller compared to Task 1 because the spread of data from the mean of 2 is not as wide, which can be confirmed by looking at the first chart. The participants had varying opinions on Task 2 as well. One mentioned that having the articles placed in separate categories made it simple for them to find information regarding refund, while in contrast the other participants found the customer service section of the website to be "scattered" and "complicated to find answers to even the most basic questions".

Please select your opinion on the user interface of the website:

3 responses

Statistics

N	3
Mean	3.33
Median	4.00
Mode	1[1]
Std. Deviation	2.082

1. Multiple modes exist. The
smallest value shown

The participants were asked in the survey to rate the UI of the website on the scale of 1 to 6 where 1 = clear and 6 = confusing. Choosing an even-numbered scale this time forces the participants to chose one side over the other as opposed to picking the middle ground for every question. In the bar chart, the X-axis represents the Likert scale and the Y-axis represents the number of participants. The mean was 3.33 which indicates that, on average, the UI was a mix of clear and confusing for the participants although more participants leaned towards the "confusing" side of the scale. The open-ended questions in the survey asking for their thoughts on what they liked and didn't like about the website helped them provide justifications for these diverse scores. One participant mentioned that it was "organized [and] easy to search" while another criticized about the "many distractions in the page". Overall, the participants pointed out more flaws about the UI of the website than the positives. The survey data is included in the Appendices section towards the end of this report.

Describing and Interpreting the Main Observations

The previous section covered the findings and analysis of objective and subjective data. We studied the time it took the participants to complete both tasks, whether they completed the tasks or not, their scores on the difficulty of the tasks, and their scores on the user interface, and their written opinions on the positive and negative aspects of the website. This section will use the accumulated observations to offer some interpretations regarding the usability of the AliExpress website. Based on the data collected from the participants as well as personal observations, the usability problems outweigh the well-functioning aspects of the website. The majority of these problems seem to stem from violations of design heuristics.

Firstly, we will explore the poorly-designed search filtering system of the website. While the participants were doing Task 1, they were mostly shown relevant listings based on their search criteria. The reason I wrote *mostly* is because one of the participants did mention once that they saw some items that was listed over the price limit which they found "weird". Intrigued by this, I personally investigated further with different price ranges and found major issues. As seen in the image below, the price range that was set between $250 - $350 is displaying results that do not match that range. This is a violation of the Mapping design concept which states that a control must match its corresponding objects. Upon closer look, the entire row below is actually showing ads for iPhone motherboards which is indicated by the faint "AD" label on the bottom right of each post. As a user I was not able to immediately differentiate between the ads and the relevant posts, which is a clear indication of a poor interface design.

Furthermore, the other filtering criteria which are typical when searching for phones such as item condition, display size, and storage capacity are not easily visible to the user. They would have to extensively scroll through the left-hand side panel (pointed with the red arrow in the left image) to see those criteria. One of the participants was frustrated that they could not find the option to filter by ROM size for almost 45 seconds and frequently criticized the "all-over-the-place" layout.
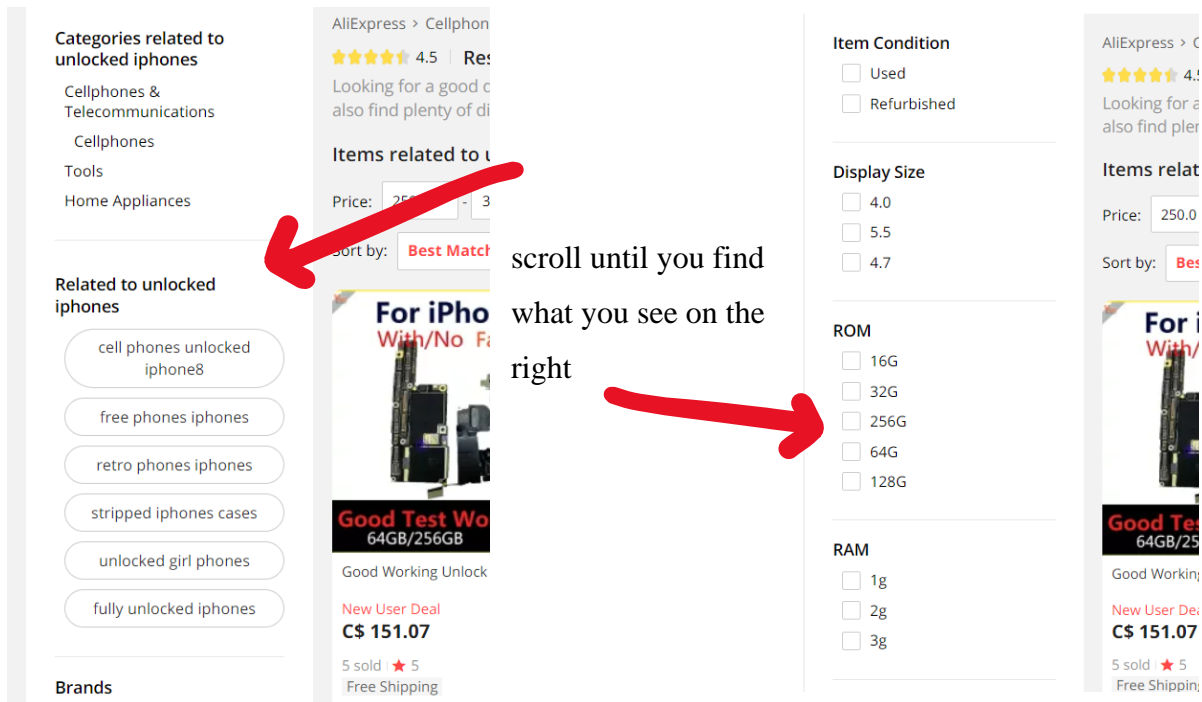
Also relating to Task 1, the total cost of items in a user's shopping cart is not automatically determined by the system. There is an extra step of clicking the *Select All* checkbox. Although the participants quickly realized what to do, they all seemed to be puzzled for a moment and one of them even explicitly mentions the inconvenience of this additional step in their interview. It violates the standard conventions which users typically expect from an e-commerce website. When using the cart in similar sites such as Amazon and Best Buy, users are presented with the cost including taxes and even shipping fees. Whether the designers of AliExpress missed these errors or decided to leave them as "features", it caused inconvenience to users and demonstrated that it is not on-par with its competitors' services in this aspect.

During the planning phase for the tasks, I thought it would be best to include two things that I think users typically do on an online-shopping website: buy products and refer to customer service pages for refund information. Both of these aspects are critical for a pleasant user experience with a system. If we recall from the previous section, Task 2 saw a much lower success rate in comparison to Task 1 with only one participant being able to successfully complete the task. This seems to suggest a poorly-designed customer service section which we will be exploring in more detail.

As a reminder, Task 2 asked the participants to find out what they can do in the situation where they have not received refund for an item. The article that they need to find which contains this information is titled "I have not received my refund. What can I do?". The landing page of the customer service section of the website, called Help Center, categorizes common topics such as refund, ordering & payment, account management, etc. for users to quickly find information. However, beyond that, the organization of the help articles is flawed. In the image below, we see the refund topic section of Help Center.
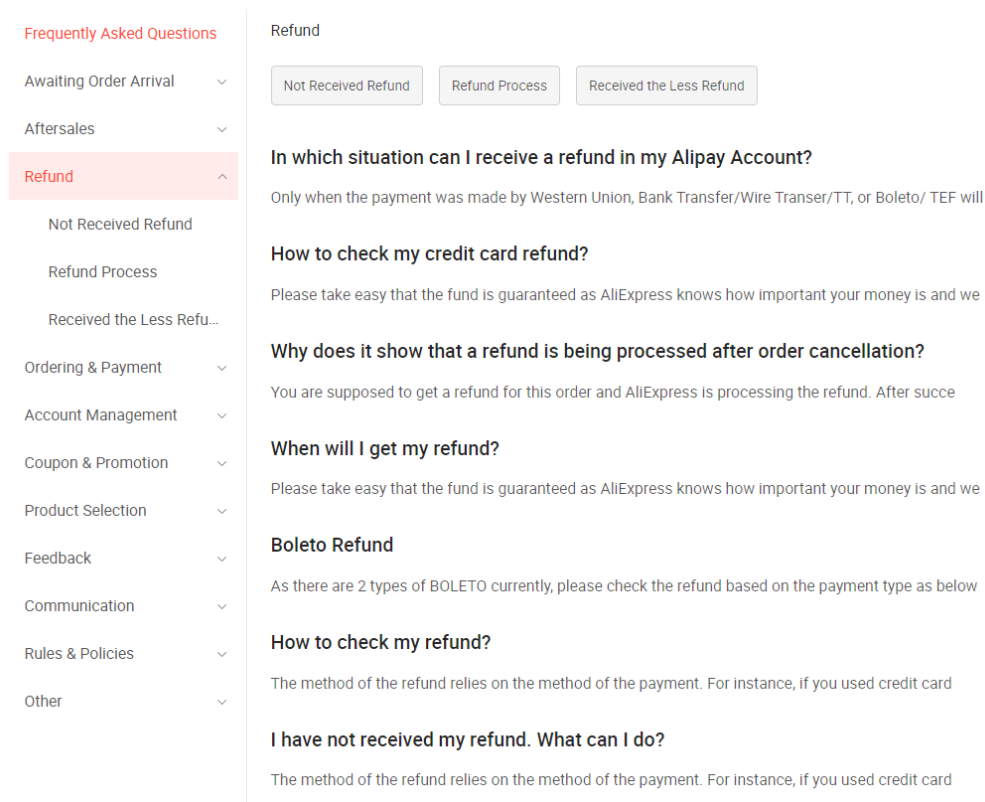
The participant with previous experience located the article in the bottom of the list as seen in the image above. On the other hand, the other two participants clicked on the *Not Received Refund* button at the top which makes sense for first-time users. The result was a list of following articles that did not contain information they were looking for.
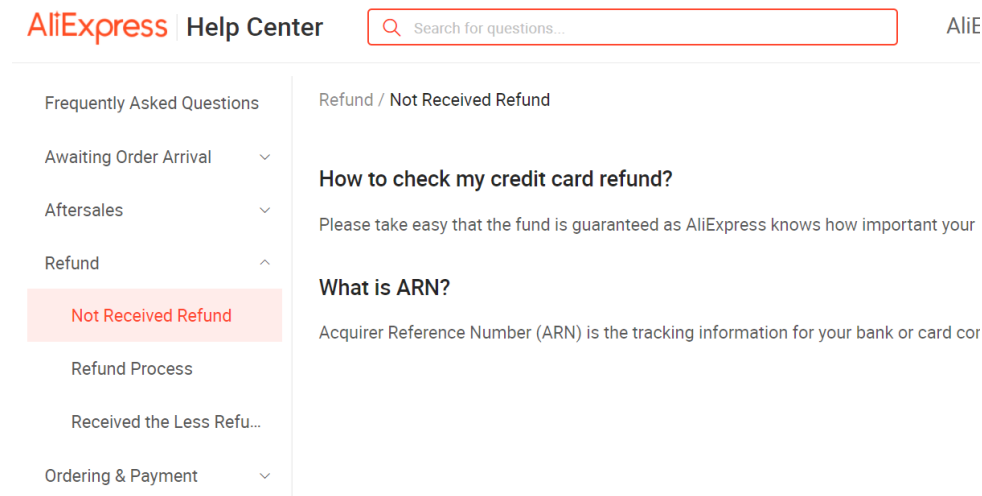
Ultimately after a few frustrating minutes of looking around the Help Center without finding the answer, the two participants decided to exit from the task, hence why the Task 2 success rate was 1 out of 3. Their inability to find the relevant information was due to the violation of Help and Documentation heuristic which states that any help and documentation information should be easy to find, focused on the user's task, and list the concrete steps to follow.

Based on the mismanagement of the Help Center section of the website as well as seeing the different success rates between Task 1 and Task 2, I am led to believe that AliExpress opted for a profit-driven focus on getting the users to consume their products while paying little attention to providing adequate and clear instructions regarding the refund process.

Although this section has so far concentrated on usability issues of the website, that is not to say that AliExpress has done everything wrong. There are entities that work well and follow the design heuristics. As an example, when the user looks into any posting for an unlocked iPhone they are asked to select the color and other specifications before they can add the product to cart. The option buttons they select are highlighted with a red box which acts as a "feedback" for their action, satisfying the Causality design concept.

Reflection on the process

As it was my first time designing and conducting my own user study, I was unsure of what to expect. Regardless, it provided me a valuable learning opportunity. Devising the study setup first proved to be very helpful because it ensured an identical structure for each participant. The skills to critically analyze the usability of a website that I learned thus far in the course allowed me to prepare the right questions for the interviews and the questionnaire form. Therefore due to the right planning, the overall procedure went smoothly and it was easier than I had anticipated. The most challenging aspect was taking written notes of personal observations, participants' key "think aloud" statements, and recording objective data all while attempting to actively follow their actions on the screen. In this study, all of the participants were third-year undergraduates in their early 20s. If I were to conduct a similar study, I would aim to bring in participants from different age groups as we might find interesting correlations between a participant's age and their opinions and data. There were momentary delays in the video streaming due to a slow network connection which neither I nor the participant had control over despite our best efforts. This was expected to happen, still it might have influenced factors such as task duration. To conclude, this project was a great learning experience for me as it helped me understand what goes into planning and running a user study.

Session Notes

Session time: 13 mins

P1:

Task 1 : 2min 35sec.
Task 2 : 2min 20sec

1. User searched "unlocked iphone 64gb" then filtered price $600 max $0 min.

They scroll down the site trying to search for one.

They first click Add to Cart. go back to select options.

wasn't helpful at first b/c there were only parts not the actual phone [irrelevant parts] found one >$600", kept looking 2 different iphones afterwards. found two iphones ← finished task

2. Went to help at the top of the screen immediately → customer service

went to refund section.

wasn't much information.

only basic things

complicated to find answers

couldn't finish task

session time: 11 mins   previously   Task 1: 50:45s.
P2:   used   Task 2: 58:34s
        it

1. searched unlocked iphones, filtered 64gb from
   side.
   added 2 of same to cart

   looked at the cart with prices.
   pointed out that it wasn't good that price
   didn't automatically update.
   query returned results fine.
        it was easy

   [finished task]

2. went to help at the top > guessed
   at dispute/reports, couldn't find it there first
   went to customer service and went to
   refunds. scrolled until they found the
   article. overall easy
   categories made it simpler

   [finished task]

session time: 14 mins
P3:

Task 1: 3min 11sec.
Task 2: 1min 24sec

1. searched unlocked iphone
price filter $1600

how do I filter by Rom?

took 45 seconds to find it
found the option.
added one afterwords to cart.

looked for different iphone
ROM should be more visible, not off to
the side and underneath.   it was refused
                                             to let them add
got annoyed with a posting   ✓
and moved to different posting   · to cart.

unnecessary cluttering on the [finished task]
sides, all over the place

2. went I help > cust. service > refund

The information was scattered
                        (couldn't finish task)