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User Interfaces (CS 443)

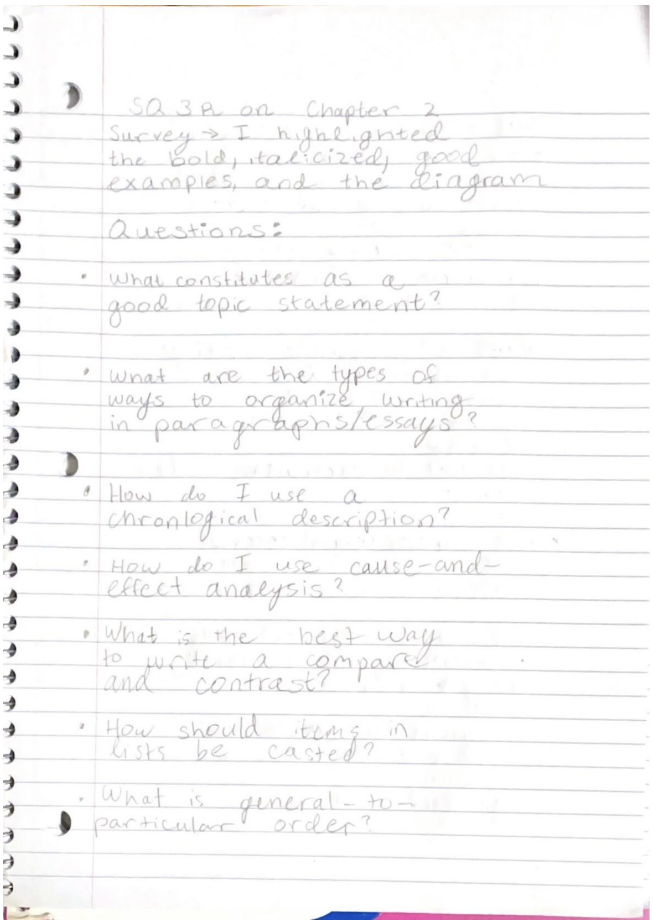
Professor Hornof

October 23rd, 2023

Project 2 - Designing a User Interface

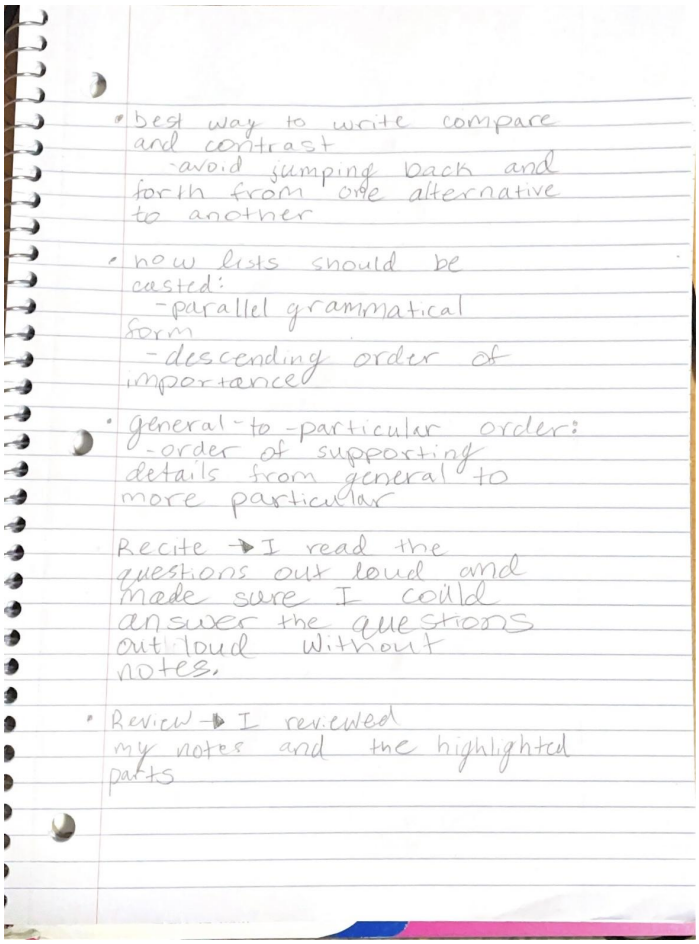
Understand the Task

<u>SQ3R Notes:</u>


SQ3R on Chapter 2
Survey → I highlighted the bold, italicized, good examples, and the diagram

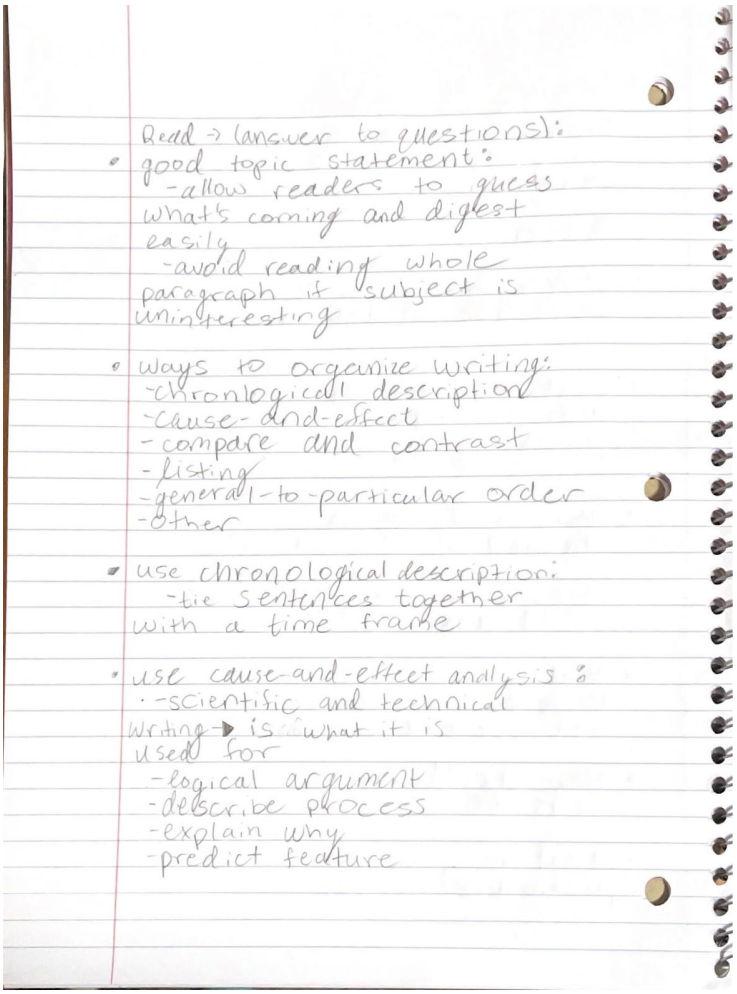
Questions:

- What constitutes as a good topic statement?
- What are the types of ways to organize writing in paragraphs/essays?
- How do I use a chronological description?
- How do I use cause-and-effect analysis?
- What is the best way to write a compare and contrast?
- How should items in lists be casted?
- What is general-to-particular order?


- best way to write compare and contrast
  - avoid jumping back and forth from one alternative to another
- how lists should be casted:
  - parallel grammatical form
  - descending order of importance
- general-to-particular order:
  - order of supporting details from general to more particular

Recite → I read the questions out loud and made sure I could answer the questions out loud without notes.

- Review → I reviewed my notes and the highlighted parts



Reflection:

SQ3R is a useful technique that can be used to apply to readings. It makes reading complex or technical information easier to both read and retain. I learned that with using SQ3R, you do not need to read all of the words in the paragraph. I noticed SQ3R made it easier to learn information because the questions I made were based on the bolded words or italicized words

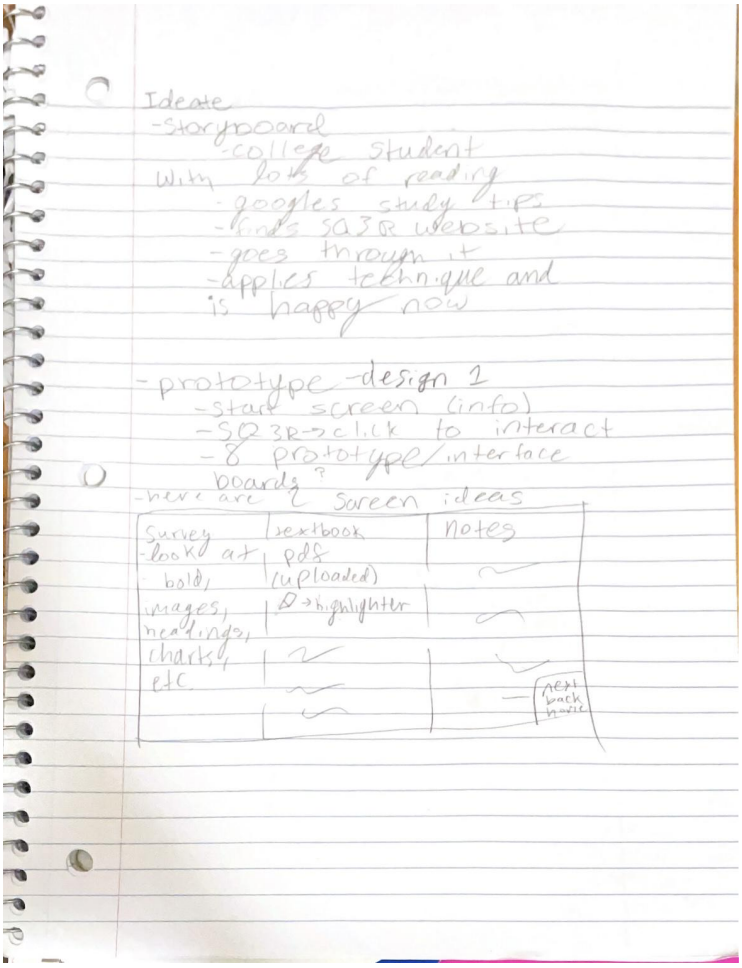
that I highlighted. After going back to answer the question and writing the answers down on paper and pencil, I felt like I understood what I read more than trying to read a full article. When trying to read full articles or readings, I try to read the full thing, but then I do not understand all of it or I do not remember all of the reading. Overall, I enjoyed using the SQ3R technique as it allowed me to understand the chapter I read and I did not have to read every single word under every single paragraph.

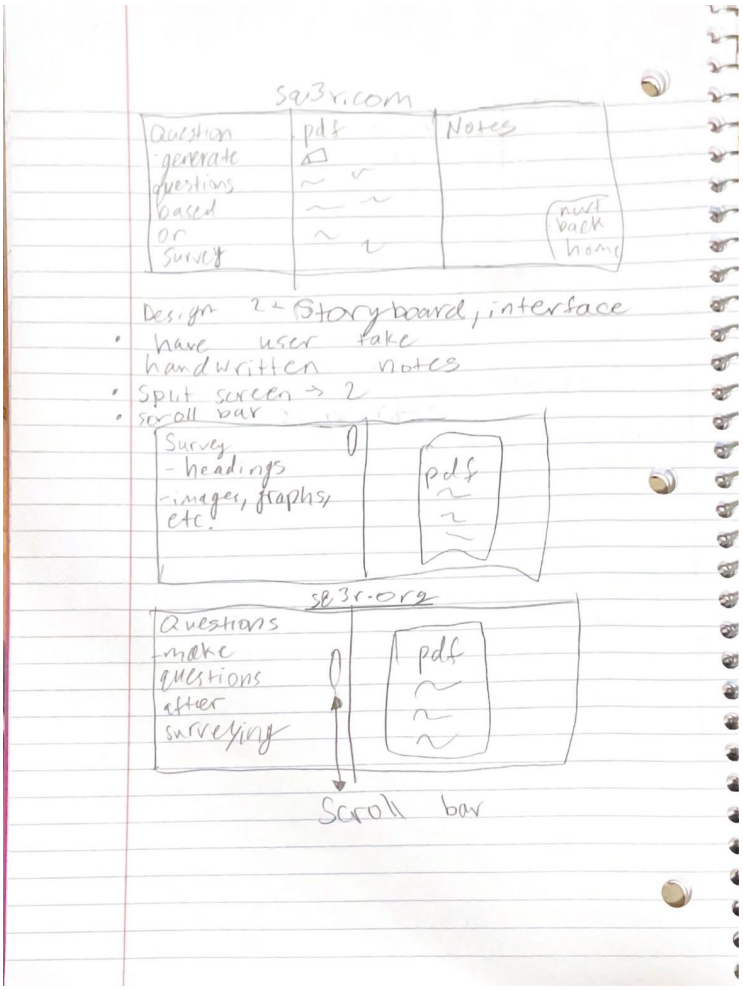
Beyond paper and pencil, computers can help people utilize SQ3R, because an interface can do a three way split screen with a notepad section, a textbook section, and a SQ3R section. Other tools that can be used outside of paper and pencil include pens and highlighters. Pens can help with writing important information down and highlighters can help for bolded words and keywords.

My experience using SQ3R was similar but not 100% similar to the HTA. I gathered the materials which includes: a printed version of the chapter, highlighters, notebook, pencils, and notes. I established the mental focus, however I did not turn my phone off or set a timer. I was a bit distracted while doing it, however I was still able to do it. To apply SQ3R, I did not have to study the worksheet, because I knew what the steps were and what each step consists of due to the fact that it was discussed in class. When I took out the reading materials, I applied SQ3R, in the order: survey, questions, reading, reciting, and review. I did the survey part by highlighting bold words, italicized words, graphs, and numbers within the paragraph. Even though the worksheet said the questions should be generated while doing the survey, I did it more similar to the HTA. In order to generate the questions, I had to go back and review what I highlighted. I then did the reading which consisted of finding the sections that answer the questions, and writing those answers down. I then did the reciting, which consisted of repeating the questions

out loud and answering the questions out loud. Finally, in order to do the review section, I looked over both my questions, answers, and the highlighted parts of the reading again.

Ideate



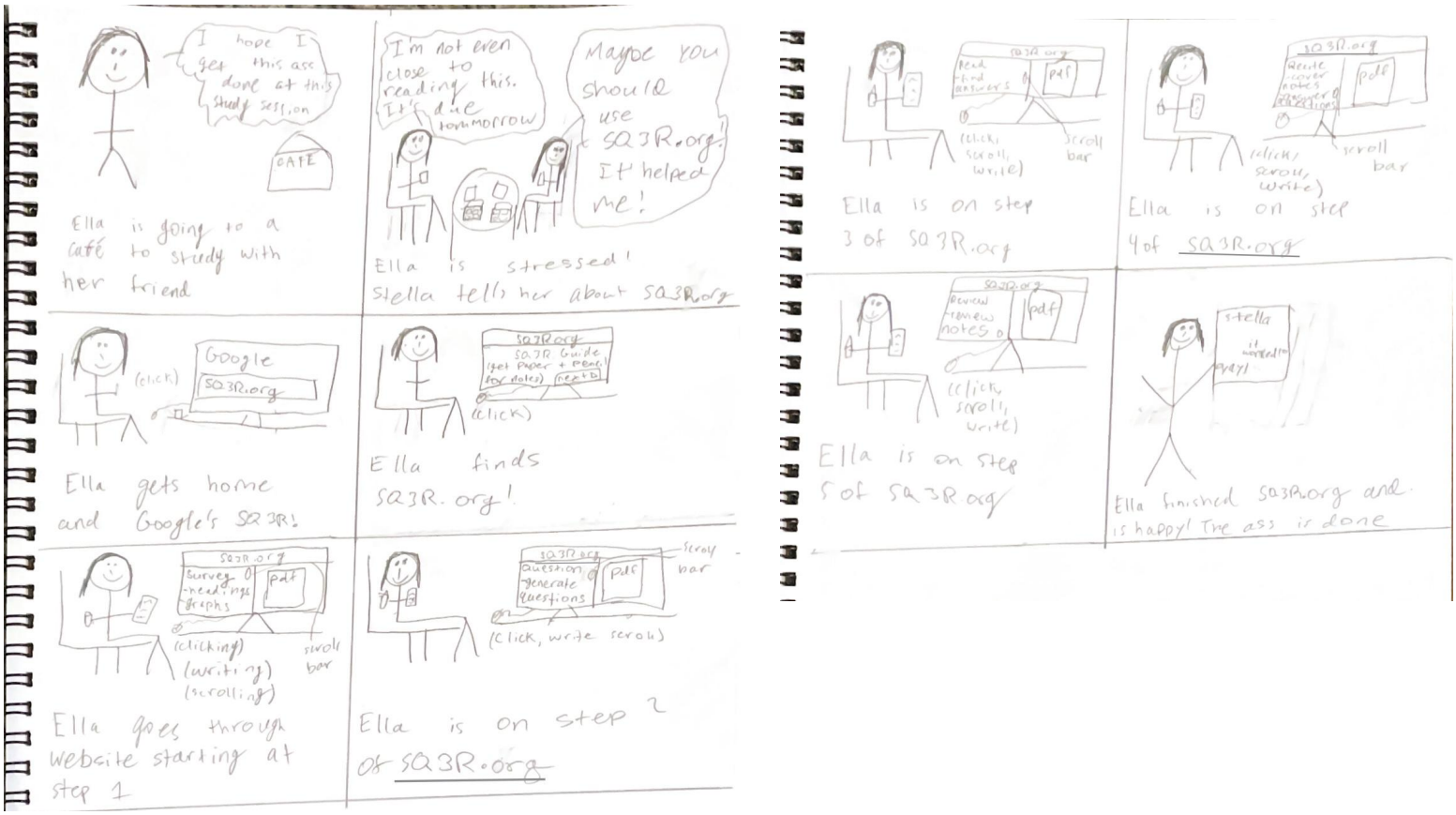


Design Scenario + Storyboard

Scenario:

Ella is a college student who has a difficult assignment due tomorrow. She has to read 60 pages, answer questions based on the reading. On top of having to do that, she has a programming assignment, math homework, and an essay due in the same week with a midterm at the end of the week, therefore she is very stressed and depressed. Ella goes to meet with her friend Stella to work on and study for her classes. She notices her friend Stella being able to read material and understand it faster and asks her how she can understand it so well. Stella tells Ella about a website called sq3.org. When Ella gets home, she proceeds to Google sq3r.org and comes across a helpful website. Ella goes through it with her reading while taking notes on pencil and paper. She finds that the website was very helpful for getting her reading done and realizes she understands the reading. Ella finds it strange that she understood the reading more than if she were to read each word within the complex article, but ends up using the SQ3R method for more assignments. Ella discovers the usefulness of the assignment and thanks her friend Stella for suggesting to use it.

Storyboard:


I hope I get this ass done at this study session
CAFE
Ella is going to a café to study with her friend
I'm not even close to reading this. It's due tomorrow
Maybe you should use SQ3R.org! It helped me!
Ella is stressed! Stella tells her about SQ3R.org
Google
(click)
SQ3R.org
Ella gets home and Google's SQ3R!
SQ3R.org
SQ3R Guide
(get paper + pencil for notes)
next
(click)
Ella finds SQ3R.org!
SQ3R.org
Survey
readings
graphs
pdf
(clicking)
(writing)
(scrolling)
scroll bar
Ella goes through website starting at step 1
SQ3R.org
Questions
generate questions
pdf
scroll bar
(click, write scroll)
Ella is on step 2 of SQ3R.org
SQ3R.org
Read + find answers
pdf
(click, scroll, write)
scroll bar
Ella is on step 3 of SQ3R.org
SQ3R.org
Write + cover notes
Review questions
pdf
(click, scroll, write)
scroll bar
Ella is on step 4 of SQ3R.org
SQ3R.org
Review + review notes
pdf
(click, scroll, write)
Ella is on step 5 of SQ3R.org
stella
it worked!!!
yay!
Ella finished SQ3R.org and is happy! The ass is done

Paper Prototype

Formative Evaluation

In order to build the prototype for SQ3R.com, I first started with the home page, next designed the pages in order of the acronym, then I designed the final page which consisted of Thank You and hoping the user got something useful out of it. There was a lot of erasing, measuring, and figuring out the exact layouts of the pages. After creating the full prototype, I was able to recruit users to test my product.

I did three observations of three different people using the prototype I designed. During the observations, I noted what the users enjoyed, did not enjoy, if it would be useful, and even changed parts of my prototype according to their suggestions.

In the first evaluation, the user I showed it to understood how to use the buttons: back, home, next, and upload pdf. After going through the prototype, I asked the user if they found it useful to learn about how SQ3R works and they said they did not realize what SQ3R stands for. I then showed them the home page with the words Survey, Question, Read, Recite, and Review. Their suggestion was to bold the first letter of each word, because even though they saw those words, they did not make the connection that those 5 words were connected to the SQ3R acronym. When on the question and read page, they asked me if the notes stayed the same throughout the page, which the answer is yes. On the review page, they understood that the middle column is anything that the computer saw a question, so anything that has: ? at the end of the notes part in the last page, would be a part of the middle column of the page. Overall, they enjoyed it and said it would accomplish the task, I just need to know what to make important.

User 1 suggested making sure to highlight what was important, I therefore used a sharpie to bold the first letter of SQ3R.org on the first page and then bolded the words spelled out on the next pages. After editing the prototype, according to what user 1 suggested, I did my second observation. I conducted the second observation by first explaining to user 2 the task, and what

buttons to click. User 2 found the prototype simple to use and said it could be helpful. The one thing he suggested or asked about was with the upload pdf, if the pdf is uploaded throughout or if the user needs to upload it on the entire page. User 2 suggested adding it to the home page and keeping it the same throughout, however that would make the home page busy for the eye.

User 3 found the prototype simple and easy to use, although they were attacked by my cat during the process of using it. Other than being attacked by my cat during it, user 3 did like the interface. While observing them interact with it, I noticed that at first, they were confused as to how the left most column worked, and then they realized that the left most column of the prototype explains how to do each part of SQ3R. Some of the things they suggested was to make it less bland and to make sure I know who my audience is, as if it is for college students, I should make it cuter or overall make it look fun. Making it look cuter is not something I added to for the final build of it, however I will take those considerations in when implementing it in the actual interface itself.

Overall, building the prototype was fun. I had to be open to changes along the way of building it and I had to be flexible to changing aspects of the prototype in order to fix things that did not work for the users. It was interesting trying to recruit people to test the prototype and observe them testing it. I did not realize the importance of explaining the task before acting like an interface until conducting the first observation. One thing I found was that it was hard to tell if the interface needed more interactivity or if the interface was interesting to people because it seemed like the users did not like the topic itself, but users were willing to test it out.

User Observation - Person 1 (comments)

- think more about what user is looking at
- bold each letter on home page

Observations

- user had question as to whether or not notes stayed the same throughout the page
- user did not realize survey, Question, Read, Recite, Review were important and gave recommendation to bold the first letter
- I should have explained more and given a physical reading for upload pdf - the buttons should have explained more

User Observations - Person 2

What did you learn?

- more effective ways to read extensive text

Did it help accomplish the task?

- it helped accomplish the task

Is it simple/easy to use?

- could be helpful

What could be changed?

- on the home page, upload pdf
- user suggested upload pdf on home page - although I'm thinking pdf will stay the same after uploading
- user understood buttons more after I explained it better

User Observation - Person 3

- user was somewhat confused as to what task was → had to explain left most column
- simple and easy to use
- upload pdf only once
- examples of how it helped other people
- add color, looks stale
- helpful to learn and breakdown; emphasizes user to not be overwhelmed with assignments
- make it cute/fun to appeal

Reflection

I learned how important it is to start with planning before diving into designing. The reason for that is because it is important to have some type of plan that way a design looks consistent. It is important to do a storyboard before designing a prototype because the storyboard helps with general ideas and is more abstract, and the prototype goes further into accomplishing a task.

When designing two different prototypes, it is important to be creative with the designs and talk with people about different ideas. It makes generating your own ideas easier. In both designs, I noticed I have to be open to changing specific aspects either to make it simpler for an user or to make it more useful when trying to accomplish the task at hand.

When designing the prototype specifically, I learned the importance of gathering people's opinions, and changing certain aspects according to their suggestions. Before implementing a design idea on a computer with code, it is important to gather user input on a paper design interface. This is because it is easier to change things and get the visual idea finalized, before implementing the UI on an online system. The designer can observe users interacting to see if the system would be interesting to use in the first place or if the interactivity needs to change.

As I was conducting user observations, I realized that I need to explain everything that I would like the user to interact with before having them interact with a computer-based system. When the users testing it asked questions, it was hard because I could not answer specific questions while being the computer itself. After the first observation, I was able to change and improve the way I conducted the user observation for the next two observations.