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CS 201: Methods and Self-Reflection
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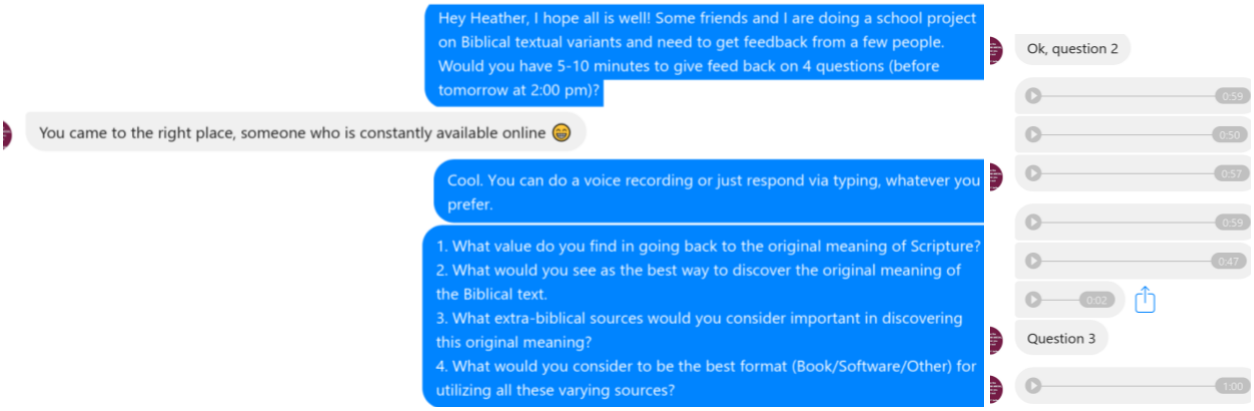
Outline of Three Methods Used

Method One: KJ Affinity Diagramming

Explanation

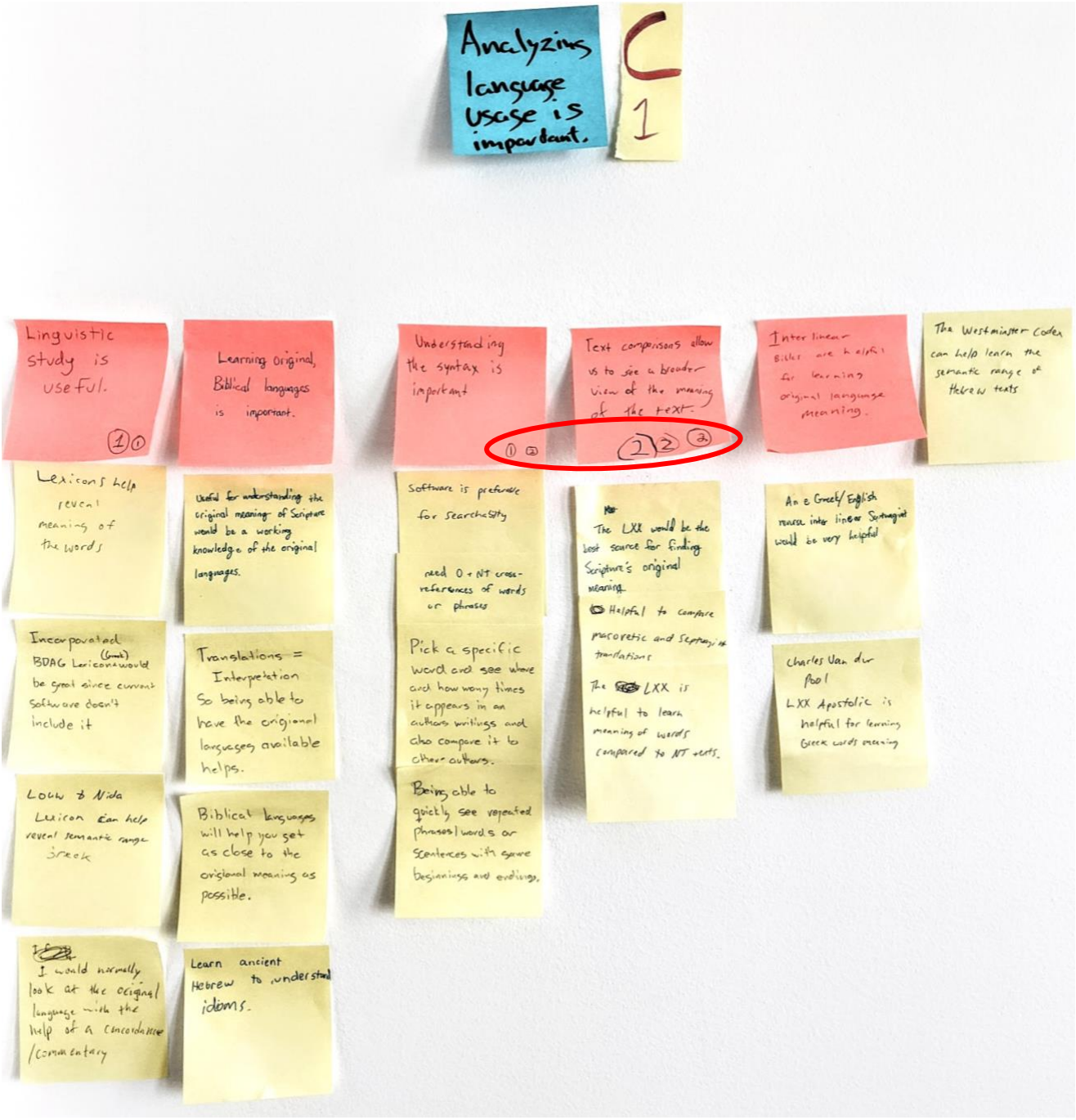
The KJ affinity diagram is a useful method for organizing data that is collected from potential users of a product. We used this method in the following manner: The first step was to find out what kind of people would be interested in the product our group was designing. For our Bible website, the target consumers were Bible teachers, missionaries, professors, students, translators, and practicing Christians. We next brainstormed four open-ended questions that were used to gauge customer needs. There are several ways to collect data with questions, such as questionnaires and focus groups, but we chose to do interviews.

(Figure 1.1: Facebook is a good platform for conducting interviews. This captures part of that process.)

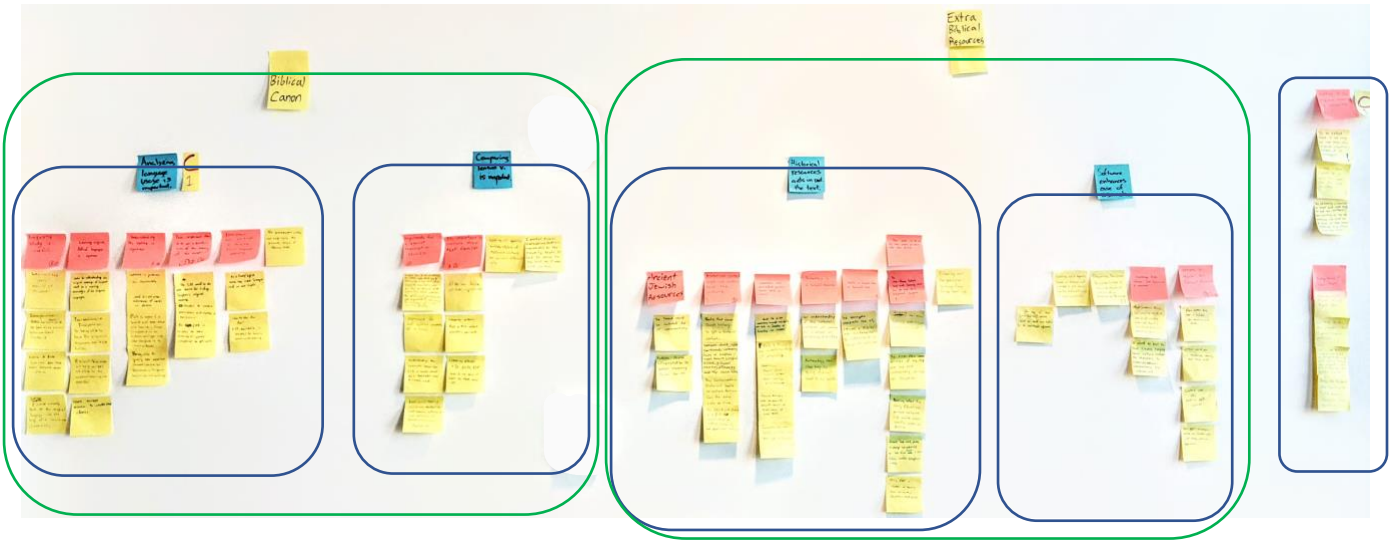


After interviewing potential users, we extracted their statements onto sticky notes, which were then grouped together by common themes. Once we had groups of no more than four statements, we created a label sticky note which was placed above them in a linear fashion. Several of these linear groups that were similar could then be placed together under a new label, creating a hierarchy of user needs. Conflicting statements were placed outside of the hierarchy. This process is important for mapping user needs and differentiating between must be needs vs. attractive needs. The final step is to decide which needs from the KJ diagram can be used together in the final product in order to please the highest customer base.

(Figure 1.2: Here are five linear groups and a stand-alone note placed under the "Analyzing language usage is important" label. Circled in red are ratings placed on what our group determined were important needs. With a total rating of 6, textual comparison was deemed the most important tool for language analysis.)



(Figure 1.3: Pictured below is the complete KJ diagram with the two largest categories in the hierarchy being "Biblical Canon" and "Extra Biblical Resources" (outlined in green). The two linear groups that are outside of the hierarchy (far right, outlined in blue) contained conflicting statements.)



Self-Assessment

My role in this KJ diagram was to interview and collect data from four potential users: Heather, a former missionary to Israel; Rob, a small-group Bible study leader; Brett, a full-time student of Greek and Hebrew; and Isaac, theology major at Harding University. The first three sent me audio clips on Facebook, which was very useful because I was able to re-listen and transcribe everything to text. I had a phone call with Isaac, which made it more difficult transcribe everything, so I think it would have been more helpful to record the conversation. An improvement I could have made in the interview process would have been to guide the interviewees towards more function-oriented discussion. They shared mostly from a philosophical/theological standpoint which made some of the content irrelevant to the KJ diagram. After gathering all their transcribed responses, I singled out unique statements and wrote them on sticky notes. Then we students met as a group and organized all our statements on the wall after disposing of duplicates. Our organization process was smooth but could have been more time efficient if all five of us students had sorted the statements together instead of splitting up into shifts.

Occupational Applications

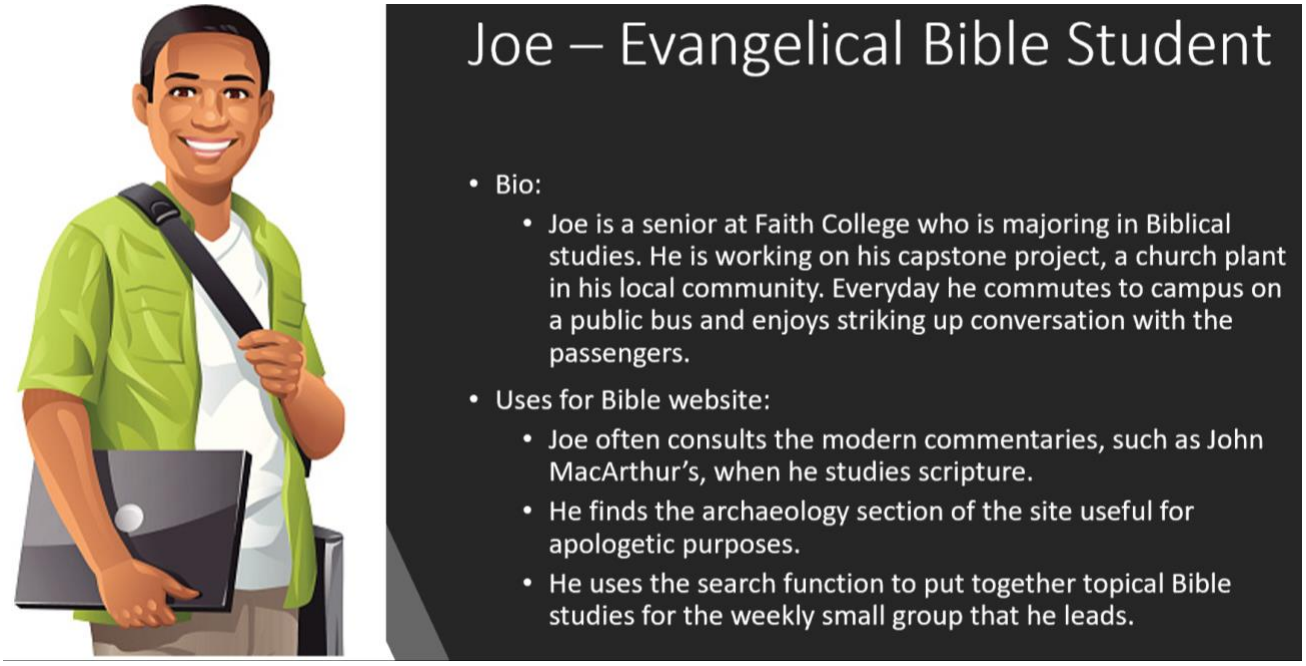
KJ affinity diagrams are a great resource for collecting user needs while also finding out which existing products they use. I could use this in the future for software engineering or web/app design. If I were to create I website, I would first use a KJ diagram to figure out what people are using to meet their needs and what they are unsatisfied with. I could then use the organized data to create a site that would meet its users' needs and surpass competing sites. I could use the KJ diagram similarly for developing software, which would give me a plan for what kind of programming skills I would need to enhance or learn in order to implement the desired functionality.

Method Two: Personas

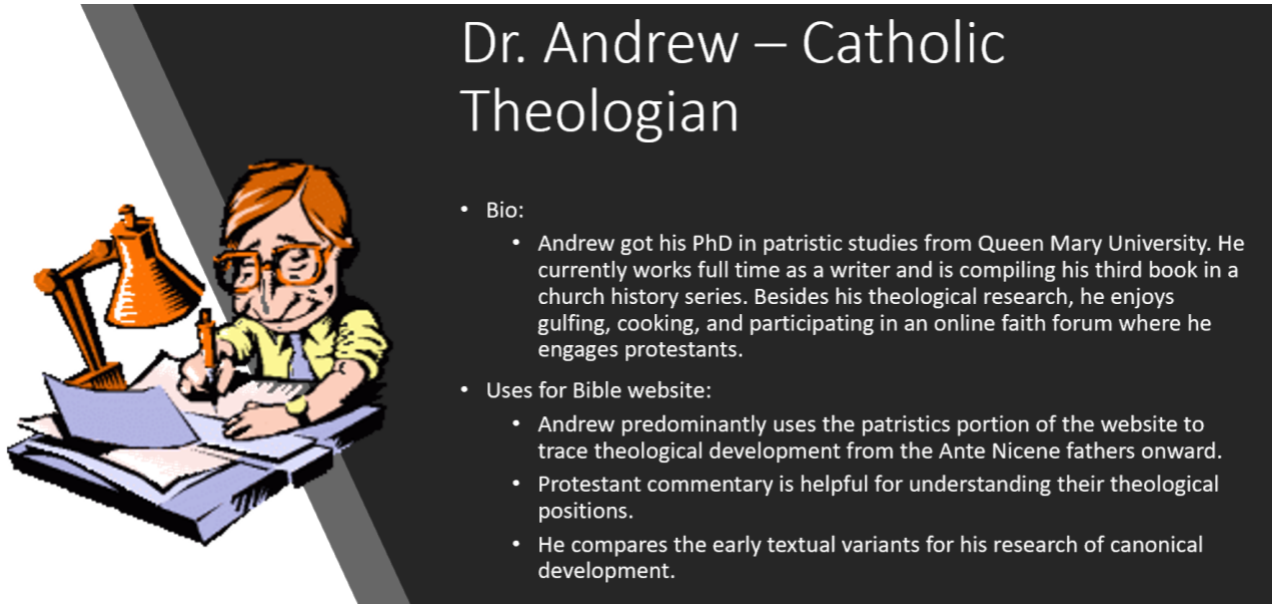
Explanation

Persona creation is a great method for visualizing different types of users and keeping in mind what their goals and needs are for utilizing our product. Personas are fictional characters, but it is important for them to be accurate representatives of real customers. So, the first step of persona creation is to gather data on a variety of people within several user groups. Data can be collected via interviews, questionnaires, online surveys, business databases and the like. Our group collected most of our data through online and in-person interviews. Once we collected enough data, we needed to find reoccurring patterns within each group and then create one persona for each of those groups that encompassed the group-members' main characteristics. We focused on why each persona would use our Bible website, though a thorough persona can include a body, psyche, background, emotions, and personal traits. Finally, we created scenarios (stories) that showed how our site could meet their needs and equip them for success.

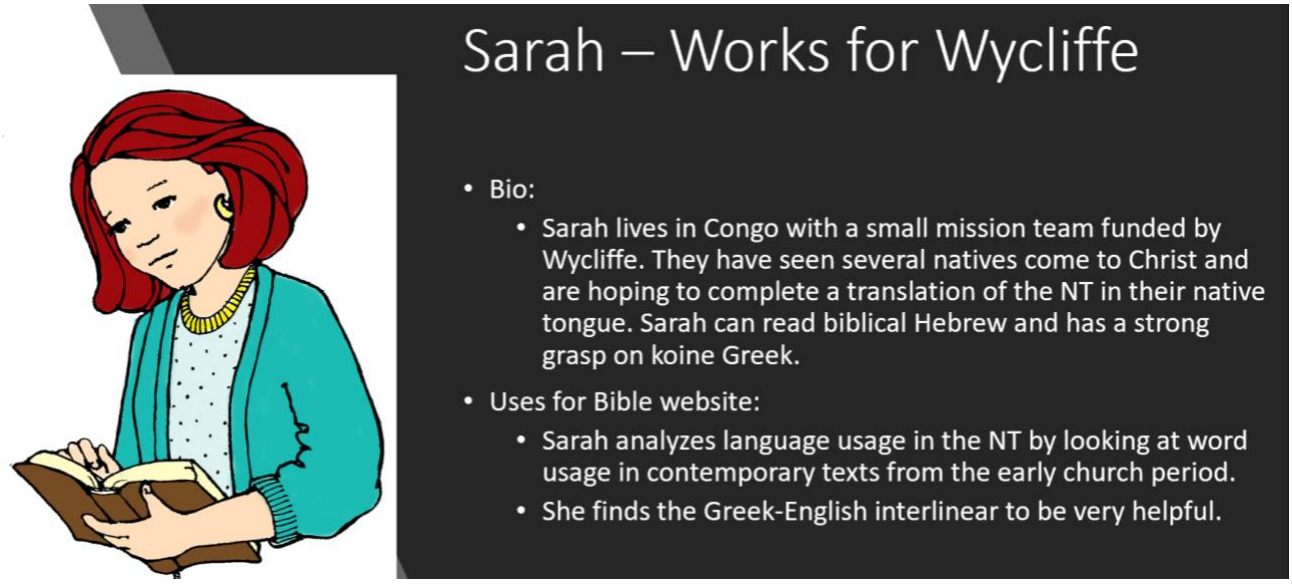
(Figure 2.1: Joe is a college student persona with a simple scenario. Our website would set him up for success by meeting his pastoral (commentaries), apologetic (archaeology), and leadership (word search) needs. Joe was modelled from several dozen college friends I have who are part of campus ministries.)



(Figure 2.2: Dr. Andew is a persona who represents theological researchers and authors that would use our site. He would use more complex features of the site that might require tutorials. The site's extensive collection of historic church writings and manuscripts would be a huge asset to Andew's research.)



(Figure 2.3: Sarah's persona is representive of users that need high-quality linguistic features. In her scenario, the site's features would enable her team to translate the NT into a tribal language.)



Self-Assessment

Our use of personas was helpful, but there are many ways that they could have been improved. Our biggest setback was the lack of data on potential users. Both the theologian and translator personas, for example, were completely speculative. With the short timeframe that we had available, we were

unable to find and interview any Bible translators or Catholic theologians. Consequently, both of those personas may not accurately represent users that would use our website. We determined that it was not necessary to make overly complex personas, so we did not include details about their age, body, emotions, etc. If I were to make personas again, I would set up interviews and send out surveys far in advance so that I could have accurate user data reflected.

Occupational Applications

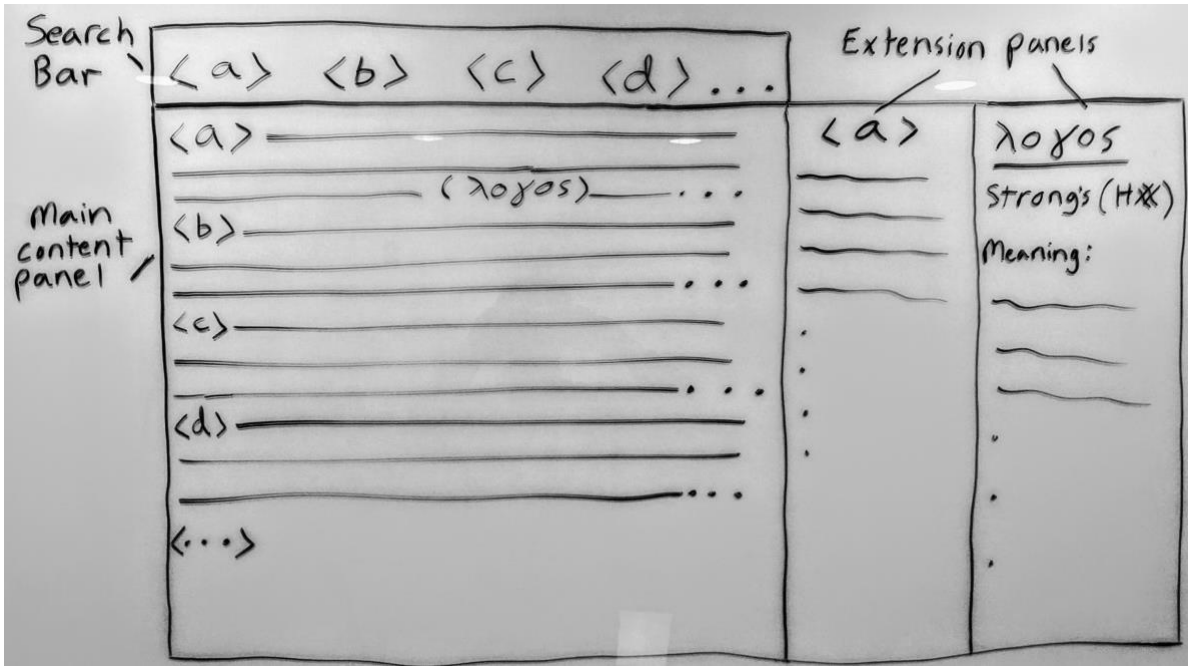
I would use personas to organize my consumer base into larger categories. One day I would like to create an app that equips regular pornography users to have longterm success in no longer viewing it. Rather than having a broad customer base that all fall under the "porn-user" label, I could create personas that would tailor the app to the needs of different groups. For example, a "high school male" persona would most likely be using the app for screen accountability that would be mediated by his parents. A "middle aged, married male" persona on the other hand would use the app as a support group to encourage and hear from other struggling men. In this manner I could collect data from different age ranges and demographics in order to make sure that my app has features to equip each of those groups for success.

Method Three: Wireframe Prototyping

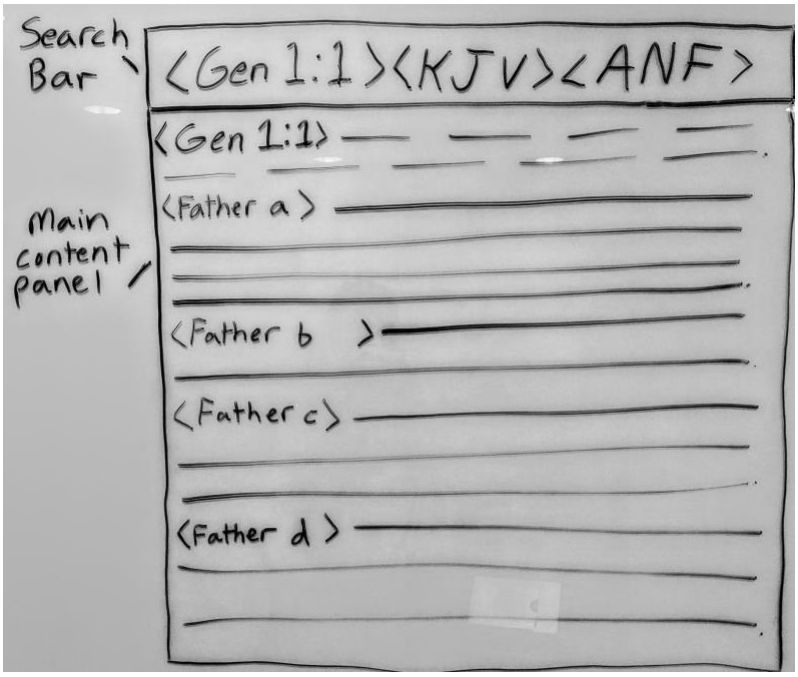
Explanation

Wireframes are simple prototypes of a products functionality/layout. The wireframe method is useful because the wireframes are simple to make, and the central display can be recycled for several functional uses. After organizing a significant amount of data in our KJ diagram, our group decided to focus on the users' desire for access to the Ante Nicene Fathers' writings. Then, the first step we took in the wireframing process was to split up and draw diagrams on the whiteboard with functions that we thought would be useful. I drew diagrams that focused on simplicity and efficient searchability, inspired by the layout that STEP Bible uses for their website. Then we came back together and voted on the best design and implemented ideas from the other group members' wireframes. The final product was a prototype that gave users the ability to search for church fathers writing alongside scripture verses. The various uses are wireframed below.

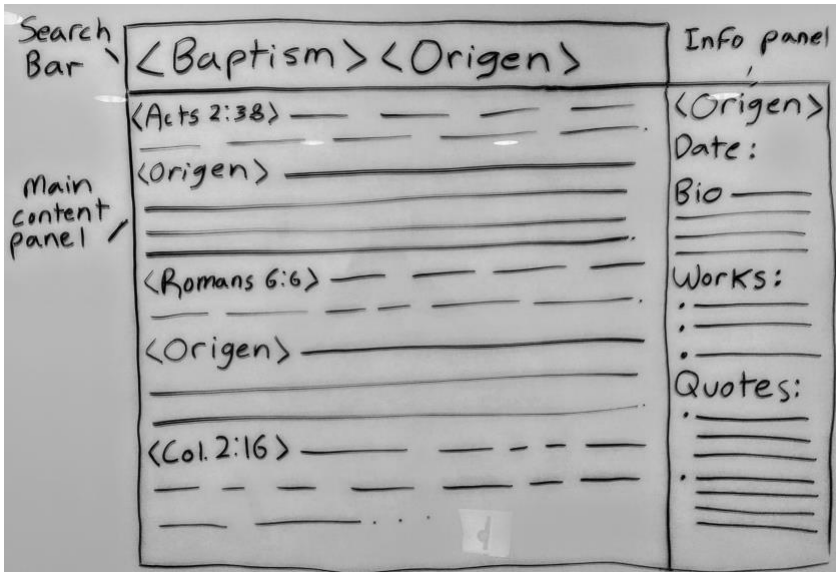
(Figure 3.1: Our first wireframe gave a versatile blueprint of how the ANF portion of the software could be used. This is the default home screen, where several parameters can be entered into the search bar. Content that is clicked on in the main panel, such as words (far right, Gr. logos), verses, or authors will be expanded in an extension panel.)



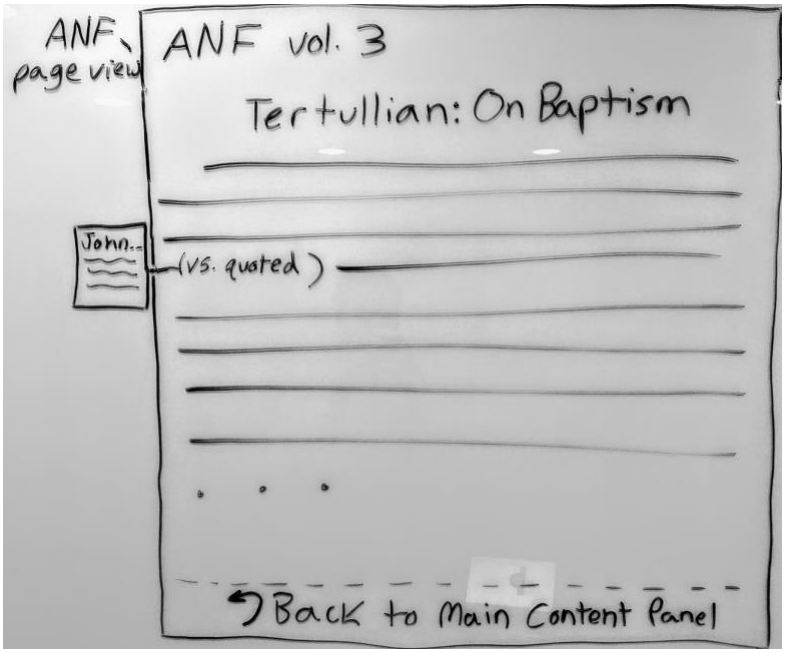
(Figure 3.2: Here is an example of using the software for a linear (ordered by date) ANF commentary on biblical passages. The parameters given are a scripture verse, translation, and all Ante Nicene Fathers that have referenced the specified verse.)



(Figure 3.3: Here is an example of conducting a topical study and utilizing an extension panel. The parameters given are a unique word (baptism), and a church father (Origen). The outputted content is verses (in linear order) that contain "baptism" with Origen's comments below. When the user clicks on Origen's name an info panel opens (far right) with his birth/death dates (if know), a short biography, his works, and his famous quotes.)



(Figure 3.4: Below is the ANF page view which is accessed by clicking on an author's work in the extension panel. This example displays Tertullian's work 'On Baptism' in the common text layout. The user can hover over verses that he quotes with their mouse to open a temporary Scripture citation. When the user is finished, they can click the button at the bottom of the screen to return to the main content panel.)



Self-Assessment

This was an enjoyable method of engaging in Human Computer Interaction. I enjoy design and drawing, so the challenge of coming up with an effecting ANF platform was a good one. One thing that worked especially well for our group was breaking up and drawing our own wireframes because it allowed us to bounce ideas off one another and then produce a final wireframe that implemented the best concepts from each. During the process of designing wireframe, we had several classmates come in and choose which functions they liked the best and asked if they had any ideas for improvement. It would have been helpful to have had a greater number of potential users give feedback so that we could further enhance the design.

Occupational Applications

I will certainly use wireframes in the future. A reason that I appreciate this kind of prototyping is that it can be used for many different tasks. I can create wireframes for school projects that I will build in the future, especially for programs that I write. Drawing out the design before I begin coding will give me a big picture of what kind of files I need to create and how to make sure the functions work together to get the task done. Once I graduate and begin an occupation that requires design, I can use wireframes to test how important certain functions are for the user base and modify my work from there.