The results of the initial survey had a hand in tempering my expectations, which admittedly were a bit too grandiose at that point. I wanted to include places for all high school sports, but as I was constructing the survey, I had to, at the very least, restrict it to football because of its status as the premier sport in Cleveland County. With that said, the initial user survey had a major influence in not only the design process, but what kind of a ticket packages I offered. As mentioned in the initial user analysis report, I approached this in equal parts web design and business opportunity, and I made sure to reflect both facets into the final proposal. At its core, this relatively new way of conducting ticketing is a disruptive technology: it is meant to ultimately take down an old way of business by answering the design question in a different way (Baltzan 242). In college and pro sports, this is nothing new, but with high school sports, especially in suburban North Carolina, this aims to replace the old way of traveling to the school to purchase advance tickets. This goes back to another business component: the development of a competitive advantage. How this came about was with two important survey questions: the question of how many people used digital ticketing apps (and the deadlock the question yielded), and how many people purchase their tickets in advance. What that showed me was there is a potential market for a more streamlined, digitally-based approach there, and with the correct infrastructures in place, it could make a case for being a first-mover advantage because it is such a new system for this arena, for lack of a better term (Baltzan 21-22). However, the one hypothetical problem that arises is where the infrastructure for the digital tickets comes in (whether it comes from Apple Pay, Google Wallet, etc.), but as far as that goes, that is currently beyond the scope of this project.

Cutting it open a bit deeper, I made sure to consider every option available when transferring the results from the user analysis to my site. One of my questions centered around whether people would be willing to travel to watch a football game, and the majority would do it if the opponent was right, which opened a possible avenue for a ticketing package: the county three-pack. In essence, all four county schools would have to travel to one other county rival at the very least. To sweeten the deal, I will offer it at a 15% discount as opposed to buying all three separately.

Admittedly, two of the groups I wish I would have heard more from were from current students and family members of student athletes, considering they would have a relatively bigger stake in this than just members of the community. However, one of the problems I could see with consulting students is with purchasing power: out of the five listed, they have the least power of the bunch, but there is a question: would they be more willing to travel, or would it be just as leveled out as the numbers originally say? However, this question is more based off my own previous personal experiences as a student fan. As far as parents of student-athletes, a similar line of thinking applies. Their drawing power is much more than students, but would they also be more likely to travel as opposed to others?

Going back to ticketing packages, I would take the time to reiterate one facet of design that highlights why I went in this direction. “There’s no such thing as edge cases. (Monteiro, n.p.)”. As much as it plays into ethical design choices, I also applied it to the business side of design. If this were a brick-and-mortar, this would fly in the face of common-sense business practices, but with a digital front, I did not leave a stone unturned. If there are people willing to purchase season ticket packages, and have done so in the past, there should be a place for those people. With that, I again used the knowledge of people being willing to attend if the ticket was right to offer the deluxe season ticket package, which would include all five potential playoff matchups. Likewise, as much as I have stressed that this is mainly restricted to football for now, I kept the doors open for basketball and baseball since they are next up.

The final significant piece of information I came across in my initial user analysis was seeing what people liked about digital ticketing. The consensus that it yielded was the portability with certain apps, and that was something I wanted to stress in the initial description. However, I did run into some sort of a question point: as much of a disruptive technology as it is, how can I accommodate those who prefer some parts of the old method? The easiest thing to do would be to offer the choice between going digital or using will call (in this case, picking the ticket up at the school). However, one person I surveyed brought up another key point when they said this: “I don't trust digital ticketing apps with protecting my monetary info (I do as little purchasing as possible online for this reason).” This has been something that has been swimming in the back of my mind since the first day of class, and it goes back to this design question: “what good is this shiny new toy if the back end is rotten?” I understand implementing back-end design, and especially implementing any type of security feature such as SSL certificates, are beyond the scope of this course, but given how much is on the line with any kind of security breach, this is one thing I would be vigilant about going forward.

Throughout the design process, I found a few things relatively difficult. The first may be one that others took for granted but flagging down people for user analysis was difficult for me. This may come from how generally unassertive I typically am, but it takes a lot for me to be not only willing to ask those questions, but to drive others to respond to them as well. Unfortunately, this shows in both of my user analyses, as I feel I should have had a bit more to work with. Sending the surveys out is half the battle; getting people to do them is another problem entirely, for lack of a better term. The second difficulty I had was with getting the exacts of the user interface on the screen, especially with mobile. One of the key design tenets is to never view anything as edge cases, but I still have this mindset of primarily designing with desktop in mind over mobile, which is going to bite me considering how quickly mobile may overtake desktop in general.

On a base, technical level, I stressed the idea of having both affordances and signifiers on my site, and I went to a more practical approach on both. Signifiers, as Norman mentions, are the properties that dictate where the intended action is supposed to lead, as opposed to affordances, which determine what we can do (13-14). The largest signifier in this case is with the navbar. Not only did I put the color codes I extracted to use by making them the navbar color, along with using them as a mouseover event, I made sure to differentiate between what was available and what was not by using buttons. Affordances, on the other hand, run on the same principle. The top navigation bars afford navigation from not only the four schools, but to the account setup page as well. Ultimately, I wanted to make them as interactive as possible and provide a simpler interface, instead of relying on the conventional blue and/or purple hyperlinks. This also plays into the use of logical constraints. When one hovers onto the Shelby hyperlink, naturally (in this study), it will turn gold-on-black, so they know full well they are heading to Shelby’s schedule, even if they are not really looking that hard. If I applied this to Burns’s link, then there would be a violation of these constraints (Norman 130).

One thing I found interesting as I was performing user testing was how the gulfs manifested themselves. The navbars clearly gave hints on what should be done with those links, however, the one question remained with the logos on the index page. When doing this user testing live with a potential user, the navigation was easy to bridge, but the biggest gulfs came with what to do with the index: what is the purpose, and what is the use of this (Norman 38-39). I closed the gulfs to an extent by just using the index as an introduction page: I introduced all four schools and what selling point they bring to the table.

With the head and the world, I made sure to reinforce the knowledge of part with respect to describing these four football programs. There is an air of power and majesty when talking about Cleveland County Football; as seen with this season, all four had top-tier seasons. That knowledge is declarative (Norman 78). With the procedural, world-based knowledge, along with bridging the gulfs, I made the knowledge how relatively simple: the signifiers all correlate to what school the user is viewing, whether it is the banner color, or the interactive mouse events that display each team’s colors. Despite Norman initially using the examples of music and tennis, knowledge in the world can be just as easy as using those signifiers (78-79).

With storefronts, errors can not only naturally take place, but they are relatively simple to reverse; this site is no different. When looking at the interface of each school and its schedule, mistakes would be kept to a minimum, but the slips would be more of a possibility, particularly description-similarity. Granted, it would be less possible for a slip to take place between a non-county or county game because of the different prices, but it would be somewhat easier to slip up between two regular games (Norman 175). With that in mind, another signifier can be used: the home and road description.

The last two chapters in *The Design of Everyday Things* are potentially the most relevant two in this reflection, and they will be the ones this reflection focuses on intensely. The first thing this would like to point out is a major discrepancy between this and Baltzan’s *Business-Driven Technology*. As mentioned before, this is more of a disruptive technology, one that pre-emptively solves a problem that had not even been considered yet (Baltzan 242). However, the concept slightly defies what Norman mentions about solving the problem. Yes, the goal of human-centered design works together with the end goal of disruptive technologies, but the question remains: “have I solved the correct problem (Norman 217-218)?” This is where the heart of design comes into play: the designer **discovers** the problem, rather than solves it. In this case, a disruptive technology such as the iPod has a solution to a question that simultaneously has gone unanswered and turns out to be a major game changer (Baltzan 243, Norman 218). In this case, the remaining differences between disruptive technologies and human-centered design are bridged. Likewise, there is also the significant difference (albeit both complementing each other) between design and market research, and this site takes both into account. This ties back into not wanting to leave those who would be willing to purchase ticket packages behind because there would still be people willing to purchase a county three-pack or a deluxe package. Even though design and marketing research yield completely different outcomes, there is a need for both (Norman 225).

Another major point of comparison between the two comes from development methodology. While the steps in *Design of Everyday Things* are more streamlined, the models in both are similar. The key word that binds both together is “iteration.” Throughout the course of constructing and designing this web site, there has been a strict iterative development methodology across the board: everything that has been done has been in a series of smaller, manageable projects (Baltzan 326). While there are usually seven steps in this approach, as mentioned in *Business-Driven Technology*, Norman condenses them down to four: observation, ideation, prototyping, and testing (Baltzan 327, Norman 222).

The final chapter of *Design of Everyday Things* introduces something that was also relevant in one of this proposal’s big features: the concept of “featuritis.” As well, this is touched on in *Business-Driven Technology*; here, it goes by either “scope creep,” or “feature creep.” What this essentially entails is the temptation to add newer features, or to extend the scope of a project beyond its means or constraints (Baltzan 349, Norman 261). I confronted one of the possibilities of scope and feature creep in a natural sense: I stressed the need to confine the scope of this project only to football, and only to Cleveland County. On a technical sense, I also left the door open for opening accounts, however, due to constraints with not only scope, but implementing a content-management, back-end infrastructure, I held off on completing the PHP portion of the form. Plus, I did not want to collect any data that may be intercepted if there is a GitHub breach.

The wireframing process was a little weird for me. I originally had a frame all lined up, which borrowed some aspects from Fanatics and Seatgeek. However, when my technical and design skills grew throughout this course, I changed it all up midstream during the actual coding process. The reasons why I overhauled everything midstream were twofold: one, I had to consider my own constraints as a developer/designer. What kind of skills do I currently have, and do I have enough to translate the wireframe into code, and then into a working, living site? I admit, I did get starstruck using more sophisticated, advanced sites as a possible guide, but I had to temper my own expectations accordingly. Second, I felt like my navigation bar, and the site itself, could be simplified further. The feeling was that there should be no wasted space or motion that could be done somewhere else; the first two things I strayed from were having two deal barkers and an FAQ page. With the jumbotron Bootstrap element, I could achieve what I was intended to do much simpler than I could with my original plan. When reviewing my notes from the rough draft, it did reinforce the design change I made by not including an FAQ page. How did it do so? In this case, it would have been much more efficient if I do the description right on the index so people would immediately know what it is for.

As well, having separate banners for the four combined schools and Cleveland County Schools did not make much sense from an efficiency metric; therefore, I brought them together in a sense. With that said, however, I did construct a separate header for account settings because I did not want them to get lost in the shuffle of the already busy main navigation bar, which would have happened if I had kept my original wireframe idea. I also had the idea of having account links through Facebook and Google, but as with FAQs and the banners, I think they would be better served in a more efficient role, as in this new working design, they would be paired up with the create account screen. Ultimately, the contrast between the old wireframe and what I ended up doing was a matter of cutting the fat and streamlining the operation.

As stated before, one of things I was unhappy about in my user analysis was the volume of respondents; it showed in the user testing portion of the design process. I only was able to reconnect with a handful of people that I did with the initial discovery process, and the responses I received did not exactly match up with what I personally experienced. The biggest breakdown came with the responses that people had with how they had an easy time navigating the site on mobile, which I had a discrepancy with, particularly with the index page. The individual school pages worked fine, but the index was all out of sorts. With this knowledge in mind, I ran everything through both Chrome’s and Firefox’s development tools (this also provided an accessibility check), and I ended up solving my own problem: as perfect as the profile pictures were laid out on desktop, they were too large for mobile users, and that was the underlying cause of my confusion with the survey.

Going deeper into accessibility, I made sure to reinforce titles for pages, alternative text for pictures, and correct contrast guidelines, but one of the things that stood out to me was how the btn-primary class did not meet WCAG standards. To fix this, I personalized the buy buttons for all four schools, while trying to balance between keeping with WCAG standards and the hex codes: unfortunately, I had to use a darker shade of blue for Burns to make this work.

To close this out, the most difficult thing for me during the design process was to find that happy medium between design and marketing as mentioned previously. I had to rethink my approach by realizing that I was not inherently selling the product on the field, I was selling not only a product made to make ticketing much easier, but I was also selling the process itself. Likewise, I also realized that my idea was different from just doing a website about a certain topic for that same reason, and I had to apply skills and concepts I learned from CTS-115 as well as concepts in this course. When looking at design in its own bubble, the one thing I have taken from participating in the design process is to dig deeper: just finding the problem and answering how to solve it is not enough. We must know what causes these problems, what new challenges could arise, and how do we plan for those going forward, particularly in the maintenance phase of development. When combined with marketing, especially with something relatively novel or disruptive, the question is how this object can serve the user not just in the future, but in the present. We can plan as much as possible, but without answering what it can do now, there is little point to it aside from reminiscing about how this concept was ahead of its time.

Works Cited

Baltzan, Paige. *Business-Driven Technology*. 7th ed., McGraw-Hill Education, 2017.

Monteiro, Mike. “A Designer's Code of Ethics.” *Mule Design*, 10 July 2017, https://muledesign.com/2017/07/a-designers-code-of-ethics.

Norman, Donald A. *The Design of Everyday Things*. Basic Books, 2013.