For our senior design project my main contribution was working towards the front-end and user facing capabilities. This mainly included building the UI for our project with HTML, CSS, and JavaScript, writing the ASP.NET code to host the website, and working on all of the functionality that acted as go between. This directly built on my goals from last semester, which was to utilize those languages and toolkits in order to build out the website. Although there were plenty of challenges that got in my way during the process.

This was my first time ever actually delving into a front end of this scale, and I was especially new to ASP.NET. It was incredibly helpful in that it allowed me to be able to connect to our database and pass that information dynamically to our front end, but there were a few major pitfalls I came across. The first and main one was the initial way I had set up the C# files that coincided with the HTML pages. I was originally using these as ways of getting and inputting data, using JavaScript to pass the data to the functions. While this worked initially, it proved to be unable to scale as the dataset got larger and wouldn’t work as a dynamic system considering it reset the page each time a read or write action took place. This required me to gut most of my existing functionality and convert it to a JavaScript forward approach. This ended up being the exact solution I needed but was incredibly time intensive. At the end though, I was able to find a groove and was able to push out features rapidly. I now feel that if I had to put up another application or re-do our current project, I’d be able to make many beneficial changes.

In terms of what we were able to accomplish as a group, I’m very happy with how everything turned out. Our main goal was to create an application from the ground up that utilized front-end, back-end, and middleware functionality to create a D&D combat simulator. We were able to accomplish this through my front-end accomplishments, the work of Brandon and Samuel for our batch processor and simulator. Samuel and I also worked hand in hand to make sure our database end of things was working smoothly and interacting with each other well.

I feel like I learned a lot about how important it is to have deliverables and goals set in stages instead of all at once. Doing so helped our team keep on track instead of making a dead sprint at the very end and helped us identify issues early on. Communication was also incredibly important, and our use of having weekly check-ins along with meetings with our advisor always made sure that we were in the loop with one another. The biggest struggle though was probably when we were trying to have our disparate sections married together, and found there were a lot of integration issues. This made sure there were a couple long nights spent bug fixing, editing, and having to completely remake sections to make sure that they all worked together seamlessly. I think we thankfully had the rare group project where everyone contributed equally and had the same level of impact as each other. Samuel really pulled through on our simulation side of things and would always impress me with his dedication and solutions that he was able to come up with. Brandon was somewhat of our flex member, swapping between whichever section required another set of hands. Without him, I would have been swamped by all of the nitty gritty coding that front end required, and his help allowed me to work on making sure our core functionality was present.