Robin Heft
Self-Assessment
Senior Design

1. Individual Contribution
   At the beginning of the academic year, the scope of our project was a lot larger than what we ended up delivering. We wanted to create a one-stop-shop for cybersecurity education. I was in a team with 3 other Computer Science students who primarily had experience with software engineering and web development. I was the only person who studied and had professional experience cybersecurity. I spent three semesters as a Cyber Software Engineer at Northrop Grumman and at the time, was in my last year in the Cyber Operations undergraduate certificate program. Early on, it was clear that I was going to be the only person handling the educational content.

   Our first application concept included modules covering a broad range of topics and a broad range of expertise. We wanted to include hands-on labs, comprehension quizzes, and a structured curriculum. However, by the end of the first semester, our advisor helped us decide to focus strictly on one concept: buffer overflow. Our advisor provided us with his lecture content to help us develop the tools and animations for our application. At this time, I had just started learning about this concept myself. I was enrolled in his class that overed this topic, so I was actually working on animating and developing educational content on the exact same slides that were being presented to me during class.

   I fortunately did not face too many obstacles in my role. The most challenging part was learning the concept of buffer overflows from not only a student perspective, but also a teacher's perspective. I spent a lot of time researching x86_64 assembly so that I was confident I knew what was going on. There were other difficulties around deciding what learning modules and topics we wanted to include within the scope of buffer overflows. But that was simply resolved by communicating with the team and advisor.

2. Group Accomplishments
   I am so happy and proud of what our group accomplished. We were able to take an idea through many iterations of concept and design to produce a tool our advisor will be using during his classes. He also anticipates bringing students onto the project in the future to further develop its functionality. During the CEAS EXPO, it was incredible to see other computer science students use our application and say how much they wished they had this tool when they were first learning these concepts.

   I had an excellent experience working with this team. We learned a lot about project management, division of labor, and communication throughout the process. Everyone had amazing contributions and I have no complaints about anything.