

Individual Capstone Assessment

From an academic perspective, our senior design project is designing an easier way to make automated signatures for dive logs. This will require using our knowledge to create an app as well as do some research into QR code generation. For the most part, I hope to learn more about app development as well as gain experience in creating an actual program/piece of software from scratch rather than a program ran in an IDE. This is also something that should help in the early process of trying to find a job or give a small boost to my resume for software development as going through the whole process will give me experience in both the paper work as well as the "Fun Part" of actually making the product. It will be challenging but also rewarding as most people that have graduated from college can remember what their senior design project even when they graduated years ago. Overall academically, I hope to enhance my skills while being challenged and rewarded at the end.

When it comes to curriculum, there have been some classes that have helped me throughout my college career while others not so much. The first class that will help me the most is when I took a Software Engineering course. In this course we had to learn how to make diagrams, do a lot of the paper work that goes into software engineering, as well as design procedures. Another class that will help a great deal will be the Tech Writing class that I took last Spring. This class taught us how to actually write in technical terms therefore, this will either be useful a lot this semester or next semester when the final reports are due. After this, most of the computer science classes have given me exposure to languages but I am not sure if complex ideas will be overly used in this project. Though classes have taught me how to do outside research in order to learn somethings.

My co-op did not help me a great deal. I had my co-op at the University of Cincinnati's Office of College Computing and this co-op was mainly IT related work. All programming and coding practice were done on my own. Though while I was at this and I had free time with nothing broken, I took Lynda.com tutorials. I also learned how to create my own website that has a backend of Python with HTML and CSS front-end. This can be useful if we decide to create a website as well in order to make some of the functionality of our projects work. I also learned SQL through creating a website which I learned more through this than my database class. Overall, the self-learning I did while on co-op will help me with some of the design and creation aspects of this project.

The preliminary approach to designing a solution is that we are going to start from the basics of the idea which is getting the signature system to work. Right now, the idea is to use a QR code for the signature of the Dive Master and for a regular diver to scan it to get their dive logs signed. This will require a QR code generator for the dive master and an app for diver and we will continue to build up from these blocks to add more things that will be absolutely necessary for the product to work. Some examples are SQL database, information that will be going to this database, and registration for both Dive Master and diver. After these are complete is when we will add bells and whistles of making it visually appealing and other features. Though if we do not get to the visually appealing part, we will be satisfied with having the signature QR system work efficiently.

The motivation for this project is that I can create something that will be useful for a niche that has not advanced well with the evolution of mobile technology. The gadgets that divers use have evolved with technology but they still write and hand sign dive logs which is inefficient. There are apps that have dive logs to fill out but you still have to manually sign them on devices. This idea combines both my major and my hobby of scuba diving so it will be something practical that I could use some day if it becomes popular. Also, if this idea becomes popular there may be some small financial gain but this is skeptical as the diving niche is not as big as other niches. It could however be used outside for other things if we can get it to work properly and sell the idea well enough but neither me nor my design partner are business major so this would not be practical as well. The project overall should be challenging but the motivation to also get it done as almost a right of passage to graduating is what is also motivating because this is the last big push to graduation.