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CS-411 – Artificial Intelligence

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3D Room Modeler

The 3D Modeler was designed as a program that uses artificial intelligence and a camera to scan a room and convert it into a 3D virtual space. We wanted to be able to scan an entire room and import 3D models into Unity or another game engine using positional sensing. The first task we needed to accomplish consisted of acquiring hardware, which took a week longer than expected and required some assembly. Once we found the correct documentation, we were able to start building our “AI Pi” machine. This proved to be the easy part though, as installing the correct software in the correct order was less than straight-forward but worked reliably once installed properly.

Things quickly took a turn when SNHU students and faculty discovered they would not be returning to SNHU’s campus, and that classes would continue online in compliance with the stay-at-home order and its gaining popularity following the Coronavirus outbreak. Our team needed to quickly find a way to work collaboratively on our projects with the limited equipment we had. Thankfully, SNHU was able to expense some new equipment so we could continue to work together remotely. Once the new machine was up, we were able to talk about further plans for the project with our remaining time in the semester, which was to begin working on the virtual portion of the project.

With the machines set up and ready to be connected to an application, it seemed like an end was reasonably in sight. We began gathering 3d models of furniture and even using a new app to scan furniture of our own and import them into Unity or some other engine. After gathering 3D models and experimenting with creating our own, the end of the semester began to close in. If we were gifted with more time on campus to use SNHU’s resources and the convenience of consistent face-to-face meetings, this project would have been able to be completed. Unfortunately, due to the combination of the Coronavirus outbreak and other significant project spikes early on, this project was not successfully completed.

Working on our project this semester we learned that we must prepare not only for project spikes that occur on our account, but also for spikes caused naturally. While the Coronavirus is an extreme case of this, it is important to remember that anything can happen, and it will affect projects in progress in some way. Our development of this machine relied very heavily on face-to-face interaction and experiments, and that went away in an instant when we left for Spring break, and nobody even knew it. As devastating as a situation like this can be, it can still be a reminder that we need to be prepared for everything to change in an instant.

Aside from the most recent worldwide disaster, artificial intelligence is a topic that we plan to educate ourselves further in as we move forward in our path to something greater. The possibilities of AI are endless and can always be stretched further, and we intend to do that (but not too far as we don’t want our creations to replace us). We look forward to applying AI in our future projects, and we feel that we can do that better now after taking this course.