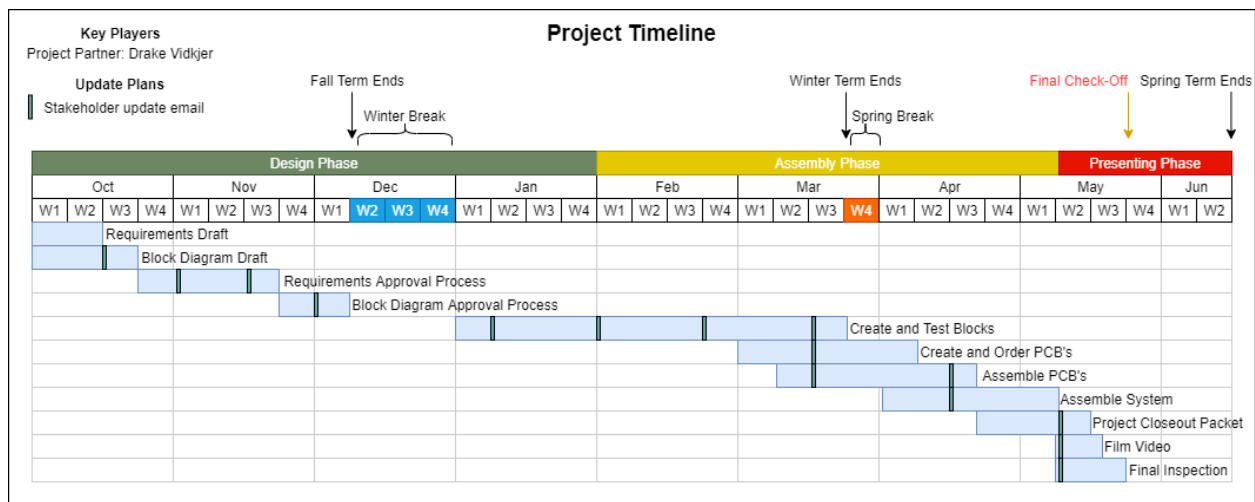


The purpose of this project is to provide a secure way for students to enter the OSU Amateur Radio Club room. Students should be able to enter their student ID number or scan their ID card to gain access to the room. If a valid number or card is present, the system will unlock the door for a short period of time so the student can gain entry.

This project was started back in 2018 by Drake Vidkjer, who wanted to improve the existing security system. For years, the only access control system in place was a simple keypad lock, where members knew the code to access the room. However, the lock eventually broke, generating the idea to make a web enabled door lock.

The project was broken down into several stages based on the current school term. Fall term consisted of mostly documentation and brainstorming. This is where we were able to get an idea of what the project was, what was required of us, and were able to brainstorm solutions to implement. During winter term, each team member tackled their three individual blocks and ensured they were all working properly. During spring term, all blocks were brought together and the system was assembled.

For the individual blocks, tasks were broken down into the blocks that were most related and would fit on the same daughterboard. Eric focused on the Ethernet data, Power over Ethernet, and user interface blocks. Jacob focused on the AC to DC conversion, microcontroller, and code blocks. Tabor focused on the mounting bracket, server, and WiFi blocks.



There were several key takeaways from this project and things we would do differently next time. First, there is lots of prep work and documentation that needs to be done before beginning the project. Second, team communication is important. It can be hard to remember how something is done or what a team member said during a meeting. Always take notes during meetings. Third, working remotely is difficult with electrical engineering. Projects will take longer to complete and communication will be more difficult. Fourth, sometimes you bite off more than you can chew and it's okay to ask for help. If you're struggling to understand a concept or complete a task, someone else may approach the situation differently and shed light on what can be done. Finally, as a bane to most projects and tasks, avoid procrastinating. The pandemic has made this much more difficult to stick to due to time delays. To avoid procrastinating, it is better to plan on completing the project earlier rather than later.