

The project is a user programmed pet door. It allows the user to program when the pet can enter and exit using. The development of the project started in the beginning of the spring term. The idea was to make a pet door that is easy to use, accurate and professional looking. Thus, the first idea was to not have the user be physically present in order to control the door. In other words, the project is user programmable. In order to ensure the accuracy of the system, a real time clock module has been used for the project. A real-time clock is a clock that keeps track of the current time and that can be used in order to program actions at a certain time. Consequently, this resolves the issue of not having to be physically present and the locking times can be programmed in advance. Nevertheless, the team has taken into account the security of the system by using a light sensor and a buzzer to ensure that the pet door is not kept open for a long period of time. All the exiting and entering times can be displayed by an LCD screen that seamlessly displays the information. It is also worth mentioning that the user input is going to be via four push buttons. However, implementing these features came with challenges. This is especially in a remote learning environment. Each team member worked on specific features of the system. However, integrating the features into the system was more complex than expected, especially when it comes to the 3D printing of the enclosure and the electronic housing. Multiple 3D parts have been designed and ordered from three different places. As a result, these parts didn't fit perfectly which led the team to use sandpaper to adjust the parts that should fit together. For future revisions, the 3D prints are going to be designed with smaller dimensions in order to ensure accurate printable parts. Additionally, the parts are going to be printed and ordered from only one place so that the dimensions of the parts do not vary drastically. This will result in saving time using sandpaper to adjust the parts.