

Group Members: Jackson Sena, Ashley Reid, Max Garcia

Project Summary

Our group was initially tasked with making a device that would take a user's temperature without the user ever needing to touch the device. This type of device could be very useful today during the COVID-19 pandemic as it can notify someone when they have a fever, but it does not require multiple people passing the device around like a normal thermometer. We started by breaking the problem down into two parts: how to take someone's temperature without having to come in contact with them and how to trigger the device without having to come in contact with it.

We solved the first problem by deciding to use an infrared thermometer with a small field of view. Since it uses infrared radiation to determine temperature, the sensor does not need to touch what it is trying to take the temperature of and the smaller field of view will help the sensor to be more accurate as less ambient temperatures will be included in the calculation. For the second problem we decided to use RFID technology to activate our system without the user having to press any buttons or touch the device in any other way.

Once we knew how we were going to go about solving the two problems we designed a block diagram that would help us distribute the workload to all the team members based on what each group member is most comfortable with. With this initial design in place we were able to update it weekly during meetings to better reflect the systems final design. Whenever we ran into problems integrating a component into the rest of the system we would always come together as a team and try to figure it out together since that takes a lot less time then just one person struggling with it.

We learned a few things as a group during this project. We learned very quickly that communication is very important, especially with distance learning. We also learned that we shouldn't put off PCB design because it can take a really long time to arrive and can add stress to the project that isn't necessary.

[illegible]