

Project Summary

Have you ever been riding your bike at night and been worried about visibility? Have you ever wanted more than the dinky little reflector on the back of your bike? What about the ability to signal without having to raise a hand off the handle bars? Bicycles lack actual brake and blinker lights. These fundamental indicators are present on all sorts of other vehicles. These lights serve as a source of interaction between the world and our vehicle. Our goal was to accomplish all of these things. We strove to create a lighting system that would not only increase visibility for the user, but also allow them to further interact with others on the road around them. Of course, there were also a few other bells and whistles included such as automatic devices.

This project was a tricky task to complete not because of the complexity of the issue, but simply how difficult it was to complete. The system that we designed wasn't complicated in the least; it consisted of a few inputs talking to a microcontroller which then talked to some lights. The vision was clear and each of us had a clear understanding of how to do that thing. The hard part was making it happen. It's amazing how difficult it is to create a truly waterproof design. As it turns out, tolerances can play a big role in that. The final project that we were able to come up with was rough but in working order. All but one requirement was met, and even that one was designed but not implemented. This would show that the fundamental design worked. The next iteration that we would make would simply be cleaner; we would create a cleaner print, use better materials, make the pcb's more space efficient, shore up the programming. After that we would be able to add further functionality to make a more cohesive project!

There were a few key takeaways from this project. First and foremost is time management. Ten weeks is only enough time to complete a rough draft. That means that you have to make sure you only shoot that high. We aimed at creating this amazing machine and ultimately had to make cuts due to time. If we had simply focused on the necessities, we wouldn't have been in that situation. Second, we learned what it meant to work on pieces of a whole as a team. Sometimes everybody can't work on every piece of the project. Sometimes, each member needs to specialize, divide and conquer. In the end, that is what we did and that is what made us successful.