# Personal Accomplishments

Since project began, I personally have interviewed three subject matter experts who were all first responders. These interviews were conducted other the phone and provided valuable insights into the problem we are trying to solve. I, along with the rest of my teammates have also conducted research by attending active shooter training. I have also met with Victor Vedovato at 10 Imaging, in order to get some suggestions about the technology we should use. I contributed to the problem definition assignment by writing the first draft of our problem statement and contributing points about our scope and assumptions to the presentation. I helped prepare a presentation for our meeting with the Air Force Research Lab (AFRL) by preparing slides summarizing what I had learned from my interviews, what technologies we were considering using, and our planned schedule for the project. Michaela and I have tested a prospective human sensing technology.

I have been in contact with a DIY radar expert who provided us with some advice on our own radar design before ultimately advising that we buy an off-the-shelf radar board. I have also been in contact with Xethru who makes a radar module designed for presence detection. We are considering buying their development board. I received some data about their signal attenuation when used through walls, and it appears the Xethru will work at least through thinner building materials. I also was advised that we will need to write our own algorithm for detecting targets from a moving platform.

I helped make the decision to order the Ancortek radar over the Xethru radar. I also prepared our project plan slides and presented my share of them. I wrote the concept selection portion of our concept selection report. I described the differences between the technologies we considered and why the one we chose is superior. I reflected on our project plan briefing and prepared a 1000 word report.

# Planned Activities

In the next four weeks, I will finish our concept selection report and make our design review slides. I will research the Ancortek 528AD2’s specifications and teach myself the related radar concepts. This will allow me to explain these concepts to our group and have a working understanding of them. I will work with Joel to get the Ancortek radar up and running and test it after we have received our order. I will also complete our full BOM with all the parts we think we need. I will complete the next team status report and start working on the final report.

# Personal Risks, Challenges, and Issues

My personal risks are that the sensor we ordered will not work well enough for us or that it will be too difficult to interface with. We need sensors that can detect a human from several feet away through solid material. The Ancortek radar can supposedly do this, and we have been shown demonstrations of this feature. But there is still a risk of it not working as well for us. Moreover, even if the radar’s sensor capabilities are sufficient, it may be difficult to interface with and get data from. This is another risk that could set our schedule back.

# Plan to Mitigate Risks

I plan to mitigate this risk by testing the Ancortek sensor early so we can get it up and running this semester. Therefore, we will not be delayed in developing our human detection system next semester.