

Essay:

This past year in school I completed my Senior Project. We developed what is called a quadrotor—a helicopter-like object that has four propellers. Our quadrotor was to be different from those that have been developed by various Universities and hobbyists in that it was to be completely autonomous and that it would have computer-vision processing that would all be done onboard the quadrotor. This proved to be a remarkable experience for me not only because of the technical exposure that it gave me, but also the opportunity to learn how to more effectively work in groups, which will be invaluable as I begin my career.

A general overview of our quadrotor is that it had a processor which we programmed to control the propellers to maintain stability in flight. We also used a web camera to allow the quadrotor to 'look for' a prescribed target and hover over it. We were given a lot of freedom as we designed the quadrotor and it was exciting to watch it take shape and begin to fly and meet our specifications. As an engineer, I learned a great deal as we dealt with the waves of problems that continually pounded us.

Though the technical challenges were intellectually stimulating, I gained more valuable experience as I worked with my group to address these issues and other administrative details. As is always the case with any project, there were tendencies to procrastinate the work. I was able to demonstrate leadership and coordinate our efforts to meet our various deadlines. At our weekly meetings I would lead the discussions and help everyone grasp a clear view of not only what needed to be done, but how we would do it, when we would do it by, and who would work together to do it. This gave us a clear focus and motivation each week as we divided up the tasks into more manageable pieces. I also helped encouraged everyone after we lost a crucial member of our team due to medical problems.

One of the most important lessons for me to learn was that of delegation. When I am in control of what is to be done, I make sure it gets done—but I have learned that I can't (and shouldn't) do everything. I could see that that there were others in the group who were more experienced in some areas than I was—I could have done it, but it would have taken a lot longer, it would not have been as good, and I would not have finished on time. This was an excellent opportunity for me to trust my teammates and work together to pool our resources and talents to develop the best possible product. We did it.