

Designer's Communication: Breaking Bad Habits from Online Interactions

I. INTRODUCTION

One of the oldest running stereotypes is that engineers are socially awkward, and don't know how to talk to anyone or anything that doesn't have documentation online. And like many stereotypes, this is rooted in some truth. When I was in high school and we had engineering alumni come talk about their experiences, they talk about how important problem-solving and perseverance is in order to succeed. While this is true, it can also act as a curse. By focusing too much on how to solve an aspect of a certain problem can often make us lose track of the bigger picture, and our tunnel vision can make it difficult to communicate with both our fellow engineers and other people without such a technical background.

II. COMMUNICATING WITH TEAM MEMBERS

Arguably, this last semester has been my first time working in a group project that felt like we were an actual team. Sure, we've had design teams in the past, in Praxis I and II, and even in CIV102. However, those teams felt like it was mainly everyone doing their own individual parts and coming together once a week to assign new tasks. In Praxis III however, this sort of strategy would not have worked out, and our team had to quickly learn to throw away our old communication habits.

As we transitioned from an online learning environment, I found that communicating ideas with each other was much easier. Before, such as in Praxis II, it was very awkward to present a spontaneous idea during a meeting, since the main mode of communication was via voice. Even if someone took the time to draw a good diagram, it was still hard for other teammates to either ask for clarification, or to build on. While communicating in-person should be much easier, I did not feel there were major improvements. Because we still kept the same habits as before, there was still a lot of difficulty in being able to fully understand other people's ideas. However, we were able to greatly improve on our communication throughout the semester. Eventually, we would have all our team meetings in front of a large whiteboard, and give everyone a whiteboard marker. We were always to fill the whiteboard up with great ideas, and it was easier to communicate as well since we can combine both our body language and the drawings to assist with the explanation.

For example, to demonstrate the concept of a rotating mechanism to move objects, I first drew the structure that would guide the objects to the rotating arm. Then, I was able to place my actual arm near the whiteboard and rotate it, and was able to demonstrate how the motion element fits in with the static elements. Being able to use so many different mediums at the same time would be impossible over Zoom.

III. COMMUNICATING WITH OTHER PEOPLE

One of the hardest but most important part of being an engineer is how we communicate with other people, both those with non-technical experience and those with technical experience but not familiar with your project. In the final presentations towards the end of the Praxis III course, I was able to see several extremely fascinating and cool works of engineering. Yet, I can't help but notice that even though it looks cool, I'm still not entirely sure how these designs actually work even after their presentations. This curse of knowledge is particularly dangerous because it is very hard to catch.

Rationally, the receiving end should ask for clarifications if they are ever confused, or if the presenters used too much technical jargon. However, even though it is irrational, asking for these clarifications can be embarrassing. Stakeholders, who often do not have the technical expertise, may feel perfectly fine calling us out, and asking the speaker to use less jargon, or even jokingly ask them to speak in "english." However, as another engineer, I often feel that I should know or understand what the other person is talking about. Therefore, in order to boost my ego, I may not ask for clarification and go along with what they say. After all, it's not my project, so what's the harm? I've spoken to

many of my peers and many of us share similar sentiments.

Unfortunately, the harm is that it goes both ways. Being surrounded everyday by fellow engineering students, we need to start calling each other out when something is being explained poorly. If the conversation happened over text, we would often look into the technical jargon ourselves, but this luxury is no longer offered in person. We need to let our egos go and become better listeners, as listening is a major part of communication and is also what helps us become more empathetic engineers.

One bad example of communication where our Praxis team did not display empathy or proper listening was when we met with our correspondence from Georgia State University. We would explain our project and goals, and he would give us his thoughts. However, instead of thinking *why* he was making the statements he was making, we would continue to build on our previous points. It wasn't until later that we realized he completely misunderstood our project. If we had practiced empathy, we would have used the fact that his main areas of focus is in business and accounting, so he would be biased towards those areas. When we were thinking about how to automate recycling, he was thinking of costs and how this could make money. With two completely different agendas, there was bound to be miscommunication.