Personal Essay (A computational passion?)

There was a 10 by 10 foot area marked for my team and I. This small concrete section was marked by white tape. Along the tape was a series of tables and toolboxes wrapped around the inside of the marked section. This allowed just enough room to fit a few of my team members in the designated space at one time. Among all of these toolboxes, tables, and team members stood the most valuable piece. Sitting in center, about three feet wide and 4-5 feet tall, stood our teams robot. We were located inside of a stadium in Utah. There were around 40 to 50 other robots inside the stadium, each either located in their designated areas or in the testing area. Because our team had a 10 by 10 foot square for all of our belongings, so did every other robotics team in the stadium. Every team had anywhere from 10-25 members. Now take that number of members per team multiplied by the number of teams, and shove them all into half the size of an ice skating rink and you have what is called the pits.

This was competition. During competition the pits were the most active section of the arena. Many team members are trying to

I was walking through the crowded halls of my high school, filtering out all the clumps of people wanting me to join their club because it’s “better than any other club” or “So much fun!” I didn’t want to join the lacrosse team, had already played football for six years, and quite frankly thought all these people were annoying. They were bombarding me with signup requests and all I wanted to do was get to the end of the hallway. But on the second floor I noticed a girl standing next to what appeared to be a robot. After some thought about it I walked up to the girl, and signed up for this so called robotics club.

This stands as one of the best decisions I’ve ever made. I personally love computer programming, I’d had a couple years of experience with it as a self-taught programmer. It just so happened that this team desperately needed computer programmers, since all their programmers were seniors and wouldn’t be there to lead the team next year. Little did I know the effort I would put into this team, and the countless hours I would spend frustrated, but eager to code.

After several months I received my first email from the team. They call themselves the Bullbots, which derives from the mascot at Mountain View High School in Meridian, Idaho. During the first meeting I met most of the people that I would spend the next two years with, and also saw a handful of robots the team built (most of them were out of commission). After the meeting I was suddenly struck with anxiety about my competence and abilities as a programmer. But I soon learned to grow comfortable with my team, and realized that any level of experience is welcome. It’s a place for growth and personal exploration.

This place is the home of what is called an FRC (First Robotics Competition) team. These teams can be found all over the world (A few are located here in Idaho), every year they compete in a global competition. This competition changes from year to year, sometimes it may involve throwing or catching objects for scoring, climbing simple structures, autonomously speeding around a track, etc. Once the FRC teams are given their assignment, everyone has exactly six weeks to finish their robot (this is called build season). One final note is how each FRC team is structured. This may vary from one team to another, but the concept is still the same. The Bullbots was broken up into four sub-teams, each with their own lead. Electrical, mechanical, and programming were the three main sub-teams, with the fourth meant for everything non-robot related (i.e. Marketing, scheduling events, fundraising, etc.) Each sub-team collaborates with each other in order to build a successful robot on time.

My first year was all about learning how the team works. Build season is what really tests your skills and personality. During this time we met on Saturdays from 8am to 8pm (Yes, they gave us food). These 12 hours were intense with discussion, brainstorming, and confusion. What do we do? How do we build it? What parts do we need? Will we have time to prototype this? Why the heck hasn’t X Y and Z been done yet?... A lot of times you spend several extra hours just to meet deadlines. The atmosphere can seem exotic for one who isn’t used to it. Drills and saws are screaming away from the mechanical team, electrical is wiring up power and discussing schematics for the robot components, while programming is mashing their keyboards and excessively testing the robot to kill any remaining bugs in the code. On top of that people are tired, hungry, overworked and sometimes just want to go home. Team members start getting impatient, people aren’t doing their jobs, we argue. This is the time where an individual will either rise or fall. At the end of the day, one may be mentally and physically exhausted, and stressed. But if you love what you do, then you still have that itch to come back, to finish the project, to rise above and show what you’re really made of.

During my second year I was elected as the lead programmer. Not because I was good, or even that I was more experienced. I was elected because there was nobody else. After my first year I was the only individual still investing time into programming the robots. This not only meant that I would have some training to do later on, but it meant that I had to program this year’s robot solo. Typically a job for 3+ programmers, not including the mentor. Yet the question comes to me again, will I fall or can I rise above to the task? This year proved most difficult. I didn’t know where to start, felt lost, isolated, and confused. My mentor Steve, guided me each step of the way. Showed me workarounds to problems I hadn’t experienced in the past. We faced many of the same problems the first year, except all the weight was on me now. My most prestigious moment was in “the pits”. During competition this was our team’s small square of concrete that we used for working on the robot (Things like last minute adjustments and bug fixes). It’s also one of the most exciting places to be, and hardest place to work efficiently. Several team members are crammed in a small square reaching for the robot in all directions, having 15 different conversations at once, all hoping to make the robot “Just a bit better.” while trying not to compromise all of its fragile components. But during the second year “the pits” were my territory. I gained great respect from the mentors from all the late night coding sessions. Each and every one of the members asked me what I needed next, it seemed I ran the show. A very majestic and sweet feeling comes when you have so many people by your side, waiting for your order, and glad to work by your side. I wasn’t a wimpy kid anymore, not a shy non-social being. I was a leader, an authority figure, even the mentors had tendencies to look up to me. Sometime later I was able to reflect on my experiences, and realize how much I cared about the Bullbots and its future. When one is doing what they love, and in their element, he/she would be surprised what one can accomplish. Whether it be writing code, creating haikus, painting, cooking, babysitting, teaching, you name it. It’s a wonderful feeling to be doing what you love and I hope everyone experiences being in their element at some point in their lives. It changes who you are, and what you aim to become.

A simple moment can change our lives.

The people we surround ourselves with can also change our lives.

Lots of detail can go into what a tournament is like, the audience/crowd, the rules of the game, life in the pits. You could talk about building the robot. Talk about the program itself.

Addition notes: Almost entirely changed the order of the piece, started out with my moment in the pits, then came back to explain how it is that I got where I was. Added much more detail to the pits to show what it is that FRC teams do there.