

Serving up computers

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OPINION EDITOR

Setting up a server is a challenging task, not because of the depth of the knowledge required, but the breadth. The first step in looking at building a server is knowing exactly what you want it to do. Server racks and professional grade workstations can cost upwards of \$6,000 used. Added to that is the cost of running a server; a server will typically be run 24/7, constantly drawing power from the wall. Choose hardware that's too powerful and you'll waste money on power; choose hardware that's too weak in the name of efficiency and your workflow will stutter.

My personal server needed to serve up three items. Firstly, I needed to support a file server as a backup for my massive media li-

brary. I wanted to run a media server, Plex being my personal favorite, to serve up that media library whether I'm at home or at school. I also needed a Virtual Private Network (VPN,) to route traffic. A VPN and fileserver on their own could be run off a \$35 Raspberry Pi, but the encoding of video files from Plex will necessitate a multi-CPU system. This combination will let me safely and secure stream and share all of my multi-terabytes of files while also serving as a backup so I don't lose any precious data.

Now that you've figured out what benchmarks you need to hit, it's time to look at the form factor of the server you want to set up. Servers can be run off traditionally sized towers, but also computers as small as a Raspberry Pi or as large as 4U rack mounted professional server chassis. Servers run differently from

standard PCs and often several times hotter. I picked up an old 1U rack style server. This PC is only a few inches thick, but as long and wide as a 40-inch television. The size isn't the only awkward thing about the server solution. On boot, the computer sounds like a hairdryer. Using extremely long cables, I can hide the computer away in a space where it won't bother anyone.

The options don't stop at physical size and power. On any server you won't need to run a typical operating system like Windows; a more lightweight solution will let you save on power and increase efficiency. The hardest part of any server set up is figuring out what software you want to try and tackle. Most anything you choose will have a strong community with loads of documentation, but with dozens of solutions it can be hard to choose.

After that it can be hours to get the hang of your new system and finally set everything up properly.

All this work can pay off extremely well, however. For less than the cost of an old laptop, you can set up a server with performance equal to the best single-CPU PC while simultaneously adding 8,000 GB of storage. Ready-made consumer solutions could cost that much without any storage and six times less performance. As with just about anything, many pretty pennies can be saved by taking care of the work yourself. Setting up a server can save your data, reduce load on your central PC, and let you build your own cloud, but the jump from one PC to two may prove to be too much work for the faint of heart.

Sophomore Leadership Retreat exceeds expectations

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This year was my second time attending the Sophomore Leadership Retreat and it beat all my expectations. I was pushed to challenge myself and I tepidly inched into activities that I was unfamiliar with. Usually, I try my best to stay in my comfort zone but, much like the majority of the students that attend the retreat, I slowly began to feel comfortable with the idea of taking risks and moving into my learning zone.

The excitement began to build Friday afternoon after class ended. I packed my bags, and before I knew it, it was time to head to Michigan. The retreat began with some interesting ice breakers that entailed lots of high-fives, a few dance moves, and tons of laughs. Most of us saw faces that we weren't familiar with and in a few minutes, our networks grew to encompass a multitude of classmates who very quickly became our friends.

The very next morning, breakfast was served and then we were all assigned to groups to begin a series of team building activities called Team Olympics. It was raining, but that didn't stop anyone from having fun. In fact, in my opinion, the rain added an exhilarating aspect to the Team Olympics because all of the equipment was slippery, which made the activities a little trickier. When we began the Team Olympics, my team, Shia Labeouf, consisted of an accumulation of individuals, but by the end of the Team Olympics, we defined the term "team." It didn't take long for us to get

close, literally and figuratively, as the activities required us to overcome our insecurities and pull together.

It's crucial to note that the Team Olympics was the perfect prelude to the low ropes course and the Life Mapping activity in which we 'mapped' out our lives by writing about our hopes, aspirations, values, and legacies. I didn't expect this activity to become intimate, but again, my expectations were topped. While my team discussed what we wrote during the activity, I realized how much I appreciated each of my team members because they were all such amazing individuals who had overcome overwhelming hardships. Each of us had a unique story and we all paint these stories with different variations and hues of color. The diversity, and at the same time, commonality that was shared among my group members proves that we're all different, and yet, we're all the same: human.

After Life Mapping, I embraced the high ropes course. Of course, when I say 'embrace' what I actually mean is chickened out for the first 10 minutes on the course. Before climbing to the top of the high ropes course, we were all briefed on how to transfer from one element, or obstacle, of the course to another and then we were told to pick a partner. I cannot express how thankful I was to have had a partner who forced me to complete the obstacle course. To be completely honest, as soon as I climbed to the top of the course, I looked at my partner and said, "Would you be mad if I backed out right now because this is too high for me?" My partner looked at me with

a straight face and said, "Yusra, trust me; you can do this and you're going to do this so just don't look down, okay?" At that point, I knew there was no turning back and I let my partner lead the way. The results? An astronomical feeling of accomplishment! I was so glad that I was given the chance to take a safe and calculated risk because this opportunity is usually not available in our day-to-day lives. As fun as the high ropes course was, it was exhausting and I was ready for some dinner and a relaxed game night. I fell asleep in anticipation of the next day of activities.

By 7:30 the following morning, everyone was up and ready to go. My team was scheduled for organic farming on Sunday morning. Yellow beans, purple beans, purple carrots, goats, and garlic were just a few of the things we saw at the organic farm. As my team members painted buckets that will be used to collect crops, I volunteered to dice the cucumbers that were used to make veggie dip. We all shared memories related to food as we headed back to the lake front to kayak and canoe. Once we reached the lake, everyone picked a canoe or a kayak and we headed out into the water. It was so relaxing to look out onto the lake while canoeing and realize that we live in such a big world. Sometimes, when we're caught up with our academics and extracurricular activities, we forget that our problems are really tiny when they're put into perspective.

As soon as we were finished kayaking and canoeing, we were back in the water for the boat building activity. Every team was required to develop and advertise a boat made

of cardboard and tape. The commercial for every boat was hilarious and it highlighted the great amount of creativity that IIT students have. The best memories I shared with my team were made while we built our boat because it was intriguing to see all of our backgrounds come together to contribute to the best engineering feat that hit the water. It was really a good time to take a step back and think about the culmination of every team's efforts and to realize how close we had become in such a short amount of time. Before we knew it, it was over and we were on the buses heading back to campus.

The chance to visit Michigan to participate in the Sophomore Leadership Retreat was such a blessing and, if you were on team Shia Labeouf and you're reading this, I just want you to know how awesome you are. For any second year students that didn't attend the Sophomore Leadership Retreat in August, do not pass up another opportunity to attend the retreat in October by visiting the Leadership Academy website. The memories we made together will last forever because the Sophomore Leadership Retreat was definitely one of the most memorable events of my college career. One thing that, I think, everyone was able to take back with them was new connections. You probably know what I mean when I say this, because I'm sure you see familiar faces from the retreat when you're on campus and going about your day-to-day activities. If you see me on campus, don't be afraid to walk up to me and say "Hi" because if you don't, I will!



Photos courtesy of IIT Leadership Academy