I made an informative website on the trebuchet as an extension of a collaborative capstone between Vincent Russell and myself. We officially began our capstones at the end of junior year for our 10% Project for Physics, which was actually an extension of the Catapult Benchmark. Originally, we built a 10 foot tall wooden trebuchet for the project with little to no concern for precision of measurements or consistency throughout the project. It wasn't as if we didn't care about the project, but we left many found errors unaddressed. We made it our number one priority to make the trebuchet for our Capstone cohesive and structurally sound. My part of the capstone was to reach out to any audience that had a desire to learn more about our capstone, as opposed to simply admiring its ability. The website displays a history of the trebuchet, the process of building our own trebuchet and modern day applications of concepts involved with the use of a trebuchet. The history aspect lays out the process of the trebuchet as it evolved over time from one of the elite heavy artillery options to just a fascinating display of gravity in the form of a machine. The production part of the capstone shows pictures and video of building the machine and its performance after the construction was complete. The application aspect of the project is in the form of a research paper which describes what modern day machines utilize gravity in a way similar to the counterweight trebuchet.

After realizing Vinny and I needed two very distinct capstones, we decided it be best if he took the responsibility of making the trebuchet as his capstone and it would be up to me to make my capstone the best available project that could apply the trebuchet in such a way that an audience can understand and appreciate exactly what we put into the making of the machine. Initially, my capstone had been to hold an event at Van Collin Field that would allow us to launch objects from the trebuchet, but for a small fee to raise money for the Physics department at SLA. However, I soon realized it was highly unlikely we could require students to pay for something they could see without paying a dime had we decided to perform publicly at the park. I thought of another idea along those lines and suggested we charge them for launching their own items, but we ran into the problem of a student's willingness to pay for us to destroy their belongings; then we realized it'd be pretty difficult to raise enough money to actually benefit the Physics Department substantially. A week or two before the first checkpoint to submit capstone proposals, I cut my losses and realized my best bet to present information on our project was to actually display information. The best way to display large amounts of

information, while keeping the audience's attention, was to make a website. Making a website also enabled me to include media that viewers could observe, which would address our initial intention of letting people see the trebuchet perform.

It was pretty difficult to stay on schedule with my capstone because my outline had to be totally rearranged. After all was said and done, I knew exactly how I wanted my capstone to look so I started researching the history of the trebuchet and everything started to fall into place .My idea of being on schedule with my capstone was that my capstone displayed everything I knew on the topic up until that point.

The biggest problem I had with my capstone was actually determining what method I was going to manifest the media we had of the trebuchet in. As I stated before, I really wanted people to be close enough to actually witness the strength of our project with a live demonstration. However, we were unable to go about the process in that way. To address that problem, I consulted my advisor and it was recommended that I did something that people could actually see and read. We both knew an event was unlikely considering the fast approaching deadlines and lack of demand for students to see their possessions destroyed. Not to mention it'd be a hassle to clean up after the event was over. As I imagined how my capstone would look as a final product, I knew it would not be enough to simply provide media of the process of building the trebuchet along with some videos of it firing. It would look like a poorly done capstone. I contemplated starting a journal of each day we worked on the trebuchet, but again time was of the essence and I deemed it ill advised. So, I added a few extra features to the website which included the history of the trebuchet and the research paper that describes how gravitation potential energy is used today in newer inventions and machines.

If I could do my capstone all over again, from the very beginning, I would totally do a daily journal of the process it took to build the trebuchet, including quotes, suggestions, problems and feedback from passersby throughout the school. I would have appreciated more on an originality level, but it wouldn't have included as much media as the website could have offered. On the other hand, the journal would have given readers an opportunity to see into the minds of two engineers working on a large scale project. Again, I am aware both ideas have their advantages and disadvantages. However, in this case, I would have preferred to have had the daily journal.

My being at SLA was beneficial because I constantly demonstrated the importance of being innovative. Throughout many of my projects in SLA, I often suggested alternative formats for benchmarks and mini-projects that I believed to be better for presentation and relativity purposes. The two best examples I can think of that demonstrate my passion for innovation is my junior year NHD project where Mat and I created a video game that explained the history of video games, and my Pre-Calc benchmark during my junior year. Like both of those projects, my capstone reflects that, as a student at SLA, nothing is out of the realm of possibility- not even building a 10 foot tall medieval machine of destruction.