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Stem-o-sphere: Creating an Immersive Blogging Experience

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Why vlogs and VR videos?

Growing up in rural Iowa, there weren't many opportunities to experience what research was like in a University setting. Thus, I created virtual reality (VR) videos in order to give students and individuals an immersive experience of what research and what a career in science looks like. I also produced a video log (vlog) that documented undergraduate researchers as they progressed along in their own research projects. The purpose of the vlog was to show the method behind implementing a research project, and to exemplify all the hard work, time, and effort undergraduates put into their projects.

My intended audience was high school students and incoming college freshmen (open majors, and students that were still deciding which field to settle on). Coming into college, I knew nothing about doing research as an undergraduate. I fell victim to the misconception that research consisted of long hours mixing liquids in beakers and test tubes while wearing a lab coat. I had no idea on how to get involved in research, and had no clue on what ACTUAL research looked like. All of this was no one's fault; growing up in a small community there weren't very many opportunities outside of the school curriculum. Like me, there are many other students across the nation that are in the same situation due to factors that are out of their control.

My goal was to achieve the following:

- Integrate video blogs (vlogs) into the student-run science blog called Stemosphere.org
- Post at least 3 vlogs showcasing the work of undergraduate researchers
- Create at least 3 virtual-reality videos to show the audience what research looks like inside a University laboratory

360 Fly Camer a—the device used in the filming of the VR videos

Planning and Executing

Getting Equipment

I had to go through various channels to acquire the equipment that I used. The VR camera that I used was rented from the College of Engineering, and most the filming for the vlogs was done using my cellphone camera (cellphone cameras are surprisingly good). The video editing software that I used was Adobe Premiere Pro for all the videos.

Filming

The filming for the videos was rather straight-forward. The vlogs were conducted with Latham fellows, so there were minimal issues with regards to individual releases. For the VR filming, I had to obtain permissions from the labs I was filming to film, and publish footage of their lab on Stemosphere. Overall, filming and making sure I had enough footage to work with was the easy part. The hardest part was editing… *Editing*

Editing proved to be the most time-consuming aspect of the project. I'm new to Premiere pro, so most of the time was spent learning how the software worked. In addition, editing VR videos took an enormous amount of time. I initially had planned for 3 VR videos, but ended up with only 2 videos due to hardware issues with the camera, software compatibility issues with Premiere pro, and having to use a new VR camera after the first one malfunctioned. One of the biggest, and most time-consuming issues I ran into with editing the VR videos, was the footage itself. The camera I used films in 360-degree spherical shot, and due to this nature, it makes it nearly impossible to edit on Premiere pro. To remedy this, I went online and searched for ways to convert the spherical shot to a rectangularish shot. To individually stitch the frames of spherical video, to a rectangular format would take 3.5 hours of non-stop processing. Since the video was filmed in 4K resolution, exporting and uploading it alone took at least an hour.

The first draft for the VR videos. Issues: no controller/GUI to move around in the video, only raw spherical footage.

Going through the vlog editing process.

Lessons Learned/Reflections

After completing this project, I have a newfound respect and admiration for filmmakers. Filming and editing is not easy. I only used small portions of my footage in my videos, so for example in 10 minutes of footage I realistically only used about 2 minutes of that 10 minutes in my video.

With that in mind, I can't even begin to comprehend how much footage is discarded in a full length 2-hour movie. With regards to editing, there are so many ways you can portray a video. While the footage is static, with the right editing tools and skills you can make any video seem exciting. There's so many ways you can edit a video and shape it to tell your story.

Editing in my opinion, is a lot like writing a lab report. In a lab report, you have all these results and findings, but you only want to use some of it to convey your message. In filming, you have all this footage, and you use editing to shape and mold it to tell a story. In the end, doing all this filming and editing was very rewarding. Making movies/videos is something that is very artistic, and there's great sense of accomplishment when you finally finish a video and click the "export" button on Premiere Pro.