**Project title**: Utilizing Multi-User VR in the Academic Sector

**Number of students** (minimum 2)**:** 3 - 4

**Project duration** (1-6 months): 3 Months

**Project frame** (Bachelor/Master, small project): Small Project

**Background:**

Virtual Reality has been a consumer entity since the 90’s, but failed to take off. However, the introduction and widespread use of multi-user experiences to VR, aka Social VR, is promising to make VR a viable medium. For the past few years, Social VR has been used for socializing and gaming in platforms such as AltspaceVR and Rec Room. At the same time, other platforms like Rumii want to use VR to interface with others across distances, organizing meetups and business meeting. There are costs associated with these types of meetings, but it is certain that these meetings are more beneficial when visualization is needed and virtual environments accessed through VR are less distracting than other means of communication, so the complete attention of participants is guaranteed.

**The challenge:**

As with all social networks, traVRse expects to have a same-side network effect in which membership within the Social VR platform becomes more valuable to participating universities once more universities join. The first challenge is in securing early membership into traVRse by convincing academic institutions to become members and contribute to life on the platform. However, there is a follow-up task of continually populating the virtual world we are providing. Universities may need to offload some of their in-person academic activities onto traVRse for the sake of efficiency and reduced spending. These activities could include conferences, club meetings, and poster sessions, but we also want to encourage students and academics to frequent the virtual space in order to connect with people in other schools around the world.

To be clear, the expectation of traVRse is not only to serve the needs of technically minded departments such as Computer/Software engineering. It may even be more advantageous to non-technical departments that have a visual component to their field, including: architecture, fine arts, electrical engineering, psychology, and design.

The first task of this project will be to locate universities that already have (or are soon to have) VR labs available and learn how their VR facilities fit into the academic structure of the university. Is there involvement across multiple departments or is access to the VR lab exclusive to a small group of people within a single department? Are there university courses that utilize the labs? And what is the process for an instructor who wants access to the VR lab? If there is access to VR equipment, how is that amount of time generally managed? The goal of these questions is to learn if the infrastructure and organization of the VR lab is suitable for its sustained use by individual instructors and students. Therefore, more questions may be asked if they seem relevant.

The second task would be learning what activities from which departments would be most attractive to academics and students once the VR platform is available. Ideas for the types of activities might be provided directly by traVRse, but students may brainstorm new ideas if there are any that seem promising. Participants can find examples of people collaborating over distances and the challenges that it entails. Does meeting within virtual spaces help solve any of these challenges or does it simply improve the quality/efficiency of long distance collaboration.

Thirdly, being aware that there is limited access to VR technology within universities and the public, how might traVRse increase maintain the number of consecutive users? At the moment, traVRse is designed for high-end VR units with 6 degrees of freedom (6DOF). Allowing access to 3DOF headsets and regular screens would allow more users access to the Social VR platform, but it would fundamentally change its value proposition and perhaps sacrifice the quality of the experience. Once we know how many individuals could potentially use traVRse within a university (TASK ONE) and what they would use traVRse for (TASK TWO), we can learn what would the cost would be if traVRse became cross-platform (available for 3DOF headsets and computer screens).

**The company:**

traVRse is a tech startup currently based in Istanbul, Turkey that aims to provide a Social VR platform for academic institutions such as universities and private high schools throughout Europe and the world. The biggest value proposition for traVRse is providing a virtual world built exclusively for academic needs across multiple departments. This may include formal events such as organizing conferences and poster sessions, or informal meetups across one or more departments.

Students who pursue their project with traVRse will learn how VR technologies are implemented across disciplines for the sake of education and collaboration. This will especially appeal to future entrepreneurs as they will also gain insight into how startups build networks and find a client base.

**Supervisor:**

Name: Lance Powell

Contact Email: [lancegpowelljr.vr@gmail.com](mailto:lancegpowelljr.vr@gmail.com)

Bio: Three years ago, Lance Powell became one of the founding members of VRFirst’s flagship VR lab in Istanbul, Turkey, where he worked on development and mentorship within VR. He concurrently completed a thesis on harassment in Social VR in which he, among other things, applied a sociolinguistic analysis to tools of Natural Language Processing while also solidifying how we define virtual worlds and social identity. Previous to this, Lance had experience in travel and education. As a co-founder, he is now applying all of these tools to building the traVRse Social VR platform.

**Candidate background:**

Some experience with UI/UX design would be most helpful since you will be targeting the needs of individuals and institutions. Knowledge of computer networks and comfort with computer hardware will also make this a smoother project. An interest in social networks or even experience in virtual worlds (for example, Second Life) will also be useful, especially in the early stages of the project.