

## **STEAM Academy Field Trip to the Virtual Reality Center at Rowan University By Michael Napolsky**

On November 30, the STEAM Academy had the opportunity to visit the Rowan University's Virtual Reality Center. Upon arrival we were shown into a classroom where we were met the people running the facility. They gave us a brief introduction to virtual reality explaining some of its uses and an overview of the equipment they use. We were then divided into two groups and our VR experience began.



Our first stop was to the 260° immersive environment. The 'room' consisted of 10 screens and cameras that when combined with the 3D goggles, capable of putting us in the middle of a wide variety of experiences. Our first as a trip inside the human body. With the use of a special head set with position sensors one could zoom, rotate, and examine the body simply by moving to the view he desired. The most interesting and useful part of this display is that the data can come directly from cat scans or MRIs. The implications are amazing. Doctors from all over the world can diagnose a patient as if they were right in front of them!



We also took a tour of Philadelphia. The center was asked to simulate the city to help plan for the Pope's visit last year. We were given many different views of the city from street level to aerial views with everywhere in between. These views showed everything from emergency evacuation routes to where the crowds were expected to be. This was a truly amazing experience.

The second room we toured had several stations. The first was a driving simulator. This was similar to the immersive environment except smaller and the floor was part of it. We had the opportunity to drive a high end sports car. There was also a VR game, (the staff confessed to spending lots of time with this) where the objective was to shoot arrows at invaders. Another station allowed users to experience different VR environments by wearing a special set of goggles connected to the computer. This was amazingly realistic.



The room also housed a 3D printer and 3D scanner. Around the room were displays of some of the 3D printed objects.





The trip concluded back in the classroom where we were given websites, many of which were free, for some of the software used in VR work. The question came up about how to pursue a career in VR. The answer: MATH, MATH, more Math. The trip was very informative and enjoyed by all.

