711 HPW STEM Collaboration Chosen for the 2013 FLC State & Local Government Annual Publication

In what turned out to be a most productive summer, the 711 HPW/RHA "GRILL" staff and its highly motivated student developers successfully produced and transitioned two important training simulation products.

AIR FORCE RESEARCH LABORATORY, 711TH HUMAN PERFORMANCE WING
U.S. Department of Defense – U.S. Air Force

High School Students Use Gaming Technology to Develop Training Course

If asked what they did last summer, several Dayton, Ohio students will be able to say that they lived in a "virtual world." But instead of immersing themselves in an exotic Avatar-like setting, these students spent their time developing a high school course to train the next generation of modeling and simulation (M&S) experts, as well as modeling a virtual Joint Command Operations Research Environment (JCORE) to support the training efforts of Wright State University's National Center for Medical Readiness (NCMR).

Drawn primarily from the Wright Scholar Research Assistant Program, the students worked for the Gaming Research Integration for Learning Laboratory (GRILL) of the Air Force Research Laboratory's (AFRL) 711th Human Performance Wing's Warfighter Readiness Research Division (HPW/RHA). Their assignment to GRILL was part of the AFRL'S summer effort to support STEM (science, technology, education, and mathematics) education.

The first priority was selecting gaming engine tools that the students would use, based on factors like cost, capabilities, and portability. Ultimately, four alternatives were selected, with the students conducting usability assessments to determine which engine to select. Once the gaming engine and a capstone project, a simulation for a school evacuation, were identified, the students were divided into teams and given the freedom to manage their time and creatively tackle the objectives of their assignment. Input from their mentors was minimal—and this trust was rewarded.

The students' efforts resulted in an extensive tutorial that served as the basis of teacher instruction for the M&S course, as well as an exemplar of the school evacuation project. After further development by a curriculum team, the course is now being piloted at Tri-Village High School in New Madison, Ohio. It will also be showcased at I/ITSEC, the world's largest modeling, simulation, and training conference, in Orlando, Florida.

After completing this project, the students applied their newly acquired skills to moving a version of the JCORE, developed during previous summers, to a more open environment. This enables JCORE to serve as a human interface layer for Live-Virtual-Constructive C2 integration at NCMR's Calamityville®, a state-of-the-art, collaborative training and research facility that prepares civilian and military medical communities to participate and react in an effective and meaningful manner with traditional disaster responders.

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