

**MOONWORLD: A MMORPG needs your input.** C. A. Wood, Center for Educational Technologies, Wheeling Jesuit Univ. Wheeling, WV 26003; chuckwood@cet.edu

**Need:** Education is failing American students. Studies and after school reports from our own kids reveal that classes are boring, un-engaging and not challenging. Most distressing is that teaching is still commonly done as it was more than one hundred years ago, with a teacher lecturing or assigning worksheets or problem sets to students who sit at their desks, working alone on a nearly meaningless task. By contrast, outside the classroom students actively learn many things using computers in various guises and applications: IM, podcasts, googling, wiki, videogaming. Characteristics of all these learning experiences are that students choose them, devote immense amount of time to them, and are actively involved, often creating information while interacting with friends. Classroom instruction, by comparison, is sometimes totally uninspiring.

**Solution:** Videogame playing is an activity that 92% of children ages 2-17 engage in, and 58% of families with only girl children own videogames [1]. The most popular games are not shoot-em ups, but role-playing games (RPG); *The Sims* is the best selling computer game ever. RPG are compelling and require intense learning, and the learning can be applied almost immediately with immediate rewards for success – higher scores, progression to the next level and bragging rights. When did you ever see kid brag about a perfect score on a spelling test?

Videogames can help students become inspired by and understand the inter-related complexities of NASA's future goals. The US has established the goal of returning to the Moon by 2018 and establishing a base there in preparation for permanent habitation and as a training ground for later human exploration of Mars. Unfortunately, these audacious goals are jeopardized by a growing shortage of engineers and scientists. Worse than the present shortages is the statistic that few students are pursuing the math and science courses in high school necessary to prepare them for STEM majors in college.

**MoonWorld:** We are developing MoonWorld, a MMORPG – massive multi-player online role playing game – to stimulate teen interest in the challenge of establishing a self-sustaining lunar society. We want to use the power of a videogame to encourage students to consider a STEM career path. MoonWorld will be a simulation of the stages and problems to be overcome in returning to the Moon. Players will form teams – whose members can be

anywhere in the online world – with each person responsible for learning the knowledge and issues of the role they play, be it engineer, geologist, doctor, agriculturalist, etc. With a set annual budget and defined set of launch capabilities, teams will have to decide where on the Moon to establish their first base and what precursor data they will need to collect for the site. Trade offs between access to landing sites, crew number and capabilities have to be evaluated, with real data and science learned to make the best choices.

The sequence of decisions to be investigated and made include ultimate goals, team size and capabilities, landing site, nature of habitats and protection from hazards, transportation needs, strategies for ultimately achieving sustainability, and development of an economy. The expectation is that hundreds or thousands of teams will explore many different approaches to these problems. Some may opt for research alone, or mining of He3 for export to Earth, or mining of polar ices for sale/trade to other groups on the Moon, or tourism, or even recreation centers to service the lonely lunarnauts. Aggression (stealing and warfare) will not be allowed but brisk competition and occasion cooperation are anticipated.

**Soliciting your input:** Moon-World is in the very early stages of development. I solicit your ideas of issues that should be addressed by the teams and hence the game developers (e.g. shielding from solar flares, psychological concerns, problems with dust, meteorites, and anything else). The goal is for MoonWorld to be so addictive that learning science and being inspired by the future is a byproduct of successful playing, just as learning baseball statistics is part of being a sports fan. Please send me (chuckwood@cet.edu) your suggestions and ideas. Thanks!

**Reference:** [1] E.S. Simpson (2005) What teachers need to know about the videogame generation. *Techrends* 49, #5, 17.