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DIYModeling: a place for students and faculty to build their own game-quality simulations to enhance learning.[1] BRYNDOL SONES, FRANK WATTENBERG, US Military Acdemy — DIYModeling (Do it Yourself Modeling) aims to improve both the quality of learning in the STEM disciplines and the extent to which the very best STEM learning reaches all students by leveraging the power of game- quality modeling and simulation. It builds on earlier work by many people using platforms like Java, Flash and game quality simulations like the Federation of American Scientists' Immune Attack. DIYModeling adds a new element that enables students and faculty to build their own game-quality simulations by specifying the underlying scientific and mathematical models without getting into the details of programming. The DIYModeling team is a consortium of math and basic science faculty from six universities teamed up with the software development company Tietronix Software (an 8a certified company), which does contract work for NASA to build complex software systems including game-quality immersive simulations. The goal of the program is to enable curriculum developers and students to develop game-quality, three-dimensional immersive simulations with educational benefit. Current applications under development include a first-person shooter game environment for use in data collection and statistical analysis, orbital mechanics in executing the Hohlman transfer, and solar power generation. Some pilot tests are planned for use in the spring semester.

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