



## Cyber Space Sustainability Project

### Virtual Manufacturing Center

#### Mission Statement

To design and develop a virtual manufacturing center using an open source 3D software package for Connecticut Colleges of Technology, Regional Center for Next Generation Manufacturing, to be used primarily for educational and prototyping needs.

#### Synopsis

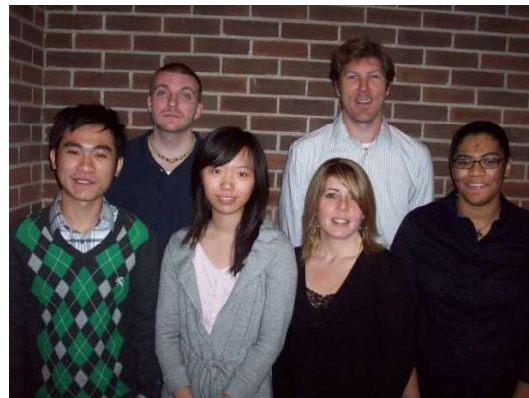
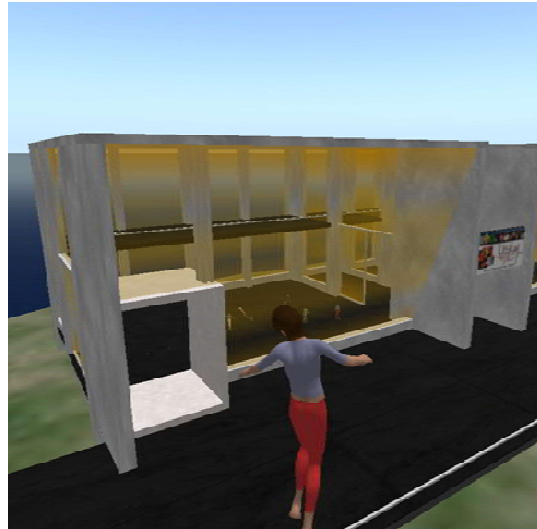
Virtual Manufacturing is increasingly viewed as indispensable tool for increasing the efficiency of the choreographed inner workings of industrial processes. Many companies across various fields utilize virtual manufacturing, such as Boeing reducing fuel costs in aircraft skin panels by modeling them with in a the virtual environment.

The COT RCNGM Virtual Manufacturing Center (VMC) project seeks to develop an environment that will demonstrate the power of this new paradigm in a meaningful way for students studying related fields. The 3D software used is Open Simulator which is an open source multi-platform, multi-user 3D application server used to create a Virtual environment (world). Open Simulator is written in C# language and is called scripting. Each script represents a text document containing a list of instructions that need to be executed by a certain object so that the desired automated action could be achieved.

Student participants will work together with COT staff to design and develop the COT VMC to illustrate case studies of virtual manufacturing. The project was broken into several key phases, some completed by all group members and other tasks were broken up by specialty. The phases are below:

- Research
- Practice Building & Scripting
- Conceptualization of Case Studies
- Construction

The team will also explore the use of Virtual Worlds in Architecture, Engineering and Construction project design.



Brian Mulhall  
 Michael Brosnan  
 Dinh Thanh-Lam  
 Lingyi Zhang  
 Courtney Collins  
 Jasmine Dumas

University of Connecticut  
 University of Connecticut  
 University of Connecticut  
 University of New Haven  
 University of Hartford