Virtual Reality Applications Center (VRAC)

The Virtual Reality Applications Center (VRAC) is located directly adjacent to the C6 on the first floor of Howe Hall. While serving as operation central for the C6, the VRAC is also constantly trying to work its way through the barrier that is human and computer interaction. The majority of the haptic devices – devices activated by a sense of touch or a force – are designed and integrated in the VRAC. The VRAC is a multi-discipline interaction research center. It is the home to over $20 million in ongoing contract research for industry and government agencies. Employing over 50 faculty members and 200 graduate, undergraduate, and post-doc students, it researches a diverse range of challenging problems spanning science, engineering, and humanities.

The C6
The C6 is a 3D, fully-imersive synthetic environment. It consists of a 10ft x 10ft x 10ft room where all four walls, the floor and the ceiling are projection screen capable of displaying back-projected stereoscopic images, providing total immersion for the participants. It originally opened in 2000 and was updated again in 2007 to its current specs, which are among the best in the world. It is so high-def that if you stand with your nose touching the wall, you would not be able to see the individual pixels. It also has 3D eight channel surround sound. It takes 48 computer to run the C6 and uses 24 projectors to project the images onto the screens. The C6 here on campus is the only known system of its kind to support wireless tracking.

The C4
The C4 is similar to the C6 in the fact that it is also a 3D, immersive, synthetic environment. Unlike the C6, the C4 projects images only on the front, left, and right walls, as well as the floor.

Uses
- John Deere has used the C6 to redesign their tractor cabs.
- Work with the U.S. Air Force on unmanned aerial vehicles.
- Planning of a new industrial factory, virtually before actual building.
- Training employees on machinery without actually training on the machines.
- Medical doctors are using the C6 to see 3D models of their patients before conduction surgery.