Team Name/Project Title: **Performance Transformation through VR**

Department: **Computer Science**

Faculty Advisor: **Dr. Min Choi**

Team Members: **Ritesh Sood, Tuan Phan**

**PROJECT INFORMATION**

**Description:**

Developed a VR environment to test performance transformation from VR to real life.

**Abstract:**

Athletes, coaches, and other sport-related professionals have been increasingly using Virtual Reality (VR) technology for a variety of purposes. VR sporting applications often mimic the environment of a real-life sport and require athletes to interact with the application as if they were playing that sport. These applications can be used for performance assessment, skill practice, and feedback collection, and can be easily controlled and manipulated in order to produce specific scenarios. Much of the research in this area has focused on endurance sports such as running, cycling and rowing, and few studies have explored the use of interactive VR in skill-based sports. We propose a VR ping pong system to examine training transfer for skill-based sports. Using this system, we will study how well athletes apply techniques they learned in VR to the real-world game and determine the success of training transfer by taking both quantitative and qualitative measurements. We have built a realistic virtual ping pong prototype system in which the player is trained to play ping pong by returning balls fired by a ball launcher. Experimental group data analysis will take place before and after the training to show the success of the training. The work has two main contributions, first, showing the validity of VR for sport-related training and transfer skills learned to the real world.