CSE 481V AR/VR

Credits

5.0 (3 hrs lecture, 2 hrs+ meeting times)

Lead Instructor

Aditya Sankar

Textbook

None

Course Description

Students work in teams to design and implement a software project involving multiple areas of the CSE curriculum. Emphasis is placed on the development process itself, rather than on the product.

Prerequisites

CSE 332; CSE 351; either CSE 331 or CSE 352.

CE Major Status

Selected Elective

Course Objectives

Virtual and Augmented reality are promising technologies that are certain to make an impact on the future of business and entertainment. In this capstone, students will work in small project teams to build applications and prototype systems using state of the art Virtual Reality (VR) and Augmented Reality (AR) technology. Seattle is a nexus of VR tech, with Oculus Research, Valve, Microsoft (hololens), Google (cardboard, jump), and teams in the area. We will be developing on the latest VR/AR headsets and platforms, and will bring in leading VR experts for lectures and to supervise student projects. Students will experience the end-to-end product cycle from design to deployment, and learn about VR/AR technology and applications. The capstone culminates in a highly anticipated demo day where the students demonstrate their creations to other students, faculty and industry luminaries.

ABET Outcomes

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (H)
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors (H)
3. an ability to communicate effectively with a range of audiences (H)
4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts (H)
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives (H)
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgement to draw conclusions (H)
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies. (H)

Course Topics

- Software development in teams
- Attention to design for conditions of low connectivity, low cost, different user populations
- Most student time is spent in the development process, and performing critiques of it.