

# COSMOSHGX: A VIRTUAL REALITY GAME BASED ON THE H.A.R.V.I.E AUGMENTED REALITY USER INTERFACE FOR LUNAR EXPLORATION

Zarin Mira

*College of Engineering  
Natural Sciences and Engineering Oral Presentation*

**Abstract:** CosmoShox is an upcoming Virtual Reality game named Cosmos-Game, based on the H.A.R.V.I.E Augmented Reality user interface (UI) program created by participants of the 2022 NASA SUITS program from Wichita State University. This game is designed to focus on the Artemis mission, which aims to establish long-term presence on the Moon. The main goal of the Cosmos-Game is to provide an immersive and engaging experience for players through an innovative spacesuit UI, which includes features from H.A.R.V.I.E, along with additional features such as lunar search and rescue, analyzing exotic particles, handling, and controlling network-connected devices, and navigation to the target destination.

The Cosmos-Game features various categories that have undergone extensive research and ongoing development, aiming to provide users with a realistic and challenging lunar experience. The game will require players to complete various tasks by following instructions given within the game. The UI will allow for easy access to status monitoring, geological scanning, mapping, and navigation, as well as ROVER control on the lunar surface. Additionally, the game includes features such as searching and rescuing stranded team members, analyzing exotic particles of the planet, and controlling network-connected devices, such as cameras, rovers, and robots.

By incorporating Virtual Reality technology, CosmoShox aims to provide a highly immersive and interactive experience for players. The game is designed to be both entertaining and educational, as it offers a realistic simulation of lunar exploration, including the various challenges and risks that come with it. The ultimate goal of CosmoShox is to inspire and educate a new generation of space enthusiasts while advancing the development of human space exploration.

Faculty Mentor: *Maggie Schoonover, Kristyn Smith Kristyn Smith*