



## TEAM PROJECT INFORMATION FOLDER — YEAR 2021

### Department of Intelligent Interactive Systems

**Project Team:**  
**1@KISI'2021**

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**Key words:** CAVE, Feet Detection



### PROJECT TITLE:

**Position recognition of feet on the floor of a large virtual reality cave in the Immersive 3D Visualization Laboratory.**

### OBJECTIVES AND SCOPE:

Improvement of the tracking system operating in the large virtual reality cave (BigCAVE) located in the Immersive 3D Visualization Laboratory via detection of the user's feet based on the image of the cave floor recorded by cameras located under the floor.

### RESULTS:

1. Development of system architecture.
2. Selection of the first version of the algorithm.
3. A Proof of Concept application that allows you to find your feet on sample images taken in the lab.

### MAIN FEATURES, FUTURE WORKS:

Characteristics:

1. An algorithm based on the OpenCV library.
2. Usage of multiple cameras to capture video.
3. Adaptation to the specifics of the CAVE system.

Further work:

1. Development of the final version of the product as a plugin to Unity.
2. Improve the detection process to improve detection effectiveness.
3. Performing a test to set guidelines for the use of an effective-detection plug-in.