The Development and Use of a Gesture-Based Control System

Kane, Omkar

This project successfully developed a Gesture-Based Control System, which could manipulate values in a phantom three-dimensional field. The Gesture-Based Control System is a Control system that uses a combination of an accelerometer and a gyroscope to manipulate the behaviours of the drone. Research was done to discover the best scientific principle to apply to the control system. Subsequently, three steps were taken: The creation of a Java program to ensure the knowledge that had been acquired was accurate. This step involved the potential development of higher-level commands, which saved time in the development of the final program. Secondly, the exact code was translated into an Arduino program. The Arduino program mirrored the behaviour of the JAVA program in that it told the drone to take off and land. Finally, the validity of the code I developed was confirmed; the method of controls for the different axes was implemented. There were many problems encountered during the development of this project, one being problems with corrupted classes. The Arduino String class had a number of corrupted methods, like the format() method, which forced me to manually hard code the String. These were overcome to successfully develop a Gesture-Based Control System.

Awards Won:

Fourth Award of $500