Gesture Controlled Laser

6.101 Final Project

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Abstract

A gesture controlled laser is a device that will project a controllable point of light on a plane. The location of the point on this plane will be controlled by a gesture recognition system. For the purposes of this document we will refer to the plane that the laser projects on as the Projection Plane. The gesture control system will consist of two ultrasound sensors that placed 90 degrees from each other creating a plane. In this document we will refer to the plane that the ultrasounds create as the Measuring Plane. An object is placed in the measuring plane and has full range of motion to move around in this plane. The location of the object on the Measuring Plane will be read by the ultrasound sensors and used to determine the location of the laser on the Projection Plane. The laser will be mounted on two servos that are each 90 degrees from each other. Each servo will control one of the two axes of motion. The goal of this project is to create a system that precisely measures the location of the object and precisely control the servos to display the laser at the desired point.