

6.111 Final Project Abstract

Title: Gesture Recognition Remote Control

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This project aims to create a new way to control devices within a home. The goal is to recreate the remote control and the way in which it controls devices within a home through a control box. The control box will be connected to receiving elements, such as a video camera and microphone, to pick up signals from the new remote device, and the devices it controls.

This new remote will consist of two wand-like objects whose motions will be picked up by a video camera and decoded into basic command gestures. These commands will control the selected device, which will be chosen by selecting one of the buttons on the wand-like remote. This button press will signal the beginning of a “control session”, in which the user will be able to influence the selected device through gestures with the wands.

During a “control session”, a trigger button on the wand will be used to signal active gesturing, avoiding some problems that would arise if the wand were continuously being interpreted for gestures. The “control session” will end automatically after the trigger button has remained un-pressed for a long enough time to conclude the user is done controlling the last selected device, or when the user selects another device, starting a new control session with that device.

As added features, the control box could have the functionality of having pre-recorded messages (recorded by the user) played back to the user, confirming the user’s choice of device when pressing a button to start a “control session”. While the control box will come pre-programmed with certain devices, such as TV and radio, the ability of a user to add devices to the system and coordinate which gestures would activate which features of the device would be a bonus to the system. More features may be incorporated into this design during the planning and implementation stages.