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October 20, 2016
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Project Abstract

Touch & Go

We will control an RC car by tracking finger movements on a monitor fitted with IR touchscreen technology. The car will move along the path traced out by the user's finger.

Our project will use a camera mounted on the ceiling to track the location and angle of the car. Using image processing, we will extract the angle and position of the car. We can triangulate the position of the user's finger based on feedback from the IR sensors. With the angles of the car and the finger movement, we will design a control algorithm to direct the car along the finger's path. We plan to PWM or otherwise control the speed of the RC car. Further additions could include displaying the image from the camera on the screen in real-time. The field of view of the camera would map directly to the screen. Dragging the car around on the screen would proportionally equate to the car's movements in real life. Another addition could be making the car's speed proportional to how fast the path is traced.