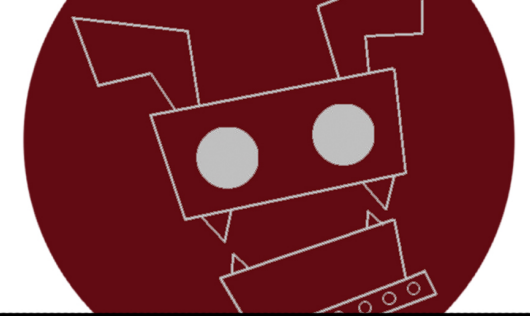
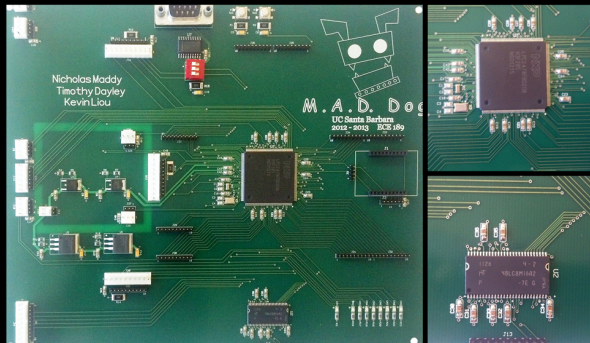


M.A.D. DOG

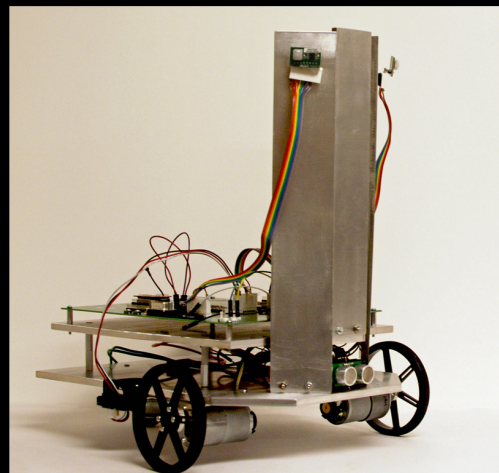
— Mobile Area Defense —



M.A.D. Dog is an autonomous robot designed to patrol office buildings for intruders. If an intruder is found, M.A.D. Dog has a speaker and high luminosity LEDs to act as deterrents, as well as a Wi-Fi module to alert the front desk or other server.



We used two Pololu 6 V DC 210 RPM gear motors which were controlled with the Solarbotics L298 motor controller. Each motor channel had a set of GPIO inputs to control direction and a PWM driven enable to control speed.



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One IR sensor was placed on either side of the robot to allow the detection of walls and other obstacles.



One sonar module is mounted on the front and is used for detecting walls and other distant obstacles directly in front of the robot.



Three PIR sensors are mounted on the tower to provide a wide FOV. These sensors are able to detect human movement and will trigger the alarms and server alert sequence.



The compass is positioned on the top of our tower and is used with the motor encoders data to determine the position of the robot.



The Wi-Fi module provides network connectivity to allow the robot to provide position and alert information to the server.