

## PROJECT PROPOSAL

### SNIFFING DOG

#### **Goal:**

To control and monitor the motion of a robot that navigates and tracks objects using Ultrasonic sensor.

#### **Description:**

The proposal aptly fits the theme i.e. toy as the prototype that shows the traits of a pet that flinches away when approached by an obstacle and is drawn towards the obstacle until certain distance when the obstacle moves away. The prototype contains two ultrasonic sound sensor that constitute the tracker and follows the moving obstacle. The prototype also has edge-detecting IR sensors that prevent its fall off an edge.

#### **Hardware:**

MSP430g2553, L293D (H-bridge motor driver), Servo-motor, Geared Motors, Ultrasonic sound sensor, Photo-transistors, Resistors and Transistors

#### **Software/IDE:**

CC Studio

#### **Useful Features of MSP430g2553:**

The on-chip A/D converter is used to read the values of the Ultrasonic sound sensors and photo-transistors to detect the proximity of the obstacle.

The on-chip timers are used to generate the Pulse Width Modulated waveform to control the geared motors and servo motor.