Abstract
Our main goal is to demonstrate hardware in the loop through PID control of a remote controlled car. This system uses data collected from an android cell phone app to remotely control a vehicle. A Bluetooth connection sends user data to an Arduino Mega using Simulink to appropriately format and transmit data to an Arduino Uno. This output data is used to control the motors' speed and direction. Feedback data from the motors is sent to the Mega to allow for closed loop control. Real time input/output data can be viewed in a Simulink simulation demonstrating hardware in the loop.

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Abstract
To design, read, and display an air quality monitor utilizing the Internet of things (IoT)

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