



RPCS

Real time People Counting System

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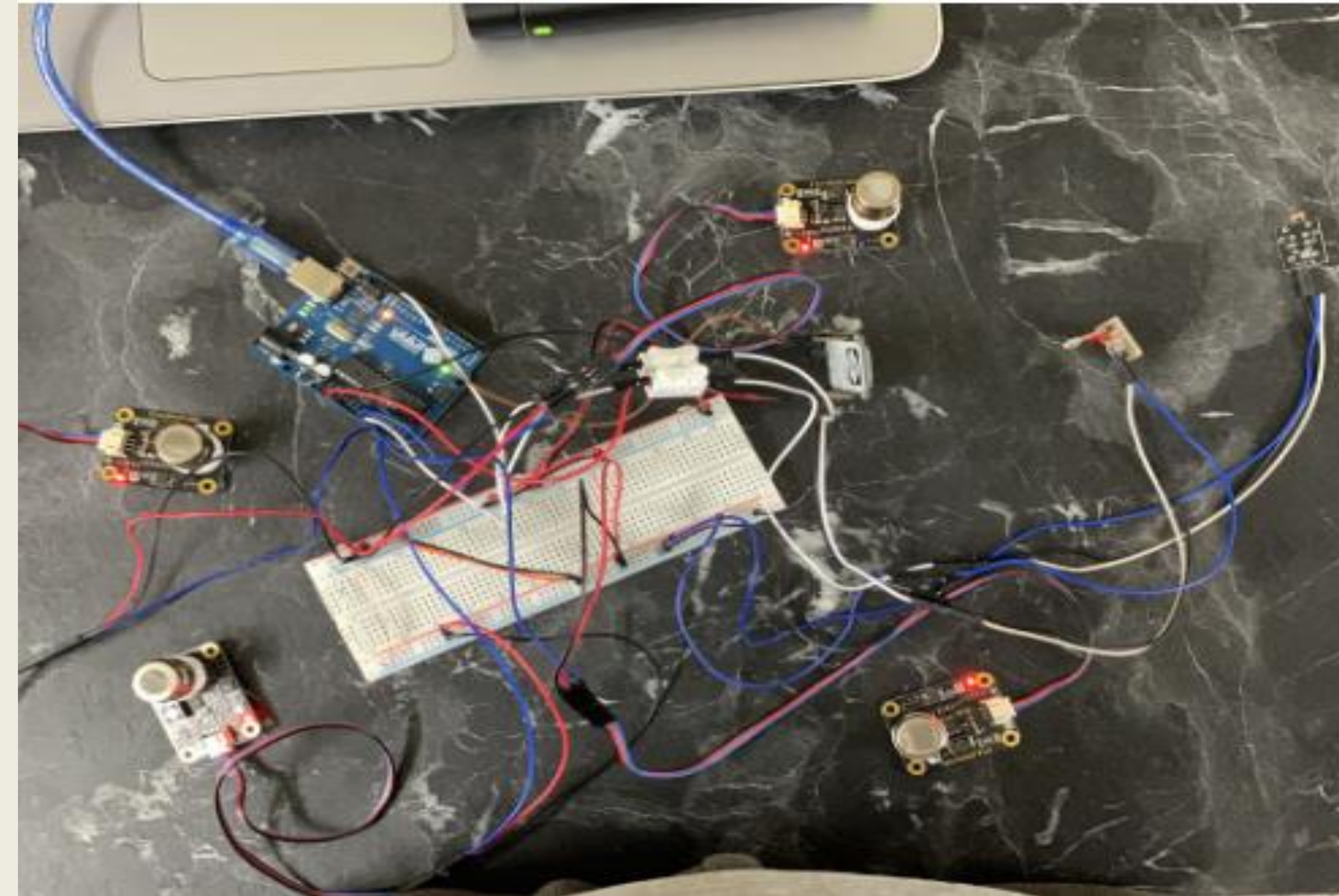
introduction

The COVID19 pandemic, which began in Wuhan, China, last December 2019, has ushered in a new era and a new way of life - a new reality in which social distancing has become a must in order to survive. With over half a million confirmed cases and over 8000 deaths in Saudi Arabia alone -as of the end of December 2021- and the significantly increasing number of infections and deaths worldwide. The control and prevention from the virus requires the wearing of masks and a social distance of 1 meter between people as the virus can spread through saliva and human contact.

A major challenge in preventing COVID19 infection is controlling the number of people, especially in private places. Therefore, we will develop an automatic counting people inside a place by an Arduino Uno with Laser and Co2 sensors. In this chapter, we will describe our project and how it will work with Laser and Co2 technologies.

In our project, we need to find a solution to ease and enhance the counting of people in crowded places and monitoring CO2 levels. We aim to build a system concept stands on warning and avoiding crowd places, and to notify authorities with up to date information through a mobile web interface.

Our project is built on Laser and CO2 sensors combined with Wi-Fi module to send data to the internet. Laser and Co2 in our project are an ideal solution. Usually, laser sensors is used for security purposes because of invisibility of light



Problem statement

The proposed system is to count and manage the large number of people in crowded places by counting them and monitoring CO2 level. Authorities in that places face many difficulties to handle this number.

We aim in our project to use Laser, CO2, and Wi-Fi module technologies that are connected to display data in a mobile web interface. The Laser will be installed at the gates where people are passing. Number of people is exceeded based on the Laser signal in entrance gate or exit date. In addition, the crowd is measured according to Co2 changing results and displayed on the mobile screen

Microcontroller

The project based on Arduino UNO Microcontroller to operate the Laser and Co2 modules. Arduino reads data from laser receiver and Co2 module and sends data through Wi-Fi to server to display data via web page.

Goals

Counting the crowd flooding in people operation process:

This is to prevent Corona virus of spreading among people. We count the number of people in places and monitoring CO2 level to the standard measurement. .

Assisting the security authorities in handling the people flooding process

Health authorities face difficulties and troubles to manage large number of people during Corona pandemic. They need to count people in the area with cheap technology to notify the official with the number of people