

Portable Ventilator System with Blood Pressure Monitoring'

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Abstract: *The demand of ventilators has been increasing dramatically from the past few years due to the spike in the COVID-19 cases globally. Around the World, the absence of availability of ventilators has taken a lot of lives in just the past couple of years. The use of ventilators has been proven to be helpful from preventing the danger of lung harm through low- quantity airflow and helps us to get the adequate amount of influx of pure air. The ventilators available are expensive and scarce in supply. They are heavy and would normally weigh around 7 to 8 kgs, which makes it inconvenient to carry from place to place due to its enormous size. Our project aims at developing a smart ventilator system using a microcontroller board and sensors based on Internet of Things (IOT). The smart ventilator will be portable and very light in weight, which makes it handy to use and requires no additional expertise to handle it. Also this ventilator have low cost which makes it more affordable for most people. The usage of the high torque motor enables us to change the pressure as per the requirement. The sensors used collects the temperature and the Pulse oximetry levels and the same is updated on the LCD display. Through this prototype, the method of cam-actuated BVM compression is confirmed to be a feasible choice to acquire low-price, low-energy transportable ventilator compared to the high priced ventilators in the market currently. This project contributes to the medical services by providing a practical implementation of a Portable ventilator for the medical emergencies in the medical field..*

Keywords: Portable Ventilator, low-price, low-energy transportable ventilator, Internet of Things (IOT), Affordable, handles pressure monitoring

