

## عنوان مقاله:

Monitoring and controlling the incubation process using the Internet of Things system

## محل انتشار:

سیزدهمین کنگره ملی مهندسی مکانیک بیوسیستم و مکانیزاسیون ایران (سال: 1400)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

Today, poultry and its products constitute an important part of humanity's food basket. The first step in order to get the most out of the poultry production process is to produce chickens. In small-scale incubators for domestic use, one of the barriers to production is a sudden power outage, so the production is severely overshadowed by the embryos being sensitive to temperature and humidity stresses. The aim of this study is to develop an Internet of Things (IoT) system to monitor and control the conditions inside the incubator due to the sensitivity of eggs to temperature, humidity and ventilation inside the incubator due to the impossibility of line monitoring. In this study, using the Arduino-at-Mega ۲۵۶۰ board, which is the core of the control system, by the IoT interface module of the sim۸۰۰, the temperature and humidity sensor data read by SHT۷۵ based on the MQTT protocol on the AdaFruit IoT cloud platform, a system IoT was developed, with this system the user can view the temperature and humidity data and the ventilation system online every ۳۰ seconds without having to go to the location of the incubator on his mobile phone, if the water level inside the humidifier tank of the system is low. It can issue the necessary warnings to the user, in case of emergency, the system sends a warning text message to the user so that the operator can immediately refer to the developed software to apply control commands, also in case of power outage from ۲۴V DC battery as car power supply. Incubator use

## کلمات کلیدی:

.Arduino, Incubator, IoT, Remote control

