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Paper Title:	Detect and Estimate the Breathing rate of Newborn in the Infant Incubator Using Contactless Sensor
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Abstract

Infant incubators are medical equipment which is used to control the temperature of newborn so that they are physically healthy according to criteria. Infant incubators have properties like the mother's body in terms of temperature, humidity and air circulation. They are therefore essential for premature infants. Underweight growth is not yet complete, or the newborn is underweight. These factors may affect the breathing of newborns. There may be abnormal breathing. So, the purpose of this project is to install contactless sensors for detecting breathing in incubators to estimate the breathing rate of newborns if there is abnormality or not within normal limits and can alert medical personnel to return to monitor. So, sensors used for testing are MH-ET LIVE HB100 X 10.525GHz Microwave doppler radar module and Stereo camera which is a combination of two C270 HD Webcams. The experiment will detect and estimate the breathing rate to determine which type of breathing it is, such as Eupnea, Apnea or Tachypnea. In which a newborn phantom that can adjust the breathing rate will be made as an experiment instead of a real newborn. And finally, the results of breathing will be displayed on the Internet of Things (IOT) platform.