



Faculty of Engineering



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Systems and Biomedical Engineering Department

A report on:

INCUBATOR AND ITS MAIN FEATURES

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Baby Incubator:

The incubator contains the most essential alarms such as

- Power supply alarm.
- Air temperature alarm.
- Humidity alarm.
- Sound level alarms.

Note all alarms were LED alarms as to maintain the sound level inside the incubator and to cause any disturbance for the baby.

For the temperature regulation and air circulation the incubator has an impeller fan to take the air from the inlet and direct it towards the heater which is used to prevent the temperature from dropping below a certain level. The fan also helps with the air circulation and without it there would be overheating.



The monitored parameters in the incubator:

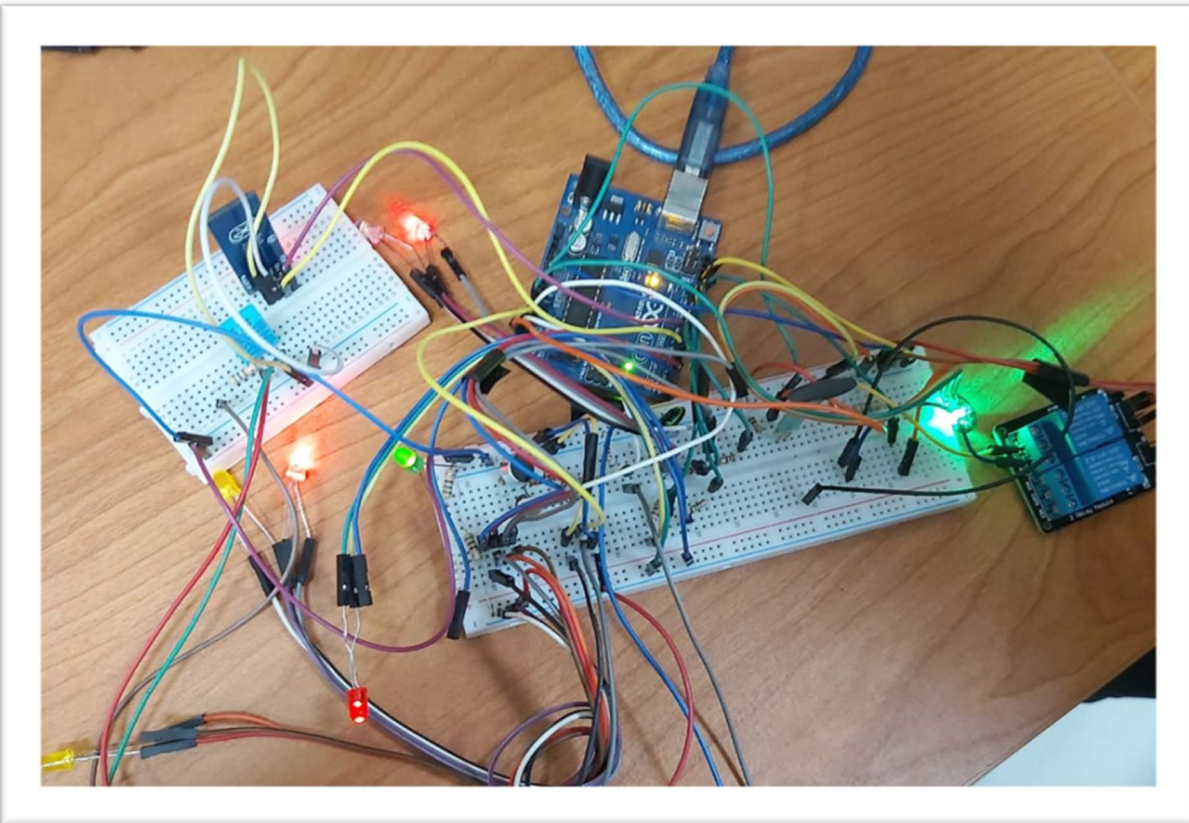
- Air temperature using DHT11 sensor.
- Skin temperature using Thermistor that is attached directly to the baby skin.
- Relative humidity using DHT11.

- Sound level using Microphone compatible with Arduino.
- Weight of the baby using FSR.

The Main Feature:

Psychologically the baby recognizes his mother through her heart beat as after birth the babe is in direct contact with the mother except in very few cases such as the baby needing an incubator in which he is going to stay for a while so as not to lose that connection with his mother the incubator has a heart rate sensor for the mother to put her finger on and inside the incubator there is a piezo buzzer which is used to generate that heart beat sound of the mother.

The circuit used in the incubator:



The fan with the heater for temperature regulation and air circulation:



The Mobile Application showing the reading of Temperature and Humidity:

