



Smart Air Purifier

By Md. Masrur Saqib,
Student,
CSE - 18, RUET.



What is smart air purifier?

- ❑ A purifier which have a filter to purify the air inside a room.
- ❑ A purifier which can be operated with a smart controlling system.



Why air purifier?

- ❑ *According to WHO, 9 out of 10 people worldwide breathe polluted air
- ❑ *WHO estimates that around 7 million people die every year from exposure to fine particles in polluted air *
- ❑ **According to the business standard, **Bangladesh has been named the world's most polluted country for PM2.5 exposure**
- ❑ ****Dhaka has emerged as the second most polluted city in the 2019 World Air Quality Report.**

Low cost solution



Price:
\$249.99 + \$954.60 Shipping & Import Fees Deposit to
Bangladesh



Price: BDT 15,000

Low cost solution



Box Fan Air purifier

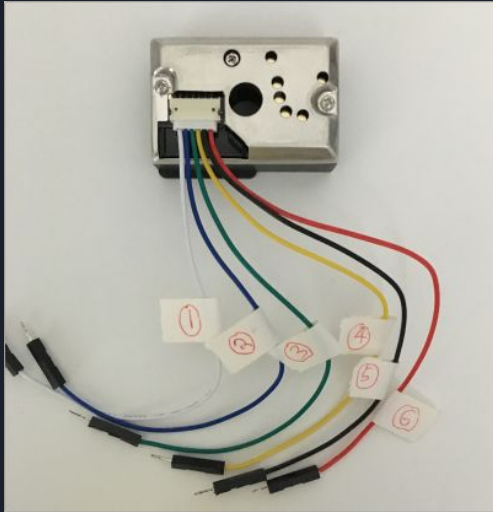
1. Box Fan = 2800/=
2. HEPA filter = 1200/=
3. Total = 4000/=

Low cost solution

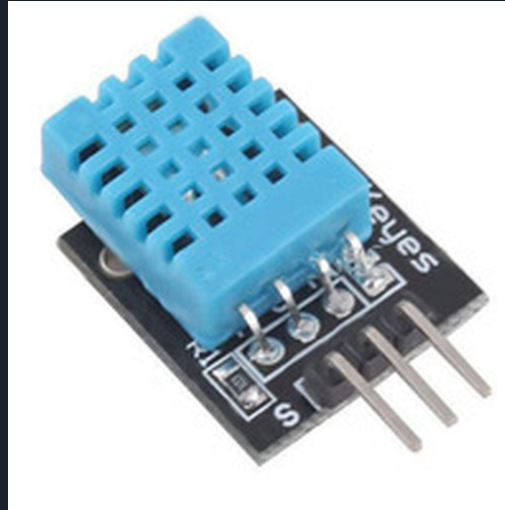


Cardboard (Body)	50/=
Filter	200/=
Fans	160/=
Adapter	80/=
Arduino Nano	250/=
PCB and Others	100/=
Dust sensor	600/=
Hum-Temp Sensor	80/=
LCD	180/=
Bluetooth	300/=
Total	2000/=

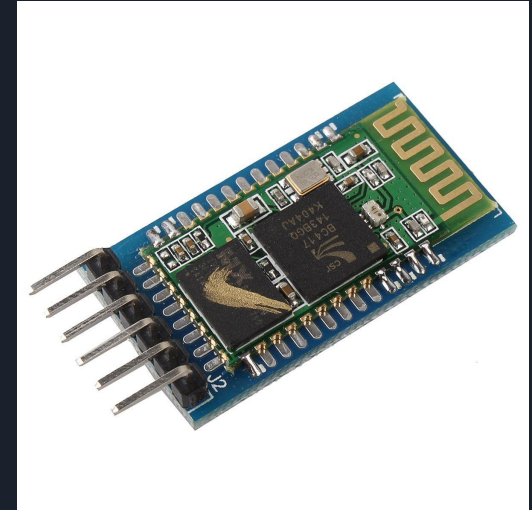
Sensors & Modules



Sharp GP2Y1014AU0F Dust
Sensor :: Measures PM2.5

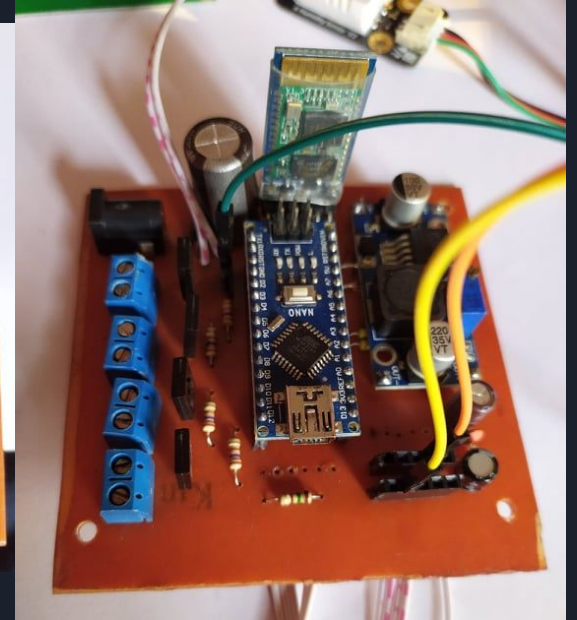
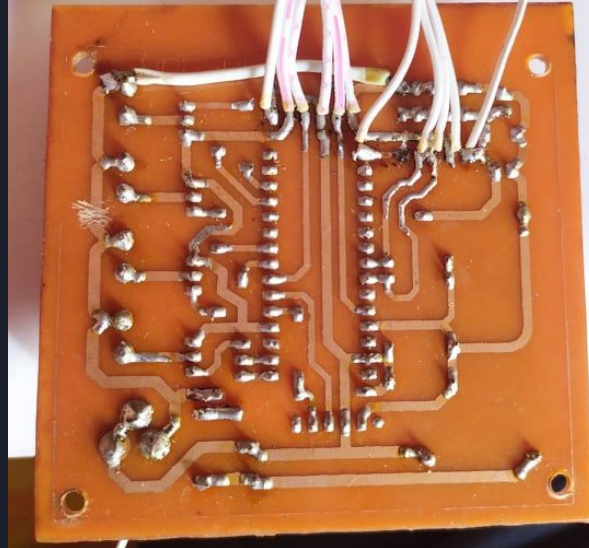
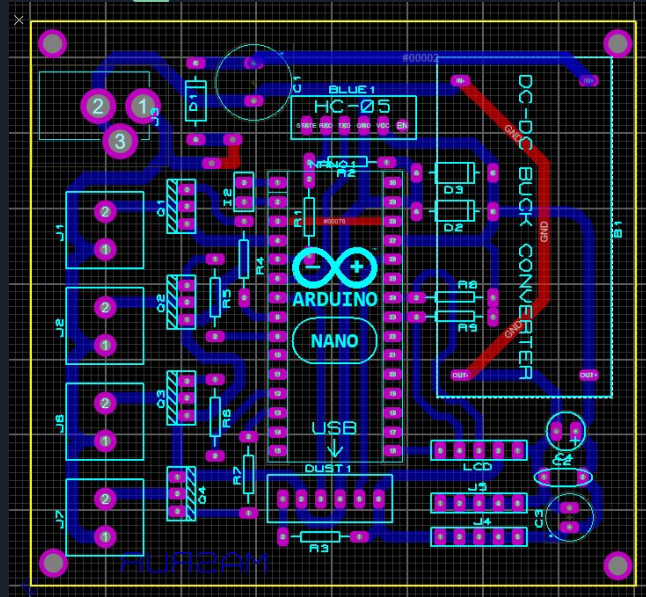


DHT-11 Humidity &
Temperature Sensor

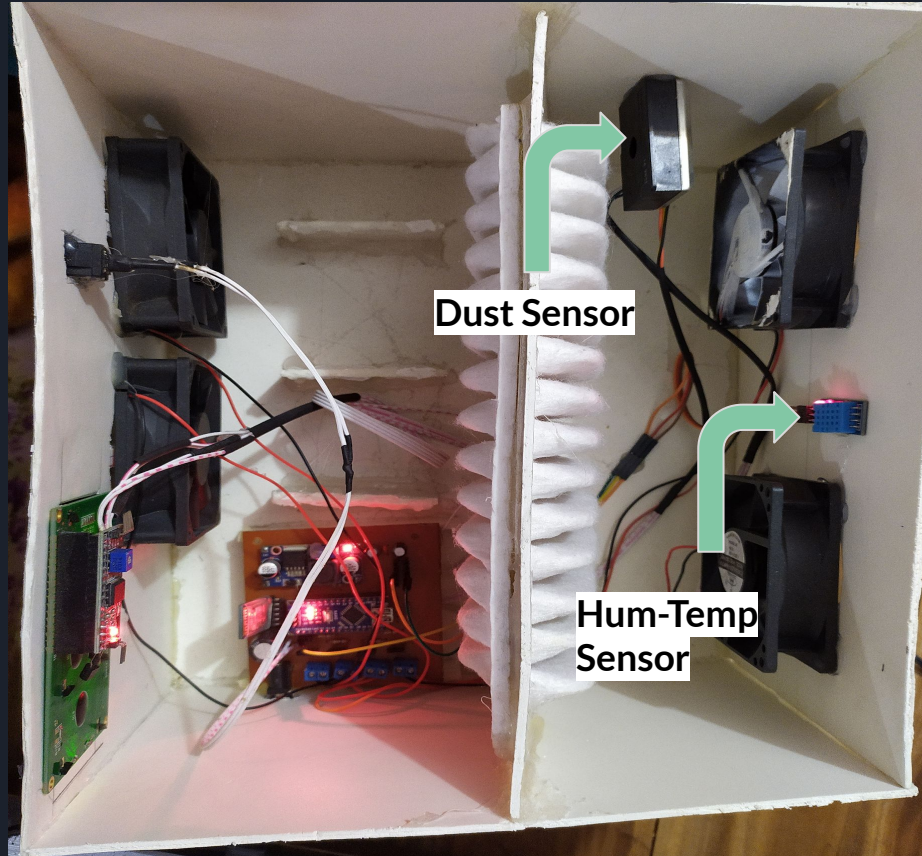


HC-05 :: Communication with
Android

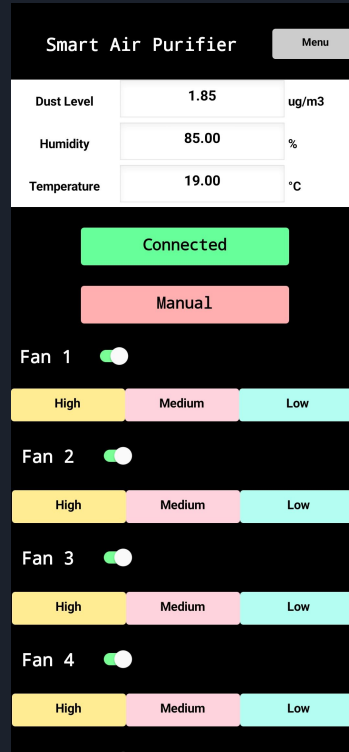
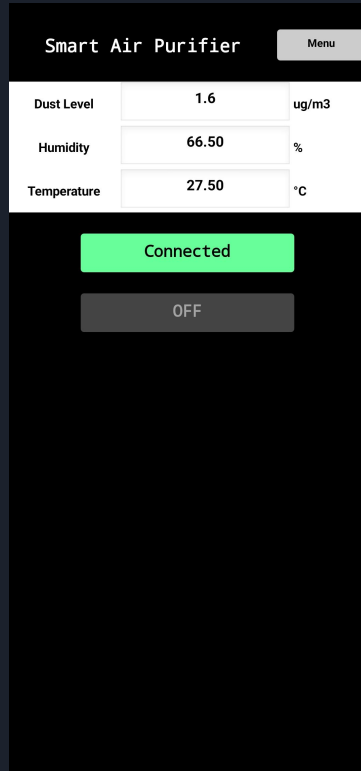
PCB



Air Circulation & Sensors Position



Display, Modes & Android Apps



- ❖ Air Quality is Based on the measurement of US-AQI
- ❖ There are 2 modes. Automatic and Manual.
- ❖ In automatic mode the purifier will run automatically when the air quality is not healthy
- ❖ The device can be operated manually by the bluetooth connection from an Android device.



Reference Web links

*<https://www.who.int/news/item/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action>

**<https://tbsnews.net/environment/bangladesh-air-worlds-worst-2019-47959#:~:text=Bangladesh%20air%20world's%20worst%20in%202019,-Among%20the%20world's&text=Bangladesh%20has%20been%20named%20the%20world's%20most%20polluted%20country%20for%20PM2.&text=Being%20among%20the%20world's%20megacities,83.3%20microgrammes%20per%20cubic%20metre>