



اَوْنَبُو سَيِّدِي تَيْكُونُو لَو كِي مَبَارَا
UNIVERSITI
TEKNOLOGI
MARA

**FACULTY OF COMPUTER AND
MATHEMATICAL SCIENCES**

**ENT600
TECHNOLOGY BLUEPRINT
(APIcator)**

GROUP: CS2436B

No.	Name	Matric No
1.	Alya Nurizzati Binti Muhamad Basir	2017127801
2.	Nur Fizliyana Ezzati Binti Zaidi	2017188691
3.	Nur Diyana Binti Radzi	2017340293
4.	Hanis Sakinah Binti Khairol Anuar	2017184523

SUBMIT TO: MR. NURUL HAFEZ BIN ABD. HALIL

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1.0 Executive Summary

Techsist Sdn. Bhd is aiming to change the way people understand the air they breathe.

We make tools and systems that communities can use to monitor and respond to air pollution wherever they live, work and play. These tools and systems are described as air quality monitors and they can be in the form of devices, systems or wearables.

Proposed with the intention of reducing power consumption by automating the lights using motion sensors.

Increase in the level of pollution has triggered the spread of diseases such as asthma, lung cancer, and cardiovascular problems among the public. The rise in awareness towards the multiple effects of air pollution on health has propelled the growth of air quality monitoring market, although it is slightly restricted due to the high prices and technical complexities of air quality monitors. According to a new report by Grand View Research, the global air quality monitoring system market size is expected to reach USD 6.5 billion by 2025, expanding at a CAGR of 6.8% from 2019 to 2025. Thus, Techsist Sdn. Bhd's marketing strategy is to emphasize on the use of wireless communication networks for IoT-based air quality monitoring systems.

If there were to be a smart street light system, which would automatically dim and light up according to the traffic, would it be a good solution?

- Yes Techsist Sdn. Bhd will be located in Cyberjaya, Selangor. This company is based on a partnership led by four members that hold important roles in the company such as General Manager, Administrative Manager, Marketing Manager, Operational Manager and Financial Manager.
- No
- Maybe

Once underway, we will expand our scope and take advantage of high-margin new equipment sales and leverage our existing labor force to sell and service our products. We intend to become the premier air health solution provider for health-aware community within five years.

Do you think the proposed solution would increase your satisfaction as drivers?

- Yes
- No

2.0 Product or Service Description

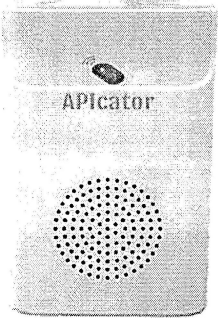


Figure 2. 1 APicator device

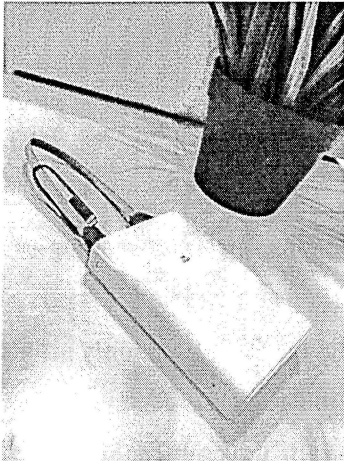


Figure 2. 2 APicator with the strap

2.1 Product Detail

APIcator is an IoT-based device that has a built-in sensor that can detect air surrounding used to generate an Air Pollution Index (API) and display the status through the application that connected with APIcator device. This device can detect the different types of particulate matter such as PM 2.5, PM 10, NO₂, SO₂, CO, O₃. The device has other features such as LED lights, GPS and bluetooth. It is lightweight, attachable with strap and portable to carry anywhere. Most importantly, it uses data integration where different sources of data from different users are combined to generate an API reading with higher accuracy. Then, the device can connect to the application where it displays the information of air quality index of the current place of the users.

2.2 Application of Product and its Significant

APIcator usually use when the air turns nearly bad or really bad such as haze. It helps to collect the air quality from the place that are out from the government or the DOE coverage. The DOE only cover 65 areas in Malaysia (APIMS, n.d.) and mostly the stations are located at the main city. Thus, there are some places not accurately covered by the government. With the APIcator, the user will get more accurate reading of API of the current place that the user be. Its detect the air surrounding and update the status of API real timely through an application that connected with the device. This is not only provide the details of API reading in particular places but also improve the accuracy of the government data. This is because the data from APIcator will integrate with government data and produce highly accurate API reading. Before data is integrated, it's store in the cloud storage and the government or Department of Environment(DOE) can also access the data collected.Owning APIcator helped in getting continuous data and prevent from received inaccurate reading. This is because the device have bluetooth so if the connection is loss, the device doesn't have to solely depend on the internet for the data to be shared to the user. This is due to the technical issue that had occurred before this, On September 17 at 1pm and 6pm. According to Star Online, because of the technical issues, it results in inaccurate or glitch API readings at its data centre(2019, September 19). In the consequences, the user misinformation about the API reading at that time, that supposed