**Wristband Air Quality Monitor for Asthma Patients**

Executive Summary:

The modern world faces increasing air pollution challenges, particularly in urban environments. This project aims to develop a wearable device designed for asthma patients to monitor air quality in real-time. The goal is to empower individuals with respiratory challenges to make informed decisions about their environment, potentially preventing asthma attacks or complications.

Objective:

To design, develop, and test a wristband that monitors real-time air quality, providing asthma patients with alerts about environments that may trigger respiratory issues.

Background:

Air quality can significantly impact asthma patients, with certain pollutants known to exacerbate symptoms or even induce asthma attacks. Having immediate access to air quality data can offer these individuals a proactive way to avoid problematic areas or take preventative measures.

Hardware Components:

* **PMS7003 (PM Sensor)**: Detects particulate matter in the air, which includes dust, smoke, and other pollutants.
* **BME680 (Gas Sensor Array)**: Senses volatile organic compounds (VOCs) and other harmful gases that may impact respiratory health.
* **Neo 6m/Grove - GPS (Air530)**: Provides location tracking, helping users identify and avoid areas with consistent poor air quality.

Potential Problems:  
- Interpreting data from these sensors and determine what is "bad" air quality for asthma patients.