AIR QUALITY MONITORING

An innovative and simple design technique for air quality monitors involves wearable devices with integrated sensors. Here's how it could work

Components:

Air quality sensors
Microcontroller arduino
Battery(or)coin cell battery
Small OLED (or)LED
Wearable device

Work flow:

1. Wearable Sensors: Create a compact wearable device that can be easily attached to clothing or worn as a wristband or pendant. Equip it with sensors for common air pollutants like PM2.5, CO, and VOCs.

2. Real-time Monitoring: The wearable device continuously measures air quality in the immediate vicinity of the user and displays real-time data on a small built-in screen or connects to a smartphone app via Bluetooth.

3. Personalized Alerts: Set up personalized alerts based on user preferences and health thresholds. When air quality deteriorates beyond a certain level, the device vibrates or emits a sound to alert the wearer.

4. Data Sharing:Encourage users to share their air quality data with a centralized database. This data can be anonymized and used to create air quality maps for different regions.

5. Crowdsourced Information: Develop a community aspect where users can access crowdsourced air quality information from other users wearing the devices.

6. Affordable and Accessible: Keep the device cost-effective and accessible to a wide range of users to promote widespread adoption.

This innovative approach empowers individuals to monitor their immediate air quality exposure in real-time, providing a simple and effective way to stay informed and take action to protect their health.