**Name of project:** Asthma Managing Device

**Basic abstract:**

Asthma is increasing around the world – and no one really knows why. For many patients, managing their asthma can be difficult – for some symptoms may be hard to control, and attacks may appear unpredictable. Doctors also struggle to unpick what might be triggering attacks and have little idea if their patients are taking their medication properly, if at all. Also, patients are struggling to detect asthma before its attack. With almost 235 million people living with asthma in India, the new 'Asthma Managing Device' may provide better ways of treating the disease and help scientists understand what is driving this growing global epidemic. This project that has combined an asthma inhaler with a range of sensors and mobile technology promises to change this. This project helps to remind (by notification and buzzer) the user to take their medication on time, collects information about how the patient is using the device, such as shaking the inhaler before pressing the button to receive a dose of their medicine. It also gathers information about the surrounding environment, such as temperature and humidity when the inhaler is used. This data is connected to the patient on their mobile phone to help them understand and better manage their own symptoms.

**Technologies and Software used:**

• IOT

• Arduino Iot Cloud platform (https://create.arduino.cc/iot/things) - for web connectivity with ESP32.

• IFTTT - for notifications.

**Technical outcome:**

Health and Assessment: Helps to remind the user to take medication on time, helps them with proper usage of an inhaler, to count the number of puffs taken to track and update in Arduino IOT cloud (web/app interface) and remainders to restock/contacting local drug dealers if medicine content is low.

**Further Updates:**

Data from the sensors can be collected for various purposes.

1. From DHT sensor: By ML algorithms, we can predict the next asthma attack based on the surrounding environment like temperature, humidity, etc…

2. From push-button: By data visualization algorithms, we can plot the usage of an inhaler which can give better understanding to the user and also for doctors.

**Additional technical details (components used, etc):**

Inhaler, Esp32, Touch sensor, DHT sensor, Tilt sensor, Vibration motor,Buzzer, push-button, RGB led.

**If prototype git repo:**