

TEAM NAME: - BIT PLEASE

PRODUCT NAME: - GAS SENSING GRENADE

### Synopsis

Consider an emergency scenario, where there is contamination inside a building due to fire, gas leakage or carbon monoxide poisoning, or something similar. The firefighters may not know what kind of contamination is present and they may not be able to take the necessary precautions. If the firefighter's life is at risk, then the trapped people are at even greater risk.

In an exigency like this, to ease things up a bit, we came up with an idea to gather information about the various constituents of gases present in a room and their respective concentration. The Gas Sensing Grenade (GSG) is a prototype that implements this idea and shows its working mechanism.

The GSG consists of a gas sensor called MQ2. It is capable of detecting three types of gases, LPG, CO and Smoke. The MQ2 is connected to an Arduino UNO board which collects the value and transmits it in audio format with the help of a Radio Frequency transmitter. The value is received by an RF receiver which is coupled with an amplifier. The amplified signal can be heard using an earphone or walkie-talkie. The transmission can also be done using NODE MCU (thereby using Wi-Fi instead of RF), received by a mobile phone using internet. After collecting a set of values, the grenade moves a little bit ahead using a single motor and wheel, and a ball caster wheel. This is done so as to cover the whole room. It also has a buzzer which will be activated indicating the presence of any of the above gases. The grenade, when thrown, falls down and adjusts its position automatically due to the centre of gravity dominated in one side.