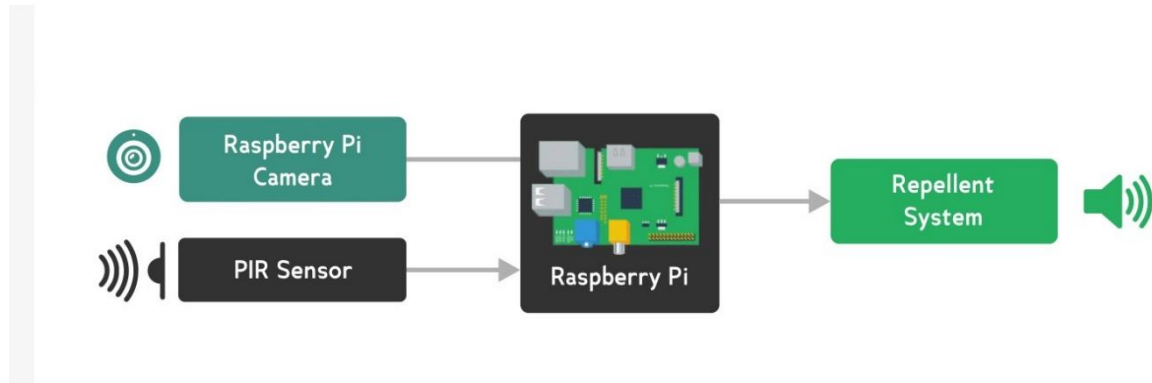# Way-out for man-animal conflict for the protection of agricultural crops

Requirement specification document:

Man-animal conflict is one of the gravest problems for the present day governments of various states due to the shrinking forest cover, rapid urbanisation and proximity of the agricultural lands to forest areas .The strife not only causes loss of human life but have also resulted in low agricultural yields resulting in a lot of socio-economic problems such as farmer suicides, hikes in prices of particular crops. The conventional methods like cordoning off animals with stones & sticks and/or killing it, using barbed fencing have been proven inefficient and leaves animals with serious wounds. There is a need of a comprehensive methodology to tackle this situation using modern technologies and minimal resources.

Component used:

- PIR Sensor
- Raspberry Pi Zero
- Pi Camera
- Repellent System

User Perspective:

- There is only one task for user to on power source further it is a fully automatic system.
- Deploy sensor nodes in farmland at accurate positions according to the requirement.

Designer Perspective:

- Motion in farmland detected by PIR sensor when any animal enters in farmland.
- When motion is detected in farmland Pi camera takes three pictures of farmland.
- Images are processed through deep learning object detection algorithms and it detects the species of animal.
- Ultrasonic sound is produced according to species of animal it irritates the animals and repels them from the farmland and avoid any damage to the agricultural crops.

Constraints:

- System cannot work at very low light.
- Cost for completely cover one-acre farmland through this system is approximately 1400$.