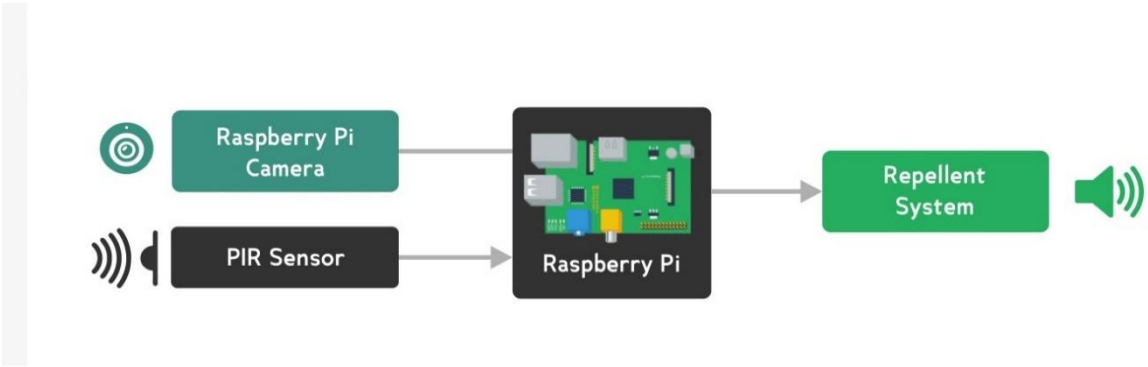
Way-out for man-animal conflict for the protection of agricultural crops



Design options	Option 1	Option 2
Cost	42$	28$
Size	Small	Small
Difficulty	Moderate	Easy
Security	Secure	Secure
Efficiency	High	Very Low

Option 1:

In option1, we use a PIR sensor for motion detection in farmland and when motion is detected in farmland it gives signal to raspberry pi because it is connected with raspberry pi.

When motion is detected raspberry pi activates pi camera, which is connected with raspberry pi and it takes three pictures of farmland.

These images are processed through deep learning object detection algorithms and it helps our system to identify the species of animal.

After this repellent system produces ultrasonic sound with a particular frequency according to species of animal and it irritates the animals and repels from the farmland.

Option 2:

In option2, we use a PIR sensor for motion detection in farmland and when motion is detected in farmland it gives signal to raspberry pi because it is connected with raspberry pi.
In this case we do not use pi camera and deep learning object detection algorithms and here repellent system direct connected with raspberry pi.
When motion is detected in farmland, repellent system produce sound of set ultrasonic frequency (as 40 KHz).

We are going for option 1 for various reasons:

- Very much efficient than option 2, in this case efficiency of the system is fundamental issue so we are preferring option1.
- When species of animal is identified then it is very easy to produce ultrasonic sound according to the species of animal, so option 1 is better than option 2 because option 2 does not have any object detection algorithms.
- During real- time analysis of practical model option 1 give better result than option 2.