

Scarecrow Robot



TEAM 6: IMPEDANCE

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Problem statement

In the greenhouse there is a problem of intruders like lizards, rats and snakes etc and they can harm the plants of greenhouse as well as other things. To resolve this problem we were supposed to make a bot called Scarecrow bot which will work as detector and as well as shoot the intruder by laser

Requirement specification

We were supposed to make an autonomous robot which should be capable of following things

- Ability to navigate through the arena
- Ability to detect intruders
- Ability to follow the intruder
- It should point laser towards the intruder and shoot them out

Final system

- We used Firebird V as intruder which is programmed to move randomly
- we have placed a colored box on our intruder
- Our bot is capable of detecting intruder with the help of colored box.
- After detection it is following intruder for some time and shooting it out by laser

Issues encountered

- Firebird VI serial communication problem
- Incorrect Firebird VI manual and sample program
- Intel Atom Architecture compatibility issue
- Very high brightness in lab and greenhouse
- Issues with sharing FireBird VI

Insights gained

Initially we were not familiar with Firebird VI

- So we learnt about the functionality of it, means how it is actual working
- We came to know about many softwares which is very useful in FB VI.
- We came to know about practical limitations of image processing

Future work

It can be enhanced by using machine learning technique to train with the sample images of intruders and the tracking can be made more robust. Apart from this we can recognize unauthorized persons as well.

THANK YOU