

Smart Crop Protection System From Animals

Abstract

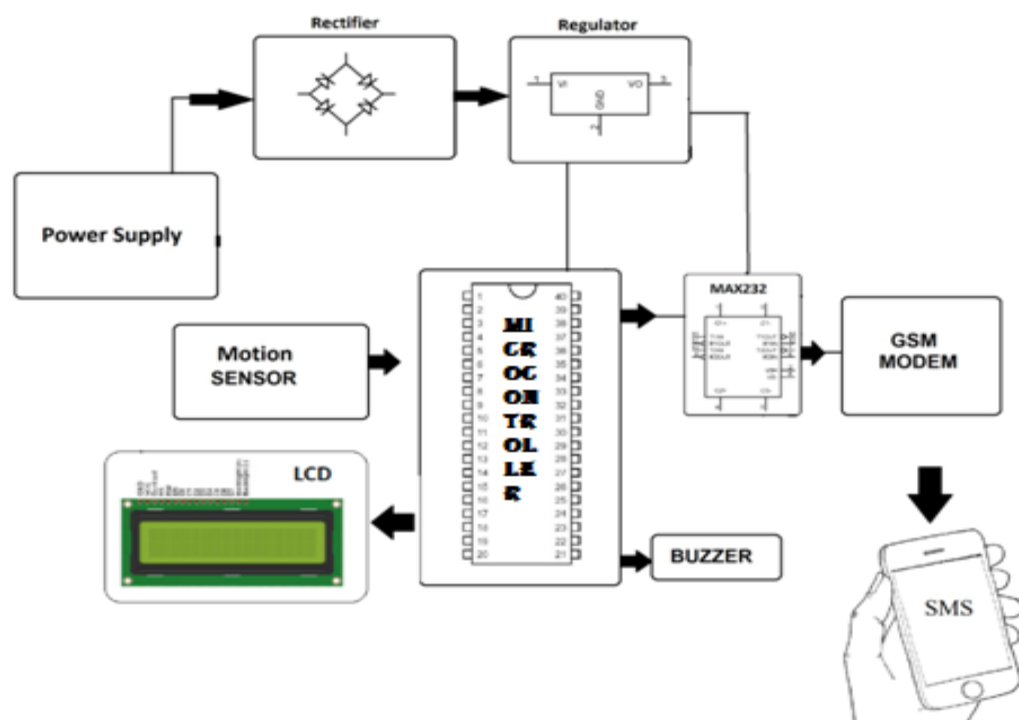
Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds, and fire etc. This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it. So here we propose automatic crop protection system from animals and fire. This is a Microcontroller based system. This system uses a motion sensor to detect wild animals approaching near the field and smoke sensor to detect the fire. In such a case the sensor signals the microcontroller to take action. The microcontroller now sounds an alarm to woo the animals away from the field as well as sends SMS to the farmer and makes call, so that farmer may know about the issue and come to the spot in case the animals don't turn away by the alarm. If there is a smoke, it immediately turns ON the motor. This ensures complete safety of crops from animals and from fire thus protecting the farmer's loss.

Introduction

In the world, the economy of many countries is dependent upon agriculture. In spite of economic development agriculture is the backbone of the economy. Agriculture is the main stay of economy. It contributes to the gross domestic product. Agriculture meets food requirements of the people and produces several raw materials for industries. But because of animal interference and fire in agricultural

lands, there will be huge loss of crops. Crop will be totally getting destroyed. There will be large amount of loss of farmer. To avoid these financial losses it is very important to protect agricultural field or farms from animal and fire. To overcome this problem, in our proposed work we shall design a system to prevent the entry of animals into the farm. Our main purpose of project is to develop intruder alert to the farm, to avoid losses due to animals and fire. These intruder alert protect the crop from damaging that indirectly increase yield of the crop. The develop system will not harmful and injurious to animal as well as human beings. Theme of project is to design a intelligent security system for farm protection by using Embedded system.

Block diagram



Component

Hardware Specifications

- Microcontroller
- Buzzer
- GSM Module
- LCD Display
- Crystal Oscillator
- Resistors
- Capacitor
- Transistors
- Cables and Connectors
- Diodes
- PCB and Breadboards
- LED
- Transformer/Adapter
- Push Buttons
- Switch
- IC
- IC Sockets

Software Specifications

MPLAB

MC Programming Language: C

Advantage

This project will help farmers in protecting their orchards and fields and save them from significant financial losses and will save them from the unproductive efforts that they endure for the protection their fields. This will also help them in achieving better crop yields thus leading to their economic wellbeing.

Future Scope

In the future, there will be very large scope, this project can be made based on Image processing in which wild animal and fire can be detected by cameras and if it comes towards farm then system will be directly activated through wireless networks. Wild animals can also be detected by using wireless networks such as laser wireless sensors and by sensing this laser or sensor's security system will be activated.