SVCE | Sri Venkateswara College of Engineering

INNOVATES 2023

IoT based fire indication system in farm land

Idea Introduction

IDEA TITLE- IoT based fire indication system in farm land

Tech Stack
1.Arduino

Resources Needed:
1.Arduino Uno
2.Breadboard
3.GSM-900A
4.IR Flame Sensor

Services needed:
1.Mobile network

IDEA-OUTCOME – HEADLINE-

Agriculture is playing an important role in the development of a country. In this work, a smart and safe agriculture system is made that would notify the farmer about fire accident in the agricultural farmland . This project aims to develop a fire detection system for farm lands using IoT technology. The system will consist of sensors like that will be deployed in strategic locations across the farm, and a central unit that will collect data from the sensors and process it in real-time. The system will be able to detect fires in their early stages, allowing for prompt action to be taken to prevent or contain the spread of the fire. The use of IoT technology will enable farmers to remotely monitor their farms for potential fire hazards, and to receive real-time alerts in case of a fire. This will help to minimize the risk of damage to crops, livestock, and property, and to ensure the safety of farmers and their families. Overall, this project has the potential to significantly improve fire safety in farm lands and reduce the impact of wildfires on agriculture.

The Working of our project

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The Approach

OUR APPROACH ON THIS PROJECT

Encountering the problem faced by farmers in the real world , which is accidental farm fires

We used the idea of GSM-900A & IR Flame sensor to detect and using a water motor to quench the fire until reinforcements arrive

After the sensor detects presence of fire, the sensor sends the data to the gsm sim module and it calls the farmer and simultaneously try to quench the fire using a water motor

Various Visions of our Innovation

How we developed the Idea:

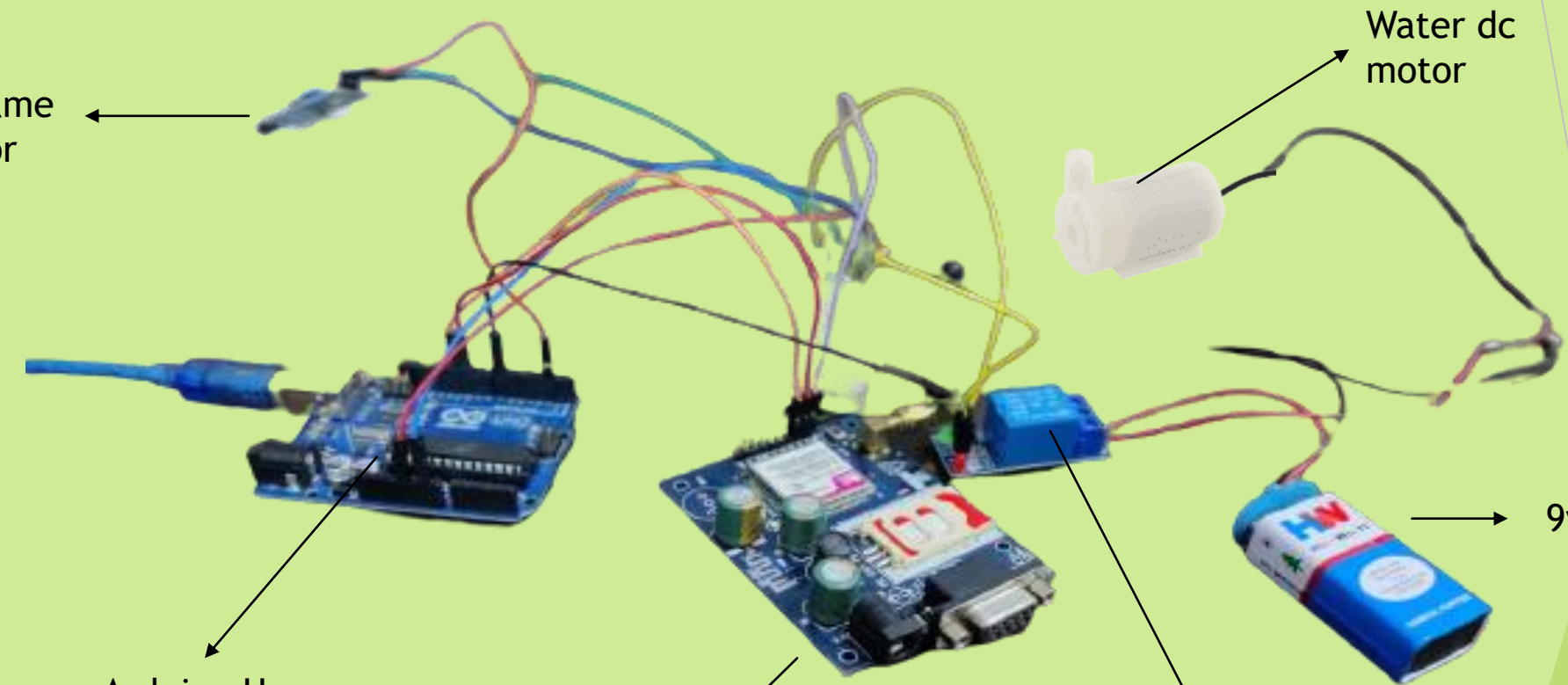
Fires in farmland can pose a safety risk to farmers and their families, as well as to firefighters who may need to respond to the blaze. It also does significant damage to crops, equipment, and buildings.

Developing an IoT-based system for fire detection and a automated suppression system in farmland is an innovative and cutting-edge solution to a longstanding problem.

This is how our idea can be developed in the upcoming future:

- Using drones equipped with cameras or thermal imaging sensors could provide additional monitoring and detection capabilities
- GPS Tracking: GPS tracking can be used to track the location of the fire and help first responders to reach the site quickly.
- Smoke Sensors: Smoke sensors can be used to detect smoke from a distance, which can provide an early warning of a potential fire.

Prototype Model



THANK YOU