Ilkogretim Online - Elementary Education Online, 2020; Vol 19 (Issue 3): pp. 4453-5557
http://ilkogretim-online.org
doi: 10.17051/ilkonline.2020.03.735597

Bird Repellent In Terrace

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Abstract— Modern In these days, it is found that the birds are the major threads in field of drying food materials in terrace for domestic use. This Project relates to bird repellent. In particular, this project relates to new composition for protecting grains and pulses etc..from birds that are kept in the terrace for use. Due to the activities of birds , an effective bird repellent system is required. The proposed effective repellent system is made of hardware components like IR sensor,Arduino and Servo Motors for the rotation of stick . In addition to the rotation of stick we have buzzer sound. The IR sensor will be placed near to the food materials which are kept for drying, will detect the movement of bird towards the drying foods. If it sense the birds towards the food materials it will make the motor “On” to make the stick rotate in addition makes the buzzer to sound which will scare the birds and make them go away. By this ,we can protect the grains and pulses which are kept in the terrace for drying in an easy and cost effective way.

Keywords— Arduino,DC motor ,IR sensor,Automation

I. INTRODUCTION

The Birds are the most fascinated group in the animal kingdom. They are an integral part of all natural ecosystems and attract the attention of laymen and scientists alike ,because of their interesting biological attributes and the significant role played by them in nature. As in natural ecosystems, often, many birds are associated with agro-ecosystems for their survival and make some impact on such systems. Subsequent to the change in land use pattern, which has often resulted in the loss of natural habitats like forests, grasslands and wetlands, many of the birds had to rely on man-made habitats and agricultural crops. In the process of procuring food,

birds started damaging the food items. Bird attacks are very much detrimental to people because birds attack in colonies or groups in large numbers. The most common domestic birds are pigeons, crows, sparrows that cause damage to the food items. These birds not only give damage to foods but also make dirty the human life area.

In order to protect our food items from birds ,an effective repellent system is required. Bird control is important because pest birds can create health-related problems through their feces including histoplasmosis, cryptococcosis and psittacosis.

Bird droppings may also cause damage to property and equipment.In order to get rid of birds people use physical bird deterrents and chemical bird deterrents.Physical bird deterrents include such products as steel or plastic spike systems.birdnetting,electrified track systems.Sharp bird spikes can pierce and impale birds on windy days.(Anonymous)

Chemical deterrents range from products for turf to avicides. There are taste a version for geese and fogging agents used for birds. Many localities have restrictions on the use of chemicals and pesticides targeted at birds if they intend to kill them. Chemical deterrents that do not harm birds are widely used with limited results.(Anonymous)

II. SYSTEM REQUIREMENTS

A. B**Hardware and Software Requirements:**

ARDUINO :

The **Arduino Uno** is an opensourcemicrocontroller board based on the Microchip ATmega328P microcontroller and developed by Arduino. The board is equipped with sets of digital and analog input/output pins that may be interfaced to various expansion boards and other circuits

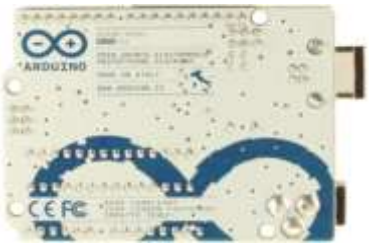

fig 1: Arduino-Uno Model Back View

fig 2: Arduino Uno-Model Front View

Specifications of Arduino Uno Model:

- Microcontroller: Microchip ATmega328P.
- Operating Voltage: 5 Volts.
- Input Voltage: 7 to 20 Volts.
- Digital I/O Pins: 14 (of which 6 can provide PWM output)
- UART: 1.
- I2C: 1.
- SPPI: 1.
- Analog Input Pins: 6.

B. IR SENSOR :

An on board **LED** is used to indicate the presence of an object. This digital output can be directly connected to an Arduino or other microcontroller to read the sensor output.An infrared light emitting diode(IR LED)emits light of Infrared range 700 nanometers(nm) to 1mm

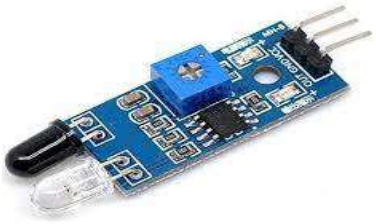

fig 3: IR sensor Front View.

C. DC Driver :

They act as a bridge between the controller and the motor in a motor drive. Motor drivers are made from discrete components which are integrated inside an IC. The input to the motor driver IC or motor driver circuit is a low current signal.

fig 4: DC motor Driver

D. DC MOTOR :

A **DC motor** is any of a class of rotary electrical motors that converts direct current electrical energy into mechanical energy. The most common types rely on the forces produced by magnetic fields. Nearly all types of DC motors have some internal mechanism, either electromechanical or electronic, to periodically change the direction of current in part of the motor.

E. BUZZER :

A **buzzer** or beeper is an audio signalling device, which may be mechanical, electromechanical, or piezoelectric (piezo for short). Typical uses of buzzers and beepers include alarm devices, timers, and confirmation of user input such as a mouse click or keystroke

Fig 6 : Buzzer

F. BATTERY :

A **battery** is a power source consisting of one or more electrochemical cellswith external connections for powering electrical devices such as flashlights, mobile phones, and electric cars.

III. FLOW PROCEDURE :

The Bird Repellent in the terrace works as….

- The **IR S**ensor will sense the movement of the object(birds).
- If the bird is detected around the food materials,the dc motor will make the stick rotate forward and backward according to the delay time.

- In addition to the rotation of the stick,the buzzer will also sound to get the birds away.
- After the stipulated time,the stick and the buzzer will stop working.

If the bird is not detected,the stick and buzzer will remain silent.

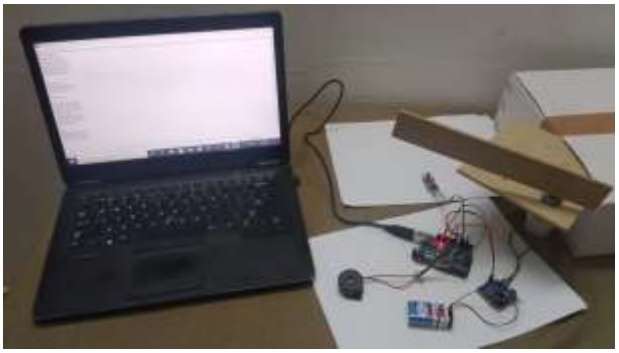

Fig. 7 The proposed model

III. CONCLUSION

In this paper , the concept of a bird repellent system in the terrace which will protect the food materials from the birds and other animals like cat,etc. is introduced The stick rotates in such a way that around the food materials .In addition to the stick , the buzzer sound will scare the birds and make them fly away from our food materials.Ourproject"Bird Repellent in Terrace" will protect our drying food materials like pulses , grains from the birds by without harming them.

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