

DESIGN AND BUILD A PROTOTYPE OF A PACKAGE SELECT TOOL BASED ON BARCODE CODES AND IMPLEMENTATION OF HUMAN MACHINE INTERFACE (HMI) USING LABVIEW

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ABSTRACT

Fruit bats or in their scientific name Pteropodidae are one of the many orders of mammals that can fly and are one of the natural enemies of farmers which can disrupt plant pollination and damage farmers' crops. In the research, a prototype of a fruit bat repellent device will be made on mango trees using an HC-SR04 ultrasonic sensor as a bat detector, an SG90 servo motor to widen the angle of the ultrasonic sensor, a 1 channel relay to turn the system on or off, a 2 channel relay to turn on the accuator in the form of a water pump. DC 12V as well as 12V LED and Blynk IoT to control and monitor prototypes. The results of this research obtained an Ultrasonic sensor accuracy rate of 99.98% in distance reading and a success rate of 87% in detecting moving objects, the SG90 Servo motor worked well, the 2 Channel Relay worked well, the 12V DC water pump and 12V LED worked well , Blynk IoT can control and monitor prototypes. The overall system success rate reached 80% in 20 tests.

Keywords: *bat, mango, ultrasonic, and Blynk IoT*