

DEEP LEARNING BASED ANIMAL DETECTION WITH SMS AND IOT NOTIFICATION

AIM:

Design development of Deep learning based Animal detection with SMS and IOT notification.

PURPOSE:

This paper introduces a novel approach to animal detection utilizing Deep Learning techniques, coupled with Short Message Service (SMS) and Internet of Things (IOT) notification systems. The increasing instances of human-wildlife conflicts and road accidents involving animals highlight the urgent need for efficient and timely detection methods to mitigate potential risks and protect both human and animal populations. The proposed animal detection system employs Convolutional Neural Networks (CNNs) to analyse images and identify animals in their natural habitats or near roadways. The CNN model is trained on a diverse dataset containing images of various wildlife species, capturing different poses, lighting conditions, and environmental contexts. The deep learning-based approach enables the system to achieve high accuracy in detecting different animal classes.

DESCRIPTION:

GSM module and ESP32 cam connected to ESP32 controller serial port. Buzzer connected to ESP32 controller digital pin.

WORKING:

ESP32 camera works based on machine learning algorithms to identify wild animals like elephant, lion, tiger and many more. These animal models trained according respective images. We used CNN machine learning algorithms to classify wild animal. If wild animal detected then SMS will send to

authorised mobile number. Also ESP32 controller sends IOT notification to IOT server.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino uno controller
Crystal	:	16 MHz
LCD	:	16x2 LCD display
GSM	:	SIM800C
Relay	:	12V DC electromagnetic
Siren	:	12V DC
H-bridge	:	L293D
DC motor	:	5V DC
Camera	:	ESP32 camera
Power Source	:	12v 1 amp DC adaptor

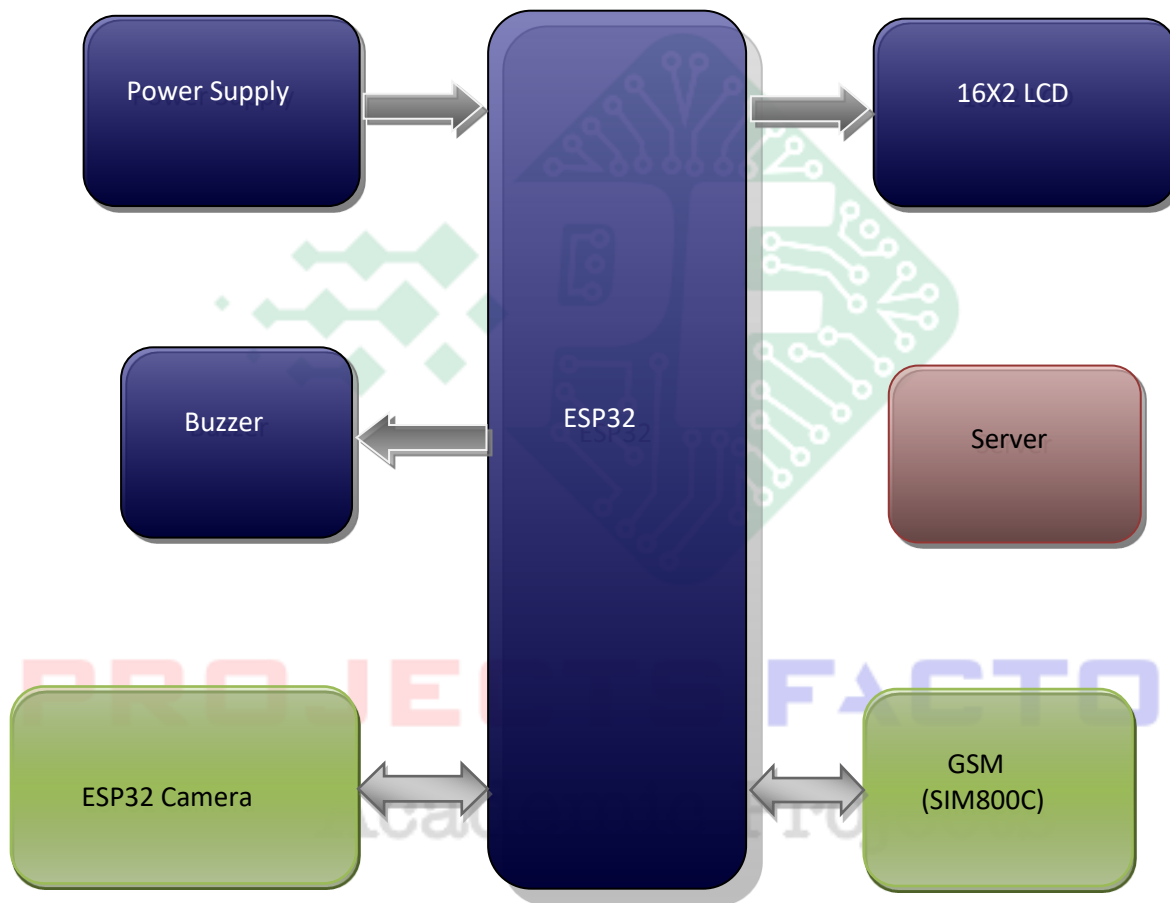
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

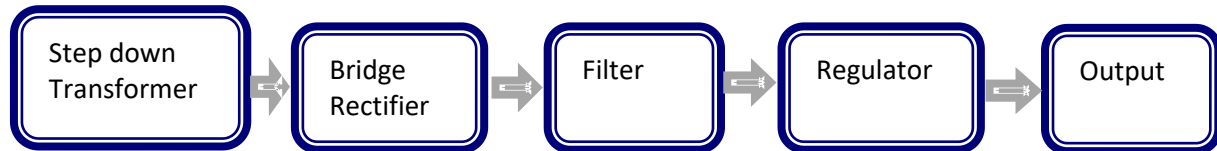
APPLICATIONS:

Advanced animal detection

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered ESP32 controller programming and interface
- ESP32 cam and GSM (SIM800C) programming

PROJECTS FACTORY
Academic Projects