AUTOMATIC GOOGLE ASSISTANT PET FEEDER

[1]B.ARCHANA, [2]K.SATHISH,[3]B.SURESH RAM,[4]T.LAXMI VARSHITHA,[5]R.GOPI LAVAN

[1]Asst. professor, Dept. of CSE, CMR COLLEGE OF ENGINEERING & TECHNOLOGY

[2]Asst. professor,Dept. of MECH, CMR COLLEGE OF ENGINEERING & TECHNOLOGY

[3]Assoc. professor,Dept. of ECE, CMR COLLEGE OF ENGINEERING & TECHNOLOGY

[4-5]B-TECH,Dept.of ECE, CMR COLLEGE OF ENGINEERING & TECHNOLOGY

Abstract

In this project, we are using a NodeMCU ESP8266 as the main controller, a Servo motor to open & close feeding bottle, and a 16*2 LCD to display the time. We will get the time from NTP servers. Instead of using RTC module for Time and Date, here we used NTP server to reduce the hardware components. NTP servers are better solution for getting time compare to RTC as it is more accurate and can provide the time of any geographical area in the world. Here is the complete tutorial on building a internet time clock.

1. INTRODUCTION

If you have a pet in your home and you don't have anyone to feed it when you are away from home then you definitely need some kind of machine to do this job. So here we are building a "IOT PET FEEDER MACHINE" which is simple, efficient and cost effective. Using this machine you can feed your Pet by Google Assistant from anywhere in the world. You just have to say "OKAY GOOGLE feed my pet" and rest of the things will be done by this machine. You can also set a specific time using Google Assistant to feed your Pet.

2. RELATED WORK

"Automatic Pet Monitoring and Feeding System Using IoT" this paper was published in IJCR in 2017. This was a pet feeding device that has a same purpose of feeding the pet as our device has. But an new thing was tried to be introduced by the creator through this device and that was pet collar which is used to monitor the pet by tracking its location. The main disadvantage is, as it is developed for pet which usually stays at home than keeping a tracker make no senseThe intent of our project is to avoid the difficulties related to feed the pet when pet owner is not at home. The proposed device is helpful for feeding the pet automatically and also to maintain pets' diet. This pet feeder is not only used for feeding but it also calls the pet at feeding time. Overall to have a great and ore personalized experience of keeping pet, this device would be useful.

3. IMPLEMENTATION

The PET owner facing a major issue of feeding PETSs on time or feeding them while in absence of owners. The aim of the project "GOOGLE ASSISTSNT BASED AUTOMATIC PET FEEDER" To perform the things in absence of owners.

Requirement Analysis

SERVO MOTOR:

Servo motors are part of a closed-loop control system and consist of several parts namely a control circuit, a servo motor, a shaft, a potentiometer, a drive gear, an amplifier, and either an encoder or a resolver.

NodeMCU:

NodeMCU is a open source IOT Platform. It initially included firmware which runs on the ESP8266 Wi-Fi from Espressif Systems, and hardware which was based on the

Analysis.

LCD 12 C MODULE:

LCD 16x12 is a 16-pin device that has 2 rows that can accommodate 16 characters each. LCD 16x2 can be used in 4-bit mode or 8-bit mode.

Google Assistant will recognize the phrase and respond with "Feeding your pet." After that it rotates the servo motor from its initial position 0º to 60º and after a delay, it returns to its initial position. You can also feed your pet at a specific timeOur project is an automatic pet feeding system using the Internet of Things. The emphasis on choosing this as the title is because to initially give a solution to a problem faced by almost everyone. Human interference on the part of taking care of pets when they are busy is difficult and hence our system will be efficient enough to overcome the hurdles faced by humans in taking care of pets. This Pet feeding system is completely equipped for feeding the pet. Furthermore, the project is subdivided into several modules each of which has the Google assistant unique feature. Those are pet food feeders and voice commands

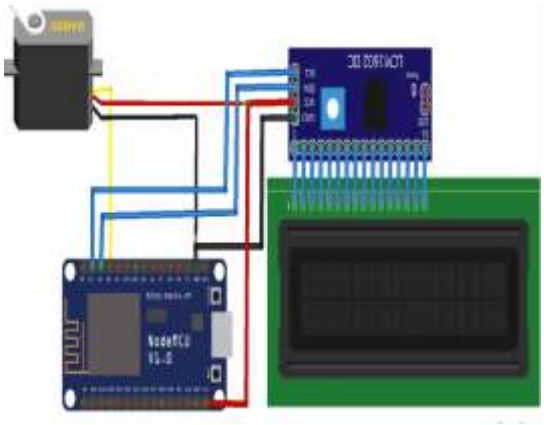
Connect the servo motor to motor driver servo1 slot.

The Vcc & GND pin of Servo motor and LCD I2C module are connected with Vin

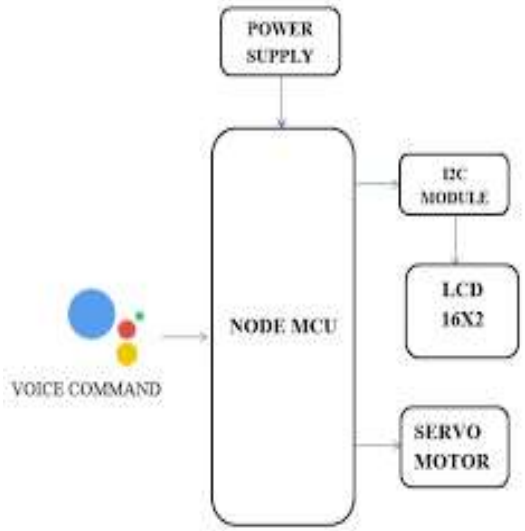
& GND pin of NodeMCU. While SCL and SDA pins of I2C module is connected with D1 and D2 pin of NodeMCU respectively.

plastic bottle for the pet food container

1. For Adafruit IO setup, the first thing you will need to do is to sign up to Adafruit IO. To sign up go to Adafruit IO's site https://io.adafruit.com and click on 'Get started for Free' on the top right of the screen.
2. After this, a window will pop up where you need to fill your details
3. A window will pop up with your Adafruit IO AIO Key. Copy this key you'll need it later in your code.



Circuit Diagram



Flow Chart

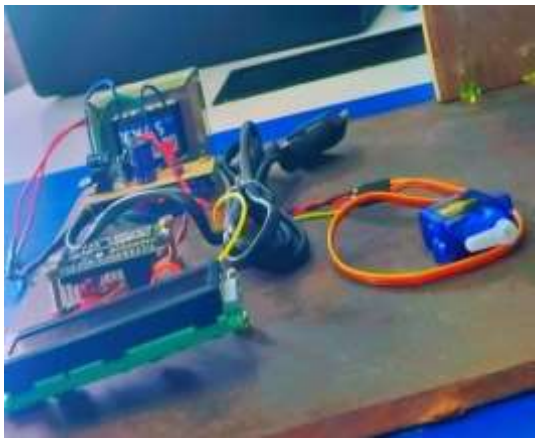
In this project, we are using a NodeMCU ESP8266 as the main controller, a Servo motor to open & close feeding bottle, and a 16*2 LCD to display the time. We will get the time from NTP servers. Instead of using RTC module for Time and Date, here we used NTP server to reduce the hardware components. NTP servers are better solution for getting time compare to RTC as it is more accurate and can provide the time of any geographical area in the world.

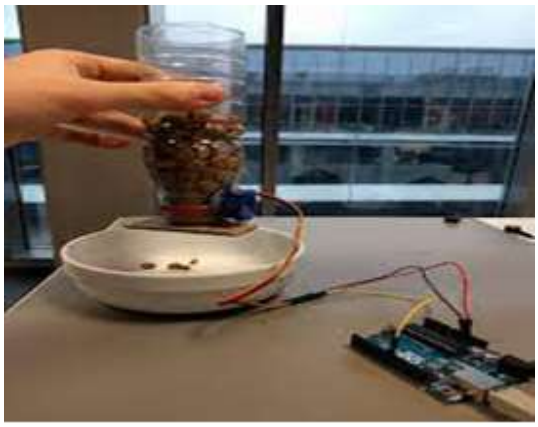
SERVOMOTOR CONNECTED TO PLASTIC BOTTLE TO ROTATE THE BOTTLE IN 60 DEGREEAND FEEDS MY PET

4. EXPERIMENTAL RESULTS

We have developed a mobile application for pet owners which act as an interface between pet owner and the pets. The application is available especially for people having pets. We have applied

engineering knowledge to analyze societal problem of pet owners whenever they want to feed their pets & then we have designed solution for it. We have analyzed existing mobile apps related to pet feeder that help them to feed their pet during our project & try to overcome their drawbacks in our project.





5. CONCLUSION

This research presents a remote monitoring system using the concept of IOT In future the sensors for the entire farming system as the data would be helpful before harvesting and some other important sensors can also be added if required according to the environment

6. REFERENCE

[1] Gudapati S. P. Kumar," E-Aquaculture Monitoring Using Internet of Things", International Journal of Advance Research, Ideas and Innovations in Technology, 2018.

[2] Paul B. Bokingkito Jr. ,Orven E. Llantos ," Design and Implementation of IOT Based Real Time Monitoring System for Aquaculture using Raspberry Pi", International Journal on Recent and Innovation Trends in Computing and Communication, ISSN: 2321 8169 Volume: 6 Issue:3, IJRITCC | March 2018.

[3] Cesar Encinas, Erica Ruiz, Joaquin Cortez and Adolfo Espinoza," WSN Based Solar Powered Harvesting System For Aquaculture",Dept. Electrical and Electronic Engineering, Instituto Tecnologico

[4] Adepu, A.K., Goskula, S., Chirra, S., Siliveri, S., Gujjula, S.R., Venkatathri, N., "Magnetically separable porous titanosilicate/Fe3O4 hybrid nanocomposites with enhanced photocatalytic performance under UV light irradiation", Journal of Porous Materials, 2019, Vol. 26-Issue 5, PP-1259-1267.

[5] Poongodai, A., Suhasini, R., "A command line tool for tracking error details of program using web scrapper", International Journal of Recent Technology and Engineering, 2019, Vol. 8-Issue 2 Special Issue 11, PP-2404-2407.

[6] Syed, A.T., Merugu, S., "Augmented reality on Sudoku puzzle using computer vision and deep learning", International Journal of Innovative Technology and Exploring Engineering, 2019, Vol. 8-Issue 11 Special issue 2, PP-140-145.

[7] Prasad, B., Marrapu, B.M., "Traffic impact analysis for proposed construction in Warangal city", International Journal of Recent Technology and Engineering, 2019, Vol. 8-Issue 3, PP-6952-6957.

[8] Malik, M.Z., Mukhopadhyay, S., Chatterjee, A., "Existence of an intervening metallic phase at the transition region of the charge-density-wave phase and the spin-density-wave phase in the 1-D Hubbard-Holstein model", AIP Conference Proceedings, 2019, Vol. 2142-Issue, PP.