

Course based projects

Practical orientation and knowledge will enhance and imbibe the skills of the students. In this pursuit students are encouraged to carry out projects which will make them understand the concepts learned and implement them in a practical way.

Best Lab Oriented Course Based Projects for the Academic Year 2018-19

Sr. No.	Hall ticket No	Student Name	Title	Guide
1	17RA1A0447	Srilatha	Soil Moisture sensor using ESP8266	Dr. Vipul M Dabhi
	17RA1A0438	Preethi		
2	15RA1A0422	Rishik	Voice controlled	Dr. Sreenath Kashyap
	15RA1A0411	Supraja	Wheel Chair using IOT	
3	17RA1A0432	Preethika	Smart Controller	K Shyam
	17RA1A0422	Mani Kumari		
4	16RA1A0405	Akhila	Home Automation System using ESP8266	Y. Vishwa Sri
	16RA1A0414	Harika		
	16UA1A0487	Preethi		
5	17RA1A0431	Prashanthi	Traffic Light	Shaik Imam Vali
	17RA1A0415	Keerhti	Controller using	
	17RA1A0426	Niharika	Aurdino	
6	17RA1A0405	AurabindoNaik	Obstacle Detecting Robot	T. Muarali Krishna
	17RA1A0423	Manu Kaushik		
	17RA1A0429	Pichi Reddy		
7	16UA1A0404	Akhil	Portable Mobile Charger	Revanna K Bidari
	16UA1A0420	Nikhil		
	16UA1A0427	Venkatesh		
8	17RA1A0416	Krishna Veni	Smart Dustbin using Aurdino	A Ramesh
	17RA1A0448	Supriya		
	17RA1A0441	Santosh		
10	16RA1A0413	Gopal	Decade Counter	M Srilekha
	16RA1A0419	Chary		
11	17RA1A0413	Harish Reddy	Electronic Dice	P. Snigdha Kamala
	17RA1A0414	Sudharshan		
	17RA1A0453	Yashwanth		

12	17RA1A0421	Manideep	Google Assisted Voice	B Chandrakala
	17RA1A0444	Sharwani	Controller Message Display	
13	17RA1A0418	Mahathi	Fire Alarm Detection	B Krishnaveni
	17RA1A0434	Ramya	system using Aurdino	

Soil Moisture sensor using ESP8266

1	17RA1A0447	Srilatha	Soil Moisture sensor	Dr. Vipul M Dabhi
	17RA1A0438	Preethi	using ESP8266	

Name of the course: Microprocessor and Microcontroller

Project Title: Soil Moisture sensor using ESP8266

Aim: To observe the condition of soil from remote place and operate pump motor.

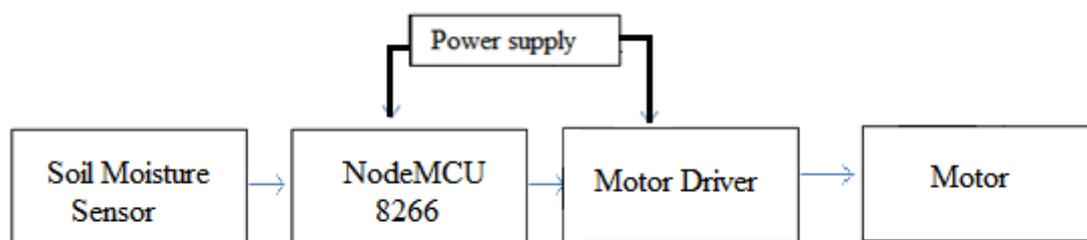
Brief Description:

Agriculture remains the sector which contributes the highest to India's GDP. But, when considering technology that is deployed in this field, we find that the development is not tremendous. Now a day's there is huge enhancement in technologies which have a significant impact on various fields like agriculture, healthcare etc. Agriculture is the primary occupation in our country. India's major income source is depending on agriculture therefore the development of agriculture is important. In today also most of the irrigation system are operated manually. The available traditional techniques are like drip irrigation, sprinkler irrigation etc. These techniques are need to be combined with IoT so that we can make use of water vary efficiently. IoT helps to access information and make major decision-making process by getting different values from sensors like soil moisture, water level sensors, water quality etc. This paper focuses primarily on reducing the wastage of water and minimizing the manual labour on field for irrigation so that you can saving time, cash and power of the farmer. Most of the farmers use large portions of farming land and it becomes very difficult to reach and track each corner of large lands. Sometime there is a possibility of uneven water sprinkles. This result in the bad quality crops which further leads to financial losses. In this scenario the Smart Irrigation System using latest IoT technology is helpful and leads to ease of farming.

The Smart irrigation System has wide scope to automate the complete irrigation system. Here we are building a IoT based Irrigation System using ESP8266 NodeMCU Module and DHT11 Sensor. It will not only automatically irrigate the water based on the moisture level in the soil

but also send the Data to Thing Speak Server to keep track of the land condition. The System consist a water pump which will be used to sprinkle water on the land depending upon the land environmental condition such as Moisture, Temperature and Humidity. We previously build similar Automatic Plant Irrigation System which sends alerts on mobile but not on IoT cloud. Apart from this, Rain alarm and soil moisture detector circuit can also be helpful in building Smart Irrigation system. Before starting, it is important to note that the different crops require different Soil Moisture, Temperature and Humidity Condition. So in this tutorial we are using such a crop which will require a soil moisture of about 50-55%. So when the soil loses its moisture to less than 50% then Motor pump will turn on automatically to sprinkle the water and it will continue to sprinkle the water until the moisture goes up to 55% and after that the pump will be turned off. The sensor data will be sent to Server in defined interval of time so that it can be monitored from anywhere in the world.

Block Diagram:



Pictorial View:



Voice controlled Wheel Chair using IOT:

2	15RA1A0422	Rishik	Voice controlled Wheel	Dr. Sreenath
	15RA1A0411	Supraja	Chair using IOT	Kashyap

Name of the course: Internet of Things

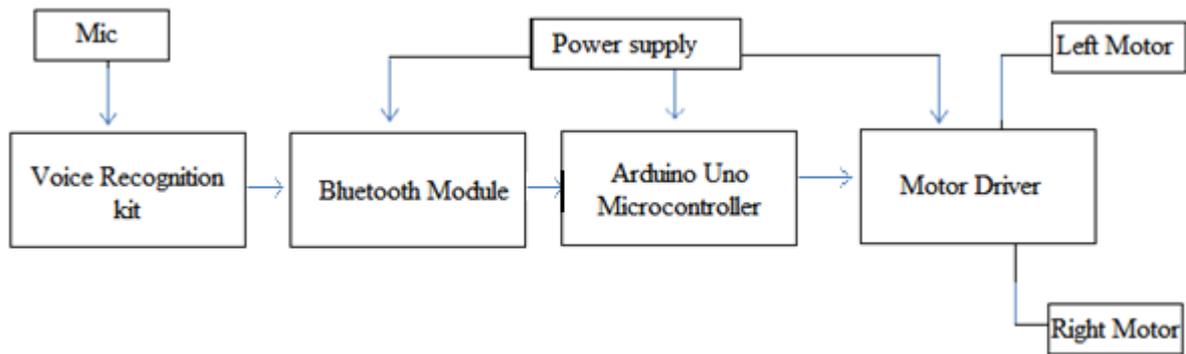
Project Title: Voice controlled Wheel Chair using IOT

Aim: To operate IOT operated wheelchair using android mobile.

Brief Description:

The design of a smart, motorized, voice controlled wheelchair using embedded system. Its design supports voice activation system for physically differently abled persons incorporating manual operation. The “Voice-controlled Wheel chair” designed for the physically differently abled person, where the voice command controls the movements of the wheelchair. The voice command is given through a cellular device having Bluetooth and the command is transferred and converted to string by the BT Voice Control for Arduino and is transferred to the Bluetooth Module SR-04 connected to the Arduino board for the control of the Wheelchair. For example, when the user says “Go” then chair will move in forward direction and when he says “Back” then the chair will move in backward direction and similarly “Left”, “Right” for rotating it in left and right directions respectively and “Stop” for making it stop. This system was designed and developed to save cost, time and energy of the patient. The system has two parts, namely; hardware and software. The hardware architecture consists of an embedded system that is based on Arduino Uno board, a Bluetooth Module, Motor Driver and an Android phone. The Bluetooth Module provides the communication media between the user through the android phone and the system by means of voice command given to the android phone. The user speaks the desired command to the “BT Voice Control for Arduino voice (AMR Voice Application)” software application installed in the android phone that is connected through Bluetooth with Bluetooth Module SR-04. The voice command is converted to an array of string and the string is passed to Arduino Uno connected to it. Once the Bluetooth Module receives the message, the command sent will be extracted and executed by the microcontroller attached to it and depending on the commands fed to the Motor Driver, the motors will function accordingly. The system will interpret the commands and control the Wheelchair accordingly via android application. Meanwhile, the ultrasonic sensor works while the circuit is on and makes sure the path has no obstacle and if any obstacle occurs it notifies the Arduino and stops wheelchair till further command is obtained from the user.

Block Diagram:



Pictorial View:



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