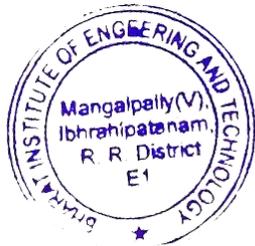# BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

Mangalpally (Village), Ibrahimpatnam (Mandal), Ranga Reddy (District), Telangana-501510

1.3.3 : Percentage of students undertaking project work/ field work / internship
(Data for the latest completed academic year) (10)
Academic Year 2018-19

S. No.	Department	Descriptions	Total Count
1.	B.Tech-CIVIL	Major Project Work	74
2.	B.Tech-EEE	Major Project Work	116
3.	B.Tech-MECHANICAL	Major Project Work	72
4.	B.Tech-ECE	Major Project Work	161
5.	B.Tech-CSE	Major Project Work	222
6.	B.Tech-IT	Major Project Work	43
7.	MBA	Major Project Work	10
8.	M.TECH	Major Project Work	19
9.	B.Tech-(CIVIL, EEE, MECHANICAL, ECE, CSE) MBA	Internship	134
10.	B.Tech-(EEE, MECHANICAL,ECE, CSE, 1ST YEAR STUDENTS) MBA,	Industrial visit	693
TOTAL COUNT			1544

PRINCIPAL

BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
MANGALPALLY, IBRAHIMPATNAM, HYDERABAD-501510
IV-ECE, MAJOR PROJECT LIST-2018-19

Batch No	Name Of The Student	Roll Number	Title of The Project	Guide Name
ECE15MPA1	A. Sravani	15E11A0404	Automatice street lighting system using IOT	Mrs. Papiya Dutta
	A. Anusha	15E11A0408		
	s.sravani	15E11A0445		
ECE15MPA2	Akshatha kamath	15E11A0405	Smart irrigation system using IOT	Mrs. Papiya Dutta
	A Pravalika	15E11A0406		
	Avula Divya	15E11A0456		
ECE15MPA3	A.sony	15E11A0407	Lung cancer detection using image processing and artificial Neural Networks	Mr. Joy Sangeeth Raj
	M.NITHYUSHA	15E11A0433		
	B.POOJITHA	15E11A0414		
	B.Ramadevi	15E11A0415		
ECE15MPA4	Gunda Meghana	15E11A0422	Smart transport system in smart cities	Mr. V. Pradeep Kumar
	M.Maheshwari	15E11A0430		
	S.Niharika	15E11A0444		
ECE15MPA6	A. Kumar	15E11A0401	Segmentation of Skin Tumors in High-Frequency 3D Ultrasound Images	Mrs. V. V. Ujwala
	Sai Prasad. B	15E11A0410		
	K. Chandu	15E11A0452		
ECE15MPA7	P. Pavan Kumar	15E11A0450	Image denoising using sparse representations	Mrs. V. V. Ujwala
	P. Adarsh	15E11A0440		
	Bhanu Prakash. N	15E11A0449		
ECE15MPA8	Bollu Spandan	14E11A0424	EEG Feature Extraction and Classification Using Data Dimension Reduction	Mrs. CH. Kranthi Rekha
	Santhosh Kumar. K	14E11A0429		
	M Hitesh Kumar	14E11A0437		
	G. Varun	14E11A0427		
ECE15MPA9	K. Vinai Krishna	15E11A0427	Voice control smart mirror using IOT and AI	Mrs. Surbhi meherwal
	G. Radeesh	15E11A0421		
	B. Kumar	15E11A0409		
ECE15MPA10	Datta Dixit. K	15E11A0429	Automatic plant irrigation system using Arduino	Dr. Sathish Saini
	Karthik Kumar	15E11A0436		
	Pruthvi Raj. A	15E11A0457		
ECE15MPA11	K Ravi Teja Reddy	15E11A0426	Face detection and recognition using Matlabpackage with image processing toolbox	Mr. Shankar Reddy
	G. Nikhil Reddy	15E11A0423		
	B. Chandrakanth Reddy	15E11A0413		
ECE15MPA12	N. Manish Reddy	15E11A0431	Wireless sensor network based surveillance	Dr. G. Jagan
	P. Tejendra	15E11A0442		
	V. Sai Vineeth Kumar	15E11A0448		
	L. Sandeep	15E11A0455		
ECE15MPA13	G. Rahul Venkat Sai Reddy	15E11A0420	Image Denoising Method using Deep Learning Network	G. Kishore
	Sai Teja . D	15E11A0418		
	I Ranadeep	15E11A0424		
ECE15MPA14	A. Sindhu Sri	15E11A0458	IOT Based Intelligent Irrigation System	Mr. Pulishetty Prasad
	Sai Poojitha. B	15E11A0459		
	T. Manisha	15E11A0447		
ECE15MPA15	Akshith	15E11A0441	IOT based vehicle accident detection and alerting system	Mr. Joy Sangeeth Raj
	Mahender	15E11A0428		
	Akhil Kumar	15E11A0446		
ECE15MPA16	A. Sai Krishna Reddy	15E11A0403	Mixed Noise removal via Robust Constrained sparse representation	Mrs. CH. Kranthi Rekha
	M. Govardhan	15E11A0434		
	G. Sai Krishna	14E11A0483		
	A.R. Dineshkanth	15E11A0402		
ECE15MPA17	B. Sainath	15E11A0412	Supervised Learning of Digital image restoration based on Quantization Nearest	Mr. L. ChandraSekhar
	B. Vamshi	15E11A011		
	P. Venkat Naveen	15E11A0438		

ECE15MPB1	Pimpley Parneeth	15E11A0496	Automated Toll Collection System Using RFID	Mr.R.Sathish Kumar
	Sai Teja Cherupally	15E11A0468		
	Poojith Reddy	15E11A04A7		
ECE15MPB2	Pathoori Saikiran Reddy	15E11A04A8	Automatic Railway Gate Controller with High Speed Alerting System	Dr.V.Ram Babu
	D.Sairam	15E11A04A4		
	Ch. Sravan Kumar Reddy	15E11A04B9		
ECE15MPB3	B.Swathi	15E11A0465	Design and Implementation of 4-Bit Arithmetic and Logic Unit using Mentorgrphics EDA Tool	Dr.Neeraj Kumar Misra, Mr.D.Sankara Reddy
	R.Navya	15E11A04A9		
	N.Sony	15E11A0492		
ECE15MPB4	Ch. Hasmitha Reddy	15E11A0467	Designing and Evaluation of Different Subcomponents of Processor Based on Emerging Nano Computing	Dr.Neeraj Kumar Misra
	Devasani Sandhya	15E11A0470		
	G.Jhansi Goud	15E11A0474		
	P.Madhuri	15E11A0494		
ECE15MPB5	S.Akhila	15E11A0497	Intelligent Robust Car Parking System for Smart Cities	Dr.Naveen Rathee
	K.Anusha	15E11A0483		
	T.Prathyusha	15E11A0499		
ECE15MPB6	T. Sai Prashanthi Reddy	15E11A04A1	Smart Cities Based on Micro-Controller	Dr.Naveen Rathee
	Ganta Akhila	15E11A0473		
	G.Manisha	15E11A0476		
	N.Deepika	15E11A0489		
ECE15MPB7	J.Teja	15E11A0479	Bluetooth Controlled Robot	Dr.K.S.Balamurugan
	G.Chandu	15E11A0475		
	Kamlesh.S	15E11A0482		
	Bhukya Raj Kumar	15E11A0463		
ECE15MPB8	V.Ramu	15E11A04A2	Speed Detection in Highways to Avoid Rash Driving	Mr.P.Prasanth Kumar
	Sunchu Srikanth	15E11A0498		
	Arugonda Varshith	15E11A04B4		
ECE15MPB9	B.Anusha	15E11A04B8	Voice Controlled Wheelchair for Physically Disabled Person	Dr.Vikas Maheshwari
	K.Navya	15E11A0481		
	B. Supriya	15E11A04B6		
ECE15MPB10	Nimmagadda Sai Krishna	15E11A0493	Smart Agriculture Using IOT	Dr.Kalyan.S.Kasturi
	Annamalla Rakesh	15E11A04B3		
	Panuganti Vishwanath	15E11A0495		
ECE15MPB11	Kasula Rajashekar Reddy	15E11A0484	Smart Irrigation System Using IOT	Ms.G.Udayasree, Mr.V.Pradeep Kumar
	Vuppari Maruthi	15E11A04A3		
	N.Sainath Goud	15E11A0491		
	T. Vaishnavi	15E11A04A0		
	U.Nikhila Sravani	15E11A04B1		
ECE15MPB12	M.Y.Chandra Paul	15E11A0488	Password Based Circuit Breaker using IOT	Mr.P.Prasanth Kumar
	K.Abhilash Reddy	15E11A0480		
	D.Suraj Goud	15E11A0469		
ECE15MPB13	E.V.V.Shashank Pavan	15E11A0472	Cognitive Radio (DRDL)	Dr.Vikas Maheshwari
	Amit Kumar Gupta	15E11A04B2		
	B.Sri Sai	15E11A0464		
ECE15MPB14	Benny K Abraham	15E11A0461	Agriculture Assist System	Dr.Naveen Rathee
	Ch Raghavendra Vamshi Teja	15E11A0466		
	Diddiga Sandesh	15E11A0471		
	Bathula Sree Sai Maniesh Reddy	15E11A04B5		
ECE15MPB15	G Akhila	15E11A0477	Gesture Controlled Wheelchair for Physically Disabled Person	Mr.T.Venkat Raghaven
	N.Pravalika	15E11A0490		
	G.Naveena	15E11A0478		
ECE15MPB16	Cheruku Vinitha	15E11A04C0	Smart Menu Ordering System	Mr.T.Venkat Raghaven
	Bobbishetty Sushma	15E11A04B7		
	S Durga Bhavani Reddy	15E11A04B0		
ECE15MPB17	Medepudi Anand Sri Ram	15E11A0487	Smart Crop Protection System	Mr.V.Pradeep Kumar
	K Bhaskar Reddy	15E11A04A6		

ECE15MPC1	Vadlamani Phani Sravan	15E11A04F5	Density Based Traffic Control System	Mr.RAHUL
	MD.Sarfaraz	15E11A04E1		
	Gadaley Vishal	15E11A04C6		
ECE15MPC2	K. Jayavardhan Chary	15E11AO4D1	Designing of low cost Quadcopter For surveillance	Mr.Chandika Mohan
	Amarnath Rayala	15E11A04F2		
	Jeldi Venkatesh	15E11A04D0		
	M.Sai Yeshwanth	15E11A04D7		
ECE15MPC3	VANI	15E11A04E9	VEHICLE TRACKING SYSTEM USING GPS AND GSM	Mrs. Deepika
	Durga shinde	15E11A04C5		
	Vyshnavi Chowdry	15E11AO4F4		
ECE15MPC4	Shaik Basheera	15E11A04G7	OT WIFI&BLUETOOTH BASED LED TEXT SCROLLING DISPLA	Dr.Naveen Rathee Ms.Udaya Sree
	Meghashyam Nallapu	15E11A04G5		
	Jonnala Sushma Reddy	16E15A0402		
ECE15MPC5	Perumandla Suraj	15E11A04E8	BODY MOMENT RECOGNITION USING EMBEDDED SYSTEM FOR COMA PATIENT	Dr.K,S,Balamurugan
	CH.Vikram Reddy	15E11A04F9		
	MD.Aarshad	15E11A04D9		
	S.k Mujeeb	15E11A04F3		
ECE15MPC6	Gande Vinay Kumar	15E11A04G1	VEHICLE TRACKING ALONG WITH THE ADVANCED RTO TECHNOLOGY	Mr.Surender Reddy
	Danturi Suraj Goud	15E11A04C2		
	P. Randeep Reddy	15E11A04F1		
	Ushakiran Reddy	15E11A04G0		
ECE15MPC7	Kota Shravya	15E11A04D3	MICROWAVE RECEIVER FOR KU BAND	Mr.GP Ramacharyulu
	Aarla Pallavi	16E15A0401		
	Sushmitha	16E15A0406		
	Balakrishna Reddy	16E15A0405		
EC E15MPC8	Bavinash Reddy	15E11A04G8	CROP PROTECTION FROM ANIMALS USING IOT	Mrs Deepika
	P Suraj Reddy	15E11A04E7		
	M. Pranav	15E11A4E3		
	K Anil Rao	15E11A04G2		
ECE15MPC9	Masimukku Mahesh	15E11A04D8	HOME SECURITY SYSTEM USING GSM	Ms.Udaya Sree
	N Vinod Kumar	15E11A04E5		
ECE15MPC10	K Santosh Reddy	15E11A04D2	AUTOMATIC PLANT IRRIGATION SYSTEM USING ARDUINO	Dr.K.S.Balamurugan
	M Mahesh	15E11A04D6		
	G Sai Kiran	16E15A0404		
ECE15MPC11	Gunda Bhargav	15E11A04C9	AUTOMATIC STREET LIGHTING SYSTEM USING IOT	Mr. Surender reddy
	MD.Sameer	15E11A04E0		
	D. Shiva Shankar	15E11A04C3		
	Shiva Kumar Reddy	15E11A04H0		
ECE15MPC12	Yelluri Manasa	15E11A04F8	SMART CABIN FOR TRACTOR	Dr.Naveen Rathee
	V Varun Kumar	15E11A04F6		
	G Sravani Reddy	15E11A04C7		
ECE15MPC13	vattem manasa gayathri	16E15A0408	SMART WHEEL CHAIR	Dr.Vikas Maheshwari
	Sai Sameera	15E11A04G3		
	Venkata Sai Anusha	15E11A04G6		
	Malkapuram Navneetha	15E11A04D5		
ECE15MPC14	Veeranki Sai dharan Tej	15E11A04F7	GPS AND GSM NAVIGATION	Dr. G.Jegan
	Puli Karthik	15E11A04F0		
	M.A.Inzamam Pasha	15E11A04G4		
	Gopi Khadar babu	15E11A04H1		
ECE15MPC15	CH.Shiva	15E11A04C1	R POWERED LED STREET LIGHT WITH AUTO INTENSITY CON	DR Kalyan Kasturi
	Nimmala Narender Reddy	15E1104E6		
	Morthala UdayReddy	15E11A04E2		
	K Venu Goud	15E11A04H2		

ARDUINO BASED SMART STREET LIGHTING SYSTEM USING IOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN

ELECTRONICS AND COMMUNICATION ENGINEERING

By

A.SRAVANI (15E11A0404)
A.ANUSHA (15E11A0408)
S.SRAVANI (15E11A0445)

Under the guidance of

Ms. PAPIYA DUTTA
Asst. Professor

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Affiliated to JNTUH Hyderabad, Approved by AICTE & Accredited by NAAC) Ibrahimpatnam - 501 510, Hyderabad

2018-2019

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Affiliated to JNTUH Hyderabad, Approved by AICTE & Accredited by

NAAC)

Ibrahimpatnam - 501 510, Hyderabad

Certificate

This is to certify that the project work entitled "**ARDUINO BASED SMART STREET LIGHTING SYSTEM USING IOT**" is the bonafide work done

A.SRAVANI	(15E11A0404)
A.ANUSHA	(15E11A0408)
S. SRAVANI	(15E11A0445)

In the Department of Electronics and Communication Engineering,

BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY, Ibrahimpatnam is

submitted to **Jawaharlal Nehru Technological University**, Hyderabad in partial

fulfillment of the requirements for the award of **B.Tech** degree in Electronics and

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Guide:	Head of the Department
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Viva-Voce held on.....May 1st 2019

Internal Examiner | External Examiner

ABSTRACT

Nowadays, human has become too busy, and is unable to seek out time even to change the lights were not necessary this system is like, the road lightweights are switched on within the evening before the sun sets and that they square measure transitioned successive day morning once there's ample light on the roads. This project provides the simplest answer for wattage wastage. Conjointly the manual operation of the lighting system is totally eliminated. during this project the sensing elements square measure used that square measure lightweight Dependent resistance LDR sensor to point a day/night time and also the small controller is employed which is able to generate standing of sunshine to the user by exploitation GSM module that acts as a group action half between backside and also the side half. The microcontroller Arduino board is employed as brain to manage the road lightweight system, wherever the programming language used for developing the package to the microcontroller is C language. Finally, the system has been with success designed and enforced as epitome system Street lights area unit the main demand in today's lifetime of transportation for safety functions and avoiding accidents throughout night. Despite that in today's busy life nobody bothers to change it off/on once not needed. Wireless is that the buzz of communication trade nowadays. The sphere of wireless communication is growing leaps and bounds day by day. There are several advancements happening within the

semiconductor trade resulting in a lot of and a lot of advancements in wireless technology. the most aim of the project is to avoid wasting the ability, by exploitation effectively we are able to save a lot of power, as we all know that there's shortage of power these days in everyplace largely in villages etc. So, to beat that we are able to give street lights mechanically with the centralized intelligent systems. therefore in future we are able to style more advanced technologies to avoid wasting power.

CONCLUSION & FUTURE SCOPE:

The use of power electronics is increasing exponentially across various sectors of human life. The components used in the project, like Arduino and sensors are slowly becoming an indispensable part of our daily routines. So, it is only fitting that we use them to improve efficiency in every walk of life. Keeping in mind the urgent need for energy conservation, Solar Smart Street Light System with IoT is an excellent and effective solution. It combines safe lighting protocols with consumption of a minimal amount of power. The energy savings, as discussed before are phenomenal. The future scope of this project expands into speed detectionand customizable area of illumination. An additional component which would lead to better functioning of the concept would Bethe use of LED bulbs. Despite their high initial costs, they are a viable option as they drastically reduce the power consumption. They will aid in further saving of energy and reduction in operational cost.

Using this smart project, we can also estimate the speed of the vehicle, recognizing the number plate, recognizing the accidents took place on roads etc. This Smart Streetlight project not only helps in rural areas but also beneficial in urban areas too. As were moving towards more advancement we require more power to the use of renewable resources is useful and advantageous. With this project, we can even add smart parking of a vehicle and it is even useful for driverless cars. This project has a bright Future not only to save power but also reduced the calamities and even reduce the crime rate.

SMART IRRIGATION SYSTEM USING IOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements for the award of the degree of

BACHELOR OF TECHNOLOGY
IN

ELECTRONICS AND COMMUNICATION ENGINEERING

By

AKSHATHA KAMATH (15E11A0405)
A.PRAVALIKA   (15E11A0406)
A.DIVYA   (15E11A0456)

Under the guidance of

Ms.PAPIYA DUTTA
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Ibrahimpatnam - 501 510, Hyderabad

Certificate

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AKSHATHA KAMATH	**(15E11A0405)**
A.PRAVALIKA	**(15E11A0406)**
A.DIVYA	**(15E11A0456)**

In the Department of Electronics and Communication Engineering,

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Guide:	Head of the Department:
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Professor	Professor,
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Bharat Institute of Engineering and	Bharat Institute of Engineering and
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Ibrahimpatnam – 501 510,	Ibrahimpatnam – 501 510,
Hyderabad.	Hyderabad.
Viva-Voce held on..01-05-2019..........	
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Internal Examiner	External Examiner

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ABSTRACT

India is mainly an agricultural country. Agriculture is the most important occupation for the most of the Indian families.

It plays vital role in the development of agricultural country. In India, agriculture contributes about 16% of total GDP and 10% of total exports. Water is main resource for Agriculture. Irrigation is one method to supply water but in some cases there will be lot of water wastage.

So, in this regard to save water and time we have proposed project titled automatic irrigation system using IoT.

In this proposed system we are using various sensors like temperature, humidity, soil moisture sensors which senses the various parameters of the soil and based on soil moisture value land gets automatically irrigated by ON/OFF of the motor. These sensed parameters and motor status will be displayed on user android application.

CHAPTER 7
CONCLUSION & FUTURE SCOPE:

CONCLUSION

The smart irrigation system implemented is cost effective for optimizing water resources for agricultural production. The proposed system can be used to switch on/off the water sprinkler depending on the soil moisture levels thereby making the process simpler to use. Through this project it can be concluded that there can be considerable development in irrigation with those of IOT and automation. Thus this system is a solution to the problems faced in the existing process of irrigation.

Scope of the Work:

Nowadays agricultural field is facing lot of problems due to lack of water resources. In order to help the farmers to overcome the difficulties, smart irrigation system has been used. In this system, various sensors such as pH, soil moisture, DHT11, PIR (intruder detecting system) and pressure sensors are connected to the input pins of arduino microcontroller. The sensed values from the sensors are displayed in LCD. If the sensed value goes beyond the threshold values set in the program, the pump will be automatically switched ON/OFF by the relay circuit and it is connected to the driver circuit which helps to switch the voltage. The farmer will be intimated about the current field condition through GSM module and also updated in the web page. By using this system, the farmer can access the details about the condition of the field anywhere at any time.

LUNG CANCER DETECTION USING DIGITAL IMAGE PROCESSING

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

*In partial fulfillment of the requirements
for the award of the degree of*

**BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING**

By

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B. POOJITHA	**(15E11A0414)**
B. RAMADEVI	**(15E11A0415)**
M. NITHYUSHA	**(15E11A0433)**

Under the guidance of

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Assistant professor

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Ibrahimpatnam - 501 510, Hyderabad April **2018**

i

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
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Ibrahimpatnam - 501 510, Hyderabad

Certificate

This is to certify that the project work entitled **"LUNG CANCER DETECTION USING DIGITAL IMAGE PROCESSING"** is the bonafide work done

By

A. **SONY**	(15E11A0407)
B. **POOJITHA**	(15E11A0414)
B. **RAMADEVI**	(15E11A0415)
M. **NITHYUSHA**	(15E11A0433)

in the Department of Electronics and Communication Engineering, **BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY**, Ibrahimpatnam is submitted to **Jawaharlal Nehru Technological University, Hyderabad** in partial fulfillment of the requirements for the award of **B.Tech**degree in **Electronics and Communication Engineering** during **2015-2019**.

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Head of the Department:

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Viva-Voce held on...... 01.05.2019 ....

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Internal Examiner

_____
External Examiner

ii

Abstract

We proposed cancer cell detection using image processing techniques based on cancer cell counting, cell area measurement and clump detection. The proposed system autonomously detects traits of cancer in microscopy images of biopsy samples. Previous similar attempts lack flexibility in terms of features and the level of accuracy is not consistent on respective type of cancer. The system pre-processes the input image by means of gray scaling, binarization, inversion, median filtering and flood fill operation. The pre-processed image then undergoes "cell counting", "area measurement" or "clump detection" depending on the type of trait to be detected. Several sets of images were processed using this methodology and the system was finetuned using the feedback from these test runs. The proposed method can be effectively used for autonomous cancer cell detection, which will significantly accelerate cancer cell researches and open up new dimensions.

Chapter 5

Conclusion

5.1 Concluding Remarks

Every year millions of people are affected by cancer all over the world. And a significant percentage of these people die because there is no solid cure to the type of cancer that affected them. Numerous scientific communities are constantly researching on different grounds of cancer to figure out possible defined cures. In this research, the proposed model effectively detects cancer cells autonomously, by means of cell counting, area measurement of cells, and clump detection. The system is flexible enough to detect various types of cancer based on several manual inputs set by the user. As a result a wide variety of cancer can be detected respectively.

5.2 Future Works

This article has presented a novel approach to detect cancer cells from microscope images of tissue sample slides. The system is already due to be tested with a large number of real data set collected from various cancer research centers.

A user friendly GUI will be implemented soon after trial and error process with the large set of real data.

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ARDUINO BASED SMART BUS TRASNPORT SYSTEM WITH GPS AND GSM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

*In partial fulfillment of the requirements
for the award of the degree of*

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

By

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Certificate

This is to certify that the project work entitled "Arduino Based Smart Bus Transport System with GPS A GSM" is the bonafide work done

By

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ii

ABSTRACT

The main aim of this project is to carry out analysis, design and implementation of an Arduino based smart bus transport system using GSM and GPS based location identification.

The main objective of this project is to design a system that uses a smart card with android facilitated GSM and GPS for location identification.

In India, the most widely used public transport system is the ready-to-go-bus facility. However, this `ready-to-go' facility is not as smooth as the need of the hour, particularly in today's congested metropolitan cities. Standing in long queues at bus stands, quarrelling with conductors for trifle matters make the journey uncomfortable for the passengers. That is why we have proposed an idea for implementing smart bus technology for ticketing the passengers travelling in bus. The smart card is mainly based on latest Radio Frequency Identification (RFID) technology. For this purpose, an interface is built between RFID setup and driver's mobile phone. The interface helps to send passenger ID from RFID reader to the driver's mobile phone via GSM. This system also keeps records of the stoppage name/no. into database in mapping with the Global positioning system (GPS) coordinates. The GSM clubbed GPS technology can also be used to get the current location of vehicles and the IR sensors to count the number of persons getting in and out of the bus. This system also gives the information about the available seats in it.

ARDUINO microcontroller is the main controlling device which controls and synchronizes all the operations by receiving the data, GSM Module as well as GPS. Such kind of monitoring systems can be used for various public vehicles ranging from auto rickshaws to Buses. Such type of systems will assist the travelers, drivers and the Bus-stand controller at the control terminals for real time monitoring of the vehicles.

10. CONCLUSION AND FUTURE SCOPE

10.1. Conclusion:

A low-cost transportation management system based on integration of GPS and GSM module is designed. The system consists of various modules which are wirelessly linked with GSM modems. Cost effective SMS service of GSM network is used for the transfer of data between the modules. A new service, to facilitate the people who use public transport for travelling, is introduced in the city. This service provides user with current location information of desired buses, based on which the user can adjust his/her schedule accordingly. This service therefore reduces the waiting time at the bus stop. This system tracks the passengers on the basis of vehicle history and ticket number. Tracking is easy for the users of this system because they just need to enter the valid ticket number only.

10.2. FUTURE SCOPE:

- We can use the EEPROM to store the previous navigating positions up-to 256 locations and we can navigate up to N number of locations by increasing its memory.
- We can reduce the size of the kit by using GPS+ GSM on the same module.
- We can increase the accuracy up to 3m by increasing the cost of the GPS receivers.
- We can use our kit for detection of bomb by connecting to the bomb detector.
- With the help of high sensitivity vibrations sensors, we can detect the accident. Whenever vehicle unexpectedly had an accident on the road with the help of vibration sensor, we can detect the accident and we can send the location to the owner, hospital and police.
- We can use our kit to assist the traffic. By keeping the kits in the entire vehicles and by knowing the locations of all the vehicles.
- If anybody steals our card, we can easily find our card around the globe. By keeping vehicle positioning vehicle on the vehicle.

SEGMENTATION OF SKIN TUMORS IN HIGH FREQUENCY 3D ULTRA SOUND IMAGES

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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ABSTRACT

High-frequency 3-D ultrasound imaging is an informative tool for diagnosis, surgery planning and skinlesion examination. The purpose of this article was to describe a semi-automated segmentation toolproviding easy access to the extent, shape and volume of a lesion. We propose an adaptive log-likelihood level-set segmentation procedure using non-parametric estimates of the intensity distribution.The algorithm has a single parameter to control the smoothness of the contour, and we describe how a fixed value yields satisfactory segmentation results with an average Dice coefficient of D = 0.76. The algorithm is implemented on a grid, which increases the speed by a factor of 100 compared with a standard pixelwise segmentation.

We compare the method with parametric methods making the hypothesis of Rayleigh or Nakagami distributed signals, and illustrate that our method has greater robustness with similar computational speed. Benchmarks are made on realistic synthetic ultrasound images and a data set of nine clinical 3-D images acquired with a 50-MHz imaging system.

Detection of skin cancer in the earlier stage is very critical and this paper proposes and explains the implementation of automatic detection and analysis Skin Cancer from given photograph of patient's cancer affected area. The proposed scheme is using Watershed Segmentation for image segmentation, border detection & decision related with structural nature of lesion, Wavelet Transformation and decomposition for image improvement, de-noising, histogram analysis & for calculating diameter of lesion and mamdani based Fuzzy Inference System color based skin classification based on the pixel color severity. We are using worldwide recognized ABCD rule of cancer diagnostic. We are calculating TDS Index for differentiating and making final decision of non-cancerous (benign), suspicious and cancerous (melanoma) image, which will help patients/doctors/dermatologist/clinicians for taking further medical treatment, which will ultimately saves patients valuable time, money and life.

The proposed algorithm is suitable for use in a clinical context as a post-processing tool.We propose a multi-purpose level-set segmentation algorithm to detect the boundary of tumors and tissues in high-frequency 3D ultrasound images of the skin. Whereas most proposed algorithms assume a specific (e.g. Rayleigh) distribution of the speckle noise, we do not make such assumption and use non-parametric Parzen estimates of the distribution.

CHAPET 12
CONCLUSION

12.1 CONCLUSION

The thesis is commenced with providing the medical background for skin cancer diagnosis to set some foundations for automated diagnostic system. Afterwards a detailed review and analysis is provided for the existing works presented in literature for the development of automated diagnostic systems for skin cancer. The main contribution of the thesis in the detection phase is the development of novel methods for segmentation of digital/dermoscopic and histopathological images for skin cancer. The proposed method achieved an average True Detection Rate of around 93% for digital/dermoscopic images and approximately 88% for histopathological images, which is a significantly improved performance when compared with some the most frequently state-of-the-art used in the area for this application.

After segmenting the images, features are generated based on physical, statistical as well as spectral analysis of the skin images. The details of the suggested feature extraction methods and their relevant significance is provided in the thesis with respect to their differentiating capability for melanoma and benign skin images.

In the feature selection stage, a new adaptive differential evolution based feature selection method is proposed. The method was applied to the skin cancer dataset and its significance is also proved by testing its performance for another 9 standard datasets for different kinds of cancer. The comparative analysis done with a number of well-known evolutionary algorithms based feature selection methods showed reasonably improved performance of the proposed algorithm.

For the classification phase, two different types of classification models are proposed for digital/dermoscopic images classification and histopathological image analysis. Firstly, an expertise weight based advised SVM model is presented that reached a classification accuracy of around 95% for digital/dermoscopic skin image. Limited availability of training

IMAGE DENOISING USING SPARSE REPRESENTATION

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
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ii

ABSTRACT

The amount of electronic data available today as well as its dimensionality and complexity increases rapidly in many scientific areas including biology, (bio-)chemistry, medicine, physics and its application fields like robotics, bioinformatics or multimedia technologies. Many of these data sets are very complex but have also a simple inherent structure which allows an appropriate sparse representation and modeling of such data with less or no information loss. Advanced methods are needed to extract these inherent but hidden information. Sparsity can be observed at different levels: sparse representation of data points using e.g. dimensionality reduction for efficient data storage, sparse representation of full data sets using e.g. prototypes to achieve compact models for lifelong learning and sparse models of the underlying data structure using sparse encoding techniques. One main goal is to achieve a human-interpretable representation of the essential information. Sparse representations account for the ubiquitous problem that humans have to deal with ever increasing and inherently unlimited information by means of limited resources such as limited time, memory, or perception abilities. Starting with the seminal paper of Olshausen&Field [40] researchers recognized that sparsity can be used as a fundamental principle to arrive at very efficient information processing models for huge and complex data such as observed e.g. in the visual cortex. Nowadays, sparse models include diverse methods such as relevance learning in prototype based representations, sparse coding neural gas, factor analysis methods, latent semantic indexing, sparse Bayesian networks, relevance vector machines and other. This tutorial paper reviews recent developments in the field. Image denoising is performed and implemented using MATLAB.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, research type and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

Table 2: Performance of S²MSU for the above images

Image	Anisotropic relative error	Isotropic relative error
Lena image	0.060085	0.0566372
Multispectral image	0.125136	0.112852
Patches image	0.151025	0.138152

4.5 Conclusion

- Comparison of isotropic and anisotrpic Bregman algorithm is performed and it is observed that isotropic Bregman iterative algorithm had resulted in minimum error.

- The images are also tested peak signal to noise ratio (PSNR) using the approaches and are compared with other filters.

- The proposed method gave significant results.

EEG FEATURE EXTRACTION AND CLASSIFICATION USING HYBRID APPROACH

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
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BACHELOR OF TECHNOLOGY
IN
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This is to certify that the project work entitled "EEG Feature Extraction and classification using Hybrid approach" is the bonafide work done

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ABSTRACT

The human brain is one of the most complex systems in the universe. Nowadays various technologies exist to record brain waves and electroencephalography (EEG) is one of them. Brain signal processing is one of the interesting and significant areas in medical field, which plays an important role for studying and understanding human brain status. Brain signal processing approaches gains understanding of the complex inner mechanisms of the brain waves and abnormal brain waves. The approach developed also shows the brain disorders. EEG signals contain more relevant information about the brain disorders and different type of artifacts.

The significance of the present project is to remove the unwanted data by using a novel method, for better diagnosis. To perform such process, it is necessary to study the features of EEG signal and extract appropriate information. The EEG signal analysis involves interfacing human brain with a computer or to any display. In this process it is necessary to check the storage requirements compatibility related to system and EEG data. It becomes essential to eliminate unwanted data from EEG signal generated from human brain. It is also essential to know the features of EEG signal in order to extract and classify the data. This project develops a new technique to extract and classify the EEG signals. The developed method, data dimension reduction method is an EEG signal classifier that handles time-domain EEG signal as a feature vector and reduces data dimension to create lower dimension features using the classifier. Feature extraction and classification is performed and implementation using MATLAB. The performance of the classifier is tested by calculating various parameters such as mean square error (MSE) and Itakura distance.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, research type and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

5. Conclusions and Future Works

5.1. Conclusions

In this thesis, ICA technique is used to remove the ocular artifact from the EEG signal. The SOBI-RO algorithm is used because it is the most efficient algorithm for artifact removal. The data which is collected from CHB-MIT Scalp EEG Database is used for artifact removal. The clean EEG signal free from artifact is retrieved from the noisy EEG signal. The performance is evaluated using the Signal to Distortion Ratio (SDR) which gives better separation between clean EEG signal and noisy signal. The SOBI-RO algorithm gives a high value of SDR which indicates that the estimated signal is almost similar to the actual source signal.

5.2. Future Works

- The accurate EEG signal finds scope in various advanced areas of bio-medical like clinical research and brain-machine interface. To get the accurate EEG signal SOBI-RO is one of the finest methods. So if SOBI-RO is used in medical science, the cure of patient can be done effectively.

- Its use in device control like brain computer interface can change the life of patients suffering from severe neurological disorder like seizure.

- SOBI-RO method can be improved further by applying various other Linear Algebraic techniques of matrix operation.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8**, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

VOICE CONTROLLED SMART MIRROR USING IOT AND AI

A Project Report Submitted to

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In partial fulfillment of the requirements
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BACHELOR OF TECHNOLOGY
IN
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II

ABSTRACT

Effective time management is an essential factor in increasing production of day-to-day life. Integration of technology into people's daily lives has made that time management possible. The use of products such as tablets, PCs, and smart phones have given people access to the tools needed to be productive. However, though successful technological products have been used to increase productivity, the use of technology has become another task on everyone's daily to-do list. Technology should mold to our schedule, not the other way around. That is where the "Smart" mirror idea originated.

"Smart" mirrors have been envisioned for years, part of the broader trend in imbuing everyday objects with various "smarts" to improve our lives. The smart mirror idea aimed to integrate technology seamlessly into people's lives by putting it where everyone's routine eventually collides. The goal of the smart mirror is to increase a user's productivity by saving them time. Household Smart Mirrors: In consumer applications the core function is basically twofold: Be a general informational hub, derived from viewing one's reflection as well as augmented with other useful information and provide some style and comfort benefits, in addition to mirror reflectivity and other functions. By connecting IoT to smart mirror, it is possible to implement a variety of application services. Smart mirror that has been linked with IoT platform is friendly and provides varieties of information to user. Generally the humble mirror gains such sentence in one of two ways: adding layer(s) of smart coatings, or embedding a variety of electronics: sensors, cameras and display, touch interface, lighting, and the software and processing to stitch everything together a prototype of a smart mirror is proposed which has been linked with IoT platform and the artificial intelligence features where an user can interact with the mirror and get different types of information like weather report, time, calendar, maps, compliments, browsing and much more.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3.

9 CONCLUSION AND FUTURE WORK

9.1 CONCLUSION

The Interactive smart mirror is the new development in IoT. We are making efforts to design an efficient system which is used for effective time management and productivity for the user. This system basically works on voice commands which can help the users interact with the system easily without remembering commands because it accepts the natural language used by the user.

Through this the user can easily communicate with the living room environment around him which is the major concept of IoT. So the user don't have to check his mobile phones everytime he/she need any information, he/she can just ask the system about the data needed and there you go the user will have the answer within few min with less effort and more comfort. In future there may be much more advancement in this concept and we can see it in our smart home.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

FUTURE WORK

The scope of the services includes personalized services and remainders which reminds the users regarding the medical prescriptions they have. There is also scope for other kind of entertaining modules which can play videos, music etc. In future we can also add gesture controls and temperature sensors which predict the temperature of room and also control lights and fans in the room. There is no end for creativity and advancement in the technology. Sky is the limit for IoT.

AUTOMATIC PLANT IRRIGATION SYSTEM USING ARDUINO

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements for the award of the degree of

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ii

ABSTRACT

A proper usage of irrigation system is very important because the main reason is the shortage of land reserved water due to lack of rain, unplanned use of water as a result large amounts of water goes waste.In the present era, water scarcity occurs due to the increase in population. So to avoid this problem we have to promote the agriculture sector. The project deals with an automatic plant irrigation system which automatically senses the moisture content of the soil and decide whether irrigation is needed or not and how much water is needed for soil. This system uses AtMega328 microcontroller. It is programmed to sense the moisture content if the soil over a period of time. When the moisture content is less than the limit which is predefined, it will start supplying the desired amount of water till it reaches the limit. So when the soil is dry the pump will automatically water the fields and when the soil is wet the pump will automatically switch off, there by eradicate the need of this automatic irrigation system senses the moisture content of the soil and automatically switches the pump when the power is on. Therefore an automatic plant irrigation system has to be designed for the proper water supply in this fields.

CHAPTER 8

8.1) Result:

Thus, an "**Automatic Plant Irrigation System using Arduino**" has designed for watering the plants automatically. The output will be displayed on the lcd and will be passed to registered mobile number through Gsm module. The system has designed successfully and matched the expected results.

8.2)Conclusion:

Considerable progress has been made in the development of plant irrigation system methods and there is a gradual increase in the adoption of irrigation system by farmers. The technology level of the farm will determine the choice of the irrigation scheduling method. Industry farms and farms with high value cash crops are more likely to adopt and invest in sophisticated scheduling methods. The support and collaboration of the expert irrigation adviser will determine the rate of success in the adoption of the irrigation scheduling technology.

8.3)Future Scope:

In future, we can pass the information to icloud and through IOT we can process the irrigation system which will make the irrigation system more simpler in watering plants.

8.4)References:

1.Attar, S., & Sudhakar, K. N. Real-Time Monitoring Of Agricultural Activities Using Wireless Sensor Network.

2. Awasthi, A., & Reddy, S. R. N. (2013). Monitoring for Precision Agriculture using Wireless Sensor Network-A review. GJCST-E: Network, Web & Security.

FACE DETECTION AND FACE RECOGNITION

A Project Report Submitted to

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In partial fulfillment of the requirements for the award of the degree of

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2018-2019

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Certificate

This is to certify that the project work entitled "**Face detection and Face recognition**" is the bonafide work done by

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ABSTRACT

Human face detection and recognition play important roles in many applications such as video surveillance and face image database management. In our project, we have studied worked on both face recognition and detection techniques and developed algorithms for them. In face recognition the algorithm used is PCA (principal component analysis), MPCA(Multilinear Principal Component Analysis) and LDA(Linear Discriminant Analysis) in which we recognize an unknown test image by comparing it with the known training images stored in the database as well as give information regarding the person recognized. These techniques works well under robust conditions like complex background, different face positions. These algorithms give different rates of accuracy under different conditions as experimentally observed.

In face detection, we have developed an algorithm that can detect human faces from an image. We have taken skin colour as a tool for detection. This technique works well for Indian faces which have a specific complexion varying under certain range. We have taken some examples and simulated the algorithms in MATLAB successfully.

CONCLUSION AND FUTURE WORK

7.2 CONCLUSION

In this entire process has two phases, one is face luminance and another one is detection. Here face luminance operation is being performed to get pixel information of an image and further implemented to detection purpose. For detection using local SMQT features which can be used as feature extraction for object detection. Properties for these features were presented. The features were found to be able to cope with illumination and sensor variation in object detection. Then, the split up SNoW is introduced to speed up the standard SNoW classifier. The split up SNoW classifier requires only training of one classifier network which can be arbitrarily divided into several weaker classifiers in cascade. Each weak classifier uses the result from previous weaker classifiers which makes it computationally efficient.

7.3 FUTURE WORK

The Face Detection technology has many uses in the biometric and other security purposes it also used in face recognition and many other image processing fields for extracting faces of people in it.

The face detection can be further incorporated into digital payments in the malls and other shopping or banking sectors where payment is done by detecting and identifying the face. The face detection thus can be extended to all kinds of authorization and security features. It can be mainly used for face recognition in the criminal and forensic departments so as to detect the criminal from security cams and find all information related to them.

WIRELESS SENSOR NETWORK (WSN) BASED SURVEILLANCE

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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IN
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CHAPTER 1

PROJECT DESCRIPTION

1.1 Project Aim

Aim: To build a basic surveillance model by using network analysis for an efficient communication of wireless transmission of data between different nodes and to the server with real time monitoring and energy conservation.

Scope of the work: Theoretical studies on the basics of wireless sensor networks to build up the efficient network and monitor continuously with low cost equipment. Working on the different network concepts in which the sensor nodes are interlinked with each other to design and survey based on the requirements. We are going to ensure the basic surveillance model to monitor the images that are captured by the camera at different sensor nodes. Finally, the area which is monitored is connected to the server and surveillance is carried out to which the results will be presented.

1.2 Brief Description

Wireless Sensor Network (WSN) is one of the upcoming technologies in the field of wireless communication which can play an effective role in the monitoring of the remote areas for applications like military surveillance, seismic activity monitoring, earthquake detection and disaster relief operations etc. The nodes are randomly deployed in the sensor field for such applications because of which the density of nodes in some part of the area to be monitored will be more and other areas might be very less. So, we are supposed to build up a network of two or three nodes for the effective communication purpose and for continuous surveillance. Fabrication of the PCB is carried out with the required components and the results obtained will be compared with the theoretical results.

CHAPTER 10
CONCLUSION AND FUTURE SCOPE

10.1 CONCLUSION

We present a real time application system based on wireless sensor network (WSN) for fence surveillance combined with a system and a camera system. It is implemented based on development platform of WSN. The technologies of WSNs are very promising in changing human lifestyle in the near future, and they will also perform a major role in various distributed autonomous systems. We proposed and implemented many realistic techniques to improve the accuracy and robustness in our system. Since the sensor nodes are very cheap, we focused on event detection through refining the sensor signatures and reducing the number of false alarms significantly.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8,** PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

10.2 FUTURE SCOPE

More number of nodes can be implemented to have access control over wide range of location. Artificial Intelligence and Machine Learning can also be used for further implementation and advancement of project. Face Recognition using Matlab Software can be implemented in this project.

Nitrogen Level Assessment For Plants Through Image Processing Using Artificial Neural Network

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
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ABSTRACT

Identification of the plant diseases is the key to preventing the losses in the yield and quantity of the agricultural product. The studies of the plant diseases mean the studies of visually observable patterns seen on the plant. Health monitoring and disease detection on plant is very critical for sustainable agriculture. It is very difficult to monitor the plant diseases manually.Itrequires tremendous amount of work, expertize in the plant diseases, and also requ ire the excessive processing time.Hence, image processing is used for the detection of plant di seases.

Disease   and process in the detection involves the steps like image -acquisition, image -preprocessing image segmentation,feature extraction and classification. This paper discussed the methods used for the detection of plant diseases using their leaves images. This paper also discussed some segmentation and feature extraction algorithm used in the plant disease detection.

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CHAPTER-7

CONCLUSION:

The accurately detection and classification of the plant disease is very important for the successful cultivation of crop and this can be done using image processing. This paper discussed various techniques to segment the disease part of the plant. This paper also discussed some Feature extraction and classification techniques to extract the features of infected leaf and the classification of plant diseases. The use of ANN methods for classification of disease in plants such as self- organizing feature map, back propagation algorithm, SVMs etc. can be efficiently used. From these methods, we can accurately identify and classify various plant diseases using image processing techniques.

REAL TIME DROWSY DRIVER DETECTION AND ALERT SYSTEM

A Project Report Submitted to

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In partial fulfillment of the requirements for the award of the degree of

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ABSTRACT

Now a day's every system is automated in order to face new challenges. In the present days Automated systems have fewer manual operations, flexibility, reliability and accurate. Due to this demand every field prefers automated control systems. Especially in the field of electronics automated systems are giving good performance.

The main aim of this project is to alert the vehicle driver to avoid accidents when the driver was detected drowsy or by using Eye blink sensor alcohol sensor and immediately send particular alert message to owner using GSM. As this project uses the Eye blink sensor, alcohol sensor technology, so that the vehicle driver and owner gets alerts as the vehicle automatically stop and alerts through buzzer alarm system and also displays status on LCD.

The project uses "Alcohol detector" itself indicates that whenever there is any alcoholic content has been detected using alcoholic sensor MQ-03 so that it will indicate through the buzzer. The system uses eye blink sensor and reduces the vehicle speed and alerts through buzzer alarm system. In this project we are using the alcoholic sensor, eye blink sensor that finds the alcoholic content and fed as input to the microcontroller This project is designed around a microcontroller which forms the control unit of the project.

This project makes use of a micro controller, which is programmed, with the help of embedded C instructions. This Microcontroller is capable of communicating with input and output modules. The Eye blink sensor, Alcohol Sensor provides the information to the Microcontroller (on board computer). The controller is interfaced with Buzzer, and voice module, and DC Motor.

5.2 CONCLUSION and FUTURE SCOPE:

Purpose of our project is to help solving real life problem in very cost effect way. It alerts the truck driver as well as the owner of the company. Whenever the driver feels drowsy and closes his eyes for more than a second, the buzzer is blown. As a result, it alerts the driver. It also warns the owner of the truck driver by sending him text messages and location of vehicle. As a result, the accident ratio decreases.

Hence, our project if commercially developed will help in saving the precious life of truck driver & money of the owner.

IOT BASED VEHICLE ACCIDENT DETECTION AND ALERTING SYSTEM

A Project Report Submitted to

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In partial fulfillment of the requirements for the award of the degree of

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ABSTRACT

The vehicle accident is the major problem these days. This problem is still increasing due to Riders/Drivers Poor behaviour, Such as speed Driving, Drunk and Driving, Riding without sleep sufficient etc.

The Rescue teams face difficulty in reaching the injured people to due late alerts and insufficient information of the specific accident location and also mainly survived rate depends largely on the time between the accident and when Emergency respondary arrives or are dispatched to the scene. This issue addressed by decreasing the time for first aid by helping injured people with other people present nearby vehicle.

This project conveys smart and reliable IOT System Solution, Whenever any accident is occurred immediately the data is transmitted through a message with location and also email alert with a pic and also alert to the nearby vehicles and also road side units. The people travelling in nearby vehicles or people present at nearby road side units can reach the accident location and rescue the victims. With IOT the data transferred to the accident monitoring station can also rescue the injured people with an emergency ambulance.

CHAPTER 5

CONCLUSION AND FUTURE SCOPE

CONCLUSION

A step-by-step approach in designing the Raspberry Pi based system to detect the accident occurred in four wheelers and alerting the emergency rescue teams to rescue the injured people, has shown that the system performance is quite reliable and accurate. This will help to reduce the time taken to rescue the injured people. By using MEMS sensor and fire sensors the accident is detected and by using webcamera the picture is sent to the predefined email id also the emergency alert is given through the buzzer to the nearby road side units to alert about the accident. The system has successfully overcome quite a few shortcomings of the existing systems by reducing the power consumption, maintainance and complexity, at a reduced cost and at the same time providing a flexible and precise form of maintaining the environment.

FUTURE SCOPE

1. We can transmit the accident information to much more long distances by using different wireless modules like nRF modules

2. We can send the accident data to a remote location using mobile or internet

3. When a vehicle is moving, if another vehicle or object is moving towards the vehicle we can sense the motion of the vehicle by using Ultrasonic sensor and we can prevent the accident to some axtent.

MIXED NOISE REMOVAL VIA ROBUST CONSTRAINED SPARSE REPRESENTATION

A Project Report Submitted to

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ABSTRACT

In recent years, the sparse coding-based techniques have been widely used for image denoising. However, most of the sparse coding-based mixed noise reduction methods fail to take full advantage of the geometric structure of data samples. In other words, they neglect the common information shared by the similar patches in sparse coding. To address this concern, in this paper, we propose a robust constrained sparse representation (RCSR) method to remove mixed noise. By using the center coefficient of similar patches as the guider which is approximated by the coefficient of query patch in sparse coding, the geometric structure of data can be well preserved. Moreover, different from most existing two-stage mixed noise reduction methods that use explicit detectors to restrain impulse noise, the proposed RCSR adaptively adjusts the contribution of each pixel in the loss function to eliminate the influences of outliers. Experiments on the reconstruction of synthetic data and the removal of mixed noise in real images demonstrate the effectiveness of our proposed method. Index Terms—Image denoising, robust sparse representation, constrained sparse coding, dictionary learning, non local self similarity.

CHAPTER 8
CONCLUSION & FUTURE SCOPE

8.1 Conclusion:

With the development of advanced imaging instruments, hyperspectral imaging provides an alternative way to analyze and tackle traditional problems in remote sensing and computer vision. To employ abundant spectral and spatial information from hyperspectral images, it is necessary to develop a series of methods to extract highly comprehensive and discriminative representation of interested objects, thus facilitating basic pattern recognition tasks, such as object detection and recognition, and image classification. Existing methods from remote sensing and computer vision focus on either grayscale based spatial feature or pixel wise spectral feature. Although research has been done on fusing the spatial and spectral information, there is high demand on developing novel, effective, and efficient spectral-spatial feature extraction methods for various applications from industry and society. This thesis introduces three novel spectral-spatial feature extraction methods for hyperspectral image classification. Each method focuses on a fundamental topic in computer vision or remote sensing. These methods are derived from traditional two dimensional approaches and then extended to hyperspectral images. It is worthwhile to point out that the spatial or spectral information to be extracted varies depending on different tasks or objectives. Spectral saliency extends salient object detection to spectral domain, making the saliency detection beyond human vision. 3D local derivative pattern extracts the spectral-spatial textures and improves the recognition rate for hyperspectral image recognition.

Tensor morphological profile provides a new method based on mathematical morphology for remote sensing image classification. Apart from feature extraction methods, in the end, we propose the controlled random sampling strategy, with which the performance of different spectral-spatial feature extraction methods can be fairly evaluated. The significance of the proposed feature extraction methods, as well as the sampling strategy, are summarized as follows. addresses the problem of salient object detection with hyperspectral images. As far as we know, it is the first attempt to incorporate spectral responses into saliency detection. The color bands in the classic ltti's model are replaced with the spectral responses by a variety of methods. We further incorporated spatial distribution of spectral responses into the saliency model, which has successfully detected the salient regions in close-range hyperspectral images. Though this method

SUPERVISED LEARNING OF IMAGE RESTORATION WITH CONVOLUTIONAL NETWORKS

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

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ABSTRACT

Convolutional networks have achieved a great deal of success in high-level vision problems such as object recognition. Here we show that they can also be used as a general method for low-level image processing. As an example of our approach, convolutional networks are trained using gradient learning to solve the problem of restoring noisy or degraded images. For our training data, we have used electron microscopic images of neural circuitry with ground truth restorations provided by human experts. On this dataset, Markov random field (MRF), conditional random field (CRF), and anisotropic diffusion algorithms perform about the same as simple thresholding, but superior performance is obtained with a convolutional network containing over 34,000 adjustable parameters. When restored by this convolutional network, the images are clean enough to be used for segmentation, whereas the other approaches fail in this respect. We do not believe that convolutional networks are fundamentally superior to MRFs as a representation for image processing algorithms. On the contrary, the two approaches are closely related. But in practice, it is possible to train complex convolutional networks, while even simple MRF models are hindered by problems with Bayesian learning and inference procedures. Our results suggest that high model complexity is the single most important factor for good performance, and this is possible with convolutional networks. Is it possible to recover an image from its noisy version using convolutional neural networks? This is an interesting problem as convolutional layers are generally used as feature detectors for tasks like classification, segmentation and object detection. We present a new CNN architecture for blind image denoising which synergically combines three architecture components, a multi-scale feature extraction layer which helps in reducing the effect of noise on feature maps, an p regularize which helps in selecting only the appropriate feature maps for the task of reconstruction, and finally a three step training approach which leverages adversarial training to give the final performance boost to the model. The proposed model shows competitive denoising performance when compared to the state-of-the-art approaches.

CHAPTER-10
DISCUSSION AND FUTURE RESEARCH

One of the challenges that has to be faced when training neural networks is the availability of computational resources. CPU performance of the machine that has been used in the experiments limits suitable datasets to datasets consisting exclusively of low-resolution images. Due to this reason, most of the tests were performed on MNIST set. One may want to incorporate real-world images in the robustness experiments. A suitable candidate, consisting of low-resolution real-world images, is the CIFAR10 set. However, CIFAR10 demands more extensive computational resources than MNIST, thus is used only in limited number of experiments.

According to results of the dropout experiments on MNIST, the best model to deal with adversarial noise is the one performing dropout on every layer. A different result was obtained for random noise, on which the highest accuracy has been achieved by a model that was dropping out only input nodes. The reason lies perhaps on the dependency of adversarial noise to all the layers through the gradient is being backpropagated. The random noise is independent of the model internal structure and can be dealt with by training a model from incomplete inputs that may not contain some of the faulty pixels.

A comparison of two input pre-processing methods on MNIST dataset, the low-pass filtering and the denoising autoencoder indicates, a convolution with low-pass filter is more suitable pre-processing method when dealing with Gaussian noise, likewise the denoising autoencoder suits better for handling adversarial noise. The reason why the low-pass filtering is not as effective as the denoising autoencoder when dealing with adversarial examples may lie in the method, how the adversarial examples are produced. The gradient sign adversarial noise alters every image pixel affected by the gradient by values of the same magnitude. Since MNIST images contain large solid regions of low-intensity pixels (digit background), if the pixels, affected by noise in the same direction form a solid region, averaging filter has no effect on such region. Averaging effect of low-pass filter has another advantage when dealing with Gaussian noise. White Gaussian noise is normally distributed around zero mean. Therefore, Gaussian noise does not significantly change the total intensity of the whole picture. By averaging, noise can be relocated over the image area to form an image, close to the original one. The gradient sign noise often

AUTOMATED TOLL COLLECTION SYSTEM USING RFID

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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2018-2019

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ABSTRACT

ATCS is an automated toll collection system used for tax automatically. In this we do the identification with the help of radio frequency. A vehicle will hold an RFID tag, this tag is nothing but unique identification number assign to particular vehicle that will be assigned by RTO or Traffic Governing Authority. In accordance with the number will store all basic information and also the amount that has been paid in advance by particular vehicle owner or driver for toll collection. Whenever the vehicle passes the toll collection center the tax amount will be deduced from his mobile wallet. If the person does not have sufficient balance then the particular vehicle can be trapped as vehicles don't have to stop in a queue, is assures time saving, less fuel consumption and also can save lot of money. Automatic toll collection system can really help in reducing traffic congestions near the toll gate.

15.CONCLUSION

The Electronic Toll Collection system in expressway based on RFID, a design scheme was put forward. It is low cost, high security, far communication and efficiency, etc. It not only improves the passage ability of expressway but also improves the technology level of charge. Electronic toll collection system using RFID is an effective measure to reduce management costs and fees, at the same time, greatly reduce noise and pollutant emission of toll station. In the design of the proposed Electronic toll collection (ETC) system, real time toll collection and anti-theft solution system have been designed. This reduces the manual labour and delays that often occur on roads. This system of collecting tolls is eco friendly and also results in increased toll lane capacity. Also an anti-theft solution system module which prevents passing of any defaulter vehicle is implemented, thus assuring security on the roadways.

AUTOMATIC RAILWAY GATE CONTROLLER WITH HIGH SPEED ALERTING SYSTEM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
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This is to certify that the project work entitled "Automatic Railway Gate Controller With High Speed Alerting System" is the bonafide work done

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ii

ABSTRACT

In everywhere at level crossing between railway track and roadway there are so many railway accidents happening due to the carelessness in manual operations or lack of workers. So, this paper describes the automatic railway gate control system using Arduino Nano for saving precious human lives and preventing major disasters in railway track. This system uses Arduino Nano with the help of sensors. It can divide into two parts. The first part is concern on the hardware development where all electronic components have included. IR sensors, RF Transmitter are the input components while buzzer, light indicator, RF Receiver, DC motor and LCD display are the output components. These are controlled by the controller circuit. The Arduino forms the main unit of the system. It receives input signal from the sensors and sends information to the gate motor driver for opening and closing the gate. The first IR sensor is fixed at a certain distance from the gate and the second IR sensor is fixed at the same certain distance after the gate. The gate is closed, when the train crosses the first IR sensor and the gate is opened, when the train crosses the second IR sensor. If any obstacle is sensed on the railway track after closing the gate then the train driver is intimated by using RF module and a buzzer. This system deals about one of the efficient methods to avoid train accidents. The second part is based on software programming to operate the hardware structure. Program for automatic railway gate controller with high speed alerting system is based on Arduino Nano with embedded C using Arduino IDE.

CHAPTER 6

1 ADVANTAGES

Reduces chance of human error.

Less time consuming.

Accident avoidance.

No human resource is required.

Low power consumption.

Easily operable.

5.2 CONCLUSION

Automatic railway gate controller with high speed alerting system offer an effective way to reduce the occurrence of railway accidents. This system can contribute a lot of benefit either to the road users or to the railway management. Since the design is completely automated it can be used in remote villages where no station master or line man is present. IR sensors are placed at two sides of gate. It is used to sense the arrival and departure of the train. This system uses the DC motor to open and close the gates automatically when it is rotated clockwise or anticlockwise direction. The LCD display shows the status of the railway gate control system. The system can also generate buzzer and light indicators while the train passing through the level crossing. The obstacle problem is also carried out. In this system, this is controlled by using Arduino Nano. Now a day's automatic system occupies each and every sector of applications as it is reliable and accurate.

IMPLEMENTATION OF 4-BIT ARITHMETIC LOGIC UNIT USING MENTORGRAPHICS EDA TOOL

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ABSTRACT

Arithmetic Logical Unit is the very important subsystem in the digital system design .It is a combinational logic unit that performs its arithmetic and logic operations. ALUs of various bit-widths are frequently required in very large-scale integrated circuits (VLSI) from processors to application specific integrated circuits (ASICs). ALU is getting smaller and more complex nowadays to enable the development of a more powerful but smaller computer. The demand for low power & high speed processing has been increasing as a result of expanding computer and signal processing applications. Higher throughput arithmetic operations are important to achieve the desired performance in many real-time signal and image processing applications.

The main aim behind our major project is to design a 4-bit Arithmetic and Logic Unit using Mentor graphics tool. Arithmetic logic unit mainly performs arithmetic and logic operations the arithmetic includes mainly addition ,subtraction, increment and decrement, whereas logical operations includes Or ,and ,NOT and XOR operation. It represents fundamental building block of the central processing unit of a computer modern CPU's contain very powerful and complex ALU's.

CHAPTER -6

CONCLUSION AND FUTURE WORK

Arithmetic Logical Unit is the very important subsystem in the digital system design. It is a combinational logic unit that performs its arithmetic and logic operations. ALUs of various bit-widths are frequently required in very large-scale integrated circuits (VLSI) from processors to application specific integrated circuits (ASICs). ALU is getting smaller and more complex nowadays to enable the development of a more powerful but smaller computer. The demand for low power & high speed processing has been increasing as a result of expanding computer and signal processing applications. Higher throughput arithmetic operations are important to achieve the desired performance in many real-time signal and image processing applications. In this project work, performance analysis of group of different structures of full adders is analyzed; the high speed full adder is used in designing arithmetic logic unit analyzed the parameter.

6.1 CONCLUSION

In this project we have successfully implemented 4 –bit ALU using mentor graphics EDA tool. Arithmetic logic unit mainly performs arithmetic and logic operations the arithmetic includes mainly addition ,subtraction, increment and decrement, whereas logical operations includes OR,AND, NOT,NOR,NAND,EXOR, EXNOR BUFFER,2:1MUX AND 4:1 MUX operation. . In this project work, performance analysis of group of different structures of full adders is analyzed; the high speed full adder is used in designing arithmetic logic unit analyzed the parameter. It represents fundamental building block of the central processing unit of a computer modern CPU's contain very powerful and complex ALU's.

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Designing and Evaluation of Different Subcomponents of Processor Based on Emerging Nano Computing

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
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ABSTRACT

The tremendous demand for the Nano-circuits is due to the development in the domain of Nano-computing application. The QCA technology has promise the feature of reduction in energy consumption with high performance and fast computing operation. Since MOS devices, scaling has a certain physical limit of supply voltage and aspect ratio; the design engineer has to opt for novel different Sub-components of Processor for achieving minimal energy consumption and fast computing operation.

QCA technology is an emerging era in the field of nanocomputing that could be employed in designing different sub-components such as 2-to-4 decoder, 3-to-8 decoder, D-FF, and sequence counter. This article proposes a minimal area and fast computing operation circuits in QCA technology. The QCA primitives based on circuit simulation are estimated to verify its pros over other existing designs.

Processor is an important part of computer and any computing devices. Presenting architecture of different sub components of processor can be beneficial in minimizing the cost parameter such as area and delay.

CHAPTER – 7

CONCLUSION

In this, an area efficient QCA based Sub-component of Processor was firstly proposed. The target sub-components are 2-to-4 decoder, 3-to-8 decoder, D-FF and sequence counter. As far as checking the correctness, this new Sub-component of processor has been proven by correct simulations. These circuits have been verified in QCA Designer tool.

This designs benefits from a less cell count and minimal energy consumption structure. QCA Pro tool was utilized for the calculation of energy dissipation related parameters and QCA Designer software was used for check the accurate functionality of the new design.

INTELLIGENT ROBUST CAR PARKING SYSTEM FOR SMART CITIES

A Project Report Submitted to

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In partial fulfillment of the requirements
for the award of the degree of

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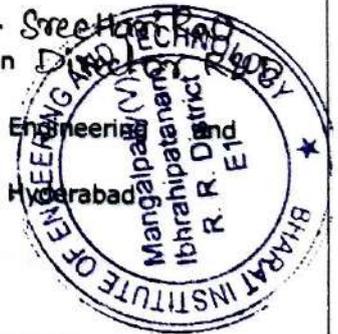
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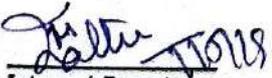
ABSTRACT

Locating a parking space in central city areas, especially during the peak hours, is cumbersome for drivers. The issue arises from not having the knowledge of where the available spaces may be at the time, even if known, many vehicles may seek very limited parking spaces to cause severe traffic congestion. Moreover there is a lot of men labour involved for this process in which there is a lot of investment incurred. So the need to develop a system which should indicate directly which lane is vacant.

In this paper the design and implementation of an "Intelligent Robust Car Parking System for Smart Cities" that permits drivers to effectively locate and withhold the vacant parking spaces is mentioned. This system use cluster based algorithm which helps in periodically learning the parking status from the sensor networks deployed in parking spaces. These parking information will update to the web server everytime so that user can check the parking slots position .The drivers are allowed to access this said cyber-physical system with their personal communication devices.

The system implemented is cost efficient intelligent parking system for multi-level parking facility using WSN (IR Sensor) and develop an android based application. The system monitors the availability of idle parking slots and guides the vehicle to the nearest free slot. Cost is minimized by keeping the number of sensors low without sacrificing the reliability. Energy consumption of each mote is kept in check by allowing the systems to sleep periodically and by reducing their communication range.

This system has the potential to smoothen the operations of parking systems, as well as mitigate traffic congestion caused by searching for parking.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (product) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

5.4 EXPERIMENTAL RESULTS

Below is the photo of the demo kit. It has three parking slots each of which has a LDR sensor which acts as a primary input to arduino nano and secondary input is IR sensor which is used to detect the presence of vehicles near entrance of parking area.LCD displays the information about slots, here we can see it displays S1=0 S2=1 S3=1 which means slot one is empty and slot 2 & 3 are occupied/reserved. The information which is shown in LCD is also displayed in android app so that the user can know about the available parking and he/she can also reserve a slot in advance.
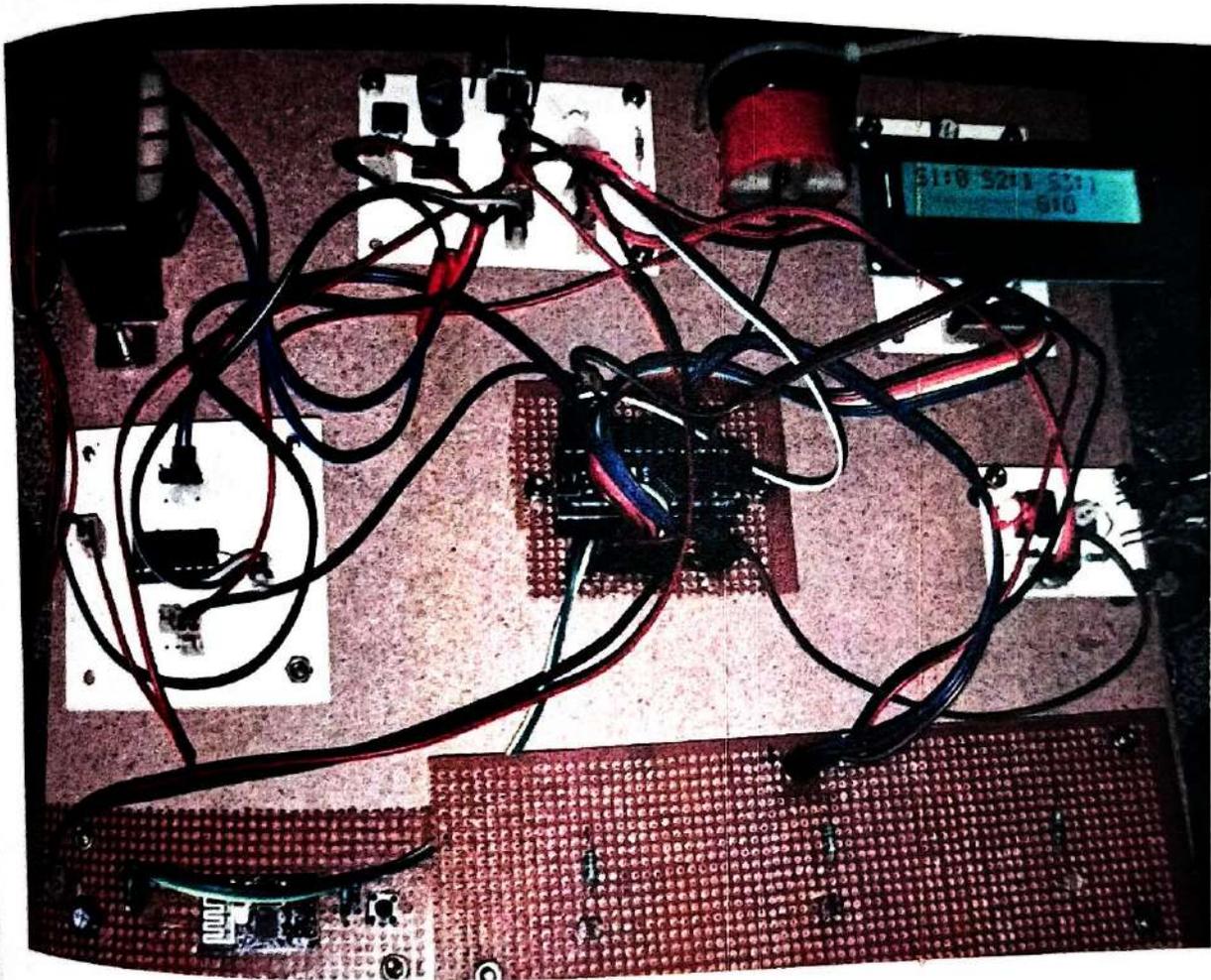
Fig 5.3: Photo of Demo Kit

5.5 CONCLUSION &FUTURE SCOPE:

Intelligent Robust Car parking facilitates the problems of urban liveability, transportation mobility and environment sustainability. Intelligent Parking technology is used for enhancing the productivity levels and the service levels in operations. It also benefits in terms of lowering operating costs and increases revenues and facility value. Proposed system has the potential to smoothen the operations of parking systems, as well as mitigate traffic congestion caused by searching for parking. It involves the use of IR sensor, Arduino Nano , ESP8266-01 Wi-Fi Module, android app . The Internet of Things integrates the hardware, software and network connectivity that enable objects to be sensed and remotely controlled across existing

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WASTE MANAGEMENT FOR SMART CITIES

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
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ABSTRACT

Smart waste management is an idea where we can control lots of problems which disturbs the society in pollution and diseases. The waste management must be done instantly else it leads to irregular management which will have adverse effect on nature. The Smart waste management is compatible mainly with concept of smart cities. The main objectives of our proposed system are as follows:

1. Monitoring the waste management.

2. Avoiding human intervention.

3. Reducing human time and effort.

4. Resulting in healthy and waste ridden environment. This project falls under the category of embedded systems and android applications.

Generally, there is lack of proper monitoring system to follow all activities related to waste management and lack of smart monitoring of the condition of the bin. This system gives effective solution to manage the garbage. This garbage monitor is implemented using sensors and Arduino microcontroller.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

6. CONCLUSION AND FUTURE WORK

6.1 CONCLUSION

The Arduino sensor based automated garbage monitoring tool has been finally made into prototype which can be used for avoiding mismanagement of the garbage and to improve the cleanliness of the society. The system is more effective in informing the municipalities about the status of the garbage at garbage bin location when the status of the garbage becomes full. Measuring the level of the garbage and informing the society and municipalities about at which level the garbage is and informing the driver to collect the garbage is the main feature that is developed in the project which makes the system more reliable and efficient.

This can control lot of problems which disturbs the society in the form of pollution and diseases. This system also helps to monitor the fake reports and hence can reduce the corruption in the overall management system. It is used to solve the problems faced by the people in their daily life. The prototype takes the measures to ensure the healthy, clean and a smart city.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

6.2 FUTURE WORK

This project can be extended by adding the concept of conveyor belt. We can place desired number of bins on the belt and whenever the first bin gets filled, the belt moves forward, and a new bin gets replaced.

The motion detection mechanism in this project can also be done by PIR sensor that makes use of infrared waves to find the presence of an object towards the bin while the garbage is full. This project can be enhanced by adding features of voice controlling method using an android app.

BLUETOOTH CONTROLLED ROBOT USING ANDROID APPLICATION

MAJORPROJECT WORK

Submitted in partial fulfillment of the requirements for the award of Degree of

**Bachelor of Technology in
Electronics and Communication Engineering**

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**Department of Electronics and Communication Engineering
BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
Ibrahimpatnam - 501 510, Hyderabad, Telangana State.**

April, 2019

I

BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY
Ibrahimpatnam - 501 510, Hyderabad, Telangana State.

Department of Electronics and Communication Engineering

CERTIFICATE

This is to certify that the work embodied in this major project entitled 'BLUETOOTH CONTROLLED ROBOT USING ANDROID APPLICATION' being submitted by 'KAMLESH SENCHA(15E11A0482), CHANDU GUJJA(15E11A0475), JALAGARI TEJA(15E11A0479), B. RAJKUMAR(15E11A0463)' for partial fulfillment of the requirements for the award of **Bachelor of Technology** in **Electronics and Communication Engineering** to Bharat Institute of Engineering and Technology, Ibrahimpatnam, Hyderabad (T.S.) during the academic year 2018-19 is a recordof bonafide piece of work, undertaken by him/her under the supervision of the undersigned.

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ABSTRACT

A robot is usually an electro-mechanical machine that is guided by computer and electronic programming. Many robots have been built for manufacturing purpose and can be found in factories around the world. Designing of the latest inverted ROBOT which can be controlling using an APP from android mobile. In which we use Bluetooth communication to interface Arduino UNO and android. Arduino can be interfaced to the Bluetooth module though UART protocol. According to commands received from android the robot motion can be controlled. These robots can be reprogrammable and can be interchanged to provide multiple applications. Nowadays smart phones are becoming more powerful with reinforced processors, larger storage capacities, richer entertainment function and more communication methods. Bluetooth is mainly used for data exchange; add new features to smart phones. Bluetooth technology, created by telecom vendor Ericsson in 1994. It has changed how people use digital device at home or office, and has transferred traditional wired digital devices into wireless devices. A host Bluetooth device is capable of communicating with up to seven Bluetooth modules at same time through one link. Android has been widely used in smart phones. Android has complete software package consisting of an operating system, middleware layer and core applications. Using a Smartphone as the "brain" of a robot is already an active research field with several open opportunities and promising possibilities. In this project we present a review of current robots controlled by mobile phone. In our work, move the robot upward, backward, left and right side by the android application such as Bluetooth Terminal.

CHAPTER 6–CONCLUSIONS& FUTURE SCOPE

The operating system of smart phone is android which can develop effective remote control program. At the same time, this program uses blue-tooth connection to communicatewithrobot. It has proven to allowfor meaningful two-way communication between the Android phone and the robot which would allow a non-expert to interact with and adjust the functionality of a system which

uses ATmega328 controller, a single board micro-controller intended to make the application of interactive objects or environments more accessible. The surveillance is always has been a quite sensitive task. And it includes so many risks. So it's better to use robot for this jobinstead of people. And if you are able to control the robots with efficiency and accuracy then you can guarantee yourself with good results and success.

This systemis a good step for secure surveillance using robots .Wireless control is one of the most important basic needs for all the people all over the world. But unfortunately the technology is not fully utilized due to a huge amount of data and communication overheads. Generally many of the wireless-controlled robots use RF modules. But our project for robotic control make use of Android mobile phone which ischeap andeasily available. The available control commands are more than RF modules.

FUTURE SCOPE

A wireless camera is mounted on the robot vehicle for spying and surveillance purpose even in night time by using infrared lighting. Future modifications can be made to perform different tasks with precise control such as:

- A Robot Mounted with camera
- A headset, with a full-color display
- A mission control centre

SPEED DETECTION ON HIGHWAYS

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

By

S.Srikanth	**(15E11A0498)**
V.Ramu	**(15E11A04A2)**
A.Varshith	**(15E11A04B4)**

Under the guidance of

P.Prasanth Kumar
Associate professor

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Ibrahimpatnam - 501 510, Hyderabad

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

2015-2019

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
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Viva-Voce held on...... 01 | 05 | 2019

Internal Examiner

External Examiner

ii

ABSTRACT

Now-a-days we hear news about accidents on Highways very frequently. And in most of e cases main reason of accident is over speed. This project presents a device to detect rash iving on highways and to alert the traffic authorities in case of any violation. In past, lot of vices to detect rash driving on highways has been made. Most of the approaches require man concentration and involve a lot of effort, which is difficult to implement.

In this project we intend to design a system aimed at early detection and alert of dangerous ehicle driving patterns related to rash driving. The entire implementation requires an IR nsor, a control circuit and a buzzer. The speed limit is set by the police who use the system epending upon the traffic at the very location. The time taken by the vehicle to travel from ne set point to the other is calculated by control circuit and displays on LCD. Moreover, if ne vehicle crosses the speed limit, a buzzer sounds alerting the police.

6.4 CONCLUSION

➢ This system minimizes the duty of the traffic police and make ease to control the rash driving on highways.

➢ The police can perform their duties while sitting in control room and can providetheir service with more ease and accuracy.

➢ By this project we can save many lives and property damage.Drive safe and Be happy.

6.5 FUTURE SCOPE

➢ Speed detection on highways is an emerging field and there is a huge scope for research and development.

➢ It can be further advanced by using a CCTV camera in the circuit.

➢ Whenever any vehicle crosses speed limit, camera captures the image of number plate and through transport database finds the address of the owner and sends fine.

SELF SUSTAINED SMART WHEEL CHAIR

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

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15E11A04G6, 15E11A04D5, 16E15A0408 in IV/IV B.Tech (ECE) II semester .

Project Supervisor

Academic I/C

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DR.VIKAS MAHESWARI

DR.NAVEEN RATHEE

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E1

LITERATURE REVIEW:

The advance of technology in the field of Wheelchair innovation is at its age. It's not astounding to see that a great deal of work has been done in the field of wheelchair innovation. Initially there were the manual wheelchairs' then the electric fueled wheelchairs and now there are Smart Wheelchairs. The outline of a 'Motorized Chair' that vehicles human inside the limits of a house is accounted for by Desai and Endrele [2]. A 'Motorized Chair' comprises of a seat with the two engines and a joystick controller.

A microcontroller yields the speed and course to the engines. Most wheelchairs are controlled from their back wheels. The front wheels react and pivot in understanding to the back wheels. As the controller is moved, the smaller scale controller detects the development, do the counts for power and heading and the engines move as needs be. An engine control circuit controls the speed and the course of pivot of engines.

The principal glove model was produced in Massachusetts Institute of Technology (MIT) in 1977. The principal glove to utilize numerous sensors was offered by the "Computerized Entry Data Glove☐ which was created by Gary Grimes in 1983. It utilized diverse sensors mounted on a cloth [2]. For motion of gesture acknowledgment one of the main items that came in the market was Nintendo's power glove which was discharged in 1989. These days many projects are creating in the premise of hand motion innovation. Wheelchair in view of hand gesture innovation is a standout amongst the most mainstream extends these days [3]. Additionally the data gloves are growing like never before some time recently. H. Kazerooni et al. [5] give an account of the improvement of a gadget called 'The Magic Glove'.

The 'Magic Glove' is a glove with an extensive variety of utilizations in the field of applied instrumentations. The glove measures the force applied by the wearer of a material handling robot.
Once the force is detected and measured, it is communicated to the controller. The capacity of the enchantment glove is to enable the client to apply an insignificant constrain of force on an object while transporting it starting with one place then onto the next.

CHAPTER 13

CONCLUSION:

In this research work, we present a Bluetooth-based wheelchair which can be controlled by finger or hand gesture using an Android application developed by us installed in smart gadget.

The device helps those deprived of motion in their day to day activities. Even though there is a tremendous leap in this field, there are no facilities for the user to control the wheelchair with less strain on their hands. So this prototype will be a great help for the differently abled users as they can control the wheelchair by just moving their fingers or hands on the touchscreen.

The prototype can be varied between touch and swipe. In some cases, the differently abled might not be able to control their fingers. In such cases, since Bluetooth is used, a second person can control the motion rather than pushing it.

The wheelchair is fully capable of carrying the load up to 110Kg, and moving in accordance to the gesture given by the person who is using the wheel chair. Certain improvisation and improvement can be done to make the wheelchair more reachable to those whose whole body is paralyzed. Certain eyes gesture or brain signals reader can be imparted on the wheelchair system so as to make it Better.
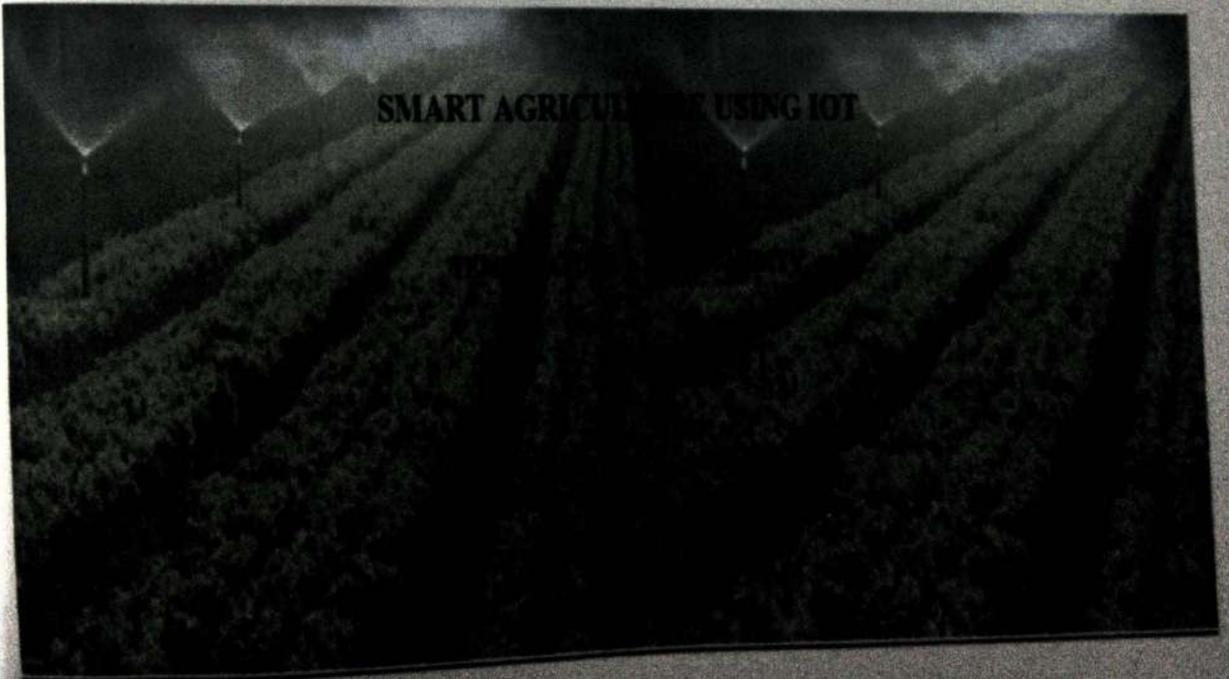
SMART AGRICULTURE USING IOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

*In partial fulfillment of the requirements
for the award of the degree of*

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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ANNAMALLA RAKESH	**(15E11A04B3)**
PANUGANTI VISHWANATH	**(15E11A0495)**

Under the guidance of

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2018-2019

i

BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Affiliated to JNTUH Hyderabad, Approved by AICTE & Accredited by NAAC)

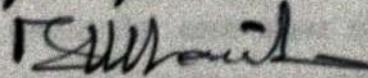Ibrahimpatnam - 501 510, Hyderabad

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ii

ABSTRACT:

ers usually work on large portions of land to grow different types of crops. It is not always
ble for one person to be able to keep track of the entire farmland all the time. So in order
lve this problem, we propose an "SMART AGRICULTURE using IOT". This is a very
l project where in the user can monitor and control the supply of water from a remote
ion. This system makes use of a concept called IOT (Internet of Things). This project will
p to pre set time and sends data to the server. The details such as temperature, moisture
s etc will be shown in the web page. In the PC data will be displayed. If the soil is found
y the motor turns on and the water flows to the field. After preset time it checks the
tions and sends data to the server .When the temperature decreases or moisture level
ases after the preset time the moisture will be updated the data is sent to server and sms
be sent indicating the rise in temperature, decrease in the moisture level, humidity and
y pump turns off thus moisture level, temperature, humidity will be controlled. Buzzer
be activated when the animals, unknown persons enter into the field.

6. RESULTS ANALYSIS:

Fig 6.1

SMART AGRICULTURE USING IOT
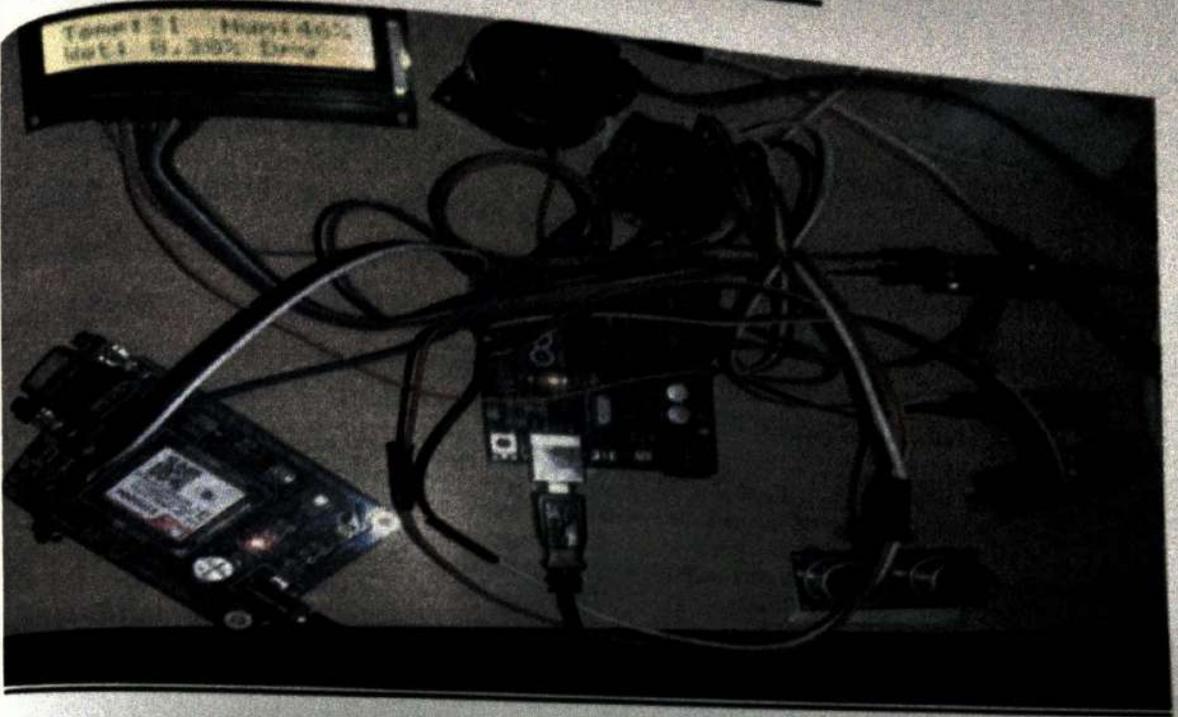
Fig 6.2

Smart Irrigation System Using IOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements

for the award of the degree of

BACHELOR OF TECHNOLOGY

IN

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ABSTRACT

The agriculture is one of the most fundamental resource of food production and also plays a vital role in keeping the economy running of every nation by contributing to the Gross Domestic Production.

But there are several issues related to traditional methods of agriculture such as excessive wastage of water during irrigation of field, dependency on nonrenewable power source, time, money, human resource etc. Since every activity now a days becoming smart it needs to smartly develop agriculture sector for growth of country.

This project aims at developing the Smart Irrigation System Using IoT Technology with an objective of automating the total irrigation system which provide adequate water required by crop by monitoring the moisture of soil and climate condition in order to prevent the wastage of water resource.

It will also have many advantages for farmers. The irrigation at remote location from home will become easy and more comfortable. In addition, it will not only protect the farmer from scorching heat & severe cold but also save their time for to and fro journey to the field.

CHAPTER 14   FUTURE SCOPE

1. GSM can be added for sending SMS to the concerned person in case of any problem.
2. Other Parameters such as ambient temperature, light intensity & humidity can be measured.
3. Pesticides & fertilizers can also be added automatically in the water.

The developed system can also transfer fertilizer and the other agricultural chemicals (calcium, sodium, ammonium, zinc) to the field with adding new sensors and valves. The smart drip system can be used in commercial as well as agricultural use.

CHAPTER 15   CONCLUSION

The agriculture field is being monitored and controlled by web page at the user end

The field Esp8266 is the device which receives and transmits the messages and manipulates the function of the device according to the instructions of the user.

The project is built on IOT based since it is user friendly, easily accessible and as it reduces the work of the farmer regarding the irrigation work.

Password Based Circuit Breaker Project Using IoT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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This is to certify that the project work entitled "*Pursued Road Cross Border Project Using IoT*"
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ABSTRACT

This project provides a password based circuit breaker system using IOT. Quite a lot of fatal accidents happen with line men due to electric shocks. It is a result of miscoordination or miscommunication between line men and substations. The project aims to solve this issue by making use of IOT. The IoT based Circuit Breaker is a system with high response time, which uses the interconnection network (internet) to control electrical loads. This system uses a wi-fi module paired with Atmega328p microcontroller locally to connect to the internet. It is also equipped with an LCD display which shows the state of each load connected to the system, either On or Off.

A user or operator at the other end can remotely connect with the system using an internet device and an interface named "IoT Gecko". Here, the user or operator has to log in on IoT Gecko interface passing through an additional layer of security, that is Password Protection. Using webpage, the user can control the state (on/off) of the connected loads remotely, virtually from anywhere around the globe.This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8**, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

Result Analysis:
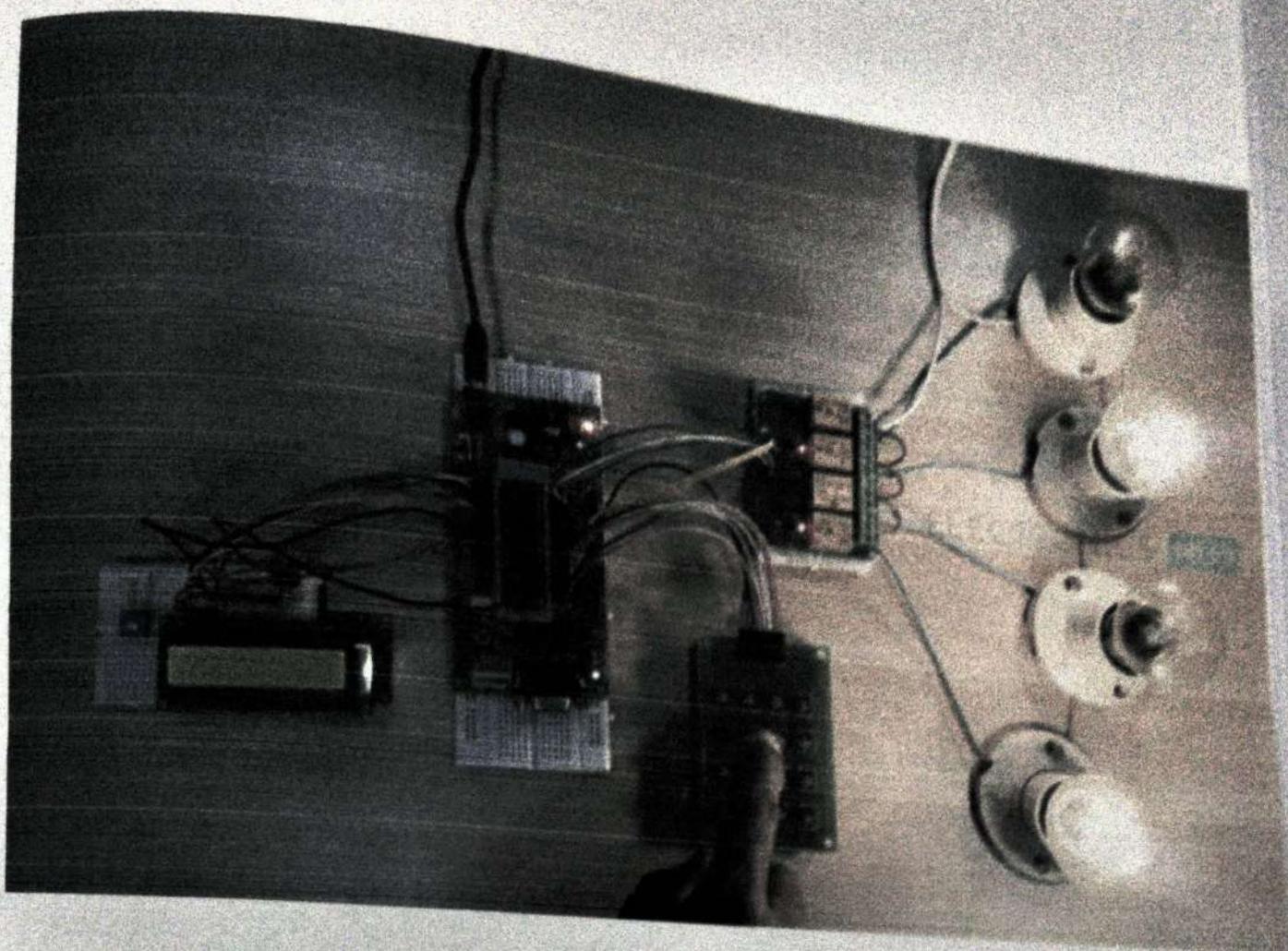
Conclusion:

This paper shows a conceptual implementation of IOT based Circuit Breaker Monitoring & Control which will reduce the size of the circuit breaker & facilitate the concept of as needed maintenance approach. Moreover, this will eliminate the concern regarding security vulnerability of third party system as the platform is opensource. Being a prototype conceptual implementation, future work can be done on EMI/EMC compliance, implementation of open source inferential engine in order to receive recommendation on maintenance, integration with computerized maintenance management software, development of open source hosting server etc.

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DESIGN AND IMPLEMENTATION OF QPSK MODULATOR AND DEMODULATOR FOR COGNITIVE RADIO

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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Under the guidance of

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Certificate

This is to certify that the project work entitled " *DESIGN AND IMPLEMENTATION OF QPSK MODULATOR AND DEMODULATOR FOR COGNITIVE RADIO*" is the bonafide work done

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Viva-Voce held on 01/05/2019

Internal Examiner

External Examiner

No. DRDL/DOHR/PROJECT/2019

Date: 10th April 2019

CERTIFICATE

This is to certify that the Project, titled **"Design & Implementation of QPSK Modulator and Demodulator for Cognitive Radio"** submitted by the under mentioned students of BHARAT INSTITUTE OF ENGINEERING AND TECHNOLOGY, affiliated to JNTUH, Mangalpally, R R District, Telangana State at Defence Research and Development Laboratory DRDL – DRDO has been successfully completed.

1. **Mr. E V V SHASHANK PAVAN**   –   (15E11A0472)
2. **Mr. BODDU SRI SAI**   –   (15E11A0464)
3. **Mr. AMIT KUMAR GUPTA**   –   (15E11A04B2)

The performance of the students during the Academic Major Project Work at DRDL was found to be excellent.

Dr. K NAGESWARA RAO
Scientist 'G'
Director, Planning & Resources

K RAJASEKHARAM
Scientist 'G'
Director, AVIONICS & SQA

K. RAJASEKHARAM
SCIENTIST-G
DIRECTOR, AVIONICS & SQA
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1. INTRODUCTION

Cognitive radio (CR) is a form of wireless communication in which a transceiver can intelligently detect which communication channels are in use and which are not.

The concept of cognitive radio was first proposed by Joseph Mitola III in 1998 and published in an article by Mitola and Gerald Q. Maguire, Jr. in 1999.

The word cognitive means "The process of acquiring knowledge and understanding through thought, experience, and the senses"

This functions as an autonomous unit in the communications environment, exchanging information about the environment with the networks it accesses and other cognitive radios (CRs

When we look for the meaning of the word "cognition," it shows the mental process of knowing, including aspects such as awareness, perception, reasoning, and judgment.

Similarly, when we frame the name "cognitive radio" (CR), the best definition in Haykin's words can be quoted as,Cognitive Radio is an intelligent wireless communication system that is aware of itssurrounding environment and uses the methodology of understanding-by-building tolearn from the environment and adapt its internal states to statistical variations in theincoming RF (radio frequency) stimuli by making corresponding changes in certainoperating parameters in real-time.

The number of mobile users is increasing day by day in the current wireless communica-tion domain, which is apt to create a bandwidth crisis due to limited spectrum availability.

Chapter 6
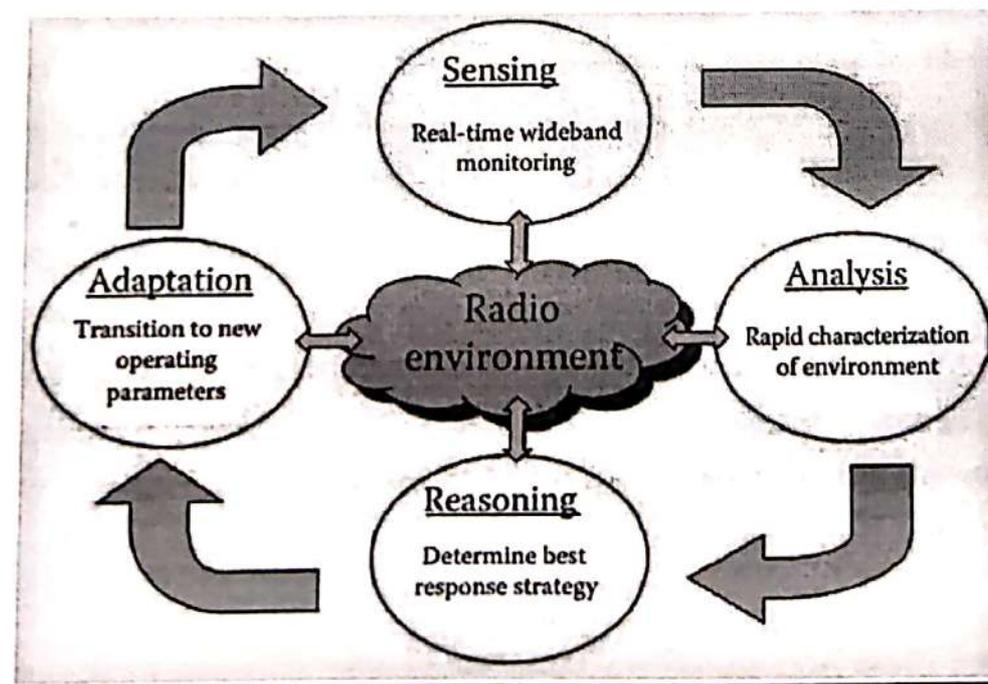
CONCLUSION

6.1 Overview

As the demand of radio spectrum increases in past few years and licensed bands are used inefficiently, improvement in the existing spectrum access policy is expected. Dynamic spectrum access is imagine to resolve the spectrum shortage by allowing unlicensed users to dynamically utilize spectrum holes across the licensed spectrum on noninterfering basis.

This research was aimed towards the detection and classification of primary user's waveform in cognitive radio networks. The primary requirement of a spectrum sensing system is its real time processing and decision making. The proposed methodology has been implemented on a desktop PC and requires MATLAB support for simulation. Its implementation can be done on FPGA kit or DSP processor.

First all the transmitter detection techniques are compared on the basis of three metrics: Sensing Time, Detection Sensitivity and ease of implementation. By comparing these techniques it is concluded that cyclostationary feature detection gives best results but take long computation time compared to other techniques.

A fuzzy logic based algorithm named as minimizing sensing time algorithm and improving reliability is proposed which gives very good results at high SNR values. But under worst situation, when it has to consult with cyclostationary feature detection, it will take very long computation time.

The fuzzy logic based detection in the proposed framework is a bottleneck as it is computationally very expensive, but it will give reliable results. However, since accurate detection is to be predicted, therefore the computational time can be sacrificed to

AGRICULTURE ASSIST SYSTEM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

*In partial fulfillment of the requirements
for the award of the degree of*

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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9. CONCLUSION

In agriculture, the opportunities for robot-enhanced productivity are immense -- and the robots are appearing on farms in various guises and in increasing numbers. The other problems associated with autonomous farm equipment can probably be overcome with technology. This equipment may be in our future, but there are important reasons for thinking that it may not be just replacing the human driver with a computer. It may mean a rethinking of how crop production is done. Crop production may be done better and cheaper with a swarm of small machines than with a few large ones.

One of the advantages of the smaller machines is that they may be more acceptable to the non-farm community. The jobs in agriculture are a drag, dangerous, require intelligence and quick, though highly repetitive decisions hence robots can be rightly substituted with human operator. Robots can improve the quality of our lives but there are downsides.

SUSTAINABLE WATER MANAGEMENT SYSTEM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
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ABSTRACT

Water is one of the most important basic needs for all living beings, but unfortunately, a huge amount of water is being wasted because of uncontrolled use and exploitation of water resource. One of the main reasons for the shortage is poor management of water. Overflowing water tanks in residence, schools, colleges, Municipal overhead tanks, Hospitals etc. can contribute to the massive amount of water wastage. If we can control this we can save large amounts of water. Our main objective is to design a smart system for approximating the water level in the tank and prevent overflow or analyse the water usage. This analysing feature can also help us in finding whether there is any leakage in the tank or not. This project helps to manage and plan the usage of water. This system can be easily installed and maintained for long run. Nowadays liquid level monitoring is vital in many industries too like oil, automotive etc.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

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CHAPTER 6

FUTURE SCOPE AND CONCLUSION

CONCLUSION

- Our sole intension of undertaking this project was to establish a cheaper, viable and simple configurable device which can solve our water wastage problem by giving information of total water in reservoir/tank and also provide information about how much water flows through each pipe so that each user is notified about daily/weekly/monthly water consumption along with comparison between days and consumption and gives an alert message on over consumption.

- The NODE MCU based smart water management system has been designed and tested with the Internet Network. The user can be effortless in looking the system after since it is automated by the message sending system through the FIREBASE database.

FUTURE SCOPE

- Our project helps to indicate the level of water available in the tank and to find out the leakages.

- To find out the water quality we can use the turbidity sensor, which checks or detects the particles in the water.

- During upcoming scenarios the water management must be more flexible so that the scarcity of water has to be reduced by adequately utilizing the water.

- One of the implementations to be made is by measuring the level of water and detailing it so that more information is obtained about water quantity.

ABSTRACT

The problem of wild animal attacks on crop fields i.e. crop vandalization is becoming a very common phenomenon in the state of Himachal Pradesh, Punjab, Haryana and many other states. Wild animals like monkeys, estray animals especially cows and buffaloes, wild dogs, nilgais, bison's, elephant's, deer's, wild pigs and even birds like parakeets cause a lot of damage to crops either by running over them or eating them and vandalizing them completely. This leads to poor yield of crops. These animals attack on fruit orchards and destroy the flowerings and fruits. In both cases, this leads to significant financial loss to the farmers and orchard owners. The problem is so pronounced that sometimes farmers decide to leave the area barren due to these animal attacks. Pests, one of the group of creatures that involve in mangling crops. They move at nights with motion and light of the moon which results in damaging crops, where this project comprises with a light that attracts pests and helps in eradicating pests. An ultra-sonic sound waves are continuously emitted when there is a presence of birds and monkeys (which get irritated by ultrasonic sound waves) and a continuous gunshot sound from speakers are emitted if their presence is for long time.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

7. CONCLUSION AND FUTURE WORK

7.1 Conclusion

The problem of crop vandalization by wild animals has become a major social problem in current time. It requires urgent attention as no effective solution exists till date for this problem. Thus, this project carries a great social relevance as it aims to address this problem. This project will help farmers in protecting their orchards and fields and save them from significant financial losses and will save them from the unproductive efforts that they endure for the protection their fields. This will also help them in achieving better crop yields thus leading to their economic wellbeing.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

7.2 FUTURE WORK

Although the project is a smart and advanced solution for protection of crops, there is a lot of scope for improvements and upgrades. The future work basically aims at elimination of the existing problems and developing solutions for the existing limitations.

Power is one such limitation. Although the System uses low power, an acre needs around ten to fifteen of these systems which might consume a significant amount of electricity. Simple solution is to mount a solar panel upon the system making a complete transition towards renewable energy. Other features possible are using soil moisture sensor to map the hydro graph of the farm, thereby giving the farmer the ability to effectively plan the irrigation. Use of amplified buzzers can effectively decrease the number of systems required per acre.

The project can be IoT field, enabling a smarter system which can work collectively in protecting the crops. It also provides the facility for big data analysis which can help to know the frequency of intrusion per unit time, and type of intrusion. With this information, farmers can collectively collaborate in dealing with such intrusions.

AUTOMATIC RESTAURANT MENU ORDERING SYSTEM
USING ARDUINO

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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Smart Crop Protection System

A Project Report Submitted to

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AUTOMATIC RESTAURANT MENU ORDERING SYSTEM

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A Project Report Submitted to

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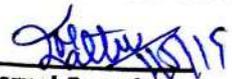
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ABSTRACT

Today's era is said to be the world of technology. So many efforts have been taken by restaurants owners also to adopt information and communication technologies such as PDA, wireless LAN, costly multi-touch screens etc. to enhance dining experience. This project highlights some of the limitations of the conventional paper based and PDA-based food ordering system and proposed the low cost Restaurant Management System using an arduino and LCD screen as a solution. The system consists of a LCD screen at the customer table contains all the menu details. The customer tablet, kitchen display connects directly with each other through Bluetooth. Orders made by the customers will be instantly reach the kitchen module. This wireless application is user-friendly, improves efficiency and accuracy for restaurants by saving time, reduces human errors and provides customer feedback. This system successfully overcomes the drawbacks in earlier automated food ordering systems and is less expensive.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8**, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

7.CONCLUSION

As a conclusion, this hardware and software of project is successfully functioned as the objectives of the project. This project solved the problem which is faced by the restaurant's entrepreneur in the attempt to organize the restaurant more efficiently skilled and capable. It is also can be used to reduce the lateness and the error on ordering foods by the customer's by restaurant. By using this system, there are no more complaints about the services. This project can contribute to the advancement of science and technology by having upgrading keypad with touch screen to further develop on Smart Ordering System. This project can be redesigned the electronic order keypad with more reliable function and mismatch with other hardware e.g. smart phone. The interface of the keypad can be modifying for a better service to the customers. A LCD display can be added to the keypad for the customer as a reference to them during making an order. This is to avoid from sending wrong information to counter or the waiters

At the end of the project ,the structure for smart restaurant system has been done successfully. This system uses lcd screen for placing the order and the order is sent to the chef using bluetooth . once the order is ready the chef places the order on the conveyer belt. This system gets a lot of profit and also it is user friendly. By using this automatic menu ordering system , the management also become more effective and efficient . The process requires less man power

Integratingall the hardware components used has been developed in it. The presence of each and every module has been reasoned out and placed here very carefully, thus contributing to the best and efficient working of the unit. Secondly, using very highlyadvanced IC's with the help of up growing technology, the project has been successfully developed and implemented. This project provides anefficient device that helps to all people, especially dumb/illiterate to communicate easily and also it is a user friendly device. This is our proposed system which reduces the cost of running the restaurant as it does not require any waiters. This project also helps in transforming the whole catering industry in the world. This system will help in reducing the waiting time of customer in the restaurants. It will also reduce manual service given by waiters and serving staff, and also eliminating the human mistake.

SMART ROAD NETWORK

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

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ABSTRACT

Traffic congestion is a severe problem in many major cities across the world and it has become a nightmare for the commuters in these cities. The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically on sensing the traffic density at the junction. Conventional traffic light system is based on fixed time concept allotted to each side of the junction which cannot be varied as per varying traffic density. Junction timings allotted are fixed. Sometimes higher traffic density at one side of the junction demands longer green time as compared to standard allotted time.

The proposed system using a microcontroller of 8051 family duly interfaced with sensors, changes the junction timing automatically to accommodate movement of vehicles smoothly avoiding unnecessary waiting time at the junction. The sensors used in this project are IR and photodi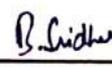odes are in line of sight configuration across the loads to detect the density at the traffic signal. The density of the vehicles is measured in three zones i.e., low, medium, high based on which timings are allotted accordingly.

Further the project can be enhanced by synchronizing all the traffic junctions in the city by establishing a network among them. The network can be wired or wireless. This synchronization will greatly help in reducing traffic congestion.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO9 and Program Specific Outcomes (PSOs): POS2.

CONCLUSIONS

Thus from the above theory we can conclude that using the method of density based traffic control system we can save a considerable amount of time and also can prevent excessive traffic jams thus leading to smooth traffic flow.

There is exigent need of efficient traffic managementsystem in our country, as India meets with 384 roadaccidents every day. To reduce this congestion andunwanted time delay in traffic an advanced system isdesigned here in this project. With field application of thistechnology, the maddening chaos of traffic can beeffectively channelized by distributing the time slotsbased on the merit of the vehicle load in certain lanes ofmulti junction crossing. We have successfullyimplemented the prototype at laboratory scale withremarkable outcome. The next step forward is toimplement this schema is real life scenario for first handresults, before implementing it on the largest scale. Webelieve that this may bring a revolutionary change intraffic management system on its application in actualfield environment.

In practise presently in India we are following time based control of traffic signals and we are experiencing a heavy traffic jams all over which in turn consumes lot of time and fuel. We hope this method will be adopted as soon as possible so the limitations we are experiencing with present method can be overcome.

DESIGNING AND DEVELOPMENT OF QUADCOPTER FOR SURVELLIANCE

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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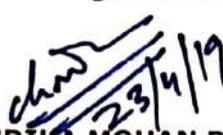
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12.2 Conclusion

As per the design specifications, the quad copter self stabilizes using the array of sensors integrated on it. It attains an appropriate lift and provides surveillance of the terrain through the camera mounted on it. It acts appropriately to the user specified commands given via a remote controller .Its purpose is to provide real time audio/video transmission from areas which are physically in-accessible by humans. Thus, its functionality is monitored under human supervision, henceforth being beneficial towards military applications. It is easy to manoeuvre, thereby providing flexibility in its movement. It can be used to provide surveillance at night through the usage of infrared cameras. The system can further be enhanced for future prospects. The GPS data logger on the quadcopter stores its current latitude, longitude, and altitude in a comma separated value file format and can be used for mapping purposes. This project required members not only to interface and program the components of the quadcopter, but also exposed them to mechanical components and reality of project management to accomplish the project objectives.

12.3 Future Scope

Future of a quad-copter is quite vast based on various application fields it can be applied to. Quad-copter can be used for conducting rescue operations where it's humanly impossible to reach. In terms of its military applications it can be more widely used for surveillance purposes, without risking a human life. As more automated quad-copters are being developed, there range of applications increases and hence we can ensure there commercialization. Thus quad-copter can be used in day to day working of a human life, ensuring their well-being.

Vehicle Tracking System Using GPS and GSM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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ABSTRACT

Automobiles are necessary for the movement of goods from one location to another. Consumers may face several problems as a result of delays in the delivery of goods. This delay may be due to drivers choosing incorrect or longer routes when delivering. To avoid these challenges, the Global Positioning System (GPS) is increasingly being used for management of vehicle fleets, recovery of stolen vehicles, mapping and surveillance. This paper outlines the design and implementation of a real time GPS tracker system using Arduino. When a user makes a call on the number that is registered on the GPS-GSM shield attached to Arduino, the user receives the location coordinates with data being stored continuously on an SD card simultaneously. This proposal has significant application for vehicle security, salesman tracking and private drive.

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CHAPTER 6 – CONCLUSION

This paper notes the increased demand for vehicle tracking systems for tracking the theft of vehicles through GPS and GSM technology. This system can be used for both personal and business purposes to improve safety and security, communication, and performance monitoring. Vehicle tracking systems have become increasingly important in large cities and are more secured than many other systems. Nowadays, vehicle theft is rapidly increasing. With this technology however, vehicle theft can be better controlled. This technology can also help to advance transportation systems, and can be used in many organizations for security and tracking purposes. Also, the proposed system is more useful, as a result of the addition of different types of sensors which help to protect the owner and other users of the vehicle by reducing the possibility of collisions. In the event of an accident, the system will send the location to designated numbers so assistance can be provided as soon as possible. This will be particularly useful in instances where accidents occur in deserted places and midnights. In the future, this vehicle tracking and accident alert feature will play an important role in day-to-day life.

IOT BASED DIGITAL NOTICE BOARD

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

By

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ii

ABSTRACT

Notice boards are one of the widely used ones ranging from primary schools to major organizations to convey messages at large. A lot of paper is been used and which is later wasted by the organizations. This in turn leads to a lot of deforestation thus leading to global warming. Small innovative steps in making use of technology for regular purposes would have an adverse effect on the environment issues which we are presently concerned about. The main aim of this paper is to design a SMS driven automatic display Board which can replace the currently used programmable electronic display and conventional notice boards.

It is proposed to design to receive message in display toolkit which can be used from an authorized mobile phone. The whole process can be described from the transmitter and receiver section. The WIFI/BLUETOOTH module receives a message from the authorized mobile phone and the message is extracted by the microcontroller from the WIFI/BLUETOOTH module and is displayed on the MATRIX display board. Serial to parallel communication is used for the entire process from WIFI module to Microcontroller and from microcontroller to the matrix display. And for the acknowledgement LCD display is used.

CHAPTER 6- CONCLUSION AND FUTURE SCOPE

CONCLUSION:

As the technology is advancing every day the display board systems are moving from Normal hand writing display to digital display. Further to Wireless display units. This paper develops a photo type laboratory model wireless notice board system with WIFI MODULE and BLUETOOTH connected to it, which displays the desired message of the user through an SMS in a most populated or crowded places. This proposed system has many upcoming applications in educational institutions and organizations, crime prevention, traffic management, railways, advertisements etc. Been user friendly, long range and faster means of conveying information are major bolsters for this application. By using this proposed methodology we can enhance the security system and also make awareness of the emergency situations and avoid many danger.

Remote activities allow administrations, for example, long-go interchanges, that are inconceivable or illogical to executewith the utilization of wires. It gives quick exchange of data and are less expensive to introduce and keep up. This paper gives an effective method for showing messages on Notice Board utilizing Wireless Technology. It likewise gives client validation to maintain a strategic distance from any abuse of proposed framework

BODY MOVEMENT AND RECOGNITION OF COMA PATIENT USING EMBEDDED SYSTEM

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
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Abstract:

In this project Health monitoring systems have rapidly evolved and smart systems have been proposed to monitor patient current health conditions. The system will monitor patients and facilitate taking care of their health. In our proposed and implemented system, we focus on monitoring the patient's heart beat pulse, body temperature, cough count detection and fits detection. Nowadays, Globalization demands Smart cities, which involves many attributes and services. Aim of Smart City concepts is to provide better life to society and provide innovative and creative solutions in each of the eight pillars of smart city. Healthcare field is one of most delicate and important field to be developed and enhanced by Smart system. This paper proposes a system architecture for smart healthcare based on GSM and GPS technologies. The objective of this work is providing an effective application for Real Time Health Monitoring and Tracking. The system will track, trace, monitor patients and facilitate taking care of their health. SMS alert will be sent to the medical expert by using a GSM module and they can suggest the patient about taking an immediate remedy

CONCLUSION AND FUTURE WORK

Now a day's increasing awareness of the occurrence of falls among the elderly prevent an events are highly needed in order toenhance the quality of life for elderly people and provide them with convenient fall detection techniques. The system basedon Arduinouno. Hence, concluding to this project is a wearable sensor system could capture every movement of thehuman body under the condition of low lost and activities daily life condition.Using of this system user can live independent no need to depend on another person always with the user. Finally, we can identify the person or user by this project using cloudTechnology. The system confirmed that body worn accelerometer used for fall detection.people, and hence improve the quality of life for elderly person.

The system can be improved further development will include a more accurate fall-detection algorithm, more suitable attachment method, lighter and smaller sensor as well as, mobility monitoring and energy expenditure measurements.

AUTOMATIC VEHICLE TRACKING USING ARM &IR SENSORS

APROJECT REPORT

Submitted to Jawaharlal Nehru Technological UniversityHyderabad
inpartial fulfillment of the requirements
for the award of Degree of

Bachelor of Technology in
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April, 2019

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ABSTRACT

A vehicle tracking system combines the use of automatic vehicle location in individual vehicles with software that collects these fleet data for a comprehensive picture of vehicle locations. Vehicle information can be viewed on electronic maps via the internet or specialized software. It is also possible to maintain a record of documents of a vehicle. This can be done by using a circuit which will maintain a database corresponding to the particular vehicle. The major advantage of using this technique is that there is no loss of RTO based documents.

The increase in number of vehicles brings not only revenue but also a tedious job to Transport Office, Police Department, and others too. It is hard to keep and maintain the details of the each vehicle, which is running on the road. This inefficiency sets some evil things to work on road. Such as, in case of hit-and-run or carrying illegal goods over interstate cross border or road-robbery cases, police may not trace the culprits very easily, as the vehicle details are not monitored continuously. City Transports wants to track each buses details such as departure & arrival time on bus terminal, number of schedules it undergone in single-day etc.

CHAPTER 5
CONCLUSION AND FUTURE SCOPE

Vehicle tracking system makes better fleet management and which in turn brings large profits. Better scheduling or route planning can enable you handle larger jobs loads within a particular time. Vehicle tracking both in case of personal as well as business purpose improves safety and security, communication medium, performance monitoring and increases productivity. So in the coming year, it is going to play a major role in our day-to-day living.

Main motto of the project is to incorporate different types of sensors so that they help in decrease the chances of losing life in such accident which we can't stop from occurring. Whenever accident is alerted the paramedics are reached to the particular location to increase the chances of life. This device invention is much more useful for the accidents occurred in deserted places and midnights. This vehicle tracking and accident alert feature plays much more important role in day to day life in future.

STUDY AND TESTING OF MICROWAVE RECEIVER FRONT END IN KU BAND

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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IN
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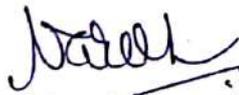
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ABSTRACT

The current advances in the field of RADAR, Communication and Electronic Warfare Systems have lead to the requirement of High Sensitivity, Wide Dynamic Range and High POI receivers. Microwave Engineering, Electromagnetic Theory and Concepts of Transmission Lines plays a key role in design, development and realisation of such receiver front ends.

To meet the above requirements a "**Microwave Receiver Front End in Ku Band**" will be realised using discrete microwave components like Limiters, Filters, Triplexer, Mixer, DROs, Amplifiers, Switches, Directional Couplers etc. These discrete microwave components will be evaluated before integrating and realising the receiver front end.

The Specifications over which the receiver will be evaluated are mentioned below:

RF Input Frequency Range	:	12 – 18 GHz
IF Frequency Range	:	2 – 6 GHz
No. of Down Conversions	:	1
Sensitivity (MDS)	:	-70dBm
Gain	:	30 dB
Dynamic Range	:	35 dB
Noise Figure	:	6 dB

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CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 CONCLUSION :

The Ku-band frequency range is allocated to be exclusively used by satellite communication systems, thereby eliminating the problem of interference with microwave systems. Due to higher power levels at new satellites Ku-band allows for significantly smaller earth station antennas and RF units to be installed at the VSAT location.

The Microwave front end Receiver in Ku-band is Designed and Simulated using Genesys-2008 Software. Each Microwave Receiver component is practically tested and analyzed. All these tested components are integrated forming a Receiver and its performance is evaluated.

6.2 FUTURE SCOPE :

To avoid the attenuation in the ionized layer and the effect of man-made noise, the frequency for space communication should be higher than 100MHz as frequency increases, the noise becomes smaller but microwave frequency is higher than 10GHz will receive much attenuation due to absorption of oxygen and moisture in the atmosphere. The current trend in domestic satellite communications is toward Ku-band (12-18GHz), whereas international satellite communications media is basically C-band. Use of C-band transponders requires larger antennas which are more expensive and attractive. Available Trans ponder effective isotropic radiated power (EIRP) from Ku-band transponders are least 10-20 dB stronger than C-band transponders. The enhanced EIRP at Ku band is, however, neutralized by the path loss when compared with the C-band performance. The increased receive gain for a given size aperture at the earth station at Ku-band is available for system margin to combat the weather-related vagaries normally associated with Ku band propagation.

DESIGNING AND MODELLING OF VOICE CONTROLLED ROBOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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ii

ABSTRACT

This is designed to control a robotic vehicle by voice commands for remote operation. An ARM series microcontroller is used together with an Android Application for the desired operation. The Android Application is connected to the Bluetooth module (HC-05) present on the Robot via Bluetooth. The commands are sent to the robot using push buttons or voice commands present on the android application. At the receiving end two dc servo motors are interfaced to the microcontroller where they are used for the movement of the vehicle. The RF transmitter of the Bluetooth can take either switch press or voice commands which are converted to encoded digital data for the advantage of adequate range (up to 100 meters) from the robot. The receiver decodes the data before feeding it to another microcontroller to drive DC motors via motor driver IC for necessary work. This technology has an advantage over long communication range as compared to RF technology. Further the project can be developed using IoT technology where a user can control the robot from any corner of the world.

CHAPTER 6
RESULT ,CONCLUSION & FUTURE SCOPE
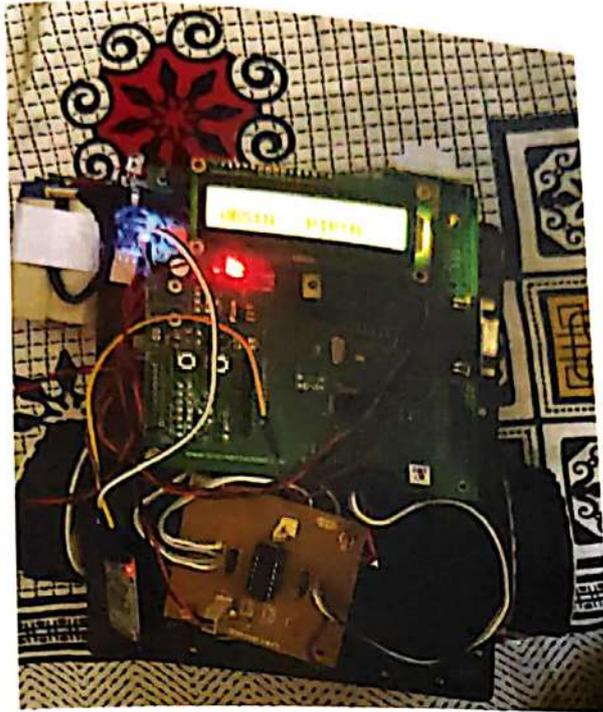
RESULT:

This is the final result to control a robotic vehicle by voice commands for remote operation. An ARM series microcontroller is used together with an Android Application for the desired operation. The Android Application is connected to the Bluetooth module (HC-05) present on the Robot via Bluetooth. The commands are sent to the robot using push buttons or voice commands present on the android application. At the receiving end two dc servo motors are interfaced to the microcontroller where they are used for the movement of the vehicle. The RF transmitter of the Bluetooth can take either switch press or voice commands which are converted to encoded digital data for the advantage of adequate range (up to 10 meters) from the robot. The receiver decodes the data before feeding it to another microcontroller to drive DC motors via motor driver IC for necessary work. This technology has an advantage over long communication range as compared to RF technology. Further the project can be developed using IoT technology where a user can control the robot from any corner of the world.

ATM Terminal design based on Finger Print Recognition

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
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ii

ABSTRACT

Computer supported collaborative applications on overlay networks are gaining popularity among users who are geographically dispersed. Examples of these kinds of applications include video-conferencing, distributed database replication, and online games. This type of application requires a multicasting sub network, using which messages should arrive at the destinations within a specified delay bound. These applications also require that destinations receive the message from the source at approximately the same time. The problem of finding a multicasting sub network with delay and delay-variation bound has been found to be an NP Complete problem. Here we provide an efficient heuristic to obtain a multicast sub network on an overlay network, given a source and a set of destinations that is within a specified maximum delay and a specified maximum variation in the delays from a source to the destinations.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8**, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

9.1 CONCLUSION

Hence designed the **ATM TERMINAL DESIGN BASED ON FINGERPRINT RECOGNITION** and tested successfully. This project allows the users to enter into the system when the match between the stored and captured fingerprint (live scan) occurs. Otherwise it does not allow the user to enter into the system and sends the error reporting message i.e., alert message to the owner of the system.

9.2 FUTURE SCOPE

This project can be extended by this way we can improve the later stages high security for personal mobile phones, home applications, automobiles and so on. This can be extended with automated algorithms for fingerprint recognition has long been a problem studied in computer science. Since every person has a unique set of fingerprints, this method has become common for personal identification. Databases consisting of millions of fingerprints are stored on file for this purpose. It is our hope to be able to provide significant speed improvements in the fingerprint matching phase.

The International Fingerprint Research Group (IFRG) which meets biennially consists of members of the leading fingerprint research groups from Europe, the US, Canada, Australia and Israel and leads the way in the development, assessment and implementation of new techniques for operational fingerprint detection.

A technique has been developed that enables fingerprints to be visualized on metallic and electrically conductive surfaces without the need to develop the prints first This technique involves the use of an instrument called a scanning Kelvin probe (SKP), which measures the voltage, or electrical potential, at pre-set intervals over the surface of an object on which a fingerprint may have been deposited.

AUTOMATIC IRRIGATION SYSTEM USING ARDUINO

A Project Report Submitted to

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ABSTRACT

Abstract: In this project an automation of farm irrigation and soil moisture control by Arduino using soil moisture sensor and GSM module. This automatic irrigation system senses the moisture content of the soil and automatically switches the pump when the power is on. A proper usage of irrigation system is very necessary because the main reason is the shortage of land reserved water due to lack of rain, spontaneous use of water as a result large amounts of water goes waste. For this reason, we use this automatic plant watering and soil moisture monitoring system and this system is very useful in all climatic conditions. India is the agriculture based country. Our most of peoples are completely depended on the agricultural harvesting. Agriculture is a source of employment of majority Indians and has great impact on the economy of the country. In dry areas or in case of lacking rainfall, irrigation becomes difficult. So, it needs to be automated for proper watering a plant and handled remotely by farmer. When soil goes dry pump will start watering. The aim of the implementation is to reduce water use and automatic irrigation can be used for save time and low power monitor device. The aim of the implementation this project was to demonstrate that the automatic plant irrigation can be used to reduce water use, and save your time.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, **PO6, PO7, PO8**, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 CONCLUSION:

The main purpose of this chapter is to propose an automated irrigation system that water the plant without any human control. The automated irrigation system implemented is found to be feasible and cost effective for optimizing water resources for agricultural production. Besides the automated irrigation system, the proposed system also provides the

monitoring function where users are able to check the soil moisture based on the reading on the LCD display. The proposed system has

been designed and tested to function automatically. For future works, the automated irrigation system can be configured to measure the moisture level (water content) according to the moisture requirement of the different plants.

6.2 FUTURE SCOPE:

Day by day, the field of electronics is blooming and have caused great impact on human beings. The project which is to be implemented is an automated irrigation method and has a huge scope for future development. The project can be extended to greenhouses where manual supervision is far and few in between. The principle can be extended to create fully automated gardens and farmlands. Combined with the principle of rain waterharvesting, it could lead to huge water savings if applied in the right manner. Inagricultural lands with

AUTOMATIC STREET LIGHTING SYSTEM USING IOT

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

BACHELOR OF TECHNOLOGY
IN
ELECTRONICS AND COMMUNICATION ENGINEERING

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Certificate

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ABSTRACT

This project aims for designing and executing the advanced development in embedded systems for energy saving of street lights. Currently we have a manual system where the street lights will be switched ON in the evening before the sunsets and they are switched OFF in the next day morning after there is sufficient light on the outside. But the actual timing for these lights to be switched ON is when there is absolute darkness. With this, the power will be wasted up to some extent. This project gives solution for electrical power wastage. Also the manual operation of the lighting system is completely eliminated. The proposed system provide a solution for energy saving. This is achieved by sensing and approaching a vehicle using an IR transmitter and IR Receiver couple. Upon sensing the movement the sensor transmit the data to the microcontroller which furthermore the Light to switch ON .

Similarly as soon as the vehicle or an obstacle goes away the Light gets switched OFF as the sensor sense any object at the same time the status(ON/OFF) of the street light can be accessed from anywhere and anytime through internet. This project is implemented with smart embedded system which controls the street lights based on detection of vehicles or any other obstacles on the street .Whenever the obstacle is detected on the street within the specified time the light will get automatically ON/OFF according to the obstacle detection and the same information can be accessed through internet. The real time information of the street light(ON/OFF Status) can be accessed from anytime, anywhere through internet.

CONCLUSION AND FUTURE SCOPE

This project "IoT Based automatic street Lighting System " is a cost effective, practical, eco-friendly and the safest way to save energy and this system the light status information can be accessed from anytime and anywhere. It clearly tackles the two problems that world is facing today, saving of energy and also disposal of incandescent lamps, very efficiently. Initial cost and maintenance can be the draw backs of this project. With the advances in technology and good resource planning the cost of the project can be cut down and also with the use of good equipment the maintenance can also be reduced in terms of periodic checks. The LEDs have long life, emit cool light, donor have any toxic material and can be used for fast switching. For these reasons our project presents far more advantages which can over shadow the present limitations. Keeping in view the long term benefits and the initial cost would never be a problem as the investment return time is very less. The project has scope in various other applications like for providing lighting in industries, campuses andparking lots of huge shopping malls. This can also be used for surveillance in corporate campuses and industries.

SMART TRACTOR CABIN

A Project Report Submitted to

Jawaharlal Nehru Technological UniversityHyderabad

*In partial fulfillment of the requirements
for the award of the degree of*

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ABSTRACT

Due to the difficulty in disposal of Chloro-fluoro-carbon (CFCs) and Hydro-Chloro-fluoro-carbons (HCFCs), conventional sources are being used so as to decrease the environmental degradation. As mentioned in the past years, fluoro carbons were used in the air conditioners. Usage of these kind of cooling systems are forbidden as they lead to derogation of ozone layer. Moreover, the problem regarding environment is piling up in recent years.   Presently the energy saving strategy is one of the top priorities of the world. In particular, the sector of cooling having a heavy influence on the total electrical energy consumption and hence need to be optimized so as to increase the overall performance. Solar energy being abundant in nature, thermo electricity can be used in the generation of power for cooling and heating applications. Therefore, the need of thermo electric cooling is on demand particularly for the upcoming developing countries where long life of appliances and low maintenances are needed .This project is a demonstration of an eco-friendly methodology for the implementation of solar powered thermoelectric cooling system. Solar energy is the most abundant and renewable source of energy in environment, and hence it is used in our project. In conventional air conditioners, moving parts or rotating parts like compressor, expansion valve, coolants etc. are involved which leads to some vibrations and noise. Even coolants are not eco-friendly and much more costly by designing a smart cabin and cooling system for the tractor that would employ a very thoughtful design of cabin ensuring all round cooling with an Smart cooling system by making use of a smart cooling algorithm with low cost design and compatible for future electric tractors.

CHAPTER 5: DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS FOR FURTHER WORK

5.1 Discussion

The objective of the project was to design a system which cools the cabin of a tractor using peltier module. And to achieve this project we used solar energy as we are planning for a ecofriendly system. To achieve more efficiency we installed a tracking system. Depending on the light intensity, solar panel starts rotating. Here we use two LDR's sensors which gives input to the microcontroller. If the intensity on LDR 1 is noted as more, then the panel rotates towards left side and vice versa. And this rotational effect is performed through a stepper motor.

On the other hand we are having temperature and humidity sensors in the cabin. It note downs the current status of the temperature and humidity and those values are seen on the LCD display. So after observing all these parameters peltier module gets activated and starts cooling on one side and on other side it starts heating. Heat is drawn out by using a heat sink.

5.2 Conclusion:

A smart tractor cabin is ready for the farmers who works on field. They can experience a cooling effect in their tractors by installing this circuit. Main objective of our project is to avoid CFC's. In this project using of Peltier module is eco-friendly and low cost. It is similar to air conditioners but it does not release any kind of harmful gases into the air.

5.3 Recommendation for further work:

With the available time and resources, the objective of the project was met. The project is able to be implemented on a much larger scale. For future projects, one may consider the use of more efficient sensors, but which are cost effective and consume little power. This would further enhance efficiency while reducing costs. If there is the possibility of further reducing the cost of this project, it would help a great deal. This is because whether or not such projects are embraced is dependent on how cheap they can be.

Shading has adverse effects on the operation of solar panels. Shading of a single cell will have an effect on the entire panel because the cells are usually connected in series. With shading therefore, the tracking system will not be able to improve efficiency as is required.

SELF SUSTAINED SMART WHEEL CHAIR

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

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for the award of the degree of*

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ABSTRACT

Many people are suffering of temporary or permanent disabilities due to illnesses or accidents. For cases of difficult or impossible walking, the use of a wheelchair is becoming essential. Manual or electrical wheelchairs are satisfying for most of the low and medium level disability case where patients can use the wheelchair independently. However, in severe cases, it is difficult or impossible to use wheelchairs independently. In such cases wheelchair users often lack independent mobility and rely on somebody else handle the wheelchair. Researchers involved in wheelchair are aiming at designing smart wheelchairs to solve such problems. This paper is to review the recent studies on smart wheelchair systems. It aims to evaluate the current available technologies and to discuss new future directions for our ongoing research project.

In this research work, we present a Bluetooth-based wheelchair which can be controlled by finger or hand gesture using an Android application developed by us installed in smart gadget. The device helps those deprived of motion in their day to day activities. Even though there is a tremendous leap in this field, there are no facilities for the user to control the wheelchair with less strain on their hands. So this prototype will be a great help for the differently abled users as they can control the wheelchair by just moving their fingers or hands on the touchscreen. The prototype can be varied between touch and swipe. In some cases, the differently abled might not be able to control their fingers. In such cases, since Bluetooth is used, a second person can control the motion rather than pushing it.

CHAPTER 13

CONCLUSION:

In this research work, we present a Bluetooth-based wheelchair which can be controlled by finger or hand gesture using an Android application developed by us installed in smart gadget.

The device helps those deprived of motion in their day to day activities. Even though there is a tremendous leap in this field, there are no facilities for the user to control the wheelchair with less strain on their hands. So this prototype will be a great help for the differently abled users as they can control the wheelchair by just moving their fingers or hands on the touchscreen.

The prototype can be varied between touch and swipe. In some cases, the differently abled might not be able to control their fingers. In such cases, since Bluetooth is used, a second person can control the motion rather than pushing it.

The wheelchair is fully capable of carrying the load up to 110Kg, and moving in accordance to the gesture given by the person who is using the wheel chair. Certain improvisation and improvement can be done to make the wheelchair more reachable to those whose whole body is paralyzed. Certain eyes gesture or brain signals reader can be imparted on the wheelchair system so as to make it Better.

Women Safety Device Using GPS & GSM Module with Location Tracking

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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INTRODUCTION

1.1 System

A system is an arrangement in which all its unit assemble work together according to a set of rules. It can also be defined as a way of working, organizing or doing one or many tasks according to a fixed plan. For example, a watch is a time displaying system. Its components follow a set of rules to show time. If one of its parts fails, the watch will stop working. So we can say, in a system, all its subcomponents depend on each other.

1.2 Embedded System

As its name suggests, Embedded means something that is attached to another thing. An embedded system can be thought of as a computer hardware system having software embedded in it. An embedded system can be an independent system or it can be a part of a large system. An embedded system is a microcontroller or microprocessor-based system which is designed to perform a specific task. For example, a fire alarm is an embedded system; it will sense only smoke.

The embedded system hardware includes elements like user interface, Input/output interfaces, display and memory etc. Generally, an embedded system comprises power supply, processor, memory, timers, serial communication ports and system application specific circuits.
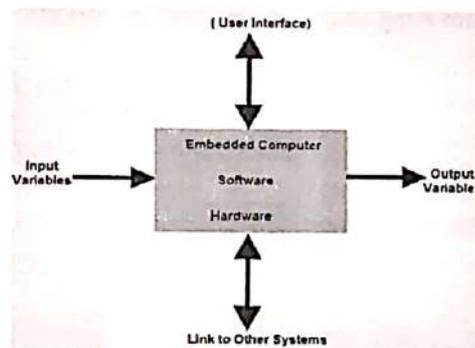

Fig 1.1 Embedded System

- ❖ It has hardware.
- ❖ It has application software.
- ❖ It has Real Time Operating system (RTOS) that supervises the application software and provide mechanism to let the processor run a process as per scheduling by

7.2 Conclusion

In this project we have studied and implemented a complete working model using Arduino Nano Microcontroller. The programming and interfacing of the microcontroller has been mastered during the implementation.

We have learnt how to integrate and encrypt Google Maps along with the GPS in order to provide Google Maps URL parameter for direct location access. This project work includes the study of GMS and GPS modems along with TP 4056 module as well.

One of the biggest advantages of using this project is, whenever the switch is pressed predefined numbers will be getting the location from GSM modem to the numbers stored. Thus, the Emergency Alert Message sent to the numbers can be used to save the lives of women, children and elderly people who may be in threat.

7.3 Future Scope

- From the above survey, we analyzed that GPS, GSM and sensor can be used to track only users' nearby locations and can only send alert SMS to limited people.

- In the existing system, there is a buzzer which alerts people when they are in danger, and mobile app ensures the safety of women by using a buzzer system to send alert SMS, the user will share location to their family members and SOS service to send the text message.

- So, a new system needs to be developed which can send alert messages automatically without human intervention.

- The accuracy level of detecting violation of women can be improved by sensing more physical human body parameters

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SOLAR POWERED LED STREET LIGHT WITH AUTO INTENSITY CONTROL

A Project Report Submitted to

Jawaharlal Nehru Technological University Hyderabad

In partial fulfillment of the requirements
for the award of the degree of

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ABSTRACT

The project is designed for LED based street lights with auto intensity control using solar power from photovoltaic cells. As awareness for solar energy is increasing, more and more individuals and institutions are opting for solar energy. Photovoltaic panels are used for charging batteries by converting the sunlight into electricity. A charge controller circuit is used to control the charging. Intensity of street lights is required to be kept high during the peak hours. As the traffic on the roads tends to decrease slowly in late nights, the intensity can be reduced progressively till morning to save energy. Thus, the street lights switch ON at the dusk and then switch OFF at the dawn automatically. The process repeats every day.

High Intensity Discharge lamps (HID) used for urban street light are based on principle of gas discharge, thus the intensity is not controllable by any voltage reduction method as the discharge path is broken. LED lights are the future of lighting, because of their low energy consumption and long life they are fast replacing conventional lights world over. White Light Emitting Diode (LED) can replace the HID lamps where intensity control is possible by pulse width modulation. The intensity control helps in saving energy during late nights while traffic density on the streets is low. A programmable microcontroller is engaged to provide different intensities at the different times of night using PWM technique, for energy saving for solar based system, using a charge controller for battery charging, overload and deep discharge protection.

Further the project can be enhanced by using time programmed dusk to dawn switching based on latitude and longitude of a specific place. It can also be interfaced to a LDR to follow the switching operation precisely.

This Project Work Quality is measured in terms of consideration to factors including, but not limited to, environment, safety, ethics, cost, type (application, product, research, review etc.) and standards. This project work mapping with the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, PSO2 & PSO3.

6.3 CONCLUSION

The system SOLAR POWERED LED STREET LIGHT WITH AUTO INTENSITY CONTROL"is a cost effective, practical, eco-friendly and the safest way to save energy. It clearly tackles the two problems that world is facing today, saving of energy and also disposal of incandescent lamps, very efficiently. It provides different intensities at different times of night. With this energy can be saved to some extent. According to statistical data it saves more than 40 % of electrical energy that is now consumed by the basic solar street light. So throughout the world if this concept is used it will eliminate the energy crisis to a larger extent.

This Project Work addressed the Program Outcomes (POs): PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO8, PO9, PO10, PO11, PO12 and Program Specific Outcomes (PSOs): PSO1, POS2 & POS3. These Program Outcomes (POs) and Program Specific Outcomes (PSOs) are attained by demonstrating the working model of the project.

6.4 FUTURE SCOPE

In future, the proposed system can be made more efficient by increasing the accuracy of the system .This project can be enhanced by using with timer based products and photo sensor based products. We can use solar tracking system for fast charging. In monsoon season solar light is more difficult so that we use extra batteries in series to save more power.