Geethanjali College of Engineering and Technology

Accredited by NAAC with 'A' Grade & NBA, Approved by AICTE and Affiliated to JNTUH Cheeryal(V), Keesara(M), Medchal Dist., Telangana – 501 301.

Hackathons for the Academic Year: 2016-17



Geethanjali College of Engineering and Technology (USC Autonomous)

CHEERYAL (V), KEESARA (M) - 501301, Telangana

Date: May 9th, 2017

To

The Principal

Geethanjali College of Engineering and Technology

Cheeryal

Telangana - 501301.

Respected Sir,

Sub: Attending the Workshop on UAV - Regarding

We would like to attend a workshop being conducted by Skyfi Labs, in Hyderabad starting May 22nd till May 27th, 2017. The cost for the same will be Rs 3490/- per person. We will be thankful if this amount can be reimbursed by the college.

We request you to please consider the time we are attending the work shop as On-duty. We do not have any impact on the classes as the final exams are in progress and there is no class work.

Thanking you

Prof. N. Chandrakanth

CSE, GCET

Manilisten 4 Mr. Y.V. N. Phani Kishore

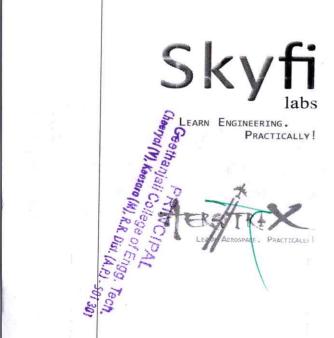
CSE, GCET

PRINCIPAL

Cheeryal (V), Keesara (M), R.R. Dist. (A.R.) 501 301-

Goothanjali College of Engg. Tecn. To Secretary to neeryol (V), Keesoro (M), R.R. District. 201301 To Pay Rs. 2, to with a request to pay Rs. 2, to the to each perform as it is been

VERIFIED CERTIFICATE



www.aerotrix.com www.skyfilabs.com 27 May 2017

Skyfi Labs Center, Abids, Hyderabad

This is to certify that

N.CHANDRAKANTH

has completed a 6-day project-based training program on

Quadrotor and RC Aircraft

Unique Certificat a Code: 34360007

Verify at www.sk /filabs.com/verify-certificate/3436)007

POH

Pavan Kumar P CEO, Skyfi Labs To

The Principal, Geethanjali College of Engineering and Technology, Cheeryal.

· Respected Sir,

We are conducting a workshop on "Usage of Raspberry PI" for the students who are part of the Innovation club, on Wednesday 8th March, 2017, for the whole day.

Following are the expenses we foresee to be incurred. I request you to please approve the same for smooth conduct of the workshop.

SI No	Description	Amount (in Rs.)
1	Banner	600
2	Posters	900
3	Certificates	750 .
4.	Tea (300), Juice (1000)	1300
5	Lunch (for organizers and lecturers)	500.
6	News paper	1250
7	Name plates (6 numbers)	1000 🗡
	Total	Rs. 6300.00

We also request you to please approve an amount of Rs 3500.00 as advance. We will provide the details of expenditure and submit the bills (where applicable) as soon as the event is complete.

Thanks and Regards

Prof. Chandrakanth N.

Dept of CSE

GCET

Y.V.N. Phani Kishore

Asst. Prof.,

Submitted to Secretary for approach

She of 08/17

PRINCIPAL

Chan

(N), Keesara (M), R.R. Dist. (A.P.) - 501 301

A.Y:2016-17 II- Semester

Geethaniali College of Engineering and Technology Department of Computer Science & Engineering

SDP on: "Usage of Raspberry Pi" for II Year B.Tech students On 08.03.2017 RESOURCE PERSON: Mr.Subramanyam, Asst. Prof, GCET

STUDENT'S FEEDBACK

(5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Unsatisfactory)

Audibility	Explanation	Practical Approach	Understanding Level	Overall Experience
	5	9	5	4

Any Suggestions:

Excellent.

PRINCIPAL
Geethanjali College of Engg. Tech.
Cheeryal (V), Keesara (M), R.R. Dist. (A.R.) - 501 30

A.Y:2016-17 II- Semester

Geethaniali College of Engineering and Technology Department of Computer Science & Engineering

SDP on: "Usage of Raspberry Pi" for II Year B.Tech students On 08.03.2017 RESOURCE PERSON: Mr.Subramanyam, Asst. Prof, GCET

STUDENT'S FEEDBACK

llent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Unsatisfactory)

Audibility	Explanation	Practical Approach	Understanding Level	Overall Experience
4	5	3	4	5

Any Suggestions:

Cheeryol (V), Keesoro (M), R.R. Dist. (A.P.) - 501 301



Phone 9533791618

+91-40-24220320

Website: www.geethanjaliinstitutions.com

info@gcet.edu.in

Geethaniali College of Engineering and Technology

AUTONOMOUS

(Accredited by NBA, Approved by AICTE, New Delhi)
Sy.No. 33 & 34, Cheeryal (V), Keesara (M), Medchal District. - 501 301.

Date: 6/4/2017

Letter of Appreciation

To.

A. Subramanyam, Asst. Prof..

Dept of ECE,

Geethanjali College of Engineering and Technology.

The management of Geethanjali College of Engineering and Technology (GCET) would like to thank you for taking part in the Student Development Program on "Usage of Raspberry PI" to the students enrolled to the Innovation Club which is part of the Incubation Centre at GCET, conducted on 8th March 2017.

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Sile

PRINCIPAL
Goethanjali College of Engg. and Tech.
Cheeryal (V), Keesara (M), Medchal Dist (T.S.)-501 301.

Cheeryal (V), Keesare (M), R.R. Dist. (A.E. - 50; 30).

Geethanjali College of Engineering and Technology

CHEERYAL (V), KEESARA (M), R.R.DIST-501301, Telangana

Date: 16/4/2017

To, The Principal, GCET, Cheeryal.

Respected Sir,

The Workshop on "Usage of Raspberry PI" was conducted successfully to the students of innovation club. The following are the expenses incurred for the above.

SI. No	Description	Amount
1	Banner printing	Rs 368.00
2	Poster printing	Rs 788.00
3	10" Display clamps	Rs. 750.00
4	Travel charges for transport for Banner (no bill)	Rs. 300.00

Total: Rs 2206.00

Advance Amount: Rs. 3500.00 (Three thousand five hundred only)

Balance (returnable): Rs.1294.00

'I request you to please approve the above.

Thanks and Regards

N. Chandrakanth . 1

Convener

FDP

She 16/04/17

Cheerral (V), Kousoro (M), R.R. Dell Marie 20130

To
The Head of the Department
Department of ECE
GCET.

Respected Sir,

We are conducting a workshop on "Usage of Raspberry PI" for the students who are part of the Innovation club. We request you to please allocate E-Class Room 1 (1st floor, Block 1) for the same on Wednesday 8th March, 2017, for the whole day.

Thanks and Regards

Prof. Chandrakanth N.

Dept of CSE

GCET *

Y.V.N. Phani Kishore

Asst. Prof.,

Dept of CSE

GCET.

Geethanjall College of Enga. Tech.
Cheeryal (V), Kensara (M), R.R. Dist. (L.E.) - 501 304.

	usage of Ra	aspberry pi List	of Participants	Date	8/3/2017
S.No	Event,	Roll No	Name	Branch	
1		14R11A04M6	Pranav Raju	ECE	
2		15R11A0482	K.J.C. PAVAN KUMAR	ECE	
3		14R11A04J6	KEERTHI B	ECE	
4		15R11A0485	K V NIKHIL	ECE	
5	¥ 4	15R11A0479	J S V TARUN	ECE	
6		14R11A04J0	ABHIJEETH KUMAR	ECE	
7		15R11A0493	M SRUJANA	ECE	
8		15R11A0472	D.S. JAYA MADHAVI	ECE	
9	1	15R11A0562	A.S. BRUHADROOP	CSE	
10	5	15R11A0571	VISHNU HARSHITH	CSE	
11		14R11A0521	K VYSHNAVI	CSE	
12		15R11A05B0	G NAGA LAKSHMI	CSE	
13	5	15R11A05E7	M RAHUL SAI	CSE	
14	1	15R11A05A5	P. TANMAYI	CSE	
15	Usage of Raspberry Pi	15R11A05A0	P. GREESHMA	CSE	
16	5	15R11A0 5 K3	D V N RAMYA SAMHITHA	CSE	
17	7	16R11A0589	T. DEEKSHA	CSE	
18	3	16R11A05K2	A SRI MOULIKA	CSE	
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20		16R11A05E2	V. R. RAHUL	CSE	
21	1 8 N N	15R11A0352	T SRIKAR SHARMA	ECE	
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23	3	15R11A0343	P VISHAL VINAY	ECE	
24	1	15R11A0353	T RAJU	ECE	
25	5	15R11A0350	M D SHADIK	ECE	
26	5	15R11A03141	P SANTOSH RAHUL	ECE	
27	7	15R11A0346	P V S RAKESH	ECE	
28	3	15R11A0312	TEJHESH	ECE	
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CASH / CREDIT BILL

VENKATARAMANA DIGITAL IMAGING PVT. LTd.

Building Trust Through Service

HEAD OFFICE: # 6-2-969/C, Opp. Sant Nirankari Bhavan, Khairathabad, Hyderabad - 500 004.

Ph: 040 - 2332 8929 / 49 Cell: 9346 00 8929 / 8949

AMEERPET BRANCH: #8-3-949/3, Beside BIG BAZAR, Ameerpet, Hyderabad - 500 073.

Ph: 040 - 2373 5153 / 7080 Cell: 9346 10 5153 / 7080 MANAGEMENT CELL : 98480 47896 / 93480 47896.

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VAT No.: 36811457366 PAN No.: AADCV2334A * SERVICE TAX No.: AADCV2334ASD001 * CIN: U22219TG2010PTC067773

Note: Goods once sold will not be taken back. Interest will be charged @24% if this payment is not made on or "Subject to Hyderabad Jurisdiction".

Received the above goods in good condition For Venkararamana Digital Imaging Pvt. Ltd.

CASH / CREDIT BILL



VENKATARAMANA DIGITAL IMAGING PVT. LTd.

(Building Trust Through Service)

HEAD OFFICE: # 6-2-969/C, Opp. Sant Nirankari Bhavan, Khairathabad, Hyderabad - 500 004. Ph: 040 - 2332 8929 / 49 Cell: 9346 00 8929 / 8949

AMEERPET BRANCH: # 8-3-949/3, Beside BIG BAZAR, Ameerpet, Hyderabad - 500 073. Ph: 040 - 2373 5153 / 7080 Cell: 9346 10 5153 / 7080

MANAGEMENT CELL: 98480 47896 / 93480 47896

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Note: Goods once sold will not be taken back. Interest will be charged @24% if this payment is not made on or "Subject to Hyderabad Jurisdiction"

Received the above goods in good condition For Venkararamana Digital Imaging Pvt. Ltd.

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Phone \$9533791618 Fax +91-40-24220320

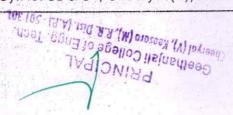
Website: www.geethanjaliinstitutions.com

info@gcet.edu.in

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Sy.No. 33 & 34, Cheeryal (V), Keesara (M), Medchal District. - 501 301.



Date: 6/4/2017

Letter of Appreciation

To,

A. Subramanyam, Asst. Prof.. Dept of ECE,

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Silve

Goethanjali College of Engg. and Tech.
Cheeryal (V), Keesara (M), Medchal Dist (T.S.) 501 301.

'ಕ್ಷಿಪಾಂಜವಿ'ಟ್ ಕ್ಷಪ್ರಾವಾಂಗಾ ಕಾರ್ದೇಶಾಲ



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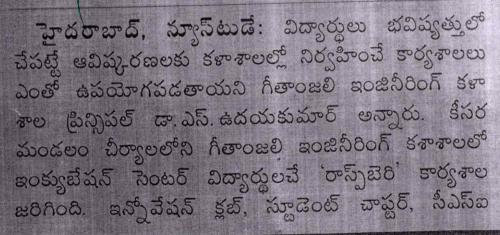
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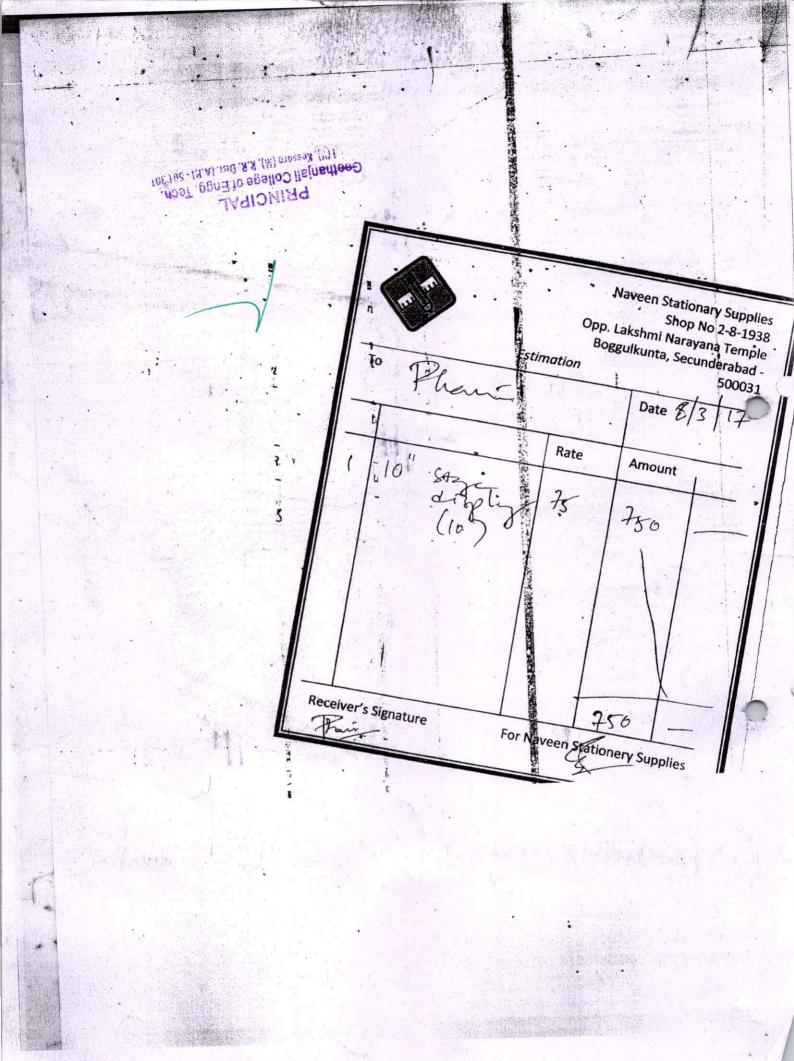




కార్యశాలలో ఉత్సాహంగా..

సంయుక్త ఆధ్వర్యంలో బ్రాఫెసర్లు చంద్రకాంత్, ఫణికిశోర్ దీనిని నిర్వహించారు. ఈ సందర్భంగా వారు మాట్లా డుతూ.. తమ కళాశాలలో చేపట్టే కార్యక్రమాలు విద్యార్థు లకు ఎంతో ఉపయోగపడతాయన్నారు. డా.ఎస్.నాగేంద్ర కుమార్, గుంటూరు విజయ మాట్లాడుతూ.. విద్యార్థులు సాంకేతిక నైపుణ్యాలను పెంచుకోవాలన్నారు. నైపుణ్యాలే భవిష్యత్తును నిర్ణయిస్తాయన్నారు.

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Cheeryal (Y), Keesara (M), R.R. Dist. (A.P. - 501 301 Geathen all College of Engg. Tech. PRINCIPAL

To

The Head of the Department Department of ECE

GCET.

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Prof. Chandrakanth N.

Dept of CSE

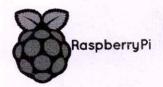
GCET *

Date: 4/3/2017

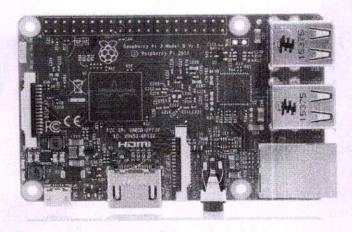
Asst. Prof.,

Dept of CSE

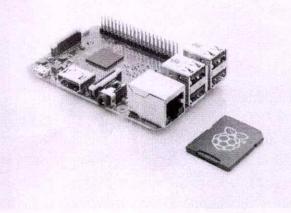
GCET.



Raspberry Pi 3 Model B







RPI-MODB-16GB-NOOBS

Technical Specification:

- Broadcom BCM2837 64bit Quad Core Processor powered Single Board Computer running at 1.2GHz
- 1GB RAM
- BCM43143 WiFi on board
- Bluetooth Low Energy (BLE) on board
- 40pin extended GPIO
- 4 x USB 2 ports
- 4 pole Stereo output and Composite video port
- Full size HDMI
- CSI camera port for connecting the Raspberry Pi camera
- DSI display port for connecting the Raspberry Pi touch screen display
- Micro SD port for loading your operating system and storing data
- Upgraded switched Micro USB power source (now supports up to 2.4 Amps)
- Expected to have the same form factor has the Pi 2 Model B, however the LEDs will change position

PRINCIPAL
Geethanjali College of Engg. Tech.
Correl (V), Kessare (M), R.R. Dia. (A.P.). 581 361

Raspberry Pi2 GPIO Header

Pin#	NAME		NAME	Pina
01	3.3v DC Power	00	DC Power 5v	02
03	GPIO02 (SDA1 , I ² C)	00	DC Power 5v	04
05	GPIO03 (SCL1, PC)	00	Ground	06
07	GPIO04 (GPIO_GCLK)	00	(TXD0) GPIO14	08
09	Ground	00	(RXD0) GPIO15	10
11	GPIO17 (GPIO_GEN0)	00	(GPIO_GEN1) GPIO18	12
13	GPIO27 (GPIO_GEN2)	00	Ground	14
15	GPIO22 (GPIO_GEN3)	00	(GPIO_GEN4) GPIO23	16
17	3.3v DC Power	00	(GPIO_GEN5) GPIO24	18
19	GPIO10 (SPI_MOSI)	00	Ground	20
21	GPIO09 (SPI_MISO)	00	(GPIO_GEN6) GPIO25	22
23	GPIO11 (SPI_CLK)	00	(SPI_CE0_N) GPIO08	24
25	Ground	00	(SPI_CE1_N) GPIO07	26
27	ID_SD (I*C ID EEPROM)	00	(I'C ID EEPROM) ID_SC	28
29	GPIO05	00	Ground	30
31	GPIO6	00	GPIO12	32
99	GPIO13	00	Ground	34
35	GPIO19	00	GPIO16	36
37	GPIO26	00	GPIO20	38
30	Ground	00	GPIO21	40





Ultrasonic Ranging Module HC - SR04

Product features:

Ultrasonic ranging module HC - SR04 provides 2cm - 400cm non-contact measurement function, the ranging accuracy can reach to 3mm. The modules includes ultrasonic transmitters, receiver and control circuit. The basic principle of work:

- (1) Using IO trigger for at least 10us high level signal,
- (2) The Module automatically sends eight 40 kHz and detect whether there is a pulse signal back.
- (3) IF the signal back, through high level, time of high output IO duration is the time from sending ultrasonic to returning.

Test distance = (high level timexvelocity of sound (340M/S) / 2,

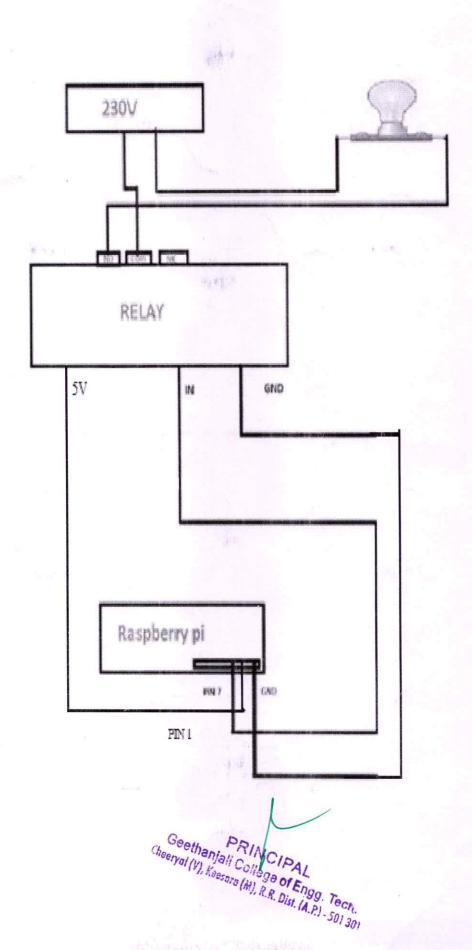
Wire connecting direct as following:

- 5V Supply
- Trigger Pulse Input
- Echo Pulse Output
- 0V Ground

Electric Parameter

Working Voltage	DC 5 V			
Working Current	15mA			
Working Frequency	40Hz			
Max Range	4m			
Min Range	2cm			
MeasuringAngle	15 degree			
Trigger Input Signal	10uS TTL pulse			
Echo Output Signal	Input TTL lever signal and the range in proportion			
Dimension	45*20*15mm			

Cheeryal (V), Keesare (M), R.R. Dist. (A.P.) - 501301



	GEETHANJAI	LI COLLEGE OF E	NGINEERI	NG AND TECHN	OLOGY
•	,	BOOT CAM	P STUDEN	T LIST	
S.No	Name	Roll No	Branch	Phone	Email
	1 C. Prathyusha	16R11A0508	CSE A	6300524858	prathyushac98@gmail.com
	2 P. Carol Navya	16R11A05E5	CSE D	9618176142	carolnavya1999@gmail.com
	P. Arvind Tilak	16R11A0335	Mech	9177003048	thilakarvind@gmail.com
	Majeti Eswar Hemanth	16R11A0427		8885319264	eswar.hemanth143@gmail.com
	A. Koushik	16R11A0497	ECE	9704998784	kaushik.adusumilli9@gmail.com
(C. Sai Ram Rao	15R11A0408		7075653264	sairamrao96@gmail.com

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Charles Total 100 8 97 " (4 Paramers 11/1 201 30") PRINCIPAL

Geothanjali College of Engg. Tech.

Cheeryal (V), Keesore (M), R.R. Dist. (A.R.) - 501 306.

Lab Experiment-1

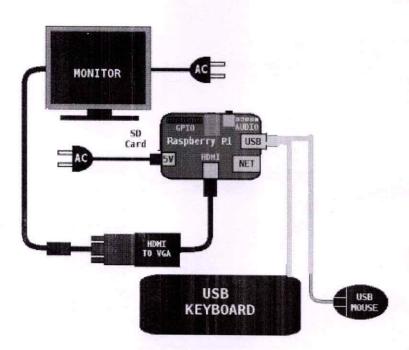
Aim: Flashing the Raspbian OS on to the Raspberry Pi 3 Model B Board with necessary packages using the latest NOOBS v2.1.0 software.

Software Requirement: NOOBS v2.1.0, SD Card Formatter

Hardware requirement:

- 1) Raspberry Pi 3 (Broadcom BCM 2837/2835) Model B,
- 2) 5 V micro USB power supply
- 3) A micro SD card at least 4GB, SD card reader
- 4) PC with Windows OS, HDMI to VGA female Cable, USB Keyboard and USB mouse.

Circuit Diagram:



Procedure:

To install a Raspberry Pi operating system image on an SD card. You will need another computer with an SD card reader to install the image.

Step1

1) Formatting an SD card

- 1. Insert the SD card into SD card reader
- 2. Connect SD card reader to USB port of PC/Laptop

To format an SD card that is 4GB or larger as FAT

- 3. Download the SD card formatter; run this from a USB drive
- 4. Format SD card.
- 5. Exit the imager and eject the SD card

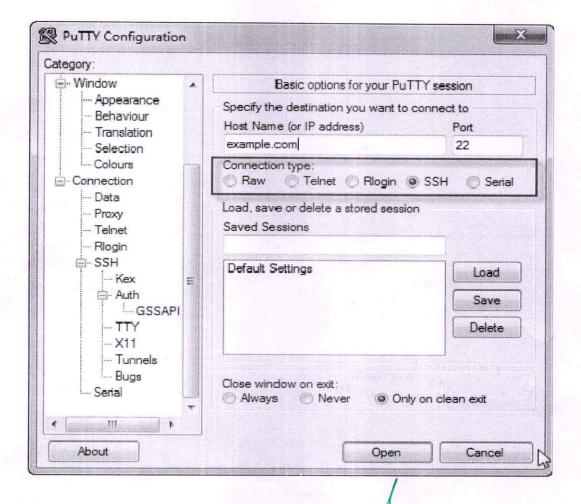
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f) Blinking Status of red LED shows that Raspberry Pi is working fine.

Step 2

Check that ssh to Pi works ok

- a) To know the IP address of Raspberry Pi, type ifconfig on the Pi terminal
- b) You will see against eth0 there is a Inet Addr entry, usually a 192.168.1.x number but might be different on different systems.
- c) Make sure a network cable of one end is connected to PC and another end to Raspberry Pi.
- d) Use the downloaded putty software or Download Putty from http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html
- e) Double click on putty and run to start application. Depending on which cluster you are using. Enter IP address (fotcluster) of Raspberry Pi in the host Name. Ensure Connection Type is SSH. Enter Cluster Name or something you will remember in Saved Sessions. Click to save.



Georgal W. Keesara M. R. Dist. (A.P.). Soll 3.

i) Then press OPEN.

You then see:

login as: pi

press Enter and the default password is raspberry

You now have a shell on your windows PC that is connected to the Raspberry Pi. Anything you type here will run on the Raspberry Pi, and the results sent to this window. You can open multiple windows and be logged in multiple times.

3. Install xming for windows

Open xming from the start/all programs/xming/xming with a right-click and "run as administrator". The xming icon appears in system tray.

4. Full desktop mode

- 1) To get full desktop mode working, use the xlaunch program from the xming menu.start/all programs/xming/xlaunch (right-click run as administrator)
- 2) Choose "one window" and set the display number to 1
- 3) You can have any number of display servers running, but each must have a unique display number. As you have already used display 0 (you configured this in putty ssh/x11/X display location remember?), we'll use logical display 1 for the full desktop so you can leave all your other windows open.
- 4) Click NEXT> then click "start a program"
- 5) Click NEXT> then enter startlxde in the start program box
- 6) Run remotely using putty.exe
- 7) Type in the ip address of your Raspberry Pi, the username pi and the password raspberry.
- 8) click NEXT> then NEXT> then FINISH

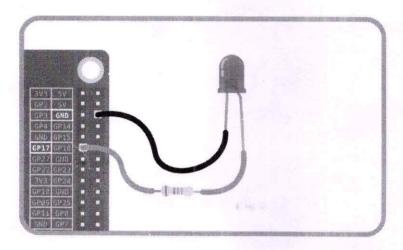
Precautions:

- 1. Insert micro SD card properly
- 2. Connect network cable properly
- 3. Do not connect the power supply to Raspberry Pi initially
- 4. Properly insert Raspberry Pi 3 board in to Raspberry Pi case

Cheenally, Keeson (M), R.R. Den May - 201 302

Switching an LED ON AND OFF Procedure:

GPIO Zero is a new Python library which provides a simple interface to everyday GPIO components. It comes installed by default in Raspbian.



from gpiozero import LED

led = LED(17)

- To make the LED switch on, type the following and press Enter: led.on()
- To make it switch off you can type the following and press Enter led.off()

Your LED should switch on and then off again. But that's not all you can do.

MANUALLY CONTROLLING AN LED ON AND OFF BY PRESSING A SWITCH Procedure:

- 1. Connect the circuit as shown above
- 2. Repeat steps 2&3 of above procedure
- 3. Create a new file by clicking File > New file.
- 4. Save the new file by clicking **File > Save**. Save the file as gpio_switch.py.
- 5. Now write the following code:
- 6. from gpiozero import LED, Button
- 7. from time import sleep
- 8. led = LED(17)
- 9. button = Button(2)
- 10. button.wait for press()
- 11. led.on()

Geethanjali Co!

Geeryol (V), Keesaro (N), Kan war shing Julius

To

The Principal,

Geethanjali College of Engineering and Technology,

Cheeryal, Keesara, Medchal.

Date: 17 Feb 2017

Subject: Letter for approval of acquisition of Server Admin Rights.

Sir,

We the members of Geethanjali College Mobile App Project require a sub-domain within the college's server, so as to maintain secured data. Therefore, we kindly request you to please provide us with the approval and the rights to access the college's server domain.

Thanking you.

Yours faithfully,

Geethanjali Android App Development Team

Rahul N D - 14R11A05F6

I Bhavana - 14R11A05D3

P Saiesh - 14R11A05F2

Respected from cub-densing we need the a space for control to be set up (myself to be set up

chardrand to

PRINCIPAL

Cheeryal (V), Keesara (M), R.R. Dist. (A.R.) - 501 301.

Geethanjali College Of Engineering and Technology

(An UGC Autonomous Institution, Accredited by NBA, NAAC "A" Grade, Approved by AICTE and Permanently Affiliated to JNTUH)

Cheeryal(V), Keesara(M), Medchal Dist, (T.S)-501301





Certificate Of Appreciation
Presented to

Mr. Rahul. N.D

Recognition of your efforts in Designing and Developing the "Geethanjali College App".

Prof . N.Chandrakanth Co-ordinator - ITC Dr.S.Udaya Kumar Principal

Geethanjali College Of Engineering and Technology

(An UGC Autonomous Institution, Accredited by NBA, NAAC "A" Grade, Approved by AICTE and Permanently Affiliated to JNTUH)

Cheeryal(V), Keesara(M), Medchal Dist, (T.S)-501301





Certificate Of Appreciation

Presented to

Ms. Bhavana Ila

In Recognition of your efforts in Designing and Developing the "Geethanjali College App"

Prof . N.Chandrakanth Co-ordinator - ITC Dr.S.Udaya Kumar Principal



Geethanjali College of Engineering and Technology (UGC Autonomous)

CHEERYAL (V), KEESARA (M) - 501301, Telangana, India

		Student D	etails	生型 医性囊肿 计自由电阻 医	
SI. No.	Name of Project	Name	Roll No	Status	
ear: 20	016-17			*	
		S. Nagalakshmi	15R11A0530		
		Saivenkata Tarun	15R11A0479		
		Abhijeet Kumar	14R11A04J0	Work in progress.	
		Ram Kaushik	15R11A05J2	Design complete.	
1	Sensor based guide for Blind	Rahul Sai	15R11A05E7	Component Procurement complete.	
		Virendranath	15R11A0483	*	
		Santosh	15R11A0341	Work in progress.	
	Electricity generation using	Sadiq	15R11A0350	Design complete.	
2	piezo electricity	Madhavi	15R11A0472	Component Procurement complete.	
		B. Thejesh	15R11A0312		
		G. Bharath	15R11A05K5		
	Automated Switch for	K.J.C. Pavan Kumar	15R11A0482	Work in progress.	
	High beam light in	P. Grishma	15R11A05A0	Design complete.	
3 vehicles		D.V.N. Ramya	15R11A05K3	Component Procurement complete	
		T. Srikar	15R11A0352	Work in progress.	
	Automated parking slot	Pranav Raju	14R11A0M6	Design complete.	
4	Detection System	B. Kireeti	14R11A0482	Component Procurement complete	
		D.V. Varma	15R11A0315		
		Venkat	15R11A0244	Work in progress.	
		Shreyas	15R11A05B8	Design complete.	
5	Bicycle Mobile Charger	Hameed	15R11A04L5	Component Procurement complete	
		Bharadwaj			
		Vishal	15R11A0314		
		Tanmayi	15R11A0343		
	SOUND - Generation of	Sujana	15R11A05A5	Work in progress.	
	power from various	Manikanta	15R11A0493	Design complete.	
6	sounds		15R11A04F2	Component Procurement complete	
		S. Piyush	15R11A0248		
		Harshith	15R11A0585	Work in progress	
	E 2.1	K.V. Nikhil	15R11A0168	Design complete.	
7	Smart Switch	Shiva Kumar	15R11A05H6	Component Procurement complete	

event	s Conducted:
1	Portal update for the students to join incubation Center
2	General session on Creativity and Innovation
3	Update Sessions/Discussions
4	Raspberry PI Workshop

Head

Bept. of Computer Science a Engy

Bept. of Computer Science a Engy

Sold than Jali College of Engg. S. T. Sold than Jali College of Engg. Tech.

Control (V), Reesard (M), R.R. Dist. (A.P.) - 501304.

Charriel (V), Reesard (M), R.R. Dist. (A.P.) - 501304.



Geethanjali College of Engineering and Technology (UGC Autonomous)

CHEERYAL (V), KEESARA (M) - 501301, Telangana, India

Sl No	Course Name
1	Creativity and Innovation Presentation
2	Arduino Basics
3	Raspberry PI Basics

Dept. of Computer Science & Eneal
Geothanial: College of English
Cheeryol (V), Keesara (M), R.R. Dui. (A.R.)

Geethanjali College of 199. Tech.
Cheerral (V), Keesera (M), R.R. Dur. (A.D. -50130)

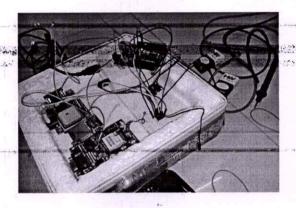


SELF TRIGGERING ACCIDENT RESPONSE SYSTEM (S.T.A.R.S)

Satyanarayana Konala (13R11A0325)

Akshay Viswajith (13R11A04L1)

Archana Dash (13R11A04F8) Shruti Singh (12R11A0553)

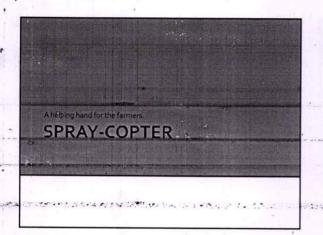


Problem Statement: We all are familiar with the fact that these days accidents have become very common. Though the accidents are not that fatal, the delay in deploying emergency services on time becomes a major factor in deciding the fate of the victim.

Solution Statement: A device that will measure the acceleration and inclination values of the vehicle to determine if there is a crash or accident. In case of an accident, an message will be relayed to a control tower or a hospital(which is pre programmed).

Prototype Design: Accelerometer and gyroscope are connected to a microcontroller which is coded to measure the values of acceleration and inclination. When a sudder change is detected by the device, a GSM module is triggered which sends a distress signal to the pre programmed number belonging to either a control tower or an emergency response unit.

Geothaniali General Control Town of Control To



PROBLEM

- The problem generally faced by the farmers is to manually spray the pesticides and fertilizers. As we can see in the picture the one who sprays the pesticide/fertilizer must take proper care while doing it. Any negligence while doing this leads to fatal consequences. Also there is a lot of human labour involved in this spraying technique. If we find a solution to these problems we can save farmers from these fatal diseases and also reduce human labour.



OUR APPROACH

- We can solve this problem by approaching it with technology.
- Although we have existing technology for this, they are beyond a regular farmer's budget.
- Wee would like to make a product which every farmer can afford with



SOLUTION



- Our machine is a quadcopter carrying a pesticide tank, which will spray pesticide/fertilizer flying at a low level on the crops with a camera.
- This can be configured and operated by any person as its working is basic.
- The camera in the copter helps us in analyzing the condition of the crop.

WORKING

- Our design is a unmanned agricultural vehicle(UAV).
- It is a quad copter on which a spraying mechanism and containers are mounted on the top, or fixed at the bottom,
- The quad copter is made to fly above the crop in the field using a radio control or automation applications
- The spray can be modulated and thrown on the crop when the quad flies .

SPECIFICATIONS

- Components: Quad copter frame.. Width 4 50 mm Flight controller-apm neo 6m GPS

- Multi rotor 4 in 1 ESC Multi star brushless
- motor 640 kv -4

- Haiyin 3s battery Digital cam coder Brushless water pump
- 7 g nozzle Plastic container 2
- A quad copter is designed for an excess payload of 2 kegs A container and spraying mechanismis fixed to it Connectors and binders

- 2.4 GHz receiver and transmitter
- 10 cm male to male
- ggm servos Rubber tubes 6 to 9 mm Propellers -4

Geothanjali College of Engg. Toch.



College of Engineering and Technology Striving Towards Perfection

SPRAY-COPTER

Padmaja Nistala (12R11A1298)

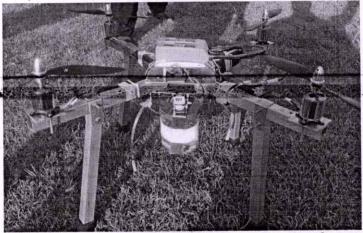
Raghu Varun (12R11A0585) (12R11A0545)

Sai Anjana

Rohith Shashank (13R11A04J1)

Ruthwik Edara (13R11A0342)

5.5、1877年8月3日日本中提出提供了1天時以1



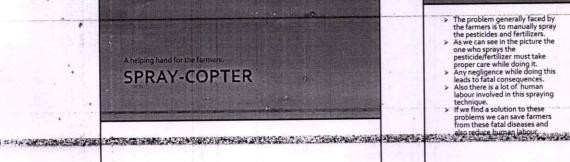
Problem Statement: problem generally faced by the farmers is to manually spray the pesticides and fertilizers. This could cause Skin diseases, Genetic disorders, Effect on children's immune system, Disorders in regular metabolic activities.

Solution Statement : We can solve all these issues by building a technology which is accessible and affordable by any farmer. Our idea was to build a unmanned agricultural vehicle(UAV) which can reduce the workload, labour and also fatal diseases for farmers.

Prototype Design: SPRAY-COPTER which can overcome the problems like price, labour, time and safety of the farmers. The main aim of this was to be a helping hand to the farmers. It is a quad-copter which can carry the pesticide, and spray it in the agricultural fiends according to the user requirement.



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PROBLEM

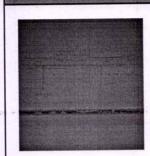


OUR APPROACH

- We can solve this problem by approaching it with technology.
- Although we have existing technology for this, they are beyond a regular farmer's budget.
- Wee would like to make a product which every farmer can afford with ease.



SOLUTION



- Our machine is a quadcopter carrying a
 pesticide tank, which will
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 the crops with a camera.
 This can be configured
- and operated by any person as its working is
- The camera in the copter helps us in analyzing the condition of the crop.

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- Haiyin 3s battery Digital cam coder Brushless water pump
- 7 g nozzle Plastic container 2
- A quad copter is designed for an excess payload of 2 kegs
 A container and spraying mechanism is fixed to it
 Connectors and binders

 2,4,6Hz receiver and that are continued.

- 10 cm male to male servos
- 9gm servos Rubber tubes 6 to 9 mm
- Propellers -4

<u>PlaPER</u>

Plastic Pelletizer, Extruder and Recycler. Geethanjali College of Engineering & Technology

(Affiliated to J.N.T.U.H, Approved by AICTE, NEW DELHI)



An interdisciplinary project from from Electronic and Communication Department, Computer Science Department and Mechanical Department.

Ву,

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akshayviswajith27@gmail.com

Spoorthy Punna 13R11A05 punnaspoorthy96@gmail.com D. Mahadev Bhatt 13R11A0325

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Rohit Shashank 13R11A04J1

msaisashank@gmail.com

Sheetal Marakala 12R11A03 marakalasheetal@gmail.com





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Table of Contents
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- Scope and Objectives

Analysis and Existing Projects (to be added)

Basic Idea

Design

Use Case Diagrams (to be added)

Implementation (to be added)

Test Documentation (to be added)

References

PRINCIPAL
Geethanjali College of Enga. Telescope (V), Keesara (M), R.R. Dist. (A.R.) - 501 Jul.

Overview

Garbage is a major concern which has to be addressed on a war footing basis. Many environmentalists and other NGOs have being doing their best in educating the people and helping out with recycling, the amount of unrecyclable and discarded plastics has by and large proved to be a nerve-wrecking ordeal. According to a recent survey the amount of unrecyclable and discarded plastics in the US alone comes close to 30 million tons annually, apart from things like disposable coffee cups. It is believed that the Americans throw nearly 2.5 billion disposable cups every year. India is a highly populated country. Firstly, with its plans to grow industrially and agriculturally, proper disposal of plastic and waste management has to be taken up immediately. Secondly, people of India turn a blind eye towards hygiene and waste management. In this grave situation, proper disposal of plastic and waste management is the need of the hour. This performs a key role in making the earth a safe place to live and aids in moving towards a safe and healthy environment.

Polythene bags and PET bottles constitute more than _____% of the world's pollution.

(Please mention the % of green house gases and CFCs also for comparison) This might look pale in comparison to effluents like greenhouse gases and CFCs but it cannot be denied that they are a major cause of concern not only to human life, and also to the environment. The fact that people take little care in disposing these plastic without any regard to the consequences is scary, and if this practice is continued, it would lead to a global scale disaster. To bring things into control, the Pacific Ocean houses the two largest dump yards on this planet. This kills more aquatic life than most events ever did.

Large amount of waste is produced, which is not managed efficiently and productively. If this situation continues it is disastrous to environment, flora and fauna and to human beings.

PRINCIPAL
Geethanjali College of Engg. Tecn.
Cheeryol (V), Keesuro (M), R.R. Din. (A.R.) - 501 301

Scope and Objectives

Create a compact machine which automatically shreds, cleans, melts and forms the plastic into small pellets which can be bagged and sent off for recycling/reuse. The machine can be put in villages and crowded places, where people can dispose off plastic waste in the machine.

Advantages:

- 1. Lesser impact of stray plastic waste.
- 2. Easier waste collection
- 3. Revenue generation

Basic Idea

Initial Processing

- Once the plastic has been collected, it will have has to be cleaned and sorted.
- The techniques used will depend on the type of waste collected. At a more simple level it involves hand washing and sorting to the plastic into the required groups.
- Sorting of plastics can be by polymer type (thermoset or thermoplastic for example), by product (bottles, plastic sheeting, etc.), by colour, etc.

Shredding

- Materials are fed into the shredder via a hopper which is situated above the blade rotor.
- The product of shredding is a pile of coarse irregularly shaped plastic flakes which can then be further processed.

Extrusion

- The process of extrusion is employed to homogenize the reclaimed polymer and produce a
 material that it subsequently easy to work.
- The reclaimed polymer is then fed to the extruder.

PRINCIPAL
Geethanjali College of Engg. Tech.
Cheeryel (V), Kessura (M), R. R. Dout, (A, P) - 50! 36!

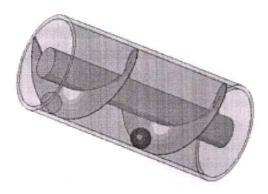
Pelletization

- The pelletization process is used to reduce the semi solid polymer which is extracted from extruder to pellets.
- Pellets can then be used for the manufacture of new products.

Design

The prototype has a plastic shredder into which sorted polythene bags and bottles are fed through a hopper. The shredded plastic then falls into a metal cylinder which houses an Archimedes screw. The periphery of the cylinder is surrounded by heating coils, which softens the plastic. The plastic is then pushed by the screw mechanism through a perforated plate, which extrudes the plastic into noodle like shapes, which are cut by a blade that rotates along with the screw. Most of the machines these days smelt plastic or they shred it, both of which are not efficient enough to reduce the leviathan like garbage which is added to the environment every day. After much brainstorming it is understood that, a need for a machine that combines both the processes in a better and easy manner is needed. Therefore an idea to design a machine that combines both the processes and makes the whole process simple and effective is thought of.

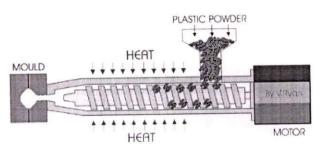
Basic design of a plastic shredder unit



Archimedes screw mechanism

PRINCIPAL

Geethanjali Coffe pe of Engg. Tech. Cheeryal (Y), Keesaro (M), A.R. Bist. (A-R) - 581 38%.



START

Melting and extruding the shredded plastic

- Use Case Diagrams
- Test Cases
- Implementation

Did you know...

- According to the National Association for PET Container Resources (NAPCOR), at 37,46%, the recycling rate for single-serve PET plastic bottled water containers more than doubled between 2003-2014.
- According the EPA, plastic bottles make up less than one-third of one percent of the waste stream.
- Of all the plastics produced in the United States, PET plastic bottled water packaging makes up only 0.92%
- Between 2000-2014, the average weight of a 16.9-ounce PET plastic bottle has declined 48% to 9.89 grams, saving 6.2
 billion pounds of PET resin since 2000.
- All PET bottled water containers are 100% recyclable
- Recycling infrastructure for PET is well-established, from widespread collection and separation to processing and end
 use.

Comment [1]: http://www.treehugger.com/sus tainable-product-design/diy-pet-bottle-shredding.html

Comment [2]: dekha?

Comment [3]: only shredder hai na re



- PET can be recycled multiple times.
- Virtually all recycling programs in the United States accept PET containers.
- The first PET bottle was recycled in 1977.
- More than 1.5 billion pounds of PET were recycled in 2010 and more than 1 billion pounds of recycled PET material
 was used in U.S. and Canadian end-products.

Cheerpally), Keesona (M), R.R. Dist. (And Serious)

125 KVA 7/12

200 KUA T/12

- 1: 27855 KWH
- 2. 26309 KWH
- 3.19516 KWH
- 4. 23773 KWH
- 5. 26697 KWH
- 6. 225 11 KWH
- 7. 19475 KWH
- 8. 15009 KWH
- 9. 15514 1cwH
- 10. 15959 KWH
- 11. 19682 100H
- 12. 17713 KWH

TOTAL - 250013 KWH

- 1. 12,746 KWH
- 2-16484 10014
- 3.11487 KWH
- 4. 12641 10WH
- 5. 15781 10014
- 6.12708 km H
- 7. 855 18 KWH
- 8. 4756 KWH
- 9. 4115 KWH
- 10. H433 KWH
- 11. AG3A KLOH
- 12. 5273 KWH

+ 7071:-112686 KWH

3,62,699 KWH

-). Cafetera = 5%.
- a). Lubs = 40%.
- 3) . office & class Rooms & Boarmotor, weether plant = 55%.

Geethanjali College of Engg. Tech. Cheeryal (V), Keesura (M), R.R. Dist. (A.P.) - 501 382. Geethanjali College of Engineering and Technology has a total area of 40468.6 Square Meters with an approximate construction of 4645.152 Square Meters covering 11.47 % of the total campus area.

The entire campus is covered with gardens, trees and Landscapes covering an area of 35823.448 Square Meters which is 88.48 % of the total campus area.

The per capita water intensity is ___ KL.

Geothaniali College of Ergg. Tech.

Initiatives taken up by the organization for social and environmental relevance.

NSS

The NSS unit of the college provides social and community service in the near by villages. The college has adopted the village in which the college is located. As part of this, several activities are conducted. A few of them are

Blood Donation Camp

Health Camp

Dental Camp

Tree plantation

Around two hundred volunteers donated blood in each camp. The unit also organized a health camp to the benefit of villagers of Cheeryal village. Around 180 villagers were benefited by the camp. Books and stationery were collected from the staff and students of our college and distributed to the students of Primary School, Harijanavada School of Cheeryal village. NSS volunteers planted trees in and around Cheeryal village.

Eco Club:

Eco club, has been organizing many eco-friendly events. Every year in the month of September we distribute eco friendly Ganesh idols to all the faculty members in order to create awareness about the dangerous effects of Plaster of Paris when mixed with water. In the year 2012 we have organized plantation program in Cheeryal village and planted about 100 samplings. This year in addition to the distribution of eco friendly Ganesh idols we also conducted awareness program in which students prepared ppts on environment protection and cleanliness in schools of Cheeryal village and that was a huge success.

The "Environmental club" was formed in the college in 2009. The committee works towards creating awareness of the hazards of environmental pollution among the students and involving them in tasks to minimize wastage of water, usage of plastics and increase of green cover.

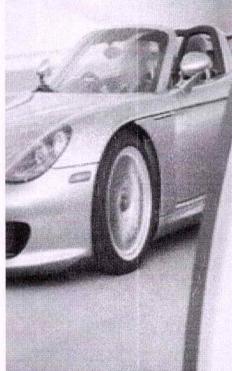
Special Research Projects: LIDAR, Environment monitoring system are being developed to study the social problems like pollution, long term forecasting of weather conditions etc.

SwatchhBharath

The organization is conducting swatch bharath program which is striving towards the clean and green campus which involves the faculty and the students for creating awareness among the students and Staff members.

Geethanjali Cellega or 2,59, Tech. Chebryol (V), Keesono (R), R.S. Dan (A.E.) - 50) 1910

BRAIN COMPUTER INTERFACE TRACKING FOCUS OF ATTENTION IN VEHICLES



B. SOUJANYA (13R11A0508)

D. MURALI KRISHNA (13R11A0515)

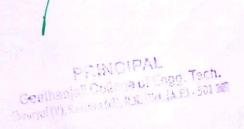
S. TEJASWANI (13R11A0546)

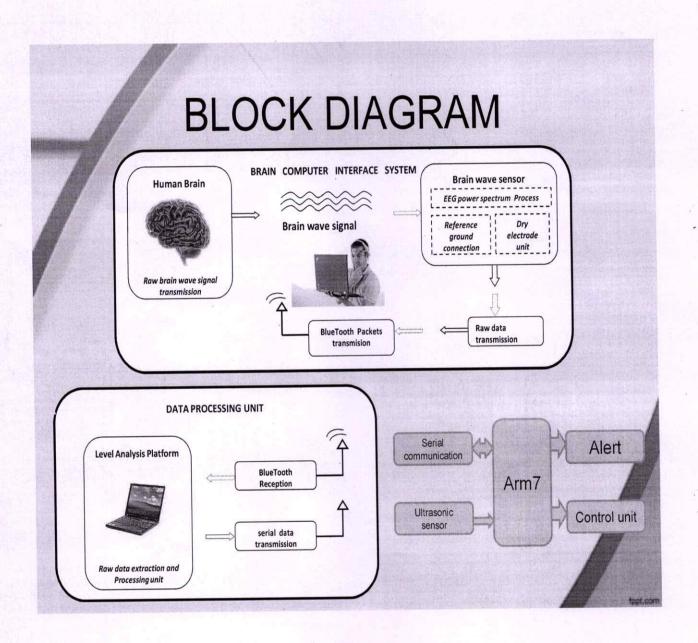
INTERNAL GUIDE: Mrs. Madhuri Agrawal Gupta

Ceathanjall College of Engg. Tecn. Cleanyal (V), Kassura (d), R.K. Md. (A.F.J.-501 301-

ABSTRACT

Drowsiness is becoming a severe issue in case of traffic accident. Normally, Sleeping can be identified from several factors like eye blink level, yawning, gripping force on wheel and so on. But all these measuring techniques will check only the physical activities of the human. In some cases, people will mentally sleep with eyes open for a few seconds. This will make very big accidents in driving. So, in our proposed project work we are analyzing the mental activities of brain using Electro Enciphalo Gram EEG signals based on Brain- Computer Interface (BCI) technology. The key work of the project is analyzing the brain signals. Human brain consists of millions of interconnected neurons. This neuron pattern will change according to the human thoughts. At each pattern formation unique electric brain signal will form. If a person is mentally sleeping with eyes open then the attention level brain signal will get changed than the normal condition. This project work uses a brain wave sensor which can collect EEG based brain signals of different frequency and amplitude and it will convert these signals into packets and transmit through Bluetooth medium in to the level splitter section to check the attention level. Level splitter section (LSS) analyze the level and gives the drowsy driving alert and keeps the vehicle to be in self controlled function until awaken state. This can save a lot of lives in road transportation.







Smart Agriculture Using IoT

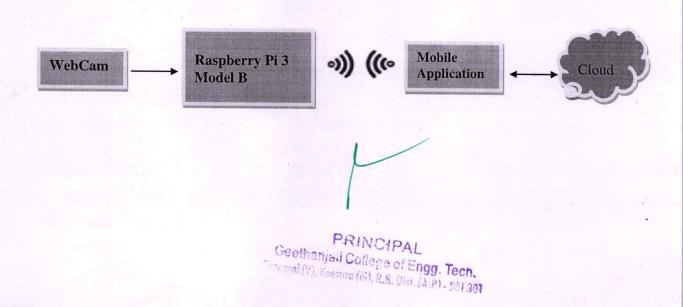


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ABSTRACT

The Internet of things (IOT) is remodeling the agriculture enabling the farmers with the wide range of techniques such as precision and sustainable agriculture to face challenges in the field. IOT technology helps in collecting information about conditions like chlorophyll content and nitrogen content leaf, Crop online monitoring enables detection of health of the plant, crop growth, and agriculture. IoT leverages farmers to get connected to his farm from anywhere and anytime. Wireless networks are used for monitoring the plant conditions. To view the conditions in the form of image and video, cameras have been used. A smart phone empowers farmer to keep updated with the ongoing conditions of his agricultural land using IoT at any time and any part of the world. IoT technology can reduce the cost and enhance the productivity of traditional farming.

With the proliferation of smart devices, Internet can be extended into the physical realm of Internet-of-Things (IoT) by deploying them into a communicating-actuating network. The potentialities of IoT can be brought to the benefit of society by developing novel applications in transportation and logistics, healthcare, agriculture, smart environment (home, office or plant). This research gives a framework of optimizing resources (fertilizers and manual labor) in agriculture through the use of IoT. The issues involved in the implementation of applications are also investigated. This frame work is named as AgriTech.



HARDWARE REQUIREMENTS:

- 1.Raspberry pi 3 model b
- 2.Bluetooth Module
- 3.USB Webcam

SOFTWARE REQUIREMENTS:

- 1.Android
- 2.Python
- 3.Cloud

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Actual Block Diagram



Genthenjali College of Engg. Tech. Gregol (v), Keenen (el), R.R. Del. (4.81-50) 307 -

INTEGRATING WIRELESS SENSOR NETWORKS INTO INTERNET OF THINGS FOR SECURITY

ABSTRACT

A Wireless Sensor Networks is a network consisting of spatially distributed autonomous devices using sensors to cooperatively monitor physical or environmental conditions. If we need access the data being generated by the nodes in the network from any distant locations, these Wireless Sensor Networks should be integrated to the Internet of Things (IoT).

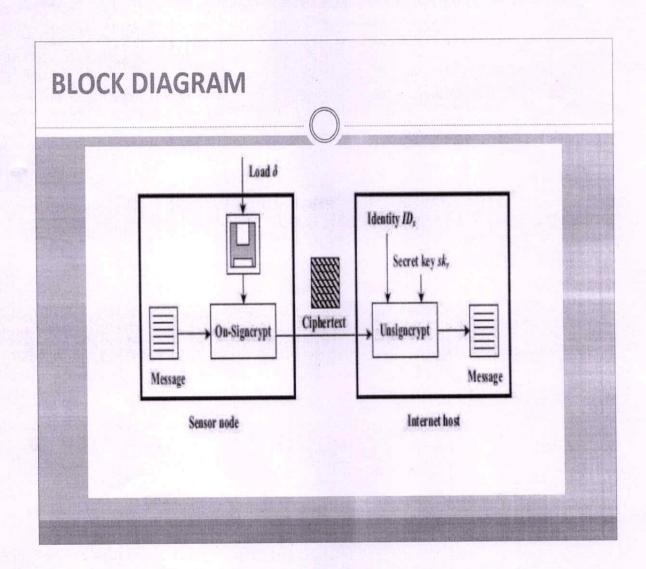
Integrating Wireless Sensor Networks into Internet of Things is always a challenging task, there are many techniques to integrate the WSN and Internet, by applying these techniques a the nodes can directly communicate with the Internet which may lead to new challenges. One such challenge would be establishing a secure channel between a sensor node and internet host. There are lot of digital signatures and encryptions techniques to establish a secure channel but one should keep in mind the limited resources available in at the sensor node and one more constraint would be Public Key Cryptographic algorithms are not applicable to the sensor nodes because of high computational calculations. On the other hand Integrity Based Cryptographic schemes would be highly adaptable for Wireless Sensor Networks.

In this project we make combine IBC – PKI Cryptographic schemes to attain and establish a secure channel between sensor node and Internet host, we use heterogeneous online/offline sign-cryption scheme. So that secure

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communication between sensor node and host is provided. We use diffie-hellman inversion problem, which provides indistinguishability against adaptive chosen cipher text attacks and existential unforgeability against adaptive chosen messages attacks.

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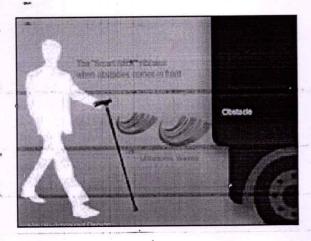
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OBJECT DETECTING WALKING STICK FOR VISUALLY IMPAIRED

PRESENTED BY

CH.BHARGAVI V.MOUNIKA



ABSTRACT

- Blindness is a word frequently used to describe severe visual impairments with or without residual vision.
- The application of ultrasonic range scheme for producing electronic walking stick for the blind is technological advancement.
- There is a great dependency for any type of moment or walking within area or out of particular area, they use only their natural senses such as touch or sound for identification or walking.

- To overcome all these problems of blind people ,we have devised a walking stick with simple technologies.
- This walking stick for blind people which have features include obstacle detection for collision avoidance.
- The equipment which are used, are very simple and low of cost.
- This would be a best technique which can be adopted by the third world countries.

REQUIREMENTS

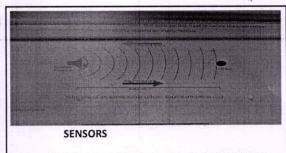
- HARDWARE REQUIREMENTS:
- ➤ Ultrasonic sensor
- > Arduino cable
- ➤ Piezo buzzer
- ➤ Jumper wires
- > Arduino uno board
- ➤ 9v battery
- SOFTWARE REQUIREMENTS: The software used here is ARDUINO 1.6.7 version.

▶ To overcome all these problems of blind people

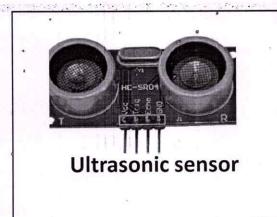


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Description of components

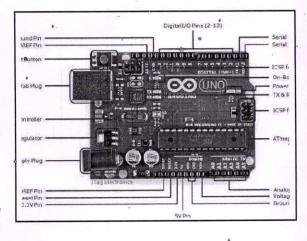


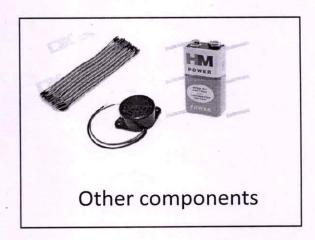
- *It is an object whose purpose is to detect events or changes in environment.
- The sensor used here is ultrasonic sensor.
- •We use ultrasonic sensor because it detects small objects & large objects.



ARDUINO UNO

- Uno is a microcontroller board based on ATmega328P
- It has 14 digital input or output pins. where 6 analog inputs, 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button.
- It contains everything needed to support microcontroller.





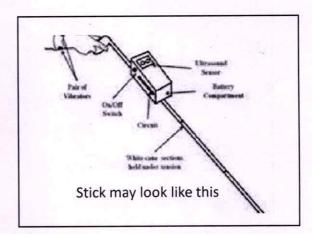


WORKING

- The main component used is ULTRASONIC SENSOR
- Sensor emits ultrasonic waves which are reflected back and are received by it.
- the reflected signals received from barrier objects are given as an input to MICROCONTROLLER(arduino uno).
- The microcontroller then used to determine the direction and distance of the object around visually impaired.

- MICROCONTROLLER also controls the peripheral components (buzzers) that alert the user about obstacle.
- This kind of work by microcontroller (arduino uno) is possible by giving the code for it through ARDUINO 1.6.7 version.
- We use 9v battery for power supply .
- · Jumper wires for connections.
- Here we use piezo buzzer ,that receives signals from microcontroller through sensor acts as an indicator.

circuit diagram
code
test results
will be done later.....



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Cheeryol (v), Keesaro (u), R.R. Dist. (A.P.) - 501 301

Smart Switch

Team Members : S.Piyush Balaji Harshith K.V.Nikhil Shiva Kumar

Problem Statement

 People this days turn on the lights and fans in the room and forget to switch off due to which there is a lot of wastage of electricity.



SOUND

Bharadwaj 15R11A0314 Vishal 15R11A0343 Tanmayi 15R11A05A5 Sujana 15R11A0493 Manikanta 15R11A04F2 Varsha

PROBLEM STATEMENT:

 The general ways of producing electricity is from renewable sources of energy like the thermal energy which may soon disappear. Production of thermal energy also causes lot of atmospheric pollution and damages the environment and results in the destruction of ozone layer. So we need some alternative sources to produce the energy. This could be done by the sounds around us.

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BYCYCLE MOBILE CHARGER

Team: D. V. Varma (15R11A0315)

Venkat (15R11A0244)

Shreyas (15R11A05B8)

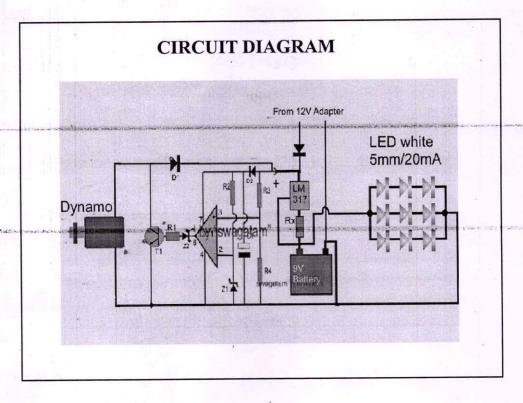
Hameed (14R11A04L5)

PROBLEM STATEMENT

It is the most common problem faced by people in their day to day life. People travelling long distances would commonly face this issue.

"As a rule, the charging voltage with the engine at fast idle should usually be about 1-1/2 to 2 volts higher than battery voltage...An alternator failure will cause he battery to run down and go dead. Symptoms of charging problem include a low battery, dim headlights, hard starting or a charging system warning light."





COMPLETION REPORT

Current status:

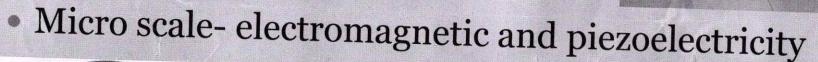
we have fixed almost all the problems we faced ,around 70% for the project work is done and we are left over with assembling the entire parts of our project.

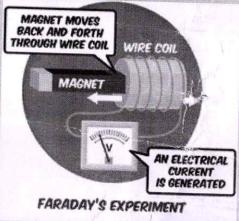
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Energy Harvesting

• What is it?

Macro scale- wind and solar





[2]



[3]

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	P. Bhanu Kumas Reddy	15R11A0178	Gvil-28
	K. Linga Raj	15 R 11 A0120	Civil-2A
	M. Rahul Sovi	15R11A05E7	(SE-2C
~	V. Shiva Kuman	15 R11 A0546	CSE-2C
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	D. Roghu	15 R11 A04K3	ECE-4D
	Bar V. Prashanth	15R11404P8	ELE-4
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	Abhijeet Kumar	14RUA0470	ECE-SD
	Pranav Roya	I ARIIAO AM6	ECE-30
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	Sv. Ayyeppe Naik	18 R11 A05P3	CSE-2D
i	S. Kishore Kumai	15R11AOSPO	CSE-2D
	L. Martin David	IBRIIA04L8	ECE-2D
	A. Chinmayi	15R11A04J1	ECE-2D
	Janhavi Deshmukh	ISRIIAO4KI	ECE-2D
	N. Pranay Teja	15R11A04M9	ELE-2D
	P. Vichal Vivey	15R11 A03 43	ME-2A.
	J. Sqikar.	15RII AOUSE	ECE-2B
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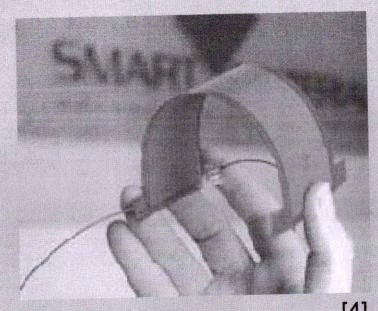
Piezoelectric Energy Harvesting

ITC
Veerendranath (ECE)
Jaya madhavi(ECE)
Santosh(MECHANICAL)
Sadiq Ali(mechanical)

Peethapjest College of Engg. Tech.

Piezoelectricity

- What is it?
- Occurs in polycrystalline materials
 - (For example: Quartz, lead-zirconate-titanate, Rochelle salt, etc.)



[4]

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Automatic Parking Slot Detection System

- T. Srikar
- · Pranav Raju
- B. Kireeti

Problem Statement

 Usually in the parking areas of malls and multiplexes, we need to look at the available slots by ourselves and if when the slot is occupied we have to go search for some other empty slot.

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Design for solution

- · Components Needed
- i. Ultrasonic Sensors
- ii. PIR Sensors
- iii. Cardboard
- iv. Liquid Crystal Displays(16*2)
- v. Hot Glue
- vi. Soldering Kit
- · Circuit Diagrams / HW / SW Needed
- I. Arduino Mega
- II. Arduino IDE
- · Flow diagram
- · Any thing else relevant

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Benson Based Guide For Blind.

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The project is aimed at helping visually challenged (Blind) people to move around normally by without using stick.

We one working on a design & which is very small and can be strapped to person's Shoes or one of the legs. This may help blind to walk like normal persons.

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Material Science & Engineering

Research Article

Open Access

Power Generation Using Piezoelectric Material

Nayan HR*

American International University, Dhaka, Bangladesh

Abstract

In last few years low power electronic devices have been increased rapidly. The devices are used in a large number to comfort our daily lives. With the increase in energy consumption of these portable electronic devices, the concept of harvesting alternative renewable energy in human surroundings arise a new interest among us. In this project I try to develop a piezoelectric generator. That can produce energy from vibration and pressure available on some other term (like people walking). This project describes the use of piezoelectric materials in order to harvest energy from people walking vibration for generating and accumulating the energy. This concept is also applicable to some large vibration sources which can find from nature. This project also represents a footstep of piezoelectric energy harvesting model which is cost effective and easy to implement.

Keywords: Piezoelectric sensor; Full-wave bridge rectifier; Lead acid battery; Load (LED and USB charger)

Introduction

Now a day's energy is one of the most important issues around the world. Especially in Bangladesh energy crisis is a big problem. Renewable energy sources can be a great media to solve this energy crisis problem in Bangladesh. As we know natural resources will finish one day. That's why researchers are trying to introduce substitute energy sources from nature. That must be green and not harmful for the environment. Energy harvesting is defined as capturing minute amounts of energy from one or more of the surrounding energy sources. Human beings have already started to use energy harvesting technology in the form of windmill, geothermal and solar energy. The energy came from natural sources, termed as renewable energy. Renewable energy harvesting plants generate kW or MW level power; it is called macro energy harvesting technology. Moreover, micro energy also can produce from those natural sources that are called micro energy harvesting. Micro energy harvesting technology is based on mechanical vibration, mechanical stress and strain, thermal energy from furnace, heaters and friction sources, sun light or room light, human body, chemical or biological sources, which can generate mW or µW level power. Micro power supply needs is increasing greatly with time as our technology is moving to the micro and nanno fabrication levels. Our discussion on this is based on generating micro energy from vibration and pressure using piezoelectric material.

Piezoelectric Sensor

This day most of the research in the energy field is to develop sources of energy for future. It is time to find renewable surceases of energy for the future. Piezoelectric materials are being more and more studied as they turn out to be very unusual materials with very specific and interesting properties. In fact, there materials have the ability to produce electrical energy from mechanical energy for example they can convert mechanical behavior like vibrations in to electricity. Such devices are commonly referred to as energy harvesters and can be used in applications where outside power is unavailable and batteries are not a feasible option. While recent experiments have shown that these materials could be used as power generators, the amount of energy produced is still very low, hence the necessity to optimize them.

Piezoelectric materials have two properties that are define as direct and converse effect. Direct effect is the property of some materials to develop electric change on their surface when mechanical stress is Arted on them AND NOW WORK

to develop mechanical stress when an electric charge is induced [1].

Advantages:

- 1. Very high frequency response.
- 2. Self-generating, so no need of external source.
- Simple to use as they have small dimensions and large measuring range.
- Barium titanate and quartz can be made in any desired shape and form. It also has a large dielectric constant. The crystal axis is selectable by orienting the direction of orientation.

Disadvantages

- 1. It is not suitable for measurement in static condition.
- Since the device operates with the small electric charge, they need high impedance cable for electrical interface.
- The output may vary according to the temperature variation of the crystal.
- The relative humidity rises above 85% or falls below 35%, its output will be affected. If so, it has to be coated with wax or polymer material.

Full-Wave Bridge Rectifier

Full-bridge rectifier is commonly used as rectifier circuits to convert the AC output of a piezoelectric into a DC voltage. The rectifying circuits consist of 4 diodes. The voltage needs to rectify due to the need for constant supply of voltage light up the series of LED placed in parallel [2].

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J Material Sci Eng ISSN: 2169-0022 JME, an open access journal Volume 4 • Issue 3 • 1000171

Lead Acid Battery

Battery an array of electrochemical cells for electricity storage, either individually linked or individually linked and housed in a single unit. An electrical battery is a combination of one or more electrochemical cells, used to convert stored chemical energy into electrical energy. Batterystandby power applications. Miniature cells are used to power devices such as hearing aids and wristwatches; larger batteries provide standby power for telephone exchanges or computer datacenters.

Primary battery

Primary batteries can produce current immediately on assembly. Disposable batteries are intended to be used once and discarded. These are most commonly used in portable devices such as in alarm and communication circuits where other electric power is only intermittently available. Disposable primary cells cannot be reliably recharged, since the chemical reactions are not easily reversible and active materials may not return to their original forms. Battery manufacturers recommend against attempting recharging primary cells.

Secondary battery

Seconda

assembled with active materials in the discharged state. Rechargeable batteries or secondary cells can be recharged by applying electrical current, which reverses the chemical reactions that occur during its use. Devices to supply the appropriate current are called chargers or rechargers [3,4].

Loads

The USB charging converter convert 12V dc to 5V dc. It consist of IC-AD84064, capacitor, diode and LED. All of this component convert voltage to charge device like as Mobile, IPod, Tab, MP3 devices, and charger light etc. All the rechargeable equipment will be charged [5].

Some common mistakes

Though piezoelectric material has the property of converting mechanical energy into electrical energy but developing piezoelectric generators is challenging because of their poor source characteristics (high voltage, low current, high impedance) and relatively low power output [6]. In the past these challenges have limited the development and application of piezoelectric generators. The main limitation of our project is I could not amplify the current or power from source to charge our battery faster with less steps. And another one is I could not find better piezoelectric sensor in our region. That's why I use buzzer as piezoelectric sensor, which has a little amount of piezo crystal material in its surface [7,8]. And the thickness of these sensors is much less. So these sensors could break by people pressure. But, finally I managed with our mechanical structure to give the strength and got maximum output as mW range (Figures 1-7).

Result and finding

In 1 square ft. I used 12 piezo sensor.

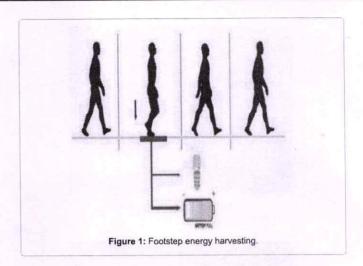
As piezo sensors power generating varies with different steps, get

Minimum voltage=1 V per step

Maximum voltage=10.5 V per step

I took an average of 50 Kg weight pressure from single person.

Considering the steps of a 50 Kg weighted single person, the average calculation is:



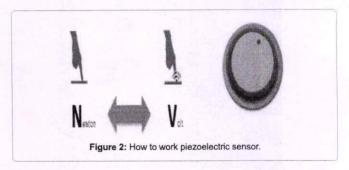




Figure 3: Design our project piezoelectricsensor

It takes 800 steps to increase 1 V charge in battery.

So, to increase 12 V in battery total steps needed

 $=(12 \times 800)$

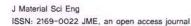
=9600 steps

As I will implement our project in a populated area where foot step as source will available, I took an average of 2 steps in 1 second.

For 9600 steps time needed

 $=9600/(60 \times 2)$

=80 minutes. (Approximately)



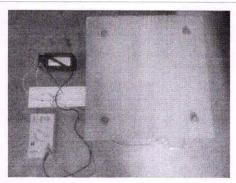


Figure 4: Charging model.

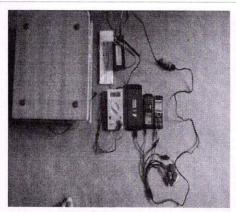


Figure 5: Connected allloads



Figure 6: Connected a DC LED load.

Conclusion

The project is successfully tested which is the best economical, affordable energy solution.

for many applications in city areas where want more power. Bangiaucsi.

is a developing country where energy management is a big challenge.

For huge population. By using this project. I can drive D.C loads.

What Piezo and Piezoelectricity (2013). affordable energy solution to common people. This can be used techniques in efficiently converting that energy to a usable form, there

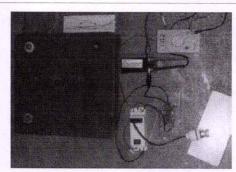


Figure 7: Connected a AC 5W bulb with inverter.

are obviously some practical limitations to the systems presented. The final prototype design does fulfill the objective of generating electricity from piezoelectric disk. Due to the low cost design of the piezoelectric system it is a practical product which could increase the operating period of most common products. The data collected is capable of extending the operational lifespan per charge of portable electronic

Although the theory developed in this report justifies the use of switching techniques in efficiently converting that energy to a usable form, there are obviously some practical limitations to the systems presented. Measurements of source current into the primary and load current transferred from the secondary reveal that very little current gain truly occurs between the input and output ports of the switch in the forward converter hybrid. Further, similar results were encountered when one examines the energy transferred through the series switch and inductor in the buck converter. In addition, based on the results gathered in this investigation, the final prototype design does fulfill the objective of generating electricity from piezoelectric disk. Due to the low cost design of the piezoelectric system it is a practical product which could increase the operating period of most common products. The data collected is capable of extending the operational lifespan per charge of portable electronic devices.

Discussion

Bangladesh is a densely populated country. In Bangladesh, there are many regions where people are continuously travelling by walking. And these regions are always busy with people walking, which mean I can easily find the sources like vibration or pressure to produce electricity from piezoelectric material.

I created a mechanical structure for power generation. Inside that I placed a combination of many piezoelectric sensors. By pressing the structure the piezoelectric sensors will get the vibration and the sensors give electricity as output. After passing through a circuit the charge will store in the battery. I use two applications in our project. As I will place the model in a populated area, I can use this stored energy to light the passersby walking road without getting electricity from other sources. Another application is I can set a booth for charging mini power consumption devices which I use in our daily lives like mobile,

Foot step power generation wood panel.jpg (2013)

Automated Switch for High Beam Light

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G.Bharath (15R11A05K5)
KJ C Pavan Kumar (15R11A0482)
P.Grishma (15R11A05A0)
DVN RAMYA SAMHITHA (15R11A05K3)

Automated Switch for High Ream

Silver Aritameted Switchstor High: Room

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Solution

The solution for this problem is a device which detects vehicle and human at a particular distance using RADAR or LASER and IR technology there by if sensor detects any, High beam is dipped to low beam and low beam continues to be in low it self

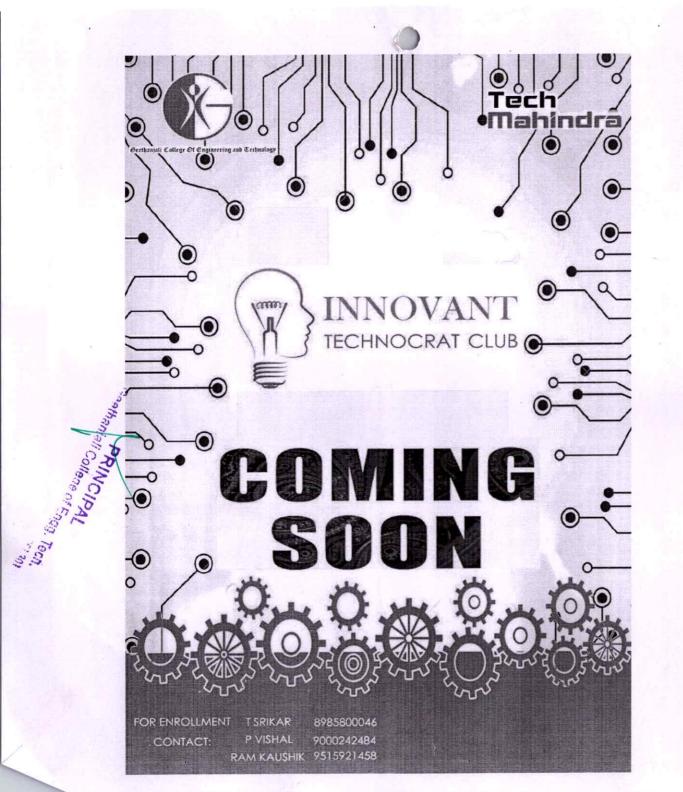
For RADAR or LASER
We would like to use Radar speed detectors or laser speed detector

For IR We will use long range ir sensor

Completion Report

Current status:- we are not completely have clear solution for this problem but we will soon find the solution and complete it

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15 RII A0243

15R11 A05K1

15R11 A05J5

15R11 AO 511

15R11 AO 4L7

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