

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM
BAPUJI INSTITUTE OF ENGINEERING & TECHNOLOGY, DAVANGERE – 577 004

Department of Mechanical Engineering

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GREEN PRACTICE METHODOLOGY

We assembled a panel of experts in institution for green practices to produce a survey for college campus. **The departmental panel then selected key questions and weighted them for the rating.** As with all our research, nearly all 4-year, colleges and universities are invited to participate early in the year. We then produce the plan for each participating college based on their responses.

It includes:

1. whether students have a campus quality of life that is both healthy and sustainable,
2. how well a college is preparing students for employment in the clean-energy economy of the 21st century as well as for citizenship in a world now defined by environmental concerns and opportunities and
3. How environmentally responsible a college's policies are.

- Does the college offer programs including mass transit programs like bike sharing, and facilities, prohibiting idling?

It's simple: By providing proper vehicle parking for all individuals' results in transportation that increases access, colleges can improve the healthy atmosphere. While reducing pollution.

- Does the college have a formal committee with participation from students that is devoted to advancing sustainability on campus?

With participation from administration to faculty and staff to students, ensure more dynamic, long-lasting solutions.

- Are college buildings that were constructed for utilization of natural resources?

In respected measure of building energy efficiency and environmental design for colleges to build sustainable structures.

- What is a college's overall waste-diversion rate?

A waste-diversion rate measures both the reduction in waste output and a college's rate of recycling.

- Does the college have a formal plan to mitigate its greenhouse gas emissions?

College has planted trees to deplete the greenhouse gas emission.

- What percentage of the college's energy consumption is derived from renewable resources?

College is constructed in such a manner in day time it utilizes the mass amount of sun light and natural air circulation in class room.

1. DEPARTMENTAL BEST GREEN PRACTICE ACTIVITIES

- Small-Scale Energy Efficiency Initiatives

Computer Energy Savings

Light Bulb Replacement

- Large-Scale Efficiency Initiatives

Cogeneration

- Transportation

Bicycle Initiatives

Biofuels

- Food

Gardens

Food Waste management

- Environmental Procurement

Reuse Paper

- Green Building Design

White Roofs

Laboratories

Day lighting

- Ecological Design

Native Plants

Parking Improvements

- Education and Outreach

Expanding the Curriculum

Incorporate Sustainability Awareness program

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1. Mechanical Engineering Forum, BIET, Davangere organised a National Level Students Symposium Mech-I Prix – 19 on 9th and 10th May 2019. The programme was inaugurated by Sri. RAUSHAN KUMAR, 114th rank holder at UPSC Civil Services Examination 2019 (he was also alumnus of 2010 Batch). Another chief guest SACHIN KEYYOR, Senior Program Manager, DEUTSCHE TELCOM Group Company Bengaluru, attended the program.



2. Paper Prasenation and Project exhibition on Green practice/ renewanle energy by students on 10th May 2019, held at Department of Mechanical Engineering, BIET, Davangere





3. “PEDAL TO COLLEGE..... GENERATION CHANGE BUT VALUES DO NOT ” PEDALS EXPO an extracurricular activity was organised on 9th and 10th May 2019, held at Department of Mechanical Engineering, BIET, Davangere



4. Three day workshop on “Design, Fabrication And Testing Of Electric Vehicle” was inaugurated by Sri Suraj S. D Co-Founder &CEO, DECIBELS LAB Pvt Ltd Banglore.



5. Design of EV ,Understand the componets of the electric vehicle,Learn about EV battery Li-ion, Design electric Bike in CAD software, Build the simulation model in Scilab for battery & motor sizing.



6. Fabrication of EV vehicle Design, Complete simulation model, Manufacturing of E-bikes, Understanding EV components in Practicles.





7. Testing of Complete Manufactured EV bikes

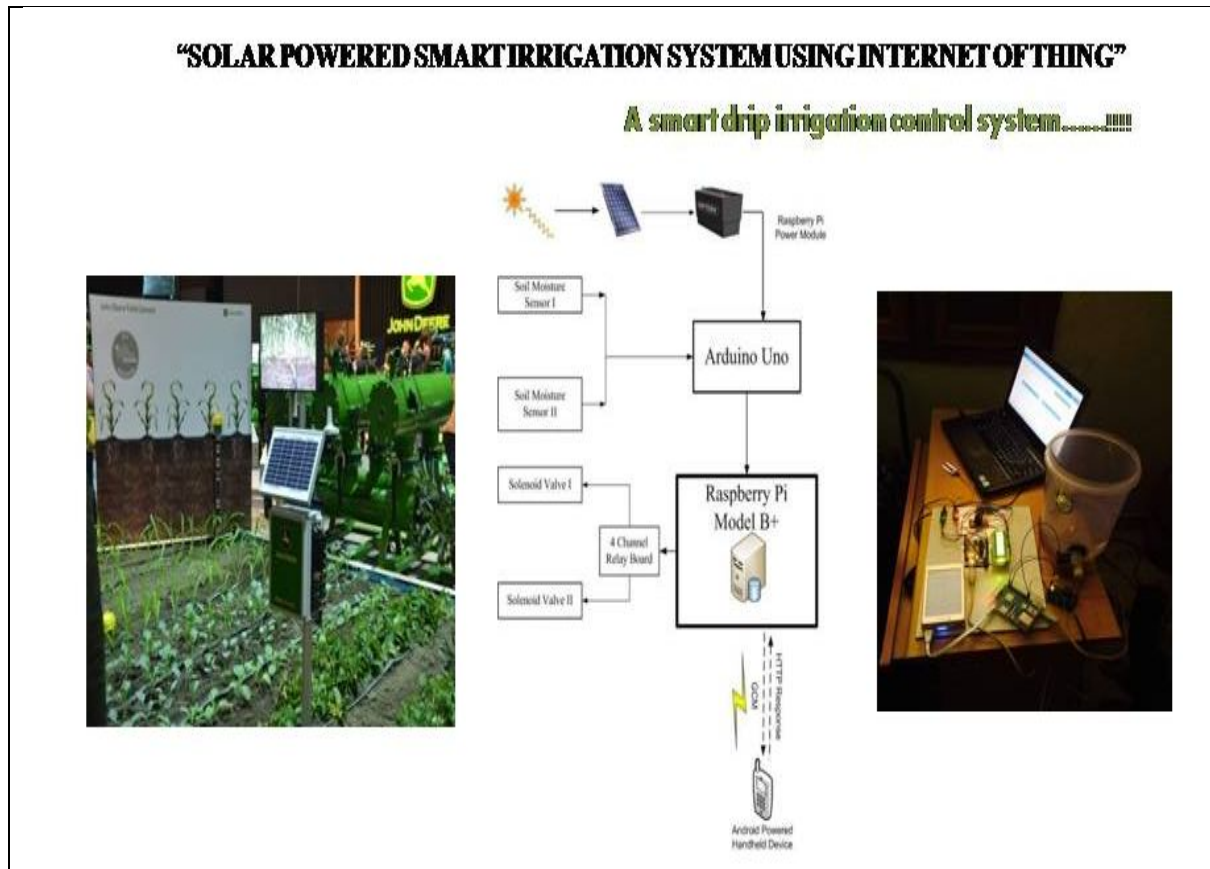




8. On the occasion of World environment day -2020, the green plantation event was organized by the department of Mechanical Engineering, BIET, Davangere, on 5th June, 2020. The programme was inaugurated by principal Dr. H B Aravinda and director Prof. Y Vrushabendrappa.



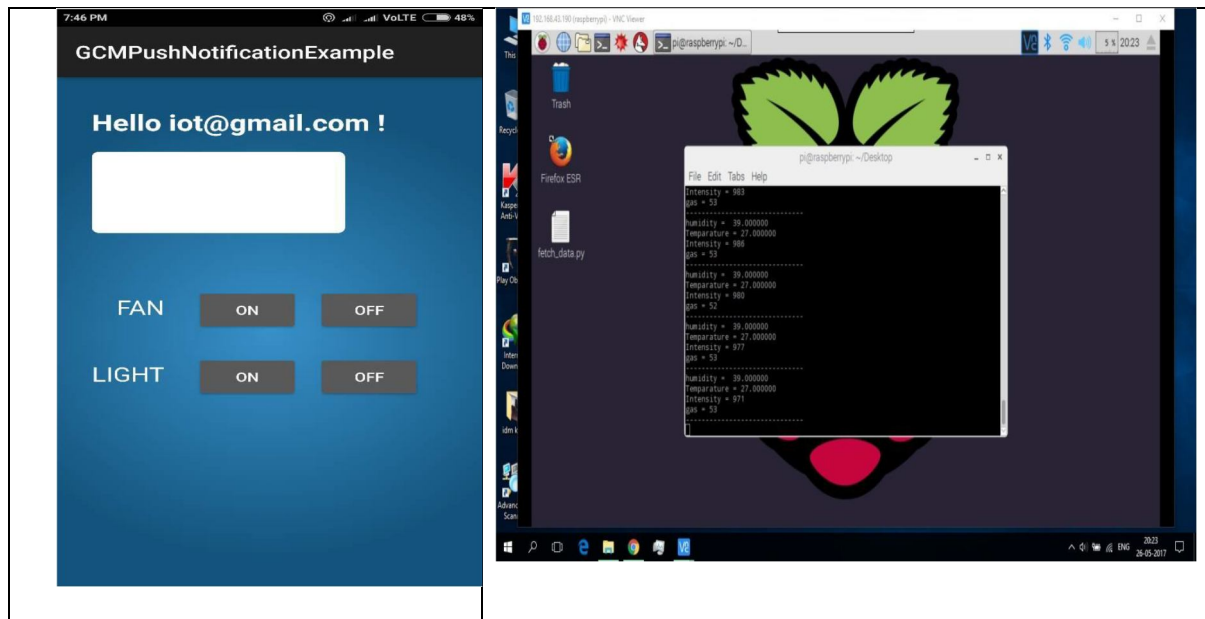
SOLAR POWERED SMART IRRIGATION SYSTEM USING INTERNET OF THINGS



The system has three hardware components: a local device to transfer signals to field devices, a web server to store field records and support services to the other components, and a mobile smart device running Android application. CRC (cyclic redundancy check) is used to detect accidental changes to raw data and achieve the nearly error-free reception. By constantly improving the control function, it allows us anytime, anywhere to control any device, and finally realizes. GCM (Google Cloud Messaging) server and Android operating system as the emerging technologies used in home automation area. This will give rise to a standard access method for the irrigation plant. The user interface should be a web application that has an associated mobile application. So that people of all kinds can access the system.

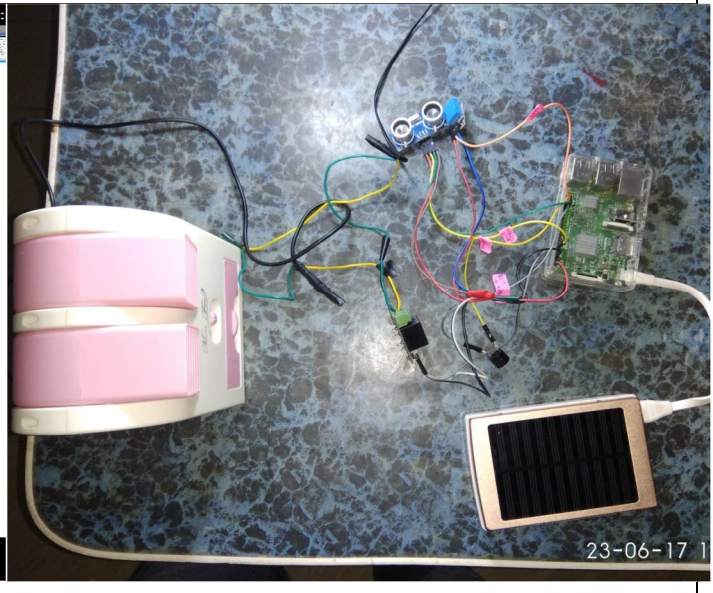
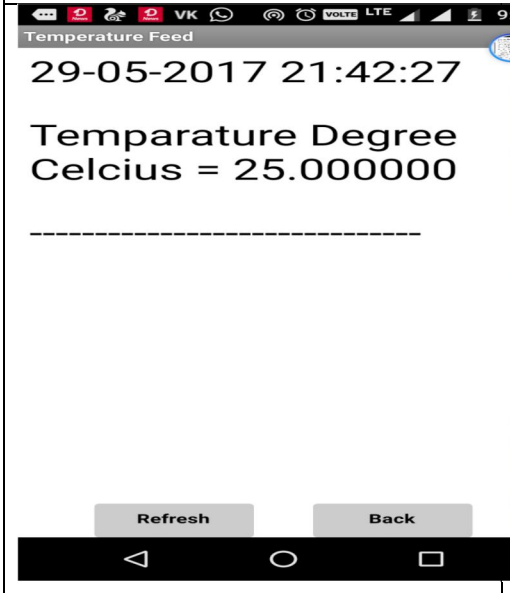
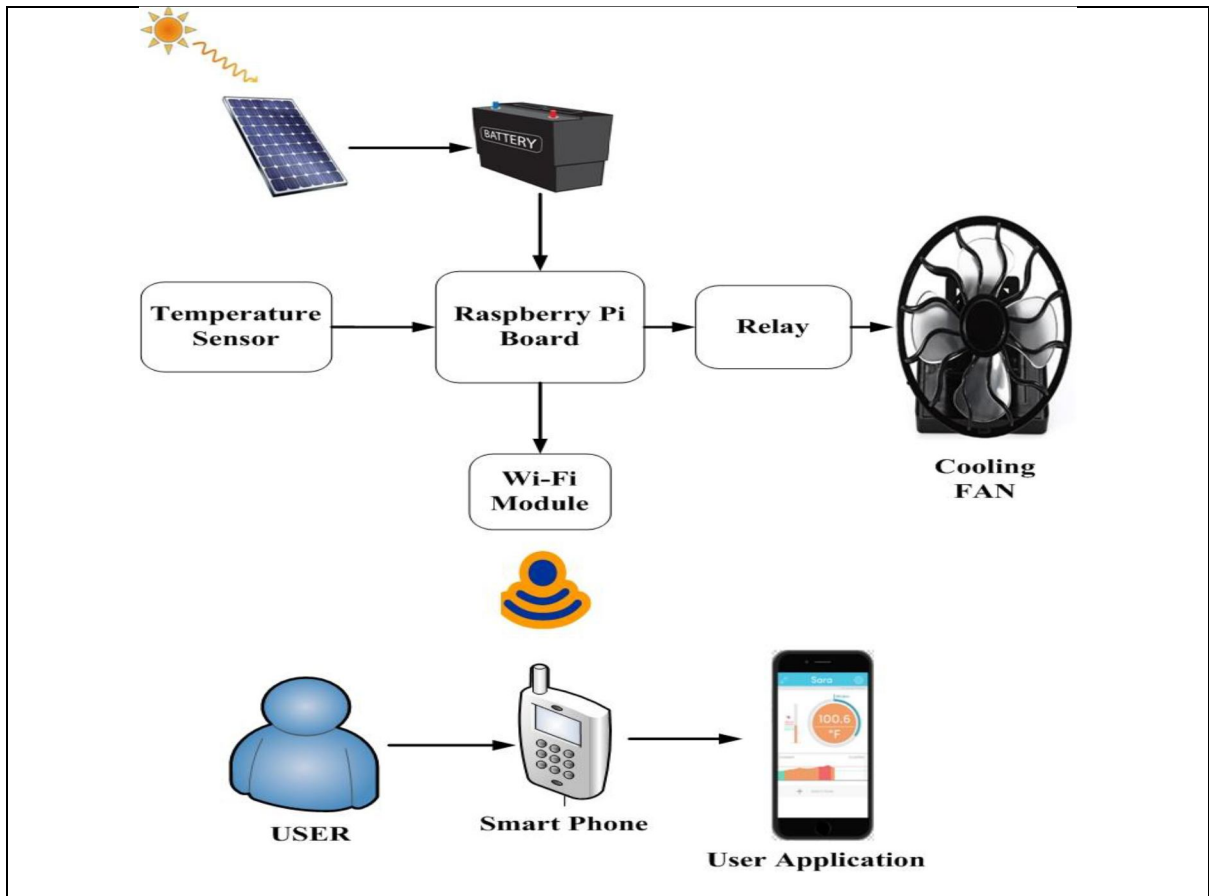
SOLAR POWERED GREEN HOUSE MONITORING SYSTEM USING INTERNET OF THINGS





The design of a simple and low cost monitoring and control greenhouse system based on an IOT. A temperature, humidity and light sensors were integrated with fan, and light to figure out the sensing and responding unit. The microcontroller arduino and raspberry pi module were utilized to be the processing and communication units respectively. The proposed technique is one of the promising solution lower installation and running costs, and increase flexibility and reliability in a greenhouse management system. Compatibility, compactness, portability and low power consumption is some of important key elements in the design of wireless system. Therefore a carefully selection of sensing devices as well as the renewable source of energy and circuitry components is also very important especially when interfaced to the microcontroller. The management scenario of the entire environment of the greenhouse has a crucial importance in utilizing the attached responding elements, where the logical relation between them should be studies firstly. In conclusion, greenhouse climate monitoring and controlling is one attractive application field to create a wireless automation system.

SOLAR POWERED COOLING SYSTEM FOR CAR INTERIOR



This project described the design and successful implementation of an idea “solar powered Cooling System for car interior.” The designed device can control the temperature of a car interior when the car is not on or running its AC. The device runs on energy generated from a solar panel mounted on the vehicle, making it self-sufficient and environmentally friendly. The application of the system is to maintain temperatures within a predetermined range inside the car for drivers to get inside a comfortable ambiance. The project members integrated concepts learned in electronic and programming courses to program a microcontroller and assemble the circuitry of the device.

The car cooling system allows to keep car cabin cool as per the requirement of user and allows to control the system through smart phone. The ultra-sonic sensor detects the obstacle that comes in the way while taking the car reverse. The car is safe from damages. The rear camera fixed enables to view the background while taking reverse so that the driver can drive easily.