COMED KARES
INNOVATION HUB

INNOVATION & DESIGN THINKING
COURSE OUTCOMES

MYSORE

MAY 2023

Innovation & Design Thinking Course

The course revolves around a hands-on approach, incorporating engaging challenges into the curriculum to make learning enjoyable in every class session. Students are encouraged to experiment with various hand tools available in the makerspace, equipping them with the confidence and skill to construct a multitude of prototypes. Throughout the program, students are inspired to unleash their creativity and envision innovative solutions to real-world problems.

Overall program Rating	4.547/5
Attendance	70%
Student Enrolled	350

Highlights of IDT @ Mysore Innovation Hub

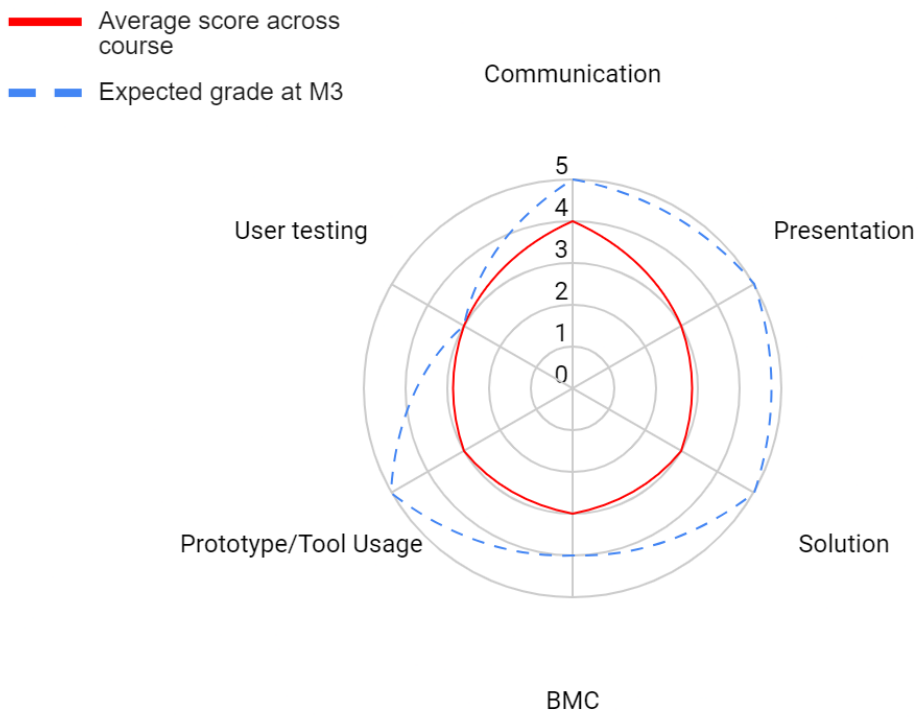
This program saw the participation of 350 students from NIE Mysuru institute. The students partook in the program for a duration of 3 months and came up with prototypes addressing various design challenges presented during the demo day at their institute..

27 prototypes built for the final design challenge solving real world problems

38.7% increase in knowledge levels and performance of students in course milestones

Post Program Findings of our Courses

Innovation & Design Thinking Courses Assessment Report of Batch 1



The batch 1 of Mysore Innovation Centre in Bangalore has resulted in a **significant increase in knowledge levels <u>as assessed in the milestones.</u>** Based on the course outcomes a total of 6 areas were assessed in program milestones where students presented their progress in the design challenge.

What our students had to say

1. *"Understood and first time built something as an engineering student"*

2. *"Even if I am from CSE branch how much the power tools are important and how to use these things were clearly taught by the faculties"*

3. *"Had a wonderful time being in Comedkares. Had a great experience and enjoyed every session. Creating the prototype was amazing!"*

4. *"This centre was truly a temple of learning and exploration of sciences."*

5. *"I have seen a great change in me and I have learnt a lot of new things. Which will 100% be a great help for my future."*

6. *"The course was very interesting and knowledgeable. I would love to join and connect again with another course."*

Final Project

Automatic supply of water to the fields

The National Institute of Engineering, Mysore (South) / I Sem /Mech- B Sec

PROBLEM STATEMENT	TEAM MEMBERS
Spending too much on labour charge, as well as current bills at the cost of access water.	S Srihari Bhatt Tejaswi B Handa Shrirang Revanth K G D Mohammed Tariq Azeez Sannidhi J S Jain.

INTRODUCTION

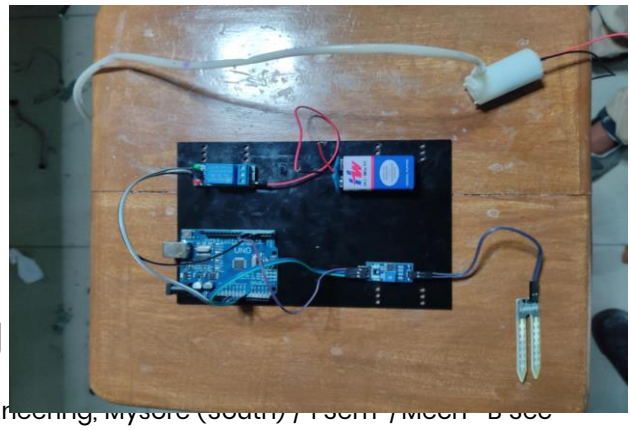
In the rainy season, plants usually do not need to be watered, while in the dry season, the plants must be watered regularly according to the soil moisture conditions. Farmers usually do not grow food plants in the dry season for fear that they will not grow well due to the absence of rainfall. The farmer's dependence on the season of rain causes the production to decline and becomes a hindrance. An information and communication technology-based agricultural device is needed to overcome this problem

The rate at which water resources are depleting is a dangerous threat hence there is a need for a smart and efficient way of irrigation. Agriculture farmers are facing major problems in watering their crops.they need to pump water and wait until the field is properly watered, which compels them to stop doing other activities.

IDEA GENERATION

Automatic supply of water to the field reduces the burden on the farmer. we have attempted to design a simple device prototype using Arduino and respective sensors with it. It helps the farmer to track humidity, moisture contents, chemicals present such as N, P, k etc. It also tracks the required to water the field, quality of water and its components, etc. These all things can be viewed and managed by a simple smartphone it saves Farmer's money and time.

PROTOTYPE IMAGES



Smart parking

The National Institute of Engineering, Mysore (South) / [illegible]

PROBLEM STATEMENT

Automatic parking system within the small area and with better auto guidance to park a vehicle.

TEAM MEMBERS

S N Aishwarya
Nandan gowda G
Sankalp S S hetti
Syed Zaki UZ Zaman
Yashas Y

INTRODUCTION

In modern society, there is an ever-increasing number of vehicles. This is leading to problems such as large urban parking lots becoming inefficient, increasing difficulty to find open

spaces in busy parking lots, as well as the increasing need to devote larger areas of land for additional parking spaces.

The long haul vehicle halts in between. And due to thefts and other determinants there is a loss of goods. Fleet owners or operators find it difficult to maintain those.

IDEA GENERATION

We gave a attempt to make smart parking app which provides you existing information about parking area notifies the customer about empty slots and allows you to have a pre booking system.

This app will help the consumer to keep eye on vehicle as well as gives a safer route navigation to the destination.

PROTOTYPE IMAGES

Smart parking system

The National Institute of Engineering, Mysore (South) / I Sem /Mech- B Sec

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PROBLEM STATEMENT

Automatic parking system within the small area and with better auto guidance to park a vehicle.

TEAM MEMBERS

Chiranth Balappa A R

Chethan C Katnavadi

Aditi Patil

Hayagreeva

Chandu N S

INTRODUCTION

In the modern society, there is an ever-increasing number of vehicles. This is leading to problems such as large urban parking lots becoming inefficient, increasing difficulty to find open spaces in busy parking lots, as well as the increasing need to devote larger areas of land for additional parking spaces.

The long haul vehicle halts in between. And due to thefts and other determinants there is a loss of goods. Fleet owners or operators find it difficult to maintain those.

IDEA GENERATION

The prototype we used here is digital prototype by using software called figma. Our app is designed in helping and solving traffic problems raised by inefficient parking system. Here app is of two parts, one for driver and other for recipient.

PROTOTYPE IMAGES

Smart rain water harvesting system

The National Institute of Engineering, Mysore (South) / I Sem /Mech- B Sec

PROBLEM STATEMENT

Increase volume of water bodies
Lessen flood and soil erosion
Prevent overuse of underground water

TEAM MEMBERS

Rishith B K
Varsha M
Shashank
Rineesh N A
Manoj HR
Dheeraj Singh

INTRODUCTION

Many parts of the world have two kinds of seasons like rainy season and dry season. During dry season, there is very little or no rain. Due to this, the water bodies like pond, rivers, etc. are dried. By using these techniques, the water bodies can be recharged, and their volume can be increased.By storing rainwater, it reduces the surface runoff. This reduces the surface erosion. By capturing rainwater in reservoirs, the flood problem in large rainfalls is also diminished.

As population of a locality increases, its demand for water increases too. To meet this, underground water is used. Due to this reason, the level of underground water is decreasing rapidly. By using rainwater, the demand on groundwater is reduced.

IDEA GENERATION

To make the collected rain water usable it must be contamination free, safe and inexpensive. For that a property constructed water filter must be used. The following filtering system maybe used such as sand gravel filter, charcoal filter and PVC pipe filter and sponge filter.

PROTOTYPE IMAGES

Auto refilling of sanitizer/hand wash liquid in despensor for both commercial and home usage

The National Institute of engineering, Mysore/ 1st SEM/ E&C - A Section

PROBLEM STATEMENT

Auto refilling of sanitizer/hand wash liquid in despensor for both commercial and home usage:
local hospitals and doctors social networking app, availability for checkups and online prescription solution

TEAM MEMBERS

Nakul.L
Amogh H
Adithya S
M.N.Varshini
Kavana T

INTRODUCTION

Many healthcare managers are working to effectively utilize social media to engage patients and consumers. Through effective marketing and communication tactics, organizations are able to move away from traditional advertising techniques, and use the internet to connect with consumers in the healthcare field. Consumers heavily rely on information found online and use the internet to gather healthcare information and connect with other patients to garner support and learn about similar conditions. Others utilize these resources for research or to share experiences with healthcare providers and other related organizations. Patients also have a tendency to seek information via social media that assists in the selection of doctors, specialists and hospitals to make informed decisions on the best practices to seek care. Individuals will use social media to post reviews or other comments that support or possibly deter others from choosing that type of healthcare in the future. It is essential for providers to be active on social media and

provide accurate information, connect with readers and implement marketing techniques where applicable.

Social media provides physicians with tools to share information, to debate health care policy and practice issues, to promote health behaviors, to engage with the public, and to educate and interact with patients, caregivers, students, and colleagues. Stay informed

IDEA GENERATION

We have designed a refill and dispenser machine using primary and secondary tanks. The secondary tank holds the sanitizer and auto refills it to the primary tank.

PROTOTYPE IMAGES

Vehicle locator with load weighing detection

The National Institute of Engineering, Mysore (South) / I Sem /Mech- A Sec

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PROBLEM STATEMENT

Applying a sensor for vehicles to locate the location is quite common, in addition to that if trucks can get the sensors where owners can get a message where did the vehicle unloaded how much weight of loads.

TEAM MEMBERS

Deeksha J
Manushitha M
Mohammed shuaib ulla
Dhanush H L
Mohammed afnan

INTRODUCTION

In modern world of logistics Vehicle locator is commonly used but still the fleet owners are unable to trace the loss of goods during transportation. Certain unpackaged goods or

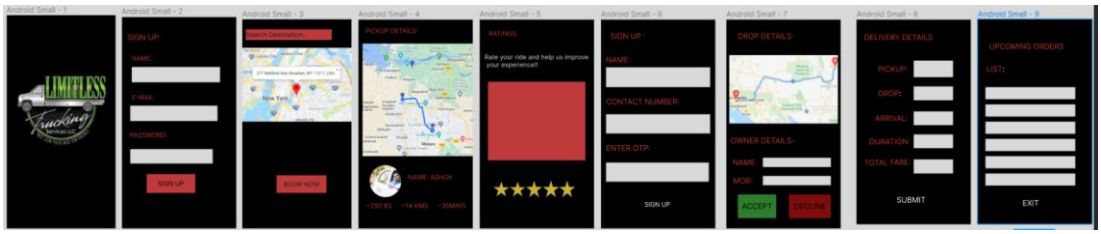
similar kind of consignments there is a loss in the weight.That affects the income of the fleet owners as well the trust issues that develops between the consignee and the transporter.

The long haul vehicle halts in between. And due to thefts and other determinants there is a loss of goods. Fleet owners or operators find it difficult to maintain those.

IDEA GENERATION

We have designed an app using figma which enables the users to locate the exact location of the truck and provides a mean for them to choose from a variety of contract.

PROTOTYPE IMAGES



Pesticide sprinkler in farm fields without using drones as they are not cost effective

The National Institute of engineering, Mysore/ 1st SEM/ E&C -A Section

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PROBLEM STATEMENT

Pesticide sprinkler in farm fields without using drones as they are not cost effective :

Sprinkler irrigation is any irrigation that uses a pressurized system to apply water in a method that mimics rainfall to the soil surface.

TEAM MEMBERS

Ksheeraj S.K
Chandrashekar A.R
Ansh vinod patil
Bhavana N Kumar
Disha L
Bhavna R

INTRODUCTION

Sprinkler irrigation is widely used because it is versatile, adaptable to almost all crops, and affordable. But it's not a perfect irrigation system. Spray irrigation is one of the most inefficient watering methods, wasting approximately 30 to 50% of the water applied through run-off and evaporation. Only flood irrigation is a more potentially inefficient method of irrigation crops, whereas systems like drip irrigation and sub-irrigation use much less water to achieve effective application rates.

Sprinkler irrigation is any irrigation that uses a pressurized system to apply water in a method that mimics rainfall to the soil surface

IDEA GENERATION

We have designed a sprinkler with the help of arduino uno, a soil moisture sensor, water pump, relay motor, and a battery, the arduino runs with the help of a code, the soil moisture sensor detects the amount of moisture present in root zone of a crop and sprinkles the required amount of pesticides.

PROTOTYPE IMAGES

Smart Rainwater Harvesting

The National Institute of engineering, Mysore/ 1st SEM/ E&C - A Section

PROBLEM STATEMENT

Smart Rainwater Harvesting:
Increase volume of water bodies
Lessen flood and soil erosion
Prevent overuse of underground water

TEAM MEMBERS

B S Pranav
Jayesh Gidwani
Nishchal PR
Kokila A G
Lankesh G

INTRODUCTION

Many parts of the world have two kinds of seasons like rainy season and dry season. During dry season, there is very little or no rain. Due to this, the water bodies like pond, rivers, etc. are dried. By using these techniques, the water bodies can be recharged, and their volume can be increased.By storing rainwater, it reduces the surface runoff. This reduces the surface erosion. By capturing rainwater in reservoirs, the flood problem in large rainfalls is also diminished

As population of a locality increases, its demand for water increases too. To meet this, underground water is used. Due to this reason, the level of underground water is decreasing rapidly. By using rainwater, the demand on groundwater is reduced.

IDEA GENERATION

We have developed a cost- effective portable natural filter which can be attached to a rooftop rainwater harvesting system pipeline system. It contains different layers of material which will filter the water at every level.

PROTOTYPE IMAGES

The Smart Cloud Cover for Solar Panels

The National Institute of engineering, Mysore/ 1st SEM/ E&C - A Section

PROBLEM STATEMENT

The smart Cloud cover for solar panels: When clouds cover the sun, light levels are reduced. Thicker cloud cover will reduce

TEAM MEMBERS

Abin R V
Anthony Lanson S
MudduKrishna.y

operations of solar	Milana G Anagha Acharya

INTRODUCTION

Clouds do affect solar panels. The amount of power your solar panels can produce is directly dependent on the level of light they receive.

In full, bright sunlight, solar panels receive maximum levels of light. During those "peak" sunlight hours, your solar panels will produce power at their maximum capacity.

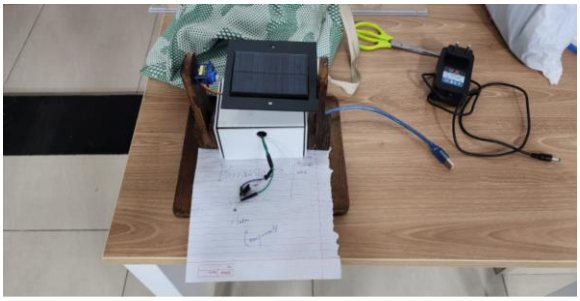
When clouds cover the sun, light levels are reduced. This does not shut down power production, however. If there is enough light to cast a shadow, in spite of the clouds, your solar panels should operate at about half of their full capacity. Thicker cloud cover will reduce operations further. Eventually, with heavy cloud cover, solar panels will produce very little useful power.

Solar panels hold a wealth of benefits, both for individuals and for the world at large. Economically, solar panels promise to lower the cost of electrical power. Environmentally, solar panels can give us cleaner power, sustainable power that will not require further damage to the environment. Solar power can reach remote areas. It can carry education, or urgently needed medical information.The effects of clouds on a solar panel, though, might diminish those and other promising benefits.

IDEA GENERATION

Made a solar tracker system using ldr sensors Arduino, motor, solar panel, etc., The solution for the respective problem statement, by our prototype was that it increase the efficiency of the solar panels by moving the solar panels to the respective position of light, during rainy days.

PROTOTYPE IMAGES



Centralised System for Waste Management

The National Institute of Engineering, Mysore (South) / I Sem ECE / A Sec

PROBLEM STATEMENT

Failure to collect garbage regularly from households can lead to unsanitary living conditions, unpleasant odours, and the spread of diseases. It can also attract pests such as rodents and insects, which can cause health hazards and damage to property.

TEAM MEMBERS

Adhrutha S M
Ayush Salecha
Manasa Mukund
Koshitha M J

INTRODUCTION

The problem of waste management typically starts with the unsustainable production and consumption patterns of individuals, businesses, and communities. As the population grows, so does the amount of waste generated. In many cases, people and businesses prioritise convenience and cost over sustainable waste management practices, which can lead to the accumulation of waste in landfills, oceans, and other environments.

Other factors that contribute to the problem of waste management include inadequate waste collection and disposal infrastructure, lack of resources to manage waste, and insufficient awareness among the general public about the importance of sustainable waste management practices.

The problem of waste management is also exacerbated by the lack of regulations and policies governing waste management practices in some countries and regions. In some cases, waste management policies and regulations may exist, but they may not be effectively enforced or may not provide adequate incentives to encourage sustainable waste management practices.

Following can be the reasons for failure of proper waste management.

Lack of infrastructure: Many countries and regions lack proper infrastructure for waste management, such as landfills, waste treatment plants, and recycling facilities. This leads to improper disposal of waste, which can harm the environment and public health.

Improper disposal: Even with proper infrastructure, improper disposal of waste is still a major issue. People often dispose of waste in unapproved areas, such as waterways, forests, and open spaces. This can cause environmental damage and pose health risks.

Insufficient funding: Waste management programs require funding for infrastructure, equipment, and staff. In many cases, the available funding is insufficient, which can lead to inadequate waste management practices.

Lack of public awareness: Many people are not aware of the importance of proper waste management or the potential harm that improper waste disposal can cause. This can lead to a lack of support for waste management initiatives and improper waste disposal practices.

Recycling challenges: While recycling is an important part of waste management, it is not always feasible due to technological limitations, lack of infrastructure, and the cost of recycling.

Illegal dumping: Illegal dumping of waste is a significant problem, particularly in urban areas. This can lead to the spread of disease, environmental damage, and unsightly neighbourhoods

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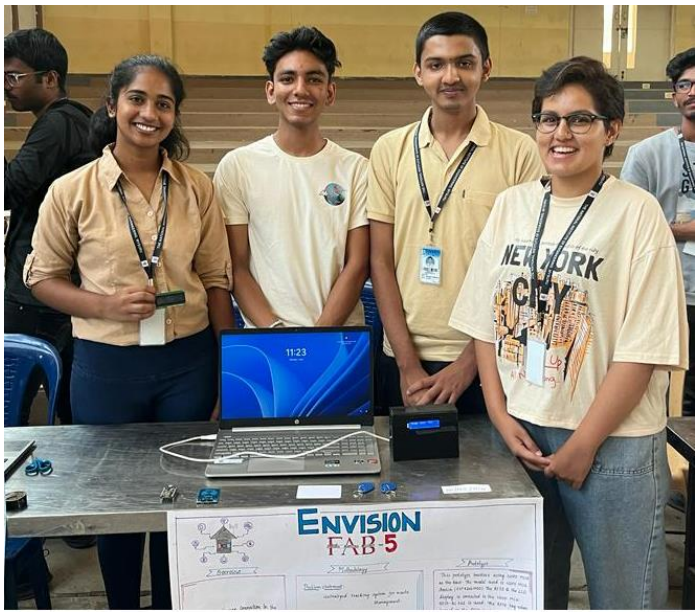

IDEA GENERATION

RFID (Radio Frequency Identification) technology and NodeMCU modules are two powerful tools that can be leveraged to automate waste management systems. By combining these

technologies, waste management companies can achieve greater efficiency, accuracy, and sustainability in their operations.

RFID technology uses radio waves to identify and track objects, enabling waste management companies to monitor the movement of waste materials throughout the waste management process. By tagging waste containers with RFID tags, waste management companies can track the location and status of each container, ensuring that waste is collected and transported to the appropriate facility for disposal or recycling.

NodeMCU modules, on the other hand, are small and low-cost microcontrollers that can connect to the internet and communicate with other devices, sensors, and systems. When integrated with RFID technology, NodeMCU modules can collect and transmit data from RFID tags to a central database, providing real-time information on the location and status of waste containers.

Together, RFID and NodeMCU modules can provide waste management companies with a range of benefits, including:

Improved tracking and monitoring: By using RFID technology and NodeMCU modules, waste management companies can track waste containers in real-time, enabling them to monitor the progress of waste management processes and make adjustments as needed.

Enhanced efficiency: By automating waste management processes, companies can reduce the time and resources needed to collect and transport waste, reducing costs and improving efficiency.

Greater accuracy: RFID technology and NodeMCU modules can provide highly accurate data on waste container location and status, reducing errors and improving the overall effectiveness of waste management operations.

Increased sustainability: By optimising waste management processes, waste management companies can reduce waste generation and improve sustainability, helping to protect the environment for future generations.

Overall, the combination of RFID technology and NodeMCU modules can help waste management companies improve efficiency, accuracy, and sustainability in their operations, leading to a cleaner, healthier, and more sustainable environment.

PROTOTYPE IMAGES

Recycling of plastic bottles and converting them into a polymer jeans

The National Institute of Engineering, Mysore (South) / I Sem ECE / A Sec

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PROBLEM STATEMENT

Plastic recycling is must and recycled jeans are more durable and fancy in the textiles industries

TEAM MEMBERS

Kruthi s gowda
Anushree B S
Lekhana N
Bheema kashyapa sharma divana
Pannaga kalkur
D.Dhanush

INTRODUCTION

Once all the plastic is melted and filtered, it goes through the spinning process. The melted plastic is turned into polyester yarns and spun together with the yarn of choice to make the plastic fabric wearable. The yarn is collected and passed on to the weaving department

It is responsible for reduction in toxins released into the air while burning waste plastic. Besides, the waste bottles dumped into the landfills are also reduced. Further, the used plastic bottles which are turned into fabrics are recyclable and they generate less pollution in the environment.

IDEA GENERATION

"They were facing problem to remove the rings below the cap while recycling as it made up of another material which is not good for recycling."so we have redesigned the cap with which we can remove the cap ring through hands.

PROTOTYPE IMAGES

The smart Cloud cover for solar panels

The National institute of engineering, Mysore/ 1st SEM/ E&C - B Section

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PROBLEM STATEMENT

Prevention of illegal cutting of woods in forests

When clouds cover the sun, light levels are reduced. Thicker cloud cover will reduce operations of solar.

TEAM MEMBERS

Skandan bharadwaj
Shaik Afridi
Rakesh M
Vaishnavi tarun shekar Patil
Tanzeela mehwish mohammed

INTRODUCTION

Clouds do affect solar panels. The amount of power your solar panels can produce is directly dependent on the level of light they receive.

In full, bright sunlight, solar panels receive maximum levels of light. During those "peak" sunlight hours, your solar panels will produce power at their maximum capacity.

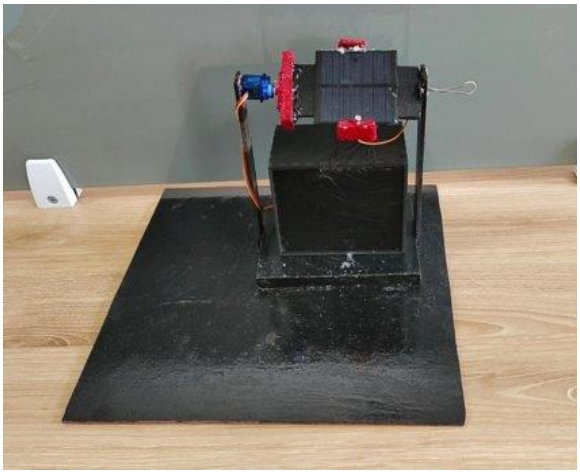
When clouds cover the sun, light levels are reduced. This does not shut down power production, however. If there is enough light to cast a shadow, in spite of the clouds, your solar panels should operate at about half of their full capacity. Thicker cloud cover will reduce operations further. Eventually, with heavy cloud cover, solar panels will produce very little useful power.

Solar panels hold a wealth of benefits, both for individuals and for the world at large. Economically, solar panels promise to lower the cost of electrical power. Environmentally, solar panels can give us cleaner power, sustainable power that will not require further damage to the environment. Solar power can reach remote areas. It can carry education, or urgently needed medical information.The effects of clouds on a solar panel, though, might diminish those and other promising benefits.

IDEA GENERATION

A solar tracker which tracks the movement of sun from east to west. The main goal of our project is to maximize the use of solar panels by making it tilt to the direction of light. During cloudy days solar light intensity will be very less , so we utilize LDR in order to track where the intensity of sunlight is more and tilt the solar panel towards it.

PROTOTYPE IMAGES



Automatic water supply to the field

The National institute of engineering, Mysore/ 1st SEM/ E&C - B Section

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PROBLEM STATEMENT

Automatic water supply to the field. spending too much on labour charges, as well as current bills at the cost of access water.

TEAM MEMBERS

Sara Iram N
Shayan Kumar Shetty
Shamithgowda BT
Spurthi B
V Vishruth
Srujan N S
Sandeep J

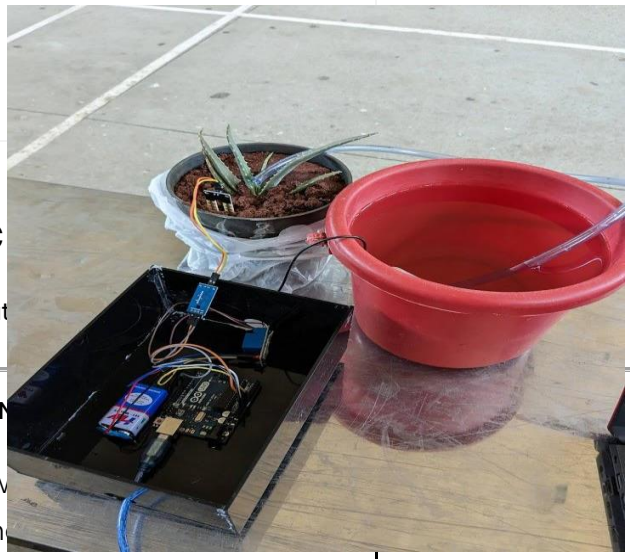
INTRODUCTION

In the rainy season, plants usually do not need to be watered, while in the dry season, the plants must be watered regularly according to the soil moisture conditions. Farmers usually do not grow food plants in the dry season for fear that they will not grow well due to the absence of rainfall. The farmer's dependence on the season of rain causes the production to decline and becomes a hindrance. An information and communication technology-based agricultural device is needed to overcome this problem

IDEA GENERATION

An irrigation system in which a soil moisture sensor is used to check the moisture in the soil and water itself according to the moisture present in the soil.Hence improving the usage of water and not letting the plant die due to shortage of water or due to excess of water.

PROTOTYPE IMAGES



Clean tec

The National institut

PROBLEM STATEMEN

How to get hot w
through solar en
conversion)

Amalkar
Shesha Krishna S
S H Nihar
Sumukha Bharadwaj T D
Sumukh M Budhya

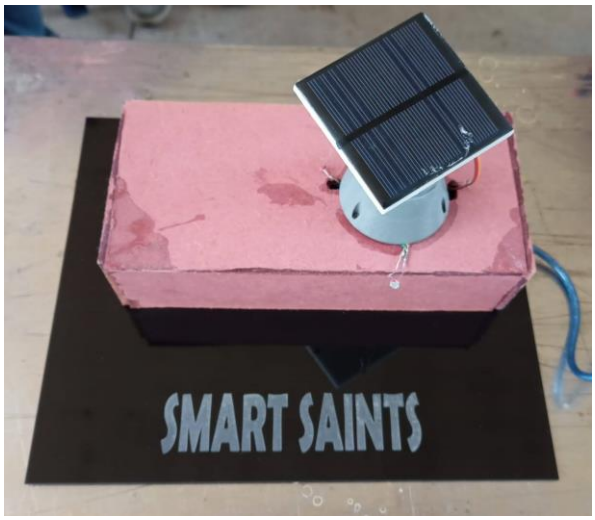
INTRODUCTION

The system, therefore, should be either connected to an electric geyser in the house or an electrical back-up should be provided in the storage tank of the system which is switched on when water is not sufficiently hot. So, you get hot water all the time even on rainy days

One of the biggest benefits of a solar water heater is its dependence on the sun's rays to heat water. Solar energy, as we know, is a clean and renewable source of energy. This cancels out the need for electricity that is sourced from natural gas or fossil fuels.A solar water heater cannot be used to get hot water on a cloudy day as there is no Sun which is necessary for the working of solar water heater.

IDEA GENERATION:

A dual axis solar tracker which can follow sun's movement in both north-south and east-west direction maximising the amount of sunlight falling increasing the efficiency and output.RESULT: The team created a working prototype of a solar tracker.The outer body of the prototype was designed by 3D printer whereas the base was cut and engraved using laser cutting machine. The solar panel was connected to arduino. Servo motors and LDR sensors were connected to the arduino.The moment light is made to fall on the LDR sensors,the servo motors will move the solar panel in that direction.



PROTOTYPE IMAGES

Pesticide sprinkler in farm fields without using drones as they are not cost effective.

The National institute of engineering, Mysore/ 1st SEM/ E&C - B Section

PROBLEM STATEMENT

Pesticide sprinkler in farm fields without using drones as they are not cost effective.

TEAM MEMBERS

Roith J
Shreyas B Balagavi
Vinayaka N C
Sinchana Hegde
Shivani Singh S A
Varshini R Naik
Srinivas D

INTRODUCTION

Sprinkler irrigation is any irrigation that uses a pressurised system to apply water in a method that mimics rainfall to the soil surface.

Sprinkler irrigation is any irrigation that uses a pressurised system to apply water in a method that mimics rainfall to the soil surface.

Sprinkler irrigation is widely used because it is versatile, adaptable to almost all crops, and affordable. But it's not a perfect irrigation system. Spray irrigation is one of the most inefficient watering methods, wasting approximately 30 to 50% of the water applied through run-off and evaporation. Only flood irrigation is a more potentially inefficient method of irrigation crops, whereas systems like drip irrigation and sub-irrigation use much less water to achieve effective application rates.

IDEA GENERATION IDEA:

A pesticide sprinkler setup which is made up of recyclable things which helps farmers to sprinkle farmland at low budget and efficiently compared to drones.

PROTOTYPE IMAGES

Peak hour traffic management.

The National institute of engineering, Mysore/ 1st SEM/ E&C - B Section

PROBLEM STATEMENT	TEAM MEMBERS
Peak hour traffic management.	Rashmi S Sreelakshmi Nair Shreya S Sarvesh Joshi S.Prasidhvel

INTRODUCTION

traffic can be analysed based on the peak hours of the days, hence while suggesting or redirecting the heavy vehicles during such hours with map intimation or signal time implementation can reduce the traffic inside the city.

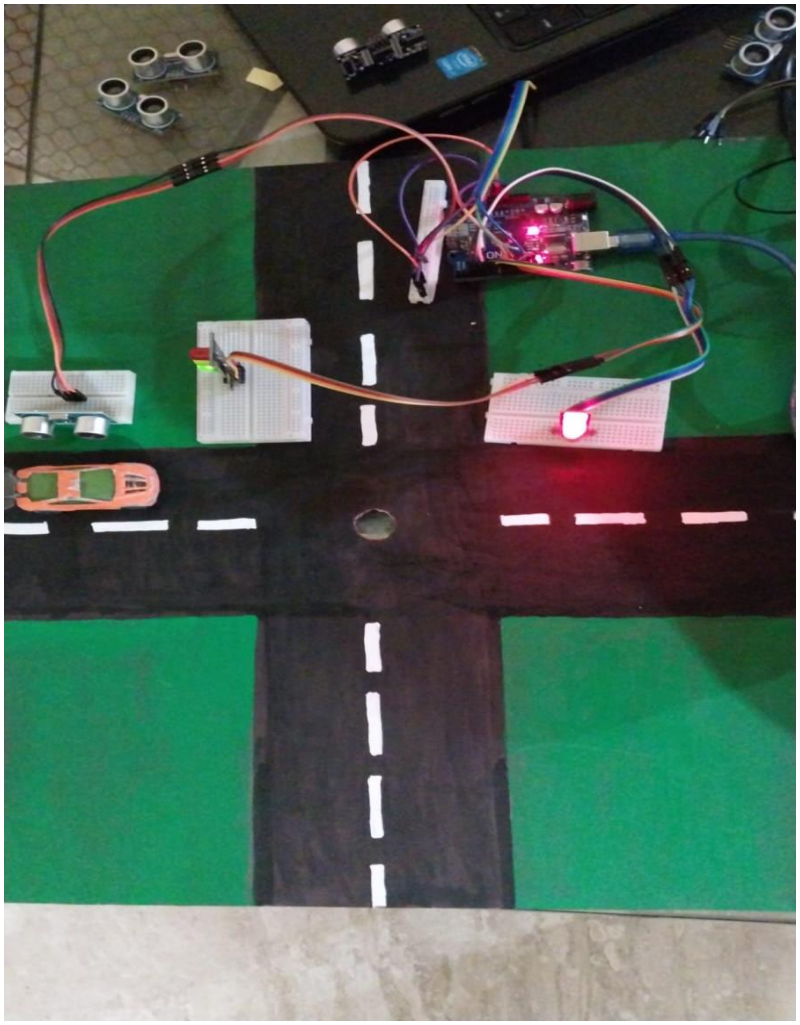
Modern world challenges need modern solutions. Traffic is one of the common problems arising not only in the major metropolitan cities but also in rural areas with good network connectivity. Need to know basis traffic updates would help the long haul vehicles to take different routes to reach the destination in less time and traffic for locals would be reduced As part of development projects and growing the nation the network of roads has been improving but still arising of the number of vehicles being an major issue and controlling traffic is the real time challenges as traffic increases the travelling time for shorter distances also. Long haul vehicles will face immense challenges to cover up for the lost time in traffic and due to which overspeeding and the other factors influence the accidents and many more.

IDEA GENERATION

We developed a system using an ultrasonic sensor, arduino and IR sensor which helps to indicate whether the parking lot is filled or not. If it is full, then at the entrance only, there will

be the indication which helps the driver to plan for an alternative option which not only saves his time but also manages the traffic.

PROTOTYPE **IMAGES**



Smart cloud cover for solar panels

The National institute of engineering, Mysore/ 1st SEM/ E&C - B Section

PROBLEM STATEMENT	TEAM MEMBERS
Smart cloud cover for solar panels	Pranav Sharma Vishakh J K Tarini V G Shreya B Patil Sanjana Raghunath

INTRODUCTION

When clouds cover the sun, light levels are reduced. Thicker cloud cover will reduce operations of solar.

Clouds do affect solar panels. The amount of power your solar panels can produce is directly dependent on the level of light they receive.

In full, bright sunlight, solar panels receive maximum levels of light. During those "peak" sunlight hours, your solar panels will produce power at their maximum capacity.

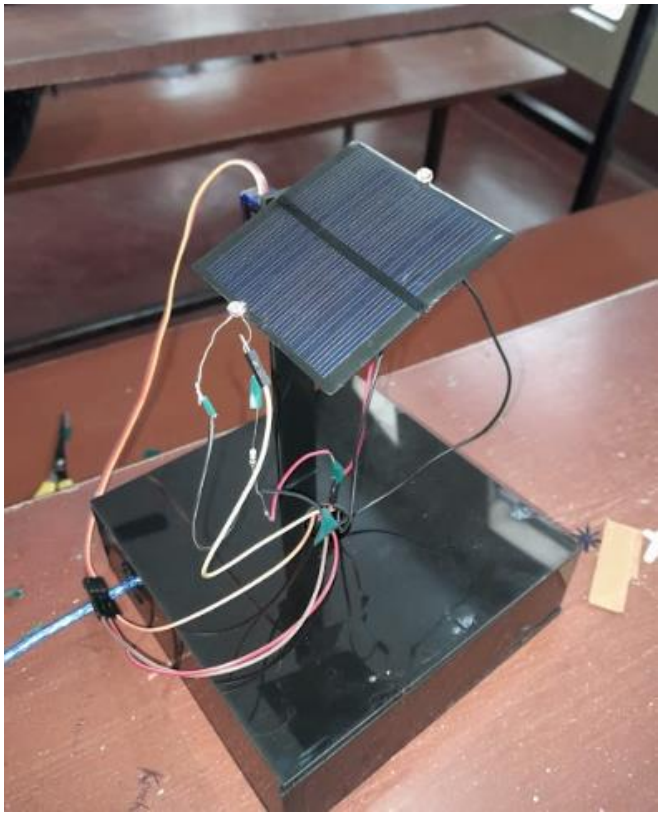
When clouds cover the sun, light levels are reduced. This does not shut down power production, however. If there is enough light to cast a shadow, in spite of the clouds, your solar panels should operate at about half of their full capacity. Thicker cloud cover will reduce operations further. Eventually, with heavy cloud cover, solar panels will produce very little useful power.

Solar panels hold a wealth of benefits, both for individuals and for the world at large. Economically, solar panels promise to lower the cost of electrical power. Environmentally, solar panels can give us clean power, sustainable power that will not require further damage to the environment. Solar power can reach remote areas. It can carry education, or urgently needed medical information.The effects of clouds on a solar panel, though, might diminish those and other promising benefits.

IDEA GENERATION

A solar tracker which tracks the movement of the sun from east to west. The main goal of our project is to maximise the use of solar panels by making it tilt to the direction of light. During cloudy days solar light intensity will be very less , so we utilise LDR in order to track where the intensity of sunlight is more and tilt the solar panel towards it.

PROTOTYPE IMAGES



Social networking app for healthcare professionals

The National Institute of Engineering, Mysore (South) / I Sem /Mech- A Sec

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PROBLEM STATEMENT

TEAM MEMBERS

Johnson Mendonca
Likitha N

local hospitals and doctors social networking app, availability for checkups and online prescription solution	Anthoniraj Akash S Chethan K Mahanthesh A S

INTRODUCTION

Many healthcare managers are working to effectively utilize social media to engage patients and consumers. Through effective marketing and communication tactics, organizations are able to move away from traditional advertising techniques, and use the internet to connect with consumers in the healthcare field. Consumers heavily rely on information found online and use the internet to gather healthcare information and connect with other patients to garner support and learn about similar conditions. Others utilize these resources for research or to share experiences with healthcare providers and other related organizations. Patients also have a tendency to seek information via social media that assists in the selection of doctors, specialists and hospitals to make informed decisions on the best practices to seek care. Individuals will use social media to post reviews or other comments that support or possibly deter others from choosing that type of healthcare in the future. It is essential for providers to be active on social media and provide accurate information, connect with readers and implement marketing techniques where applicable.

Social media provides physicians with tools to share information, to debate health care policy and practice issues, to promote health behaviors, to engage with the public, and to educate and interact with patients, caregivers, students, and colleagues. Stay informed

IDEA GENERATION

We have designed an app using figma through which we can get the solution for many health issues. We can also get the tablets through a nearby medical store through online

transactions. This app will help those who are alone at home and find some sudden health issues. This app also gives suggestions for the user to consult the famous specialists nearby.

PROTOTYPE IMAGES

Spoilage of commodities due to heat shock

The National Institute of Engineering, Mysore (South) / I Sem /Mech- A Sec

PROBLEM STATEMENT

Food spoilage is a metabolic process that causes foods to be undesirable or unacceptable for human consumption due to changes in sensory characteristics caused by heat shock.

TEAM MEMBERS

K Chandrakanth
Aryan Kaila
Avin Lobo
Chethan kumar H S
Harshith J
Sarvottam S Kamatagi

INTRODUCTION

Food spoilage is a metabolic process that causes foods to be undesirable or unacceptable for human consumption due to changes in sensory characteristics. Spoiled foods may be safe to eat, i.e. they may not cause illness because there are no pathogens or toxins present, but changes in texture, smell, taste, or appearance cause them to be rejected.

Food loss, from farm to fork, causes considerable environmental and economic effects. Some of this food would have been considered still edible but was discarded because it was perishable, past its sell-by date, or in excess of needs. There are also environmental and resource costs associated with food spoilage and loss. If 20% of a crop is lost, then 20% of the fertiliser and irrigation water used to grow that crop was also lost

IDEA GENERATION

We have designed a prototype that contains a DHT11 sensor which measures the temperature and also the humidity of the cold storage and displays it in the OLED screen. If the temperature crosses beyond the limit, then the buzzer will be turned on to alert the people working there, so that they can set the temperature. In future we can also use wifi modules with the help of which the temperature and humidity readings can be sent to the owner as well.

PROTOTYPE IMAGES

Solar street lights auto detection of power consumption

The National Institute of Engineering, Mysore (South) / I Sem /Mech- A Sec

PROBLEM STATEMENT

The amount of power consumed by street lights in a year is ⅙ of the global energy produced. Most of this energy is wasted in unnecessary illumination - that is, street lights stay ON even in the absence of people or vehicles.

TEAM MEMBERS

Lohith R
K K Akash
Chaman
Bandhavya B
Jayachand R
Chelshi k.n

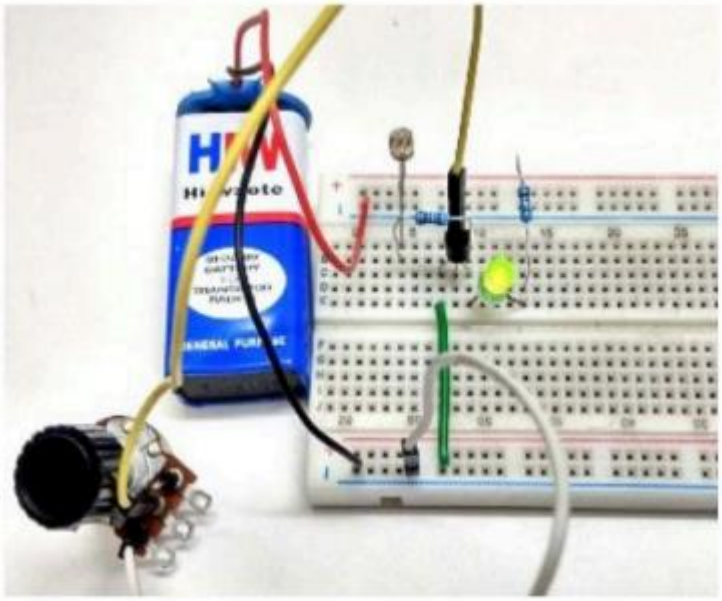
INTRODUCTION

The rise in industrialization and technological developments has led to a simultaneous rise in environmental threats and energy depletion. Therefore, it is high time channelled for the evolution of technology towards developing devices that are energy-efficient and environment-friendly. In any developed or developing country, one of the major areas of power wastage is public lighting. The amount of power consumed by street lights in a year is ⅛ of the global energy produced. Most of this energy is wasted in unnecessary illumination - that is, street lights stay ON even in the absence of people or vehicles.This is a depletion of energy and capital. Therefore, it is inevitable for the government to implement an automated street lighting system that enables efficient power consumption. An energy-efficient power generating system is implemented in this proposed model that automates street lights based on traffic density. Traffic density is a measure of the number of vehicles thatpass a particular area over a period of time. Based on this
information, this paper proposes a smart upgrade to the street lighting system.

IDEA GENERATION

We have designed a circuit with the help of LDR, which turns on the bulb only when it is dark, thereby saving energy.

PROTOTYPE IMAGES



Smart Rainwater Harvesting System

The National Institute of Engineering, Mysore/ 1ST SEM/ E&E - A Section

PROBLEM STATEMENT

To increase the volume of water bodies and prevent overuse of underground water.

TEAM MEMBERS

Ashwini A
Unnathi M N
Sunil M L
Shreyas D K
Adithi K
Shreya M Swamy

INTRODUCTION

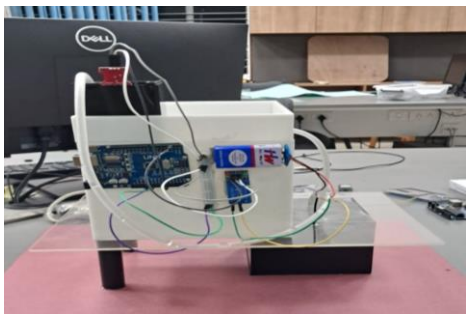
Many parts of the world have two kinds of seasons like rainy season and dry season. During the dry season, there is very little or no rain. Due to this, the water bodies like ponds, rivers, etc. are dried. By using these techniques, the water bodies can be recharged, and their volume can be increased.By storing rainwater, it reduces the surface runoff. This reduces the surface erosion. By capturing rainwater in reservoirs, the flood problem in large rainfalls is also diminished.

As the population of a locality increases, its demand for water increases too. To meet this, underground water is used. Due to this reason, the level of underground water is decreasing rapidly. By using rainwater, the demand on groundwater is reduced.

IDEA GENERATION

As soon as the tank is filled, in order to close the inlet, we have used a water level sensor which is coded along with the arduino uno. This can be implemented not only in overhead tanks but also it is used to close the inlet of the ground tank which is used as a storage for rain water. Instead of wasting the rain water, it can be stored and used for household works. But once the tank is filled during the rainy season, we don't want the rain water to overflow from the tank, so we have implemented this idea.

PROTOTYPE IMAGES



Contactless Delivery System

The National Institute of Engineering, Mysore/ 1ST SEM/ E&E - A Section

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PROBLEM STATEMENT

TEAM MEMBERS

Ananya B V
Sindhu K S

The COVID-19 pandemic has fostered people to re-evaluate their primacies very quickly and has forced them to adapt to the constraints. Expand and develop a contactless home delivery system that can play a vital role in ensuring a smooth-running lifestyle even within the houses.

Smitha S J
Shreyas D K
Krishna S Bharadwaj
Bharat k kallurkar

INTRODUCTION

The current pandemic has changed everything overnight across the world. Most of the developed and under-developed countries have been affected. Businesses providing essential goods and services are struggling to serve the communities. They have to change their approaches to serve customers.already on the rise right now. That's a distinctive service delivery approach – contactless delivery.

For many sectors, such as healthcare, transportation, hotels, and hospitality, eCommerce, it has become difficult to survive. They are facing enormous challenges amid the crisis. Most of the companies have to shut down temporarily, while some are trying to stay afloat. Likely, they are finding new ways to operate even during uncertain times. They are staying in touch with their customers through accelerating digital resources.

IDEA GENERATION

We came up with a mobile app using an open source software called Figma. We have prepared 9 frames and we are using drones for delivering. Through this app, customers can book the slot and get the best use of it.

PROTOTYPE IMAGES

Recycling Of Plastic Bottles Into A Polymer Jeans

The National Institute of Engineering, Mysore/ 1ST SEM/ E&E - A Section

PROBLEM STATEMENT

Plastic waste has become a major problem in waste management. How these plastic waste could be recycled for fancy/ durable re-usage.

TEAM MEMBERS

Akshay SP
Netralakshmi Gogi
Mohammed Faisal
Priyanka T Karimudakannavar

INTRODUCTION

Once all the plastic is melted and filtered, it goes through the spinning process. The melted plastic is turned into polyester yarns and spun together with the yarn of choice to make the plastic fabric wearable. The yarn is collected and passed on to the weaving department. It is responsible for reduction in toxins released into the air while burning waste plastic. Besides, the waste bottles dumped into the landfills are also reduced. Further, the used plastic bottles which are turned into fabrics are recyclable and they generate less pollution in the environment.

IDEA GENERATION

In order to remove the label in the bottle, first we need to immerse the bottle in the solution which helps in loosening the glue of the bottle, then with the help of the revolving cutter, the label will be cut and removed from the bottle.

PROTOTYPE IMAGES

Reduction in Street Light Power Consumption

The National Institute of Engineering, Mysore/ 1ST SEM/ E&E - A Section

PROBLEM STATEMENT

The amount of power consumed by street lights in a year is ⅙ of the global energy produced. Most of this energy is wasted in unnecessary illumination - that is, street lights stay ON even in the absence of people or vehicles.

TEAM MEMBERS

Chandana N R
Anagha U
Pallavi M R
Kruthik bhushan H N
Manoj CN

INTRODUCTION

In any developed or developing country, one of the major areas of power wastage is public lighting. The amount of power consumed by street lights in a year is ⅙ of the global energy produced. Most of this energy is wasted in unnecessary illumination - that is, street lights stay ON even in the absence of people or vehicles.This is a depletion of energy and capital. Therefore, it is inevitable for the government to implement an automated street lighting system that enables efficient power consumption. An energy-efficient power generating system is implemented in this proposed model that automates street lights based on traffic density. Traffic density is a measure of the number of vehicles that pass a particular area over a period of time. Based on this information, we propose a smart upgrade to the street lighting system.

IDEA GENERATION

The street lights will be turned on or off with the help of LDR, which depends on the sunlight. Later in order to save the power, we have used the ultrasonic sensor which helps in increasing the intensity of the street lights only when the vehicles are passing through, rest of the time, street lights will be on with very low intensity thereby saving the power. We have coded the program using arduino.

PROTOTYPE IMAGES

Centralised System for Waste Management

The National Institute of Engineering, Mysore (South) / I Sem ECE / A Sec

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PROBLEM STATEMENT

TEAM MEMBERS

Failure to collect garbage regularly from households can lead to unsanitary living conditions, unpleasant odours, and the spread of diseases. It can also attract pests such as rodents and insects, which can cause health hazards and damage to property.

Adhrutha S M
Ayush Salecha
Manasa Mukund
Koshitha M J

INTRODUCTION

The problem of waste management typically starts with the unsustainable production and consumption patterns of individuals, businesses, and communities. As the population grows, so does the amount of waste generated. In many cases, people and businesses prioritise convenience and cost over sustainable waste management practices, which can lead to the accumulation of waste in landfills, oceans, and other environments.

Other factors that contribute to the problem of waste management include inadequate waste collection and disposal infrastructure, lack of resources to manage waste, and insufficient awareness among the general public about the importance of sustainable waste management practices.

The problem of waste management is also exacerbated by the lack of regulations and policies governing waste management practices in some countries and regions. In some cases, waste management policies and regulations may exist, but they may not be effectively enforced or may not provide adequate incentives to encourage sustainable waste management practices.

Following can be the reasons for failure of proper waste management.

Lack of infrastructure: Many countries and regions lack proper infrastructure for waste management, such as landfills, waste treatment plants, and recycling facilities. This leads to improper disposal of waste, which can harm the environment and public health.

Improper disposal: Even with proper infrastructure, improper disposal of waste is still a major issue. People often dispose of waste in unapproved areas, such as waterways, forests, and open spaces. This can cause environmental damage and pose health risks.

Insufficient funding: Waste management programs require funding for infrastructure, equipment, and staff. In many cases, the available funding is insufficient, which can lead to inadequate waste management practices.

Lack of public awareness: Many people are not aware of the importance of proper waste management or the potential harm that improper waste disposal can cause. This can lead to a lack of support for waste management initiatives and improper waste disposal practices.

Recycling challenges: While recycling is an important part of waste management, it is not always feasible due to technological limitations, lack of infrastructure, and the cost of recycling.

Illegal dumping: Illegal dumping of waste is a significant problem, particularly in urban areas. This can lead to the spread of disease, environmental damage, and unsightly neighbourhoods

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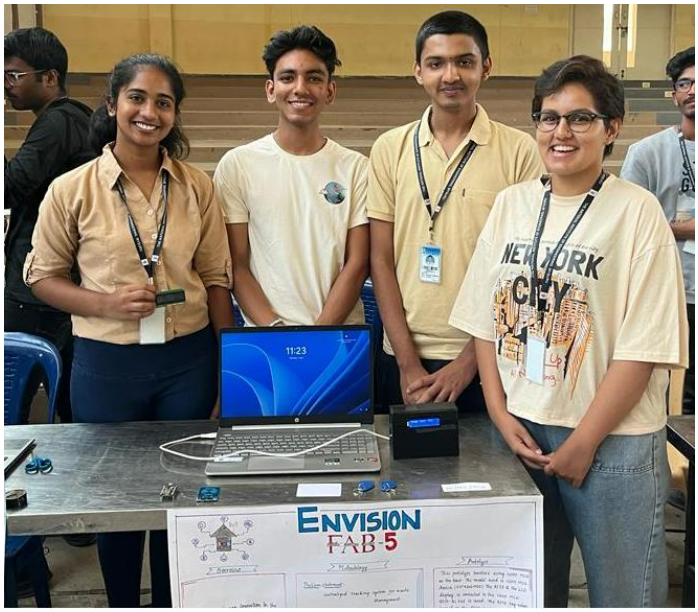

IDEA GENERATION

RFID (Radio Frequency Identification) technology and NodeMCU modules are two powerful tools that can be leveraged to automate waste management systems. By combining these technologies, waste management companies can achieve greater efficiency, accuracy, and sustainability in their operations.

RFID technology uses radio waves to identify and track objects, enabling waste management companies to monitor the movement of waste materials throughout the waste management process. By tagging waste containers with RFID tags, waste

management companies can track the location and status of each container, ensuring that waste is collected and transported to the appropriate facility for disposal or recycling.

NodeMCU modules, on the other hand, are small and low-cost microcontrollers that can connect to the internet and communicate with other devices, sensors, and systems. When integrated with RFID technology, NodeMCU modules can collect and transmit data from RFID tags to a central database, providing real-time information on the location and status of waste containers.

Together, RFID and NodeMCU modules can provide waste management companies with a range of benefits, including:

Improved tracking and monitoring: By using RFID technology and NodeMCU modules, waste management companies can track waste containers in real-time, enabling them to monitor the progress of waste management processes and make adjustments as needed.

Enhanced efficiency: By automating waste management processes, companies can reduce the time and resources needed to collect and transport waste, reducing costs and improving efficiency.

Greater accuracy: RFID technology and NodeMCU modules can provide highly accurate data on waste container location and status, reducing errors and improving the overall effectiveness of waste management operations.

Increased sustainability: By optimising waste management processes, waste management companies can reduce waste generation and improve sustainability, helping to protect the environment for future generations.

Overall, the combination of RFID technology and NodeMCU modules can help waste management companies improve efficiency, accuracy, and sustainability in their operations, leading to a cleaner, healthier, and more sustainable environment.

PROTOTYPE IMAGES