

Manufacturing Of Enzyme From Heaps Of Garbage and Distributing System

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Abstract: In the recent decades, Urbanization has increased tremendously. At the same phase there is an increase in waste production. Waste management has been a crucial issue to be considered.

In this project we are going to manufacture the “enzyme” from the heaps of garbage from every colony in the village. Enzyme is good fertilizer as well as pesticide for the farm. But for producing the enzyme we required garbage except plastic therefore we are going to design the project “**Manufacturing Of Enzyme From Heaps Of Garbage And Distribution System**”.

In this project there are three main systems,

1. Locker system and weight measurement system
2. Make record about every person who had pour the garbage in dustbin
3. Make enzyme from the garbage and distribute it
 1. **Keywords:** Grampanchayat cleaning of house and village.
 2. To help farmer for the generation of organic fertilizer and pesticide.
 3. Revenue generation to grampanchayat.

1. **INTRODUCTION:**This system has taken initiate by implementing the new idea of as waste management operation all over the world attempt to become more cleaner and greener. The main purpose for adopting these technologies is for processing the waste in addition to the system for waste collection and decentralization of its processing.

Now day’s generation of waste is increasing due to rapid growth of population and industries in urban areas and the biggest problem to authorities is collection of wastage from different location that is houses, public places and industries. Due to lack of proper information an amount of 85% of the total municipal solid waste budget is spent on waste collection and transportation to tackle this problem we need an intelligence to monitor waste and gives the complete information to authorities by this they can easily solve the waste management problem with well organized manner.

2. Literature Survey

[1] **IoT based Waste Management: An Application to Smart City International Conference on Energy, Communication, Data Analytics and Soft Computing (ICECDS-2017) Prof. B.S.MalapurVaniR.Pattanshetti (PG) Emerging** Technologies of IoT are transforming slowly with Cities administration. As cities will generate waste at an alarming rate which needs collection of waste in smarter way, this collection of waste must be within time and trip planning should be done in real time, based on the status of waste. In this paper, proposed IoT technologies with management of waste and trip management in cities is done, so that cost and time are reduced with optimized path for waste collection .

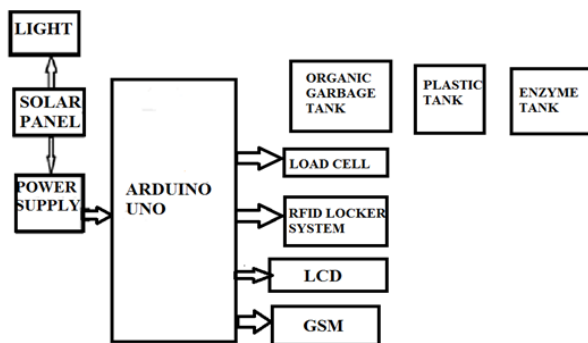
[2] Smart Waste Management using Internet-of-Things GopalKirshna Shyam,

Sunilkumar S. Manvi to make the cities greener, safer, and more efficient, Internet of Things (IoT) can play an important role. Improvement in safety and quality of life can be achieved by connecting devices, vehicles and infrastructure all around in a city. Best technological solutions can be achieved in smart cities by making different stakeholders to work together. System integrators, network operators and technology providers have a role to play in working with governments to enable smart solutions. We present a waste collection management solution based on providing intelligence to waste bins, using an IoT prototype with sensors. It can read, collect, and transmit huge volume of data over the Internet. Simulations for several cases are carried out to investigate the benefits of such system over a traditional system .

3. Methodology of implementation and tool used

In this project methodology model takes the fundamental process activities of Project Plan, specification, Analysis, Design, development, validation and evolution and represents them as separate process phases. Due to Specific system models, system architecture and detailed design of the project, to implementation process. In “**Manufacturing Of Enzyme From Heaps Of Garbage And Distribution System**” hardware consist of solar panel, Arduino uno, RFID locker system, load cell, LCD display, GSM modem, dustbin tanks and lamp. In this project solar panel gives supply and Arduino control hole system. RFID locker system gives to authorities to people to collect garbage in the dustbin and load cell calculate the weight of garbage collected by people and save in memory. GSM modem gives the message about the collection of garbage. When garbage is collected in dustbin then we get garbage in enzyme tank and store it in tank for 90 days and after 90 days we get enzyme it is used for every crop as booster it increase the product quality of plants increase the quality of fruits.

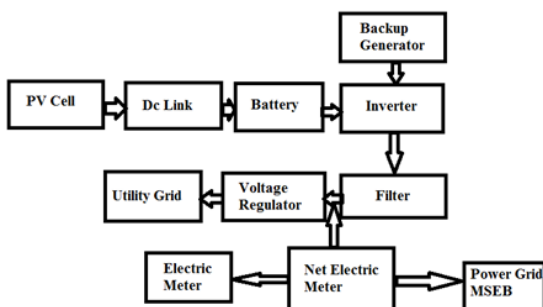
4. Block Diagram of system and Description:



4.1Fig. Block Diagram of system and Description

4.1 Power Supply

Solar power plant also called as solar energy system convert sunlight into DC or AC electricity using array of solar photovoltaic panels. Here is complete detail, area requirement, working, technical specification, Government subsidy, net metering system and cost of the all type of on-grid, off grid, grid tied solar power plants and solar rooftop system.



4.2 Fig.block diagram of solar panel

Types of solar power plants

- 1) Off grid solar power plants
- 2) On grid solar power plants
- 3) Hybrid solar power plants

1. off grid solar power plants:-

Off grid is a battery based solar power plant will supply electricity from solar panels. In the day time solar will run the connected load and balanced energy storage in the form of a battery bank through solar inverter to provide a buffer and control flexibility to allow optimum used of the renewable energy source without jeopardizing the robustness and quality of power delivered to the customer.

2. On grid solar power plants:-

The grid connect inverter converts the DC electricity produced by the solar panels into 240 V AC electricity, which can then used by the property/ household. If a grid connects system is producing more power than is being consumed, the surplus is fed into the mains power grid to government. Government will adjust the same in your next electricity bill or pay you for the same.

3.Hybrid solar power plant

When choosing a solar system for your home, institute, business or industry, mostly choose either an ON Grid and Off Grid solar system a Grid connected system with the ability to feed surplus electricity to the government Grid including extra peace of mind of a battery backup. It means that even during a power-cut your system will work you still have electricity.

4.2 Controller:

Arduino is a microcontroller based open source electronic prototyping board which can be programmed with an easy to use Arduino IDE.

Arduino consists of both physical programmable circuit board and a piece of software. The arduino IDE uses a simplified version of c++ making it easier to learn.

The uno is one of the more powerful board in the arduino family.

The major components of the arduino uno board are

- 1) USB Connector
- 2) Power port
- 3) Microcontroller
- 4) Analog input pins
- 5) Digital pins
- 6) Reset switch
- 7) Crystal oscillator
- 8) USB Interface chip
- 9) TX RX LED'S

The operating voltage of the microcontroller is 5V. There are 14 digital input/output pins out of which 6 can be used for pulse width modulation. Pulse width modulation can be used to vary the intensity or speed.

4.3 GSM

GSM is the Global System for Mobile communication. GSM is a digital cellular network system for the voice and data communication.

Mobile is a hand held module that will communicate with GSM network as a voice and data communication device.

GSM provides basic to advanced voice and data services including roaming services. Roaming is the ability to use your GSM phone number in another GSM network.

GSM makes use of narrow band Time Division Multiple Access(TDMA) technique for transmitting signal.

How does GSM work:

GSM needs base transceiver station module to communicate with mobile device.

Mobile device can change base transceiver station based on coverage and capacity.

GSM operates in different frequency bands, 900MHZ and 1800MHZ allocated for GSM communication.

First generation GSM used 400MHZ and 450MHZ.

Why GSM?

- 1) Improved spectrum efficiency
- 2) Low cost mobile sets and base stations
- 3) High quality speech
- 4) Support for new services

4.4 Load Cell

A load cell is a transducer that is used to convert a force into electrical signal.

The most common type is a strain gauge load cell. A strain gauge is an example of passive transducer that converts a mechanical displacement into a change of resistance.

A strain gauge is a thin, wafer-like device that can be attached to a variety of materials to measure applied strain.

A strain gauge is a device used to measure the strain of an object.

The most common type of strain gauge consists of an insulating flexible backing which supports a metallic foil pattern.

RFID(Radio Frequency Identification)

RFID means to identify an object using RF transmission . Radio frequency identification is the use of radio waves to read and capture information stored on a tag attached to an object. A tag can be read from upto several feet away and does not need to be within direct line-of-sight of the reader.

Where we use RFID:

- 1) Identification
- 2) Logistics
- 3) Asset management
- 4) Access control
- 5) Payment system
- 6) Product tracking

5. Garbage enzyme

Literature

Plastic bag

10 liters of water, 1 kg of black mol + 3 kg of fruit vegetable and moist and green garbage

Or

150 - 200 liter plastic tank, 100 liters of water, 10 kg black knob and 30 kg of fruit and vegetable, and wet and green wastes

Action

Finely chop 30 kg of fruit and vegetables and moisture and green garbage, and add 10 grams to fine powder and put it in a single drum. Add 100 liters of water to it. Cover the lid and keep it in the shade. Stir every 5 days. It was ready after 90 days.

Sieve it for 90 days. Fourth of it should be put in the field. Keep the garbage enzymes cleaned.

Can be used until the end. (Expiry - 12 years)

It can use all kinds of vegetables which are available. Use gourds, chilli, cilicla, limbo, various vegetation, Gavankur e

What the enzyme required?

1 lip water + 6 ~ 9 mile enzyme

15 liters of water + 60 to 90 ml of garbase enzyme spraying.

5Li Garbase enzyme + 200l. Water for drinking.

1 liters of water + 150 mg garbage enzyme seeds for processing.

For Milibag

Spray gardens enzyme 1.5 to 2 liters + 200 liters of water.

Spraying on all types of crops and drying on the ground.

Garbage enzymes work as civic, fungicide, insecticide

There are various amino acids, nutrients, and nuances.

Increase resistance in crop yield.

Produces resistance to garbage crops,

If given in the soil, it can be made by taking sugar in its bacteria more efficiently

Compiled Cops Paste.

6. Results

- Result of showing the card:



- First user ID:



- Fourth user ID:



- Waste monitoring result:

Waste Monitoring			
Serial_Number	Date	ID	Weight
3	2019-05-01 12:42:00	1	200
6	2019-05-01 13:12:14	3	185
7	2019-05-01 13:20:32	3	295
10	2019-05-01 13:24:15	3	295
11	2019-05-01 13:25:46	3	295
12	2019-05-06 11:26:44		
13	2019-05-06 11:26:51		
14	2019-05-06 11:26:52		

7. CONCLUSION

The rural India has tremendous wealth in terms of underutilized crop residues, animal excretion and domestic refuse normally known as waste. A systematic management and utilization approach applying the recent innovations will only help in maintaining rural areas clean but will also provide sufficient energy, manure and raw material for many industries. The sustainable waste management technologies have brought about a positive change in the sanitation and hygiene behavioral changes in the rural people. But, we have a long way to go before we can attain a level of maturity in the areas of waste management in the rural areas.

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