

Two-in-One Electronic Dustbin (DRY / WET)

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Abstract— During morning/evening walk time, we all observe the garbage dumps on roads. These dumps consist of biodegradable as well as non-bio-degradable waste such as plastic etc. This results in wastage of green garbage



All birds and animals graze all these waste together. They graze plastic with the green manure. This results in the health disease. We know that wet and dry garbage should not be mixed. But we all are very careless. We are in a habit of throwing wet garbage into dry ones. To solve this major problem, I have made this Two-in-One Electronic Dustbin. **Key words:** Plastic Container, Solar Panel, Amplifier, LDR, LED, IC, Aluminum Electrodes

I. INTRODUCTION

Friends as we know that wet garbage is used for making compost or manure. In all houses there are two dustbins used green and blue. Green for wet garbage and Blue for dry garbage. But most of us are not in the habit of separating this garbage. We simply mix them together. Government also says that we should use two different dustbins (Green and Blue) at home and at public places too. Government too had looked to this problem, but there is no effect seen yet. Manure is very useful for the fertility of soil, but it can only be made with the help of wet garbage. The two in one electronic dustbin is made to look after this problem only.

II. THEORY & WORKING

It is made to solve some problems faced in society towards nature. It is an electronic invention working on simple 9v battery and solar panel. It consists of three levels for dry garbage and one indicator to detect the wet garbage. Explanation of its working is as follows:

A. Level (1)

When dry garbage is filled in the dustbin till 30% the green light glows indicating that garbage is filled till 30% and more garbage can be thrown in it.

B. Level (2)

When dry garbage reaches near about 50% the yellow light glows indicating that garbage is filled till 50% and more garbage can be thrown.

C. Level (3)

When dry garbage is filled near about 90-95% the red light glows and a buzzer starts beeping indicating that dustbin is about to fill 100% and no more garbage can be thrown and it's the time to empty it.

D. Level (0)

It is for safety. For eg. When some wet garbage is thrown in the dustbin, the white light glows indicating that he/she has thrown wet in dustbin and indicating the thrower's mistake.

When power is on then LED emits light on LDRs (Light Dependent Resistor) then it observes the light and converts it into voltage. Amplifier converts low voltage to high voltage. As a result, when dry garbage reaches at different levels different indicators glow. When wet garbage is thrown in the dustbin it reaches at the base of the plastic container, completing the circuit by attaching the two aluminum electrodes.

Solar Panel connected with 9V battery helps to charge the battery every time. As shown in figure 1.

To understand it better, refer the following diagram:



Fig. 1:

III. APPLICATIONS

- 1) It is very helpful for preserving wet garbage.
- 2) People have fun in throwing garbage in an electronic dustbin rather than throwing it on roads

- 3) It has a particular role to make the people realize their mistake of mixing all types of garbage.
- 4) Very low amount of power would be consumed.
- 5) It is used for domestic, industrial, School, offices etc.

IV. ADVANTAGES

- 1) Much of the sun rays are trapped through solar panel.
- 2) Making the city clean.
- 3) The country could be manufacturing more manure if country gets right garbage for this.
- 4) This project circuit cost is very low.

V. CONCLUSION

At last I would like to say that this project is made only to separate the wet/dry garbage so that more and more manure could be made and our soil of India become much fertile than today. If there is your support than we could be able to represent it at major level. If there is your support that only our soil's condition could be improved.

VI. FUTURE SCOPE

If this invention remains successful, then we can add a speaker instead of white light indicator. We can add with mobile apps. Further modification can be done as per requirements.

REFERENCES

I have made this project under the guidance of my father Sh.Harisharan Aggarwal. He is a young scientist award winner - Nov 17. He keeps on doing innovative researches day by day. I look at their Innovative Science Activities and I am excited to do new innovations. In which my mother Mamta Aggarwal is with me.

Now, my father started innovative research science to skill to promote the interest of the students towards Science and Technology through unique programs - science to skill. They wants to extend this research to the each corner of the world. So that students can take maximum advantage of this research. This will increase the brain of the students and the quality of education will also be higher.

In this work, my Principal and teachers also encourage me.

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|  | Extraordinary efforts at this stage keep it up and keep coming with fantastic concepts in future. Wish you all the best for your endeavours. Mrs. Jyoti |
|  | Great step. Well done & keep doing like this in future. Mrs. Vibha |

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|---|--|
|  | Good, keep up your Creativity Fr. Eulalio Fernandes Principal |
|  | Project is very useful for the society. I appreciate the creativity of Himanish Aggarwal. He is thoughtful & always brings new idea. Mrs. Archana |
|  | Keep it up bright child with brilliant idea. Mrs. Anita Rana |