



# **Automating Instrument in Treating and Clearing Waste in Public Means**

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**ABSTRACT:** This paper revolves around the concept of Automation used in the domain of Public Cleanliness and Hygiene. Careless trashing of garbage onto the roads is a common scenario to be found in developing countries. Public cleaners do amassing the waste items manually, which puts their lives in mishap. Each day for them would mean an assiduous task to collect the trash, segregate them, transport it and deposit the remains in appropriate plants for either recycling or decomposing. This problem is brought to a full stop by designing a contraption. A bot is programmed to pick the waste, intake the refuse into a specialized compartment, segregate them internally and to deposit it into separate bins meant for reusing and recycling. The device is capable of establishing a link of information exchange with the other bots at work to avoid the recurrence of job already completed. The matter is taken up by the local bodies, municipal corporations and the Government but suffers in proper uniform implementation. All the problems have culminated to a drastic danger, which we find ourselves in. Keeping this in mind, we as students, thought to bring in robotics. Contraptions would be designed, deploying them on roads collecting the litter off public domains. It is to be programmed against a regular timeframe where it would work for a specified interval in a particular area. We have planned to rope in the research and development consortium for logistics support and auditing. The proposed model will function on the client-server model relying on message passing system. A cause that will promise good health, clean environment and pollution free society.

**KEYWORDS:** Public Cleanliness, Bot, CCTV Camera, Client-Server Communication, Self-Awareness

## **I. INTRODUCTION**

Garbage accumulation is so high that it becomes a crisis if left uncollected. If the garbage collector does not turn up, a household would probably direct their maidservant to pick the bags of trash, as it would be too much for the bags to be kept inside the home. The servant would probably dump the trash at the end of the lane seeing that others would follow suit. The place would gradually turn into a garbage dumpyard, which would turn into a haven for health diseases. The society would turn to the welfare groups who would react by clearing the garbage yard and dumping it in a landfill. Garbage can be efficiently used in land filling in sub-urban areas. This process will bring up some of the land that are not in use, for some commercial purposes. Even we see in day to day life that garbage are burnt here and there, which produced immense of pollution. This pollution further leads to environmental issues. The acts of the public do not comply with the environmental friendly measure. Some municipalities encourage the installation of disposers to increase biogas production. The disposal unit consists of an electric motor, which spins a circular turntable. The turntable is surrounded by a shredder ring, which has sharp slots. The waste sits on the table and through the centrifugal force is forced to its perimeter and through the shredder ring. Presently, the disposal mechanism begins with internal storage followed by truck-based collection. The food scraps if left uncollected decomposes and generates methane gas, which is a potent greenhouse gas. This gas be used up as a fossil fuel for various purposes. It can even act as the supplementary fuel for the exhaustive fossil fuel. Some wastewater plants have adopted models for effective processing of organic solids into bio-solids. Nevertheless, these measures exist at a small scale. To keep our environment clean, we must first keep our living surroundings clean. The issue of improper decomposition is not a new one, rather various measures has already been taken up yet

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there is not perfect solution to it. But now the time has come to take up some serious steps so that we can have a garbage clean environment.[1-3]



Fig.1 Showing improper disposal of garbage

## A. Architecture of Working Model:

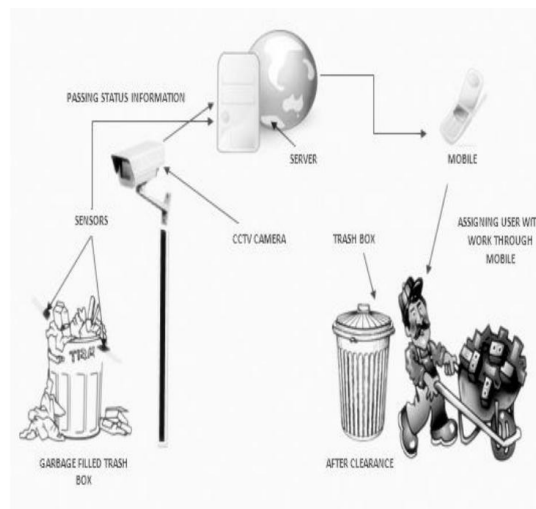


Fig.2. Architecture of working model

In the above figure we can see how inefficiently the garbage has been thrown here and there, which put a great concern for public. recently it has been noticed that around 20 millions of tones of garbage are produced all over the globe. So in order to dispose them there should be some mechanism to help over-come this situation. Various organizations has also come up with various new ideas of proper disposal of garbage but none of them guarantees health issue. Rather here we can ensure a proper method of collecting and disposing them.[4-7]

## A. Flaws in Existing System:

Improper disposal of the garbage. There's no notification of the filled in garbage- dumps. Irresponsibility of throwing garbage outside the dumps. No quick action regarding disposal of garbage. Health Issues for the workers and

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surrounding people. Environmental degradation.

## B. Worker profile creation:

Database of all the workers working under the sanitation department is stored in the server. Each worker's profile is updated on a regular basis. A space would be allocated for registering a complaint if the worker fails to do his job of clearing the wastes collected by the robot, from its metal cabinet.[8-10]

## C. Waste Detection:

The bots would be inbuilt with sensors on the Arduino board, which would detect if the metallic chambers are filled to the brim. The message would directly pass to the server and alert the worker through his profile. The alert signal would be sent to his handset every specific interval if the task is left unattended. If the assigned worker is unavailable at that moment or hesitates to go about with his commitment, the task of clearing the wastes would immediately be assigned to a new worker whose work slot is empty. The idea of message passing is used here.[11]

## D. Status Registration in Server:

As soon as the work of emptying the metal can is done the task of completion would be recorded in a separate register. On the same line, complaint would be registered against the personnel who fail to work on time. This system is encouraged to enforce stricter laws on public cleanliness.[12][14]

## E. Generating Status to End user

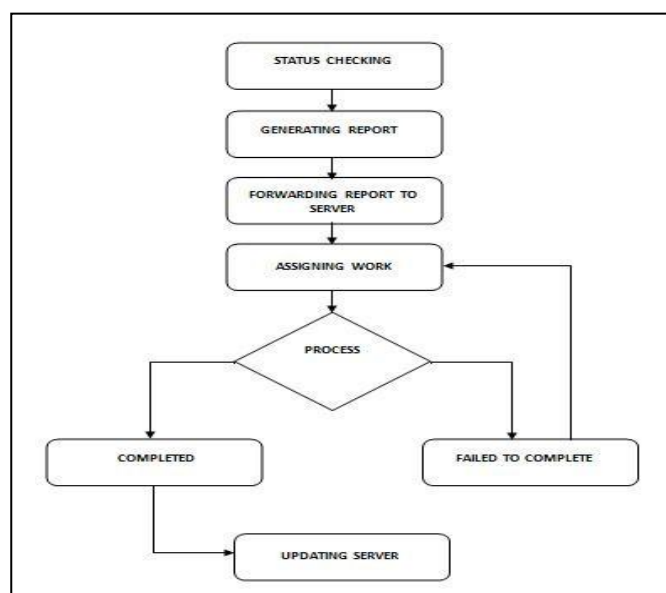


Fig.3.Proposed System

## Advantage of the Proposed system:

- Effective and efficient Functioning.
- No delay in Operation.



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- Cleaner Environs as the project is uniformly implemented.
- Comparatively better health issues.
- In-time and proper disposal.

## IV. FUTURE WORKS

To make the system of operation completely automated with no human intervention would be the future goal. A pot would be designed to pick the litter and self- segregate it. It would then be programmed to reach out the departments concerned such as recycling units, metal scrap collection centres etc. Also serious action can be taken for the persons those who through the garbage outside the dump[13].

## V. CONCLUSION

Finally we can say that, a garbage-free environment can only be established if we put ourselves into this concern. For hundreds of years we have seen that it is our fault that we pollute our surrounding by burning up the garbage rather than disposing them properly. This proposed system will definitely help to over-come this striking issue. We can also guarantee a safe and a healthy environment, which will finally have a bright and successful future in comings years.

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