

IOT BASED SMART WASTE SEGREGATION SYSTEM FOR SUSTAINABLE DEVELOPMENT

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Abstract — Urban India Generates tonnes of wastes annually .our country faces major challenges associated with waste management. It is noteworthy that waste management becomes challenging when **segregation of the garbage is not performed and recyclables, organic waste and toxic wastes are all dumped together.** Increasing putting additional pressure on landfill sites located in urban areas.sustainable waste management practices have became challenging due to our consumption and changing socioeconomic conditions.waste management is the multidimensional problem that require technology ,economics,and socio cultural and political activities togo to hands in hand.This article focus on implementing and developing to update on advanced waste management technology using IOT.this system segregates the waste in to bio

Biodegradable,nonbiodegradable

wastes.to timely dispose the waste by level indication using Sensors .if it is bio-degradable waste it makes into compost a good fertilizing agent for farming land. The system design combines existing IOT infrastructure by segregating the waste in categories and reduce the wastage of human power and reduce pollution.

KEYWORDS- sustainable wastes,Internet of Things,Sensors,wastes and machine learning model and Rasberry pi

INTRODUCTION

The abundant increase in the population led to improper disposal of wastes.manageing the garbage requires more time and the lots of man power .in this era the waste disposal becamng the huge cause.the most common method of waste disposal is unplanned and it dumped in the land fill causes ill effects and the quality of water index is very much affected and burning alsi reduce the air quality index and causes the environmental degradation.thus this article segregates the wastes in mainly three classes namely Biodegradeable,non- bio degradeable and bio medical wastes..

The merit of doing in this type of segregation there is no need to rag pickers to segregate these wastes and the human potential is reduced .The proposed system is Mainly focusing on identification and Segregation of wastes.the separation by using Machine learning models .this type of systems are capable of indicating the level of Wastes filling in the trash can.and also avoid Health hazards

he proposed a systematic

EXISTING SYSTEM

Waste management system are The recent survey urban india produces about 42.0 million tons of municipal wastes annually.1.15 lakh metric tons per day .the Existing system has no proper planning regarding the collection of garbage which makes urban and rural into unhygienic.by using truck to collect the bulk wastes .the labours who are cleaning the dustbins are not taking any responsibility which makes the worse at urgent cases .proper monitoring and disposal of wastes is obligatory to run the city clean and green .the conservative and and manual garbage monitoring collection system now available .the labour can't always monitor the elevation and scent of around the dustbin manually around all places of city . No internet technology oriented system which is more effective ,more systematic ,energy -efficient and economical.

LITERATURE REVIEW

Proper waste management –Mohammed Adam

Manner to dispose waste by taking
Survey on peoples in 2018 the
Accumulation of waste is often mixed
With human and animal excreta
Which result in spread of diseases.

Indirect Sorting method for solid
Waste-Jiu Huang.he proposed the
Shape and dimension of waste is
Waste is used for separation

By using the technology optical
Sensors and mechanical system.

The one of the remarks is granular
Mixture are sorted due to electric
Forces on particles.Recycle Bot

Written by Bakrinasredeen the
Methodology employed here is
To distinguish waste into recyclable
And non-recyclable by using the
Technology image processing and
Zigbee but it is a complex system.

Waste segregation by Gayathri Devi
Employed a methodology to

Separate waste as metallic and non-
Metallic by using metal sensor in

2017 a good to get an accurate

Results.Municipal solid waste

Management by Eyhab Al-Masri

For the segregation of wastes such

As magnetic and eddy current

Separation etc..here the waste is

Separated into different sizes by

Trammel in 2018 this way is a

Better technique for the

Separation of ferrous,glasses

Plastics and organic wastes.



METHODOLOGIES

Machine learning algorithm
Microsoft lobe is used to train



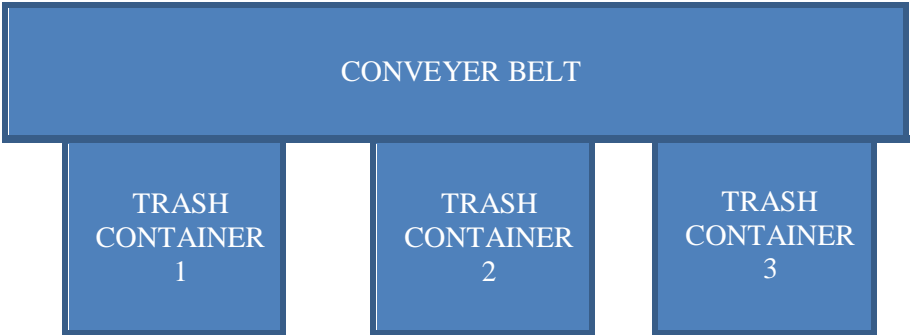
MECHANICAL SETUP

To move the waste from
One end another ,here we use
the Convert Belt System.
For sorting of waste we use
a Rotatable hand with the
Help of DC motor



Our model.for the purpose of
Training we use a set a dataset
Consist of 3 category images
Such as bio degradable ,
Non biodegradable and medical
Wastes

BLOCK DIAGRAM



ADVANTAGES

It avoids direct human intervention with wastes there by there by protecting the from various hazardous and health issues.it reduces the time and man power for segregation of wastes by manual method and accuracy of segregation is increased .based on IOT technology smart Wastemanagement vaims to optimize resource allocations ,reduce running cost and increase sustainability of waste services.

RESULT ANALYSIS

Waste management is intended To reduce adverse effect of waste of human health,hazards,planetary resource and aesthetics.its main goals is to reduce environmental pollution

In future advancements are after

Segregation we can recycle and make fertilizers and from non-bio degradable waste we can reuse and make new usable materials .from medical wastes to dispose them safely by using UVrays.

FUTURESCOPES

Rasberry pi=orange omega 2+

Rubber or heavy materials

Used in conveyer in future used as PVC

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CONCLUSION

We proposed this solution only because instead of using of using workers \humans to separates the wastes.which causes health and environmental hazards.we thought of using the technology to classify the wastes,garbage into different segments and making manure and cmpost to maintain the better health and clean and hygenic society

It is our responsibility to create “clean and green society”.

