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Survey paper on Garbage Collection Management System

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Abstract: ***Smart cities integrate multiple mobile or websolutions to build a comfortable human habitation. One of these solutions is to provide an environmentally friendly, efficient and effective garbage management system. The current garbage collection system includes routine garbage trucks doing roundsdaily or weekly, which not only doesn't cover every zone of the city but its completely inefficient use of government resources. The proposed system, where admin manage the garbage app for full online based mointoring and analyze the system. Her admin handle bins, driver, complaints from user and work report from driver. This paper proposes a cost-effective mobile or web based system for the government to utilize available resources to efficiently manage the over whelming amounts of garbage collected each day, while also providing a better solution for the inconvenience of garbage disposal for the citizens. This is done by a driver, app will provide predictive and guide routes generated through for garbage trucks. Then driver update the status of work done will be data collected. An android or web app is developed for the work force and the citizens, which primarily provides the user create complatints available smart bin.***

I. INTRODUCTION

Smart cities integrate multiple mobile or web solutions to build a comfortable human habitation. One of these solutions is to provide an environmentally friendly, efficient and effective garbage management system. The current garbage collection system includes routine garbage trucks doing rounds daily or weekly, which not only doesn't cover every zone of the city but is a completely inefficient use of government resources. This paper proposes a cost-effective mobile or web based system for the government to utilize available resources to efficiently manage the overwhelming amounts of garbage collected each day, while also providing a better solution for the inconvenience of garbage disposal for the citizens. Garbage Management System Project This is done by a network of smart bins which integrates cloud-based techniques to monitor and analyze data collected to provide predictive routes generated through algorithms for garbage trucks. An android or web app is developed for the workforce and the citizens, which primarily provides the generated routes for the workforce and finds the nearest available smart bin for citizens.

II. OBJECTIVE

The aim is to design a smart dustbin for proper disposal of waste without any human intervention by providing a smart technology for waste system monitoring, reducing human time, effort, and intervention.

III. SYSTEM DESIGN

The Internet of Things (IoT), as expected infrastructure for envisioned concept of Smart City, brings new possibilities for the city management. IoT vision introduces promising and economical solutions for massive data collection and its analysis which can be applied in many domains and so make them operating more efficiently. In this paper, we are discussing one of the most challenging issues - municipal waste-collection within the Smart City. To optimize the logistic procedure of waste collection, we use own genetic algorithm implementation. The presented solution provides calculation of more efficient garbage-truck routes. As an output, we provide a set of simulations focused on mentioned area. All our algorithms are implemented within the integrated simulation framework which is developed as an open source solution with respect to future modifications.

IV. EXISTING SYSTEM

Employees heading for their workstations every morning. For all those people, there are just not enough garbage bins available. On the streets of urban cities, hundreds of people are passing the same location around one minute. The obvious solution to this is for the cleaning staff to stay near garbage bins every day till they fill up to clean them. This is not a real solution.

There are some notable negative effects when considering the garbage bins always being full. One of the main effects is the surrounding area starting to smell and be very unpleasant. When the garbage bins are full people put their trash on sides of the garbage bins.

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V. DISADVANTAGES

On the streets of urban cities, hundreds of people are passing the same location around one minute. Around 95% of people are carrying food covers, polythene bags, and plastic bottles. If they dispose all them at once, the bins will be filled in several minutes. When they fill up people just litter their trash around the garbage bins because there is nowhere else to put them. The obvious solution to this is for the cleaning staff to stay near garbage bins every day till they fill up to clean them. This
is not a real solution. It takes way more cleaning staff and costs a lot of money. So, it is impractical. The same scenario is happening in workstations. For instance, a bank or a government office cafeteria usually has about five to six garbage bins to serve hundreds of employees. This is simply not enough.

VI. PROPOSED SYSTEM

A. The proposed system overview for this system. Solid waste management can be broadly categorized as segregation, collection, and transportation.

B. The server will collect the data and store them only a database. This data will be analyzed and displayed on two different dashboards that can be accessed by the workforce and clients.

C. Using data analytics, reports will be generated which can be monitored by the admins through the admin dashboard.

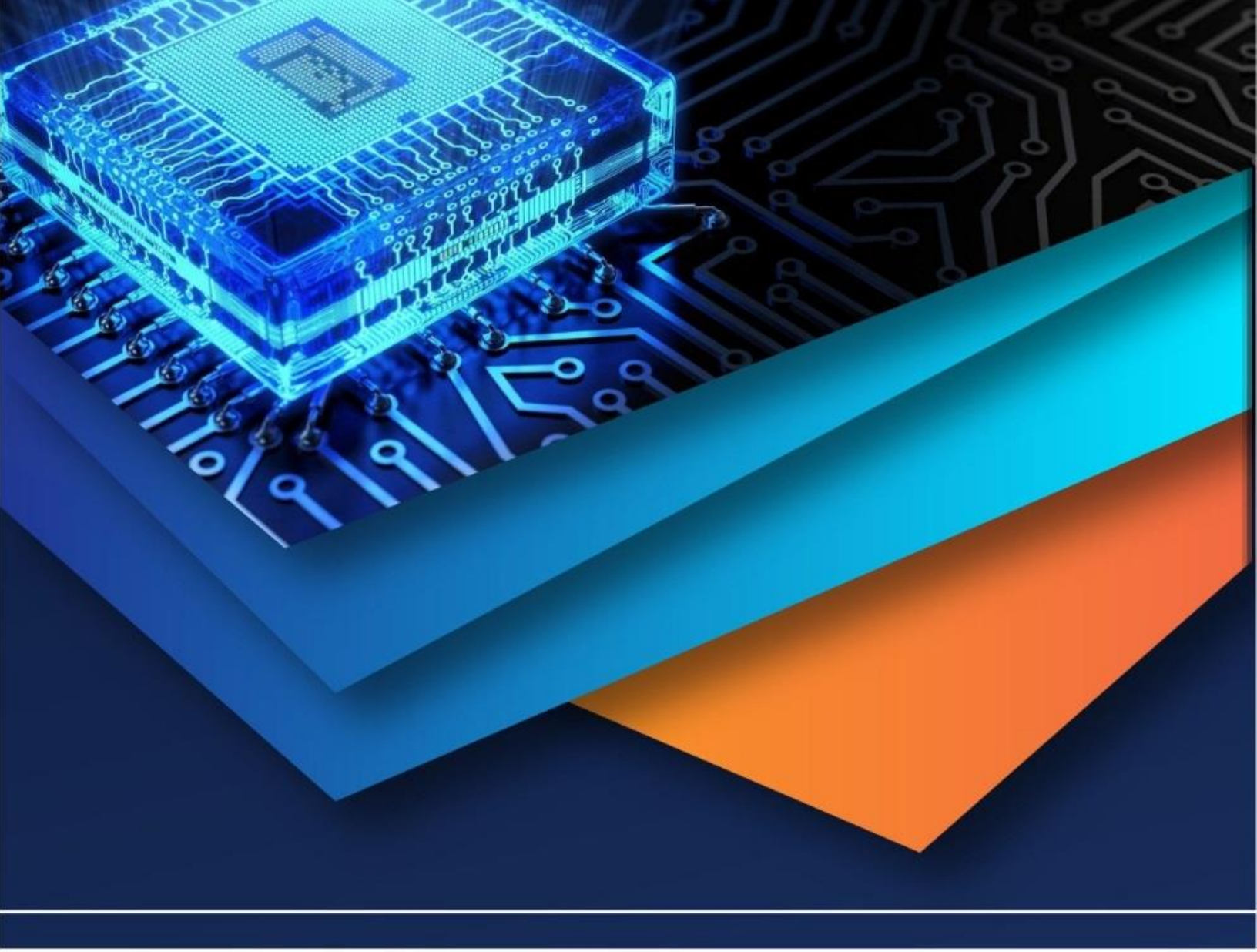
D. Based on the data collected, garbage trucks can be given routes generated through various algorithms and google maps API to efficiently route through all necessary garbage bins and finally reach the dumping site

VII. CONCLUSIONS

Future work can include many areas. One area that can beimproved on, but limited at this time due to trying to making this project low cost, is identifying types of garbage from the bin itself, thus removing human segregation. If this is implemented, in a single location instead of four bins for the four different types of garbage, one large bin can be placed which segments the garbage by itself. Another area which can be improved is instead of each bin connecting to an access point to communicate with the server, bins can communicate with each other and connect to an access point through the main hub. This method may reduce network costs and make the network process more efficient.

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