

LOCATION BASED GARBAGE MANAGEMENT SYSTEM

Rushikesh Wanjare¹, Harshad Pawar², Sarthak Kadu³, Pratik Nikam⁴, Prof. Pradnya Narkhede⁵

¹ Student, Information Technology, JSPM's Rajarshi Shahu College of Engineering, Maharashtra, India

² Student, Information Technology, JSPM's Rajarshi Shahu College of Engineering, Maharashtra, India

³ Student, Information Technology, JSPM's Rajarshi Shahu College of Engineering, Maharashtra, India

⁴ Student, Information Technology, JSPM's Rajarshi Shahu College of Engineering, Maharashtra, India

⁵ Professor, Information Technology, JSPM's Rajarshi Shahu College of Engineering, Maharashtra, India

ABSTRACT

Smart cities integrate multiple mobile or web solutions to make Cushy human habitation. one amongst these solutions is to produce an environmentally friendly, efficient and effective garbage management system. The present trash collection system includes routine garbage trucks doing rounds daily or weekly, which not only doesn't cover every zone of town but may be a completely inefficient use of state resources. This paper proposes a cheap mobile or web-based system for the govt to utilize available resources to efficiently manage the overwhelming amounts of garbage collected day by day, while also providing a much better solution for the inconvenience of electric pig for the citizens. This is done by a network of smart bins which integrates cloud-based techniques to observe and Analyses data collected to supply predictive routes generated through algorithms for garbage trucks. An online app is developed for the workforce and therefore the citizens, which primarily provides the generated routes for the workforce and finds the closest available smart bin for citizens.

Keyword - Garbage Management, GPS, Smart city, Waste Management, Smart Garbage management, Smart Garbage Management.

1. Introduction

Introduction All Smart cities incorporate numerous portable or web answers to manufacture pleasing & comfortable human residence. one amongst these arrangements is to administer an ecologically well disposed of, proficient and compelling trash the board framework. Now this scenario for trash/wastage isn't compatible if we discuss, this trash assortment system incorporates routine dump trucks doing adjusts day by day or week by week, which does not cover each zone of town yet may be a totally wasteful utilization of state assets. This idea is ideal for saving time and changing the regular thanks to dumping the trash, thus this web app provides a cheap way or web-based system for the govt. to utilize available resources to efficiently manage the general amounts of garbage collected regularly, while also providing a much better solution for electric pigs for several cities. Our Location-Based Garbage Management System for Smart City app integrates the simplest techniques to test and analyses data collected to produce the simplest solution to stay area clean & track driver performance. An online application is produced for the residents, which essentially gives ease to the people for trash/waste dumping. People can raise the complainant to stay their area neat and clean moreover as keep driver accountable to figure.

1.1 Homepage

This page will have things like Admin, Public and Driver login. yet as public can register.

1.2 Database Module

This module contains all of the data identified with the structure, for instance, public/users/bin/complaint that are enrolled within the framework, etc. Time-wise update everywhere in-web-app required. It accumulates all the main points regarding user, bin, complaints.

2. Modules

2.1 Admin Module

- Create Garbage bin: Admin can create a garbage bin for different areas. Which is used for wasted collections from the areas then trucks can contain the garbage bin.
- Update/Delete garbage bin: Admin will be updating the new garbage bin or else modified garbage bin and also deleted the garbage bin, not used garbage bin.
- Assign best bin for drivers: Admin can be assigning the drivers for the garbage collections.
- It is based on the best bin driver who will be assigned for garbage collection.
- Manage driver: Admin can be managing all the drivers and maintaining the best bin drivers.
- View Garbage Report: Admin can be viewing the garbage reports from all areas and maintaining the whole reports.
- View complaints from public: Admin Can be viewing and managing user complaints.

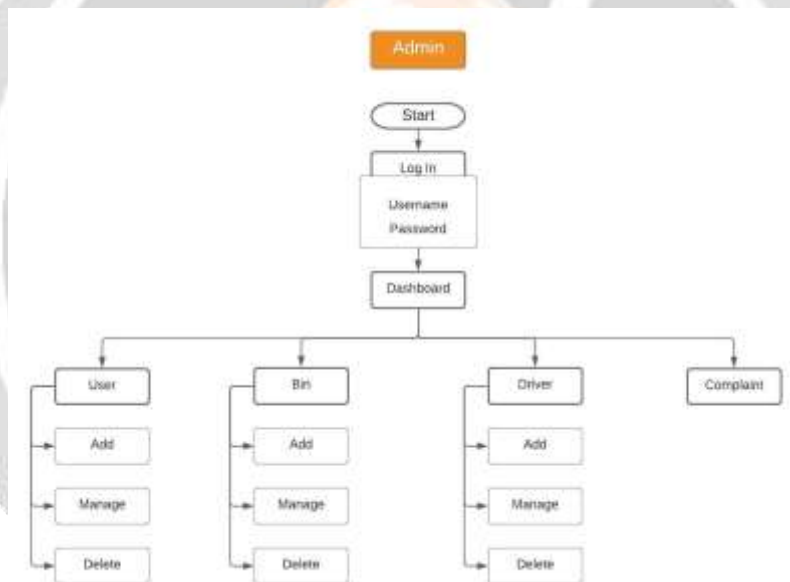


Fig -1 Admin Module

2.2 Driver Module

- A driver will check the daily work updates and then, the driver does the garbage collection.
- Then the driver can answer complaints.
- Update garbage load: A driver will update the garbage load of container. It will update to the admin.

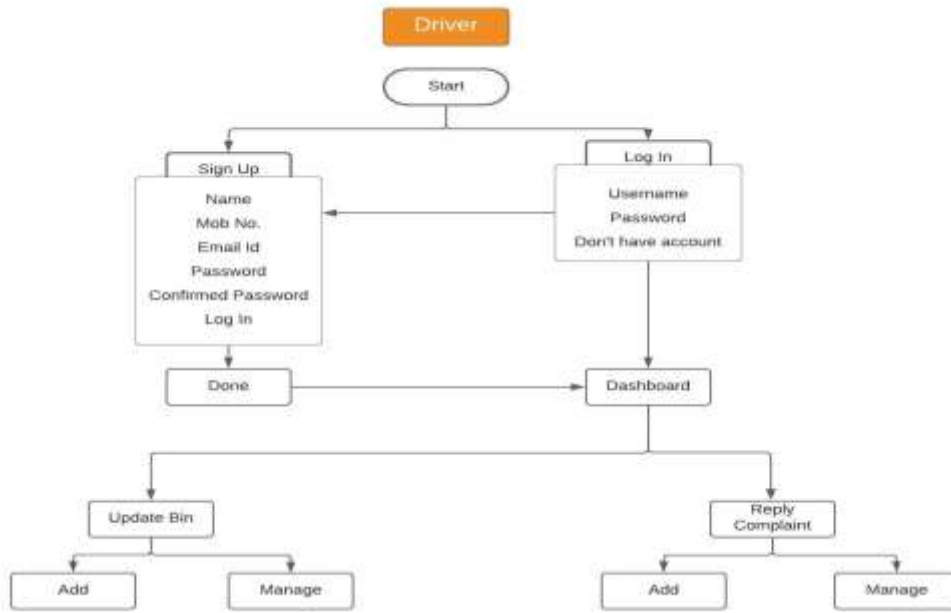


Fig -2 Driver Module

2.3 User Module

- Register themselves: A public can be arising the complaint for garbage container of our locality is overflowing due to non-cleaning for the day. The rotten waste materials emanating bad smell thus making the people of the nearby area wear a scarf around their nose.
- My complaint & status: A public can view the complaint and check the status of complaints.

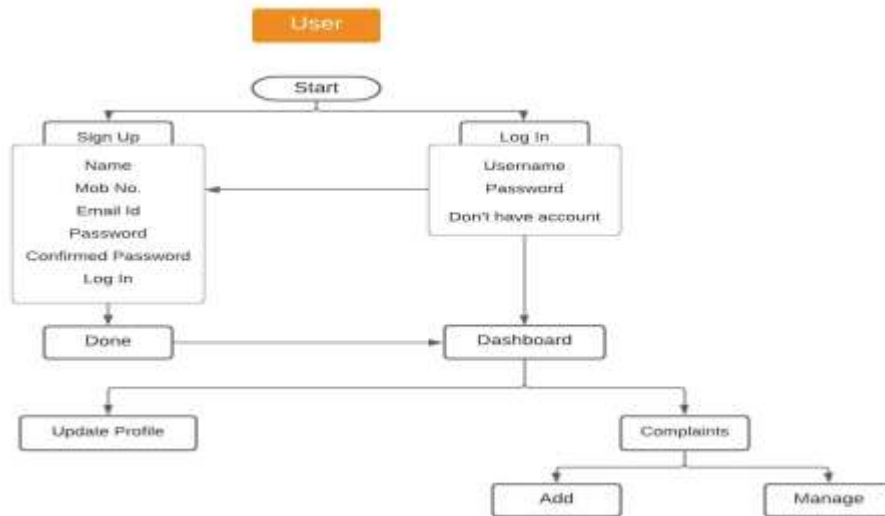


Fig -3 User Module

3. System Requirements

3.1 Software Requirements

- Operating System: Windows / Linux
- Front End: HTML 5, CSS3, JavaScript, jQuery
- Frontend Framework: Bootstrap
- Backend: PHP, CodeIgniter 3
- Database: MySQL

3.2 Hardware Requirements

- Memory minimum of 1GB RAM
- Hard disk of 40 GB
- Monitor
- Mouse
- Keyboard

4. CONCLUSIONS

The developed system provides an improved database for garbage pickup time and therefore the quantity of garbage pickup at each location. By implementing this project, we'll avoid overflowing garbage from the container in residential areas which was previously either loaded manually or with the assistance of loaders within the traditional trucks. All necessary hardware and software are available for implementing the project. The project is ideal for saving time and changing the regular way of dumping trash. Keep the world neat and clean and supply the residents with a waste-free environment.

5. REFERENCES

- [1] Monika K A, Nikitha Rao, Prapulla S B, "Smart Dustbin an Efficient Garbage Monitoring System," Shobha International Journal of Scientific & Engineering Research, vol 6, Issue 9, 2015, pp787 789.
- [2] Parkash, Prabu, " IoT Based Waste Management for Smart City," (An ISO 3297: 2007 Certified Organization), Vol. 4 Issue 2 February 2019.
- [3] Pranjal Lokhande, M.D.Pawar , " Pawar2International Journal of Engineering and Computer Science," ISSN: 2319 7242, Volume 5 Issue 11 Nov. 2018, Page No. 18800 18805.
- [4] Ruhin Mary Saji, Drishya Gopakumar , Harish Kumar S, K N Mohammed Sayed,Lakshmi S "A Survey on Smart Garbage Management in Cities using IoT" s5 International Journal of Engineering and Computer Science ISSN: 2319 7242 Volume 5 Issue 11 Nov. 2020, Page No. 18749 18754.
- [5] Council, Colombo Municipal. "Colombo Municipal Council." Garbage Collection. [Online]. Available: <http://colombo.mc.gov.lk/garbagecollection.php/>. [Accessed: 04 Jan 2017].
- [6] S. Lokuliyana , J. A. D. C. A. Jayakody, L. Rupasinghe, and S. Kandawala , "IGOE IoT framework for waste collection optimization," 2017 6th National Conference on Technology and Management (NCTM), Malabe, 2017, pp. 12 16.
- [7] J. Joshi, J. Reddy, P. Reddy, A. Agarwal, R. Agarwal, A. Bagga, and A. Bhargava, "Cloud computing based smart garbage monitoring system," 08 2016, pp. 70 75.
- [8] D. Nirmala, G. Bala, S. Kaviya, and S. Mary, "Smart waste management using internet of things (iot)," International Journal of Pure and Applied Mathematics, vol. 119, pp. 203 205, 01 2018.