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|---------------|---|
| Team ID       | PNT2022TMID47156  |
| Project Name  | Project – Smart Waste Management System For Metropolitan Cities |
| Maximum Marks |   |

## LITERATURE SURVEY

## SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

| S.<br>N<br>O | TITLE OF<br>THE PAPER | AUTHOR<br>NAME | YEAR OF<br>PUBLICATION | REMARKS       | OUTPUT           |
|--------------|-----------------------|----------------|------------------------|---------------|------------------|
| 1            |                       | Muhammed       | 4-June/2020            | Environmental | Collect          |
|              | smart waste           | irfan,         |                        | Pollution.    | the              |
|              | bin monitoring        |                |                        | Improper      | waste            |
|              | and municipal         | saeed, Al      |                        | collector and | effectively.     |
|              | solid waste           | wadie,         |                        | disposal      | Detection of     |
|              | management            | adam           |                        | mechanism     | fire in waste    |
|              | system for            |                |                        |               | material.        |
|              | smart cities          |                |                        |               | Wirelessly       |
|              |                       |                |                        |               | connected        |
|              |                       |                |                        |               | with the         |
|              |                       |                |                        |               | central hub      |
|              |                       |                |                        |               | Of transmit      |
|              |                       |                |                        |               | the info about   |
|              |                       |                |                        |               | the bins filling |
|              |                       |                |                        |               | level with       |
|              |                       |                |                        |               | existing         |
|              |                       |                |                        |               | collection.      |
|              |                       |                |                        |               | Avoid the        |
|              |                       |                |                        |               | overflow of      |
|              |                       |                |                        |               | bins.            |

| 2 | Smart garbage<br>segregator and<br>IOT based<br>waste collector<br>system   | Mrigank goel,<br>Amogh harsh<br>goyal,<br>Preeti dhiman,<br>Vikas deep,<br>Purshottam<br>sharma | 05-March/2021 | All wet waste are not used for urban agriculture, organic farming.                  | It segregates the metallic dry and wet waste. It also convert that it can be further used in urban agriculture, organic farming. It alert the waste management Center through IOT system   |
|---|---|---|---------------|---|--|
| 3 | A novel   | G.Uganya,   | 10-Feb/2022   | Low cost  | whenever any of the metallic or dry garbage Bins is full to avoid serious environment hazards  Automatic   |
| 7 | strategy for waste prediction using machine Learning algorithm with IOT based intelligent waste management system | D.Rajalakshmi, Arun Radhakrishnan Ramya, Yuvaraja teeka, -raman                                 | 10 100/2022   | Method High accuracy Complicated method Because of using machine learning algorithm | method, predicting the possibility of waste things. The waste capacity ,gas level, metal level monitored continuously Using IOT based dustbins. Tested by random forest algorithm gives the accuracy of 92.15% and give time consumptions of 0.2 ms. |

| 4 | System<br>waste<br>management               | Arafat ali khan<br>Farhana shetu<br>Saimum bari<br>Lawshik<br>shikder | 7-Jan/2021  | Good enough<br>to prevent the<br>garbage<br>overflow and<br>ensures the<br>partial is<br>perfect waste<br>management<br>and<br>monitoring<br>system | Microcontroll er, sensor, GSM are used in the system. This proposed system would have an automated waste level detection process and also a smart monitoring and overall management process. |
|---|---|---|-------------|---|--|
| 5 | Real time<br>smart garbage<br>bin mechanism | Dominic<br>Abuga<br>N.S.Ragava  | 23-Oct/2021 | Fuzzy logic is<br>applied<br>Hence real   | This mechanism proposed  |
|   | for solid waste management in smart cities  |   |             | time decision<br>making avoid<br>real time<br>monitoring  | accesses real time information of any smart garbage bin deployed across the city and helps to resolve the problem of waste overflow from garbage bins and keeps cities clean                 |

| 6 | Smart waste management system using IOT  | V.Pavan<br>sankeeth<br>V.Bhavana<br>V.Santhosh<br>Markandeya      | 3-Nov/2019 | Easy process<br>but garbage<br>truck driven<br>must have cell<br>phones | The server monitors garbage bins that are spread across the city at multiple location sever sends SMS to assigned mobile number which provide route to the driver based on all the data collected from bins |
|---|--|---|------------|---|---|
| 7 | Automated waste garbage monitoring system with optimal route generation for collection | Aarati medehal<br>Aniruddha<br>Annaiuru<br>Shalini<br>T.S.Chander | 1-Oct/2020 | Using of machine learning algorithm improve the redundant inefficient   | This purpose of this system is use powerful tools of IOT for completely automated the process of garbage monitoring using ultrasonic sensor and node MCU And provide an optimal route for garbage           |
|   |  |   |            |   | collection using cluster first route several ml algorithm   |

| 8 | An IOT based garbage monitoring a disposal support system.   | T.M.N Vamsi<br>G.Kalyan<br>chakravathi<br>B.Divakar<br>Protibha          | 10-April/2021 | Consumption of fuel in garbage truck is reduced but clean personal must have smart phone to active this process                         | This system monitors garbage bins located at different locations and notifies about the level of garbage accumulated in garbage bins through android application to cleaning personnel and provides shortest path to the garbage bin location  |
|---|--|--|---------------|---|--|
| 9 | IOT based solar powered smart waste management system with real time monitoring an advancement for smart city planning | Md.humaun<br>Kabir,sujit roy,<br>Md.tofail<br>ahmed,<br>Mahmudul<br>alam | 21-Oct/2020   | Project costs complicated but this can be suitable for any kind of cities or town and ensures proper collection and disposal of garbage | It enables real time monitoring of solar powered several smart bins located in different point in the city which are connected to control system through long range (LDRA) Communicati on device and also supervises the waste collection and disposal time using automated vehicles |
|   |  |  |               |   | locating<br>system   |

| 10 I | Intalligant    | Chinmai abatta       | 1-Nov/2020  | Intalligent    | Concor halma    |
|------|----------------|----------------------|-------------|----------------|-----------------|
|      | Intelligent    | Chinmai shetty       | 1-1NOV/2U2U | Intelligent    | Sensor helps    |
|      | sensor based   |                      |             | sensor makes a | is identify the |
|      | waste disposal | Deepa<br>N. D. alami |             | person to      | quality of      |
| -    | ystem for      | N.Rashmi             |             | through        | garbage and     |
| S    | smart cities   |                      |             | garbage the    | real collected  |
|      |                |                      |             | bins           | information the |
|      |                |                      |             |                | info is         |
|      |                |                      |             |                | send to the     |
|      |                |                      |             |                | drivers         |
|      |                |                      |             |                | and the         |
|      |                |                      |             |                |                 |
|      |                |                      |             |                | garbage         |
|      |                |                      |             |                | collected       |
|      |                |                      |             |                | information is  |
|      |                |                      |             |                | updated         |
|      |                |                      |             |                | on the web      |
|      |                |                      |             |                | page this       |
|      |                |                      |             |                | system also     |
|      |                |                      |             |                | ensure that     |
|      |                |                      |             |                | there is no     |
|      |                |                      |             |                | waste thrown    |
|      |                |                      |             |                | around the      |
|      |                |                      |             |                | trash bin the   |
|      |                |                      |             |                | intelligent     |
|      |                |                      |             |                | sender should   |
|      |                |                      |             |                | make beeping    |
|      |                |                      |             |                | sound if any    |
|      |                |                      |             |                | person through  |
|      |                |                      |             |                | around          |
|      |                |                      |             |                | the             |
|      |                |                      |             |                | trash bin and   |
|      |                |                      |             |                | not into the    |
|      |                |                      |             |                | trash bin       |