Smart Dustbin

(Project Proposal Under Unnat Bharat Abhiyan 2.0)

By

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Outline

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Introduction

• Most of the cities, towns and villages in India are not well designed to facilitate the suitable garbage collection methods.

• Common Public dustbins are filling over with the garbage and no one is concerned to clear them up as and when they get completely packed with overflowing garbage.

• Keeping in view of this big problem, it will be a good suggestion to do something to deal with this unmanaged waste and from this, the concept of ‘Smart Dustbin’ came out.
Objectives

• To design a “Smart Dustbin” which is a GSM enabled bin which automatically detects the garbage level and sends message to respective municipal authorities updating the status of the bin.
• To make our adopted village Kachhera Warsabad, G.B. Nagar, UP clean and healthy using “Smart Dustbins”.
Smart Dustbin- Step 1

➢ When any object comes close to the sensing area, the lid will open automatically.
Smart Dustbin- Step 2

➢ When a dustbin gets full, a message will be sent to the municipal corporation.
Work Plan

Major Tasks involved in Proposed Project

- Review of Literature and Purchase of Inventory
- Designing of Prototype
- Designing of Three Instances
- Installation at site
- Testing and Monitoring
- Future Enhancements (If Any)
Flow of Work

Start

Check whether Dustbin is full?

YES

Display ‘FULL’ on LCD. SMS will be sent to MC authority to clear the garbage and Lid will remain Closed.

NO

Display ‘USE ME’ on LCD.

NO

Whether any person is near to dustbin?

NO

Lid will open to dispose off the garbage and close.

YES

Working of Smart Dustbin
Benefits to the Village

- Overflowing of dustbins can be stopped.
- The overflowing and cleaning of smart bins will be continuously monitored and effectively managed thus making clean and empty bins available to common people.
- Economically Effective technique if once implemented successfully.
- It also intends at building a clean as well as green surroundings.
Benefits to the Institute

• Through such kind of technological advancements our Institution can promote National level schemes like Swachh Bharat Abhiyan, Digital India etc.

• This technique can also be implemented in our institute to keep its campus clean and healthy.

• Customization of such kind of techniques in our campus can motivate our students to think about the latest innovation in technical domains.

• Students can start their own start ups in which they can make such kind of commercial products.
# Budget Details

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Item</th>
<th>Cost (INR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Plastic Dustbins with Lid (capacity-approx 300 L)</td>
<td>30,000/-</td>
</tr>
<tr>
<td>2</td>
<td>Arduino</td>
<td>5,000/-</td>
</tr>
<tr>
<td>3</td>
<td>Ultrasonic sensor SR-04</td>
<td>3,000/-</td>
</tr>
<tr>
<td>4</td>
<td>GSM module</td>
<td>4,000/-</td>
</tr>
<tr>
<td>5</td>
<td>Small LCD Panel</td>
<td>20,000/-</td>
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<tr>
<td>6</td>
<td>IR sensors</td>
<td>3,000/-</td>
</tr>
<tr>
<td>7</td>
<td>Servo Motor</td>
<td>15,000/-</td>
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<tr>
<td>8</td>
<td>Travelling Cost</td>
<td>15,000/-</td>
</tr>
<tr>
<td>9</td>
<td>Miscellaneous (SIM, Buzzer, LEDs, Installation Cost etc)</td>
<td>20,000/-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>* Costing of designing a Prototype and installing Three (3) Instances at the site.*</td>
<td><strong>1,15,000</strong>/-</td>
</tr>
</tbody>
</table>
Future Enhancements

- Coordination among the Dustbins.
- Cloud Platform and Raspberry Pi can be used for Data Storage and Data Analysis.
- Daily Produce of waste can be monitored.
## Time Line

Gantt Chart showing duration of the various tasks involved in proposed project

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Activity</th>
<th>Days (One cell=15 days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Review of Literature and Programming Concepts</td>
<td>1, 2</td>
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<tr>
<td>2</td>
<td>Purchase of Inventory</td>
<td>3, 4</td>
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<tr>
<td>3</td>
<td>Designing of Prototype</td>
<td>5, 6, 7</td>
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<tr>
<td>4</td>
<td>Designing of Three (3) Instances</td>
<td>8, 9, 10, 11, 12, 13, 14</td>
</tr>
<tr>
<td>5</td>
<td>Site Visit</td>
<td>15, 16</td>
</tr>
<tr>
<td>6</td>
<td>Installation at site</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Testing and Monitoring</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Future Enhancements (If Any)</td>
<td></td>
</tr>
</tbody>
</table>

Unnat Bharat Abhiyan

J.S.S. Academy of Technical Education NOIDA
Thanks !!