



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”.

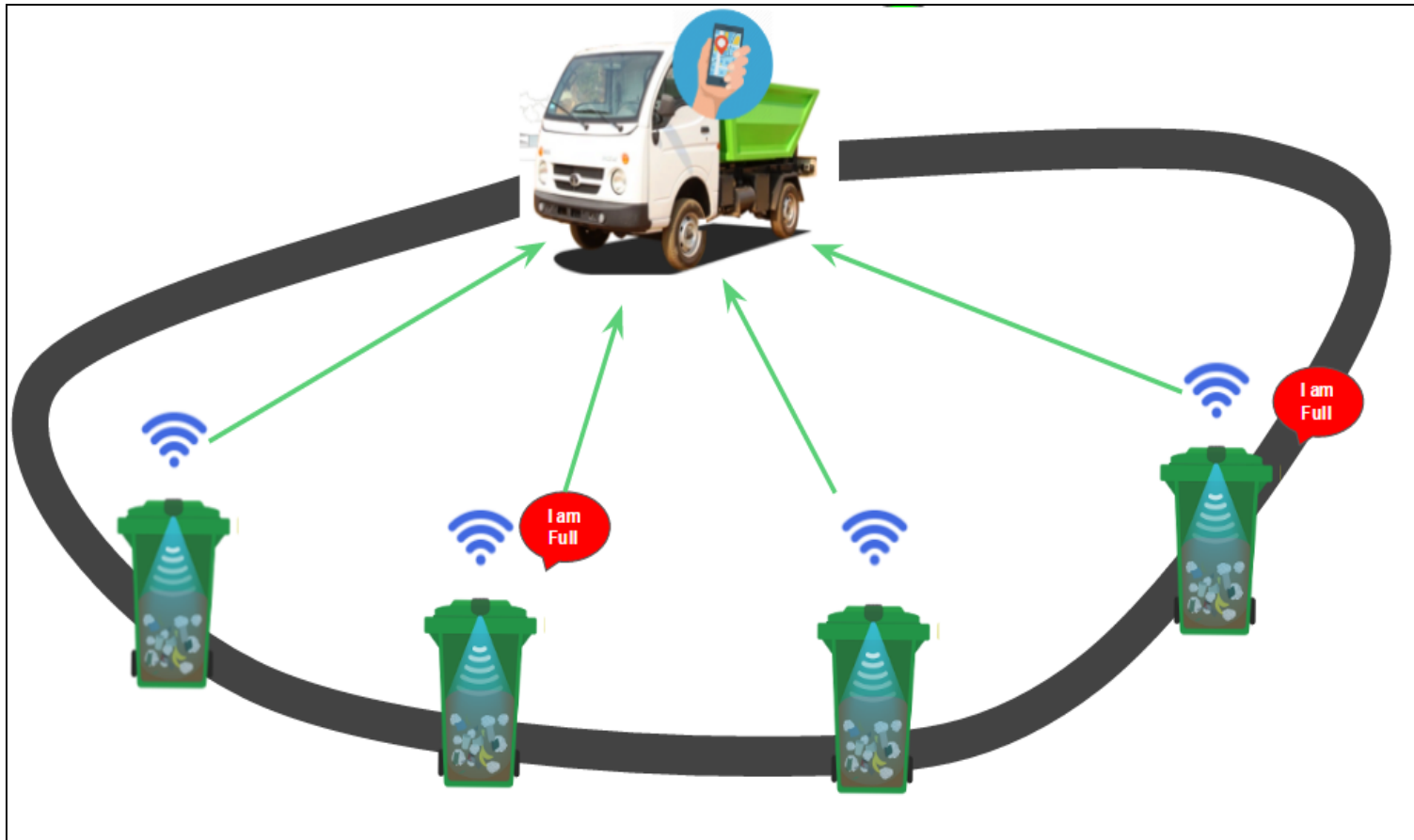


Smart Dustbin- Step 1



➤ When any object comes close to the sensing area, the lid will open automatically.

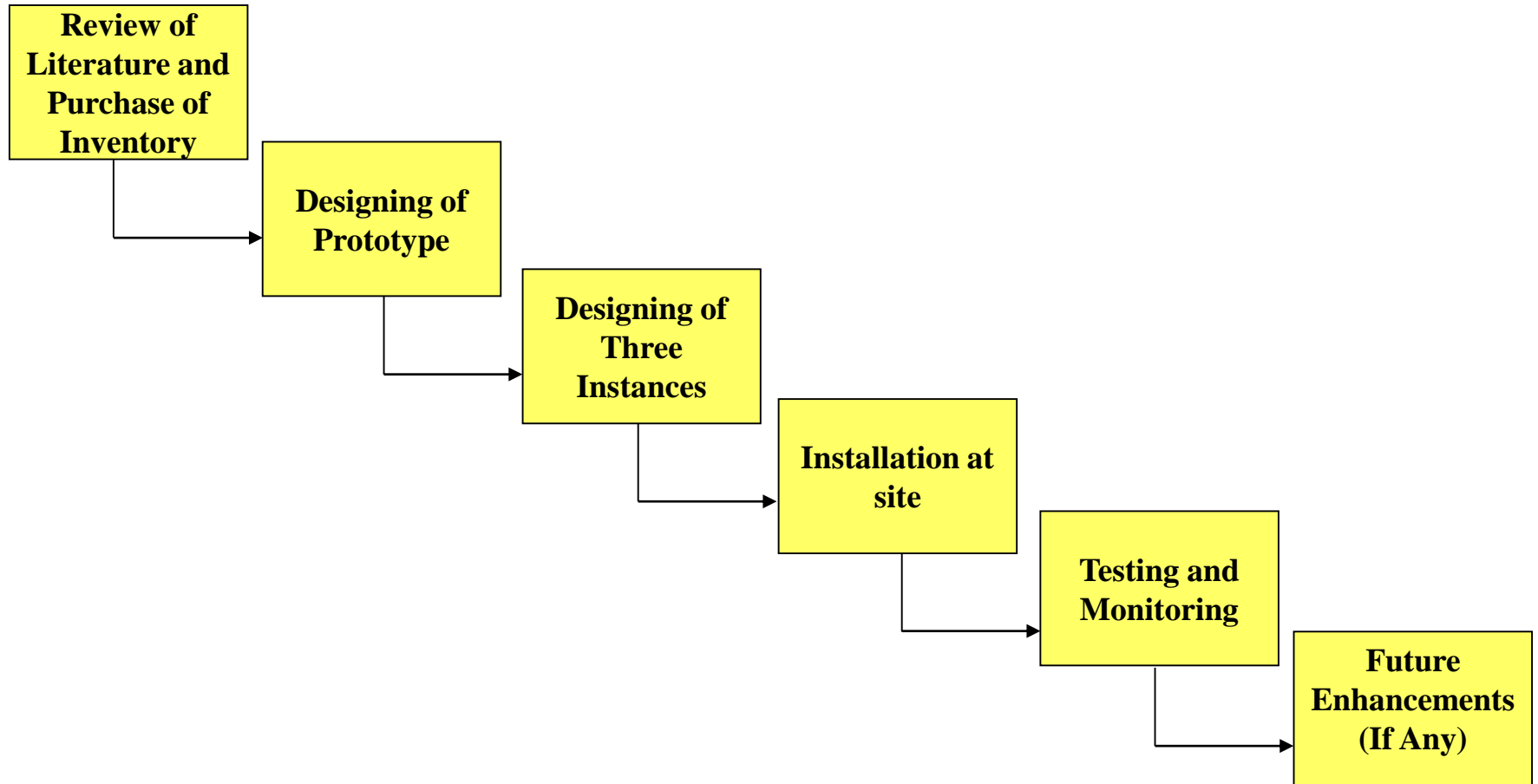
Smart Dustbin- Step 2



- When a dustbin gets full, a message will be sent to the municipal corporation.

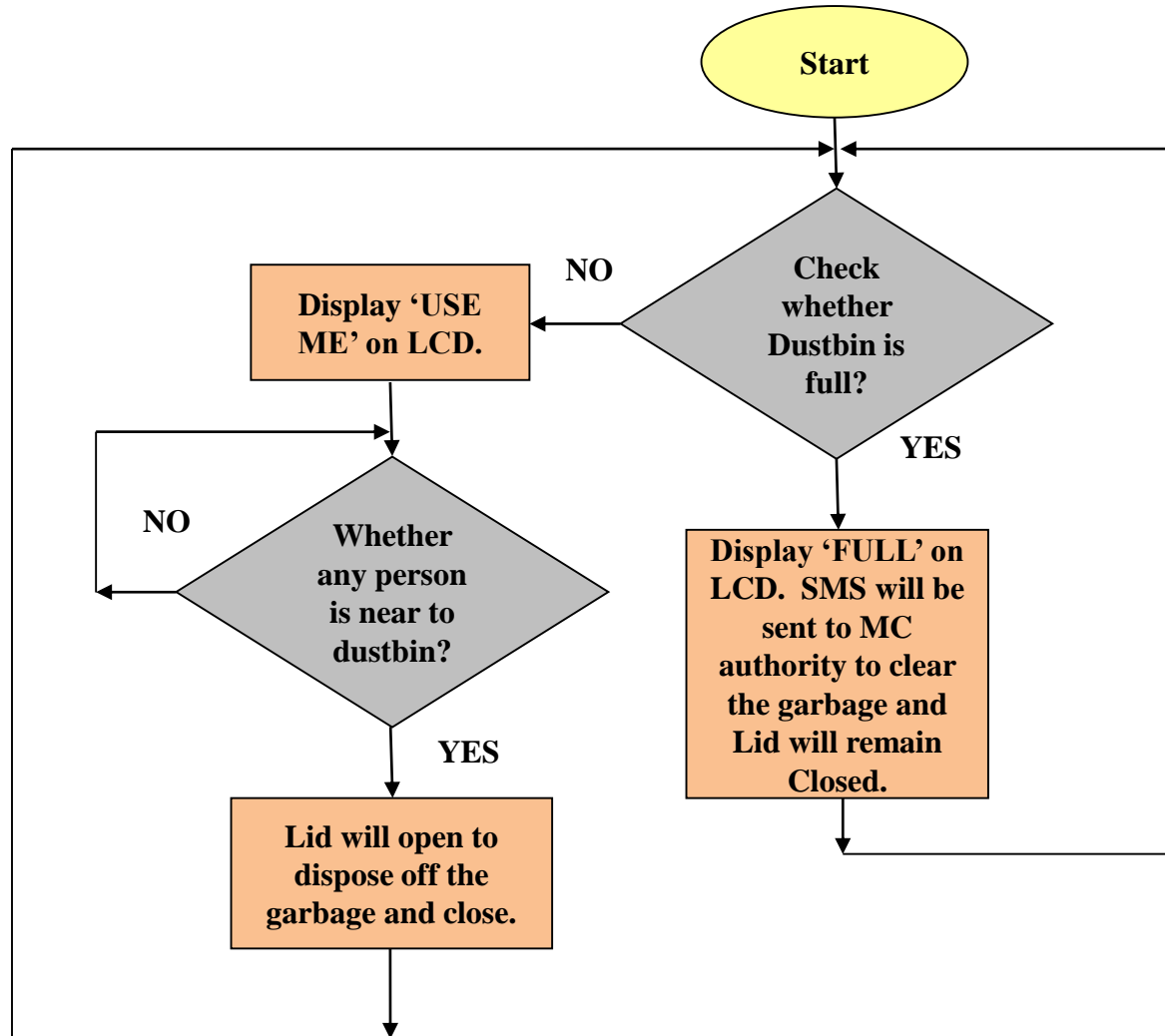


Work Plan



Major Tasks involved in Proposed Project

Flow of Work



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



S. No.	Item	Cost (INR)
1	Plastic Dustbins with Lid (capacity-approx 300 L)	30,000/-
2	Arduino	5,000/-
3	Ultrasonic sensor SR-04	3,000/-
4	GSM module	4,000/-
5	Small LCD Panel	20,000/-
6	IR sensors	3,000/-
7	Servo Motor	15,000/-
8	Travelling Cost	15,000/-
9	Miscellaneous (SIM, Buzzer, LEDs, Installation Cost etc)	20,000/-
	Total	1,15,000 /-*

* Costing of designing a Prototype and installing Three (3) Instances at the site.



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



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

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



Thanks !!