PROPOSED SOLUTION

Problem Statement (Problem to be solved):	• Lack of proper methods for disposal and collections of wastes and garbage. • Unavailability of systematic methodology for the collected wastes to recycle so most of them end up in landfilling and dumping into the river water which make the environment unhealthier. • Lack of proper supervising methods to check the level of waste collecting bins resulting in decomposition causing health issues. • Employees appointed by the Municipality authorities fail to collect the wastes concerning about their health.

Idea/Solution Description:	• The Ultrasonic sensor at the waste collecting bin continuously senses the level of the bin and the collected information is sent to the controller. • Microcontroller continuously monitors the data. When the obtained data reaches its threshold value, the alert message is given to the Municipality center in the form of E-mail. • In addition, the location of the bin is known by interfacing GPS module. • Further the decomposition of wastes is prevented by interfacing gas sensors. • With the help of bin's location, the municipality members alert the nearby waste collecting truck member by giving a notification with the help of GSM module. • Here, all the collected data is stored on the cloud. • The stored data in the cloud are analysed to increase or decrease the number of bins in a particular location accordingly.
Novelty/Uniqueness:	• An analysis chat to know the waste collection details of an area which aids in increasing or decreasing the number of bin count periodically. • Replacing Weight sensor with the Ultrasonic sensor. Usage of weight sensor accounts for the dust particles whose presence doesn't contribute in updating the level of the waste collecting bin. Thus, the Ultrasonic sensor which calculates the distance alerts once the bin maximum level is reached.
Social Impact/ Customer Satisfaction:	• Minimizes time for the workers to complete the work. • Reduces manpower.

	• Compactness of the system makes the implementation process easier. • Environmental pollution could be brought down.
Business Model (Financial Benefits):	• Application of GPS module, enables the customer to find the shortest path which in turn allows the customer to collect the wastes on time and to reduce the investment on the fuel consumption. • The Electronic components interfaced in the system is less cost.
Scalability of solution:	• As all the functions are automated the manual errors can be eradicated. • In future the members in the truck can also receive the message and notifications directly from the controller. • If the bin is completely filled and reaches the level, it automatically sends the message to the local worker who is nearer to the bin.