



Theme Domain : Environment

IF IT HAS TO BE DONE, TAKE RESPONSIBILITY & DO IT

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PROBLEM STATEMENT

India generates more than 1.6 lakh Metric Tones(MT) of solid waste every day.

Only 85% (approximately 1.35 lakh MT) of the waste generated is collected. Which means that nearly 25,000 MT of garbage remains exposed and uncollected every day, resulting in almost 90 lakh MT of solid waste disposed in open areas each year, which leads to "severe" pollution level. Poor waste collection systems serve as cause to origin of many other problems and diseases. Of the total collected waste, only 20 per cent (27,000 MT per day) is processed. One of the reasons why processing's not efficient is, waste isn't being segregated into different categories at the root level. Hence its necessary to design a smart waste collection system that allows citizens to segregate the various types of solid waste they want to dispose and the municipal authorities to efficiently collect the waste.

SOLUTION

Users/Beneficiaries : Everyone who lives under municipality jurisdictions

Impact : Efficient system for collecting waste in order to make way for a greener future

Impact metrics : 1) Number of people or % of population with access to waste collection under the project

- 2) Area with improved regular (daily, weekly or bi-weekly) waste collection service
- 3) How many fractions of waste were separated before and after the project

Technologies to be used : Olfactory sensors, Infrared sensors, Level Indicative Sensors, Arduino, Cloud Services, Android app by the municipal corporation to receive data and to aid collection of waste in a timely manner. Algorithms will also be used to ensure fastest collection.

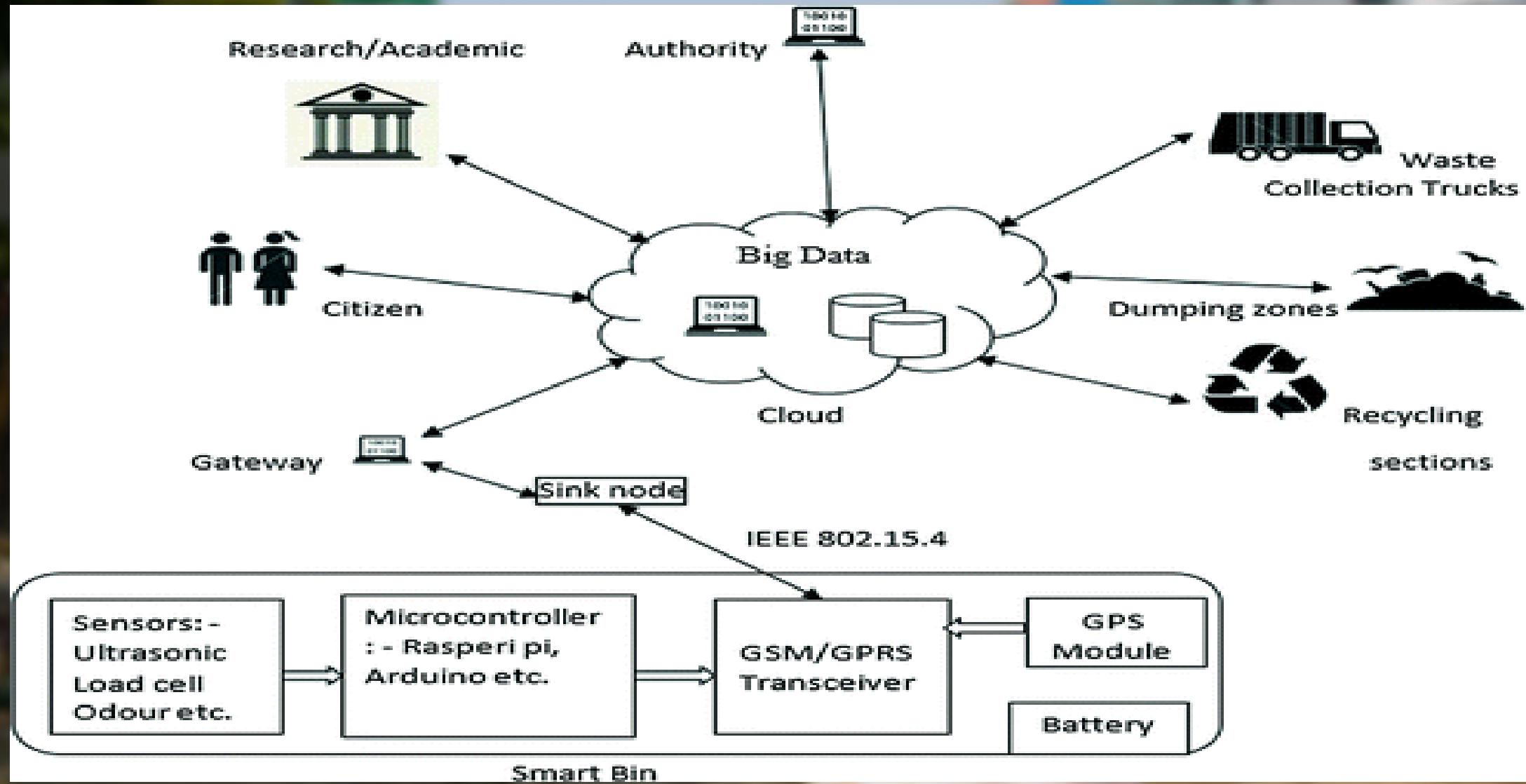
Constraints : Implementation on a large scale and agreement & enthusiasm of the municipal corporation along with the residents of India.

Reasons : The sensors used can help in the segregation of waste, and also send data to cloud effectively which will help us in understanding the production of it.

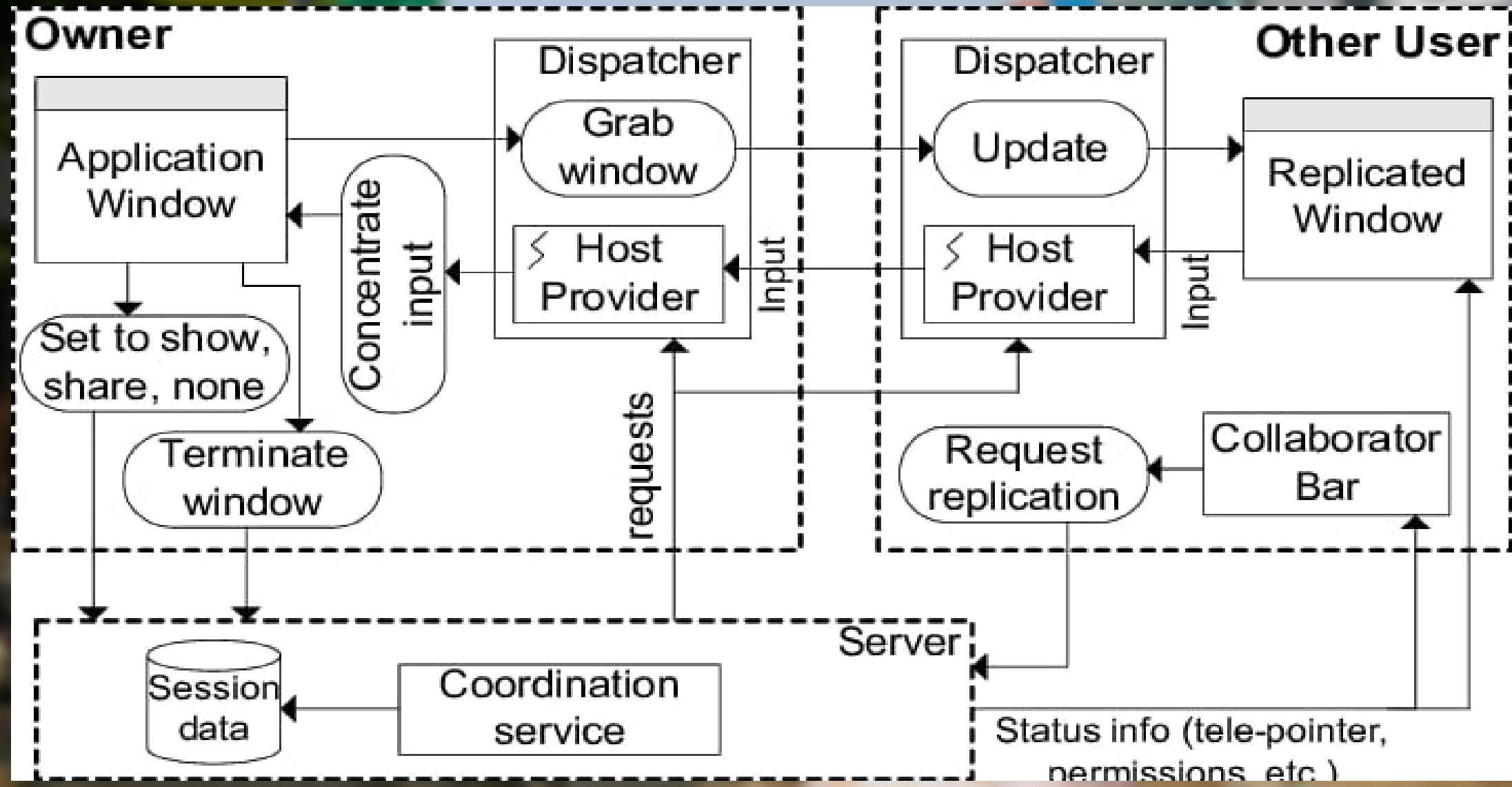
Effectiveness : We feel it is an effective solution as the municipality trucks will only go to places where the garbage is full, rather than go everywhere everyday. Hence the resources will be used optimally.

Ease of implementation : As a very small scale business (for a single house/neighborhood), it will be very easy to implement, but a larger scale (maybe Implementation in a city) would require setting up factories and arranging a maintenance team along with the consent of the municipal authorities.

ARCHITECTURE DIAGRAM



BUSINESS MODEL





THANK YOU!

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