SMART WASTE MANAGEMENT SYTEM FOR METROPOLITAN CITIES

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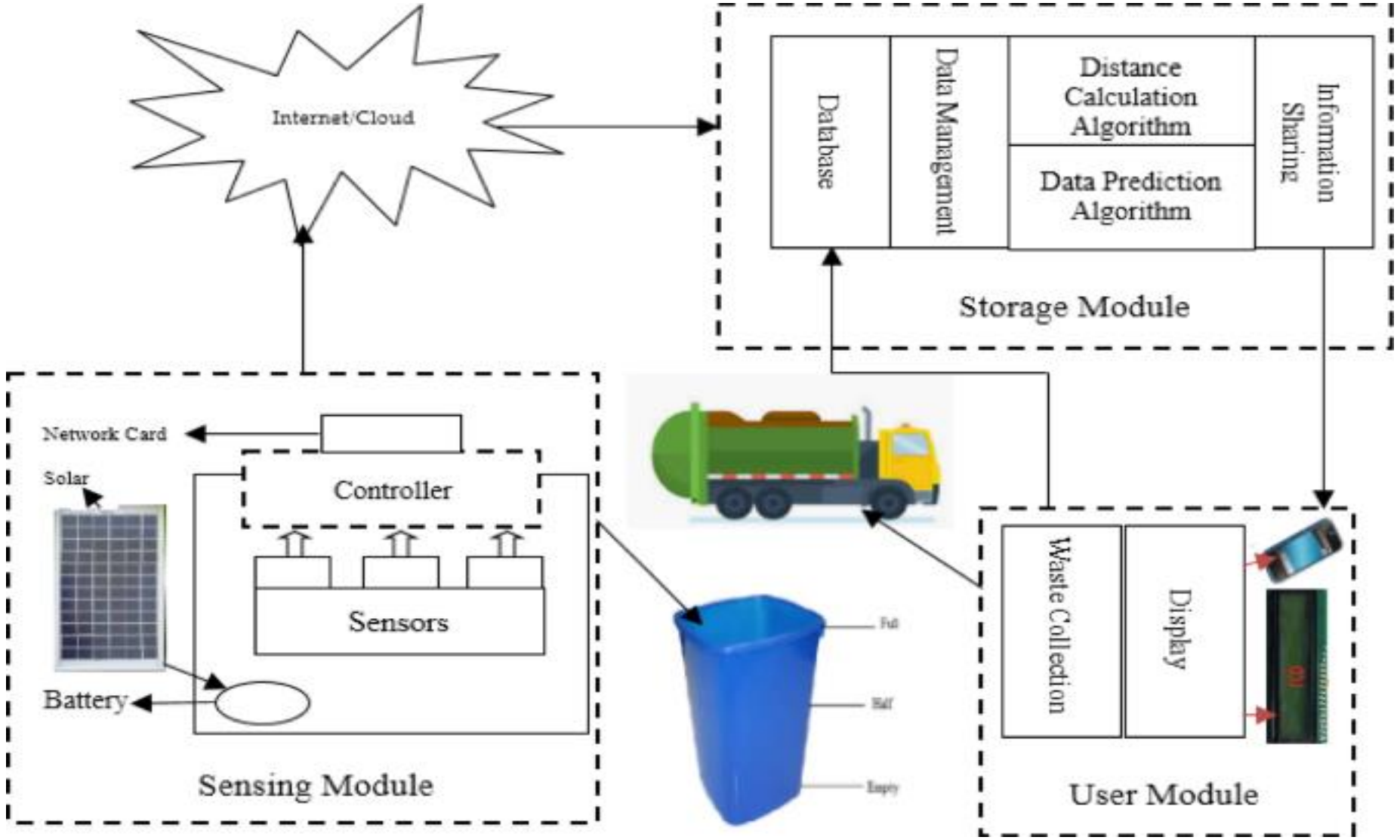
ABSTRACT:

- This project is aimed to developing a smart waste management system for metropolitan cities under the domain of cleanliness and hygiene.
- By designing embedded IOT system can be monitor each dumpster individually for the amount of waste deposited.
- For detecting, the presence of any waste of any waste wet or dry can be detected using an IR sensor.
- Ultrasonic sensor is used for measuring distance, this makes it possible to measure the amount of waste in containers.
- Garbage level of the bins can be monitored through Web App, if the container is full then an alert message will be sent to the corresponding person.

OBJECTIVES:

- The problem statement is to build the smart waste management for metropolitan cities to reduce the amount of waste produced everyday by the industries and the households is increasing at an appalling rate, and the major reason for this is soaring use of packaged items, textiles, paper, food, plastics, metals, glass etc,
- Due to the increasing waste, the public bins which are used for collecting this waste are overflowing, the locality is jumbled of trash, causing not only malodorous streets but also a negative impact on the health and environment.
- Trash is breeding ground for bacteria, insects, flies these flies are the same that roam around the eatable and drop the off springs. thus they increase the risk with food poisoning, typhoid, gastroenteritis, salmonella, the insects cause malaria dengue etc,
- The aim is to assure a clean environment, good health, and pollution free society by the smart waste management system for metropolitan cities.

ARCHITECTURE DIAGRAM:



LITERATURE SURVEY:

1) https://github.com/IBM-EPBL/IBM-Project-35221-1660282887

ABSTRACT:

With the increasing population and industrialization of nations throughout the globe, waste has become a great concern for all of us. Over years, researchers figured that only waste management is not enough for its proper treatment and disposal techniques to preserve our environment and keeping it clean in the era of globalization. With the help of technology researchers have, introduced IOT based smart waste management solution and initiatives that ensures reduced amount of time and energy required to provide waste management services and reduced amount waste generated. Unfortunately, developing countries are not being able to implement those existing solutions due to many factors like socio-economic environment. Therefore, in this research we have concentrated our thought on developing a smart IOT based waste management for developing countries like INDIA that will ensure proper disposal, collection, transportation and recycling of household waste with the minimum amount of resource being available.

2) https://ieeexplore.ieee.org/document/8058247/similar#similar

ABSTRACT:

At present solid waste management is a major concern in the metropolitan cities of the developing and developed countries. As the population is growing, the garbage is also increasing. This huge unmanaged accumulation of garbage is polluting the environment, spoiling the beauty of the area and also leading to the health hazard. In this era of Internet, IOT (Internet of Things) can be used effectively to manage this solid waste. In this paper, we have discussed the definition of Internet of Things and its elements, testing and prototyping tool simulator and finally the study of various literatures available on smart waste management system using IOT.

REFERENCE:

Theodoros Vasileios Anagnostopoulos, Arkady Zaslavsky and Alexey Medvedev, "Robust waste collection exploiting cost efficiency of IOT potentiality in smart cities", *International conference on recent advances in internet of things (ICRIOT)*.