

WASTE CYCLE - SMART WASTE MANAGEMENT SYSTEM

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A dissertation submitted in partial fulfilment of the requirement for
Bachelor of Engineering (Hons) degree in Software Engineering.

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**in Collaboration with
University of Westminster, UK**

2020

Abstract

Evolution of technologies had a tremendous effect on every industry over the years. Similarly, Waste Management industry has also gone through a big change in recent years which has empowered cities to manage and battle ever growing volumes of municipal waste in a smarter way. Smart Waste Management Technologies has been evolved with Wireless Sensor Networks (WSN) and Internet of Things (IOT) to help cities and businesses.

Although public services and waste management companies have been around for a long time, they have seen only limited innovation with operational efficiency—until the last few years. One big problem that they've faced is that piling up of trash in the road sides & accumulation of garbage outside of garbage collecting bins. (Link L., 2020)

The current state of technology in the field of smart waste management involves IOT, the use of sensors that measure fill level of the trash bin. Measured data is sent to the Cloud for further processing and analysis. By exploiting this data, trash collection can be planned as well as truck routes can be optimized. Despite this solution being an improvement of the conventional (sensor less) solution, it suffers from major drawbacks, poor sensor performance and lack of any contribution to the trash sorting at the recycling facility.

The proposed system focuses on a platform which will cater the problems of recyclers or recycling companies and which will benefit both common people and distributing companies. Further, this system recognizes and classifies images fed by the citizen or distributor and match distributor with the citizen and recycler and provide distance to landfills or recyclers and helps for an efficient distribution.

The results will ensure how the waste cycle goes around and ways trashes can be reused in a productive way which will lead to waste reduction and increase operational efficiency in the municipal scale.