

## ABSTRACT

In modern smart home automation, waste management plays a crucial role in maintaining hygiene, sustainability and also eco friendly. To address this issue, we have developed a smart dustbin equipped with automated sensors that efficiently segregate waste and monitor its level. This system ensures that dry and wet waste are separated automatically, making waste management more effective. Additionally, real-time monitoring and recording of waste levels help prevent overflow, ensuring timely disposal. By maintaining cleaner surroundings, the smart dustbin helps reduce pollution and curb the spread of diseases caused by improper waste disposal.

This innovation not only promotes hygiene but also supports sustainability by encouraging proper waste segregation. The moisture sensor detects the type of waste based on its water content and directs it to the appropriate compartment, ensuring effective segregation. Simultaneously, the ultrasonic sensor monitors the fill level of the dustbin and alerts users when it reaches its capacity. Ultimately, the implementation of smart waste management solutions contributes to a healthier and cleaner lifestyle.

This system enhances waste disposal efficiency, promotes environmental sustainability, and reduces manual intervention, making it a smart and convenient solution for modern homes.