

IoT Based Smart Garbage and Waste Collection Bin

Technofist,

YES Complex, 19/3&4, 2nd Floor, Dinnur Main Road, R.T.Nagar,Bangalore-560032

Ph:080-40969981, Website: www.technofist.com. E-mail: technofist.projects@gmail.com

ABSTRACT:

Many times, in our city we see that the garbage bins or dustbins placed at public places are overloaded. It creates unhygienic conditions for people as well as ugliness to that place leaving bad smell. To avoid all such situations we are going to implement a project called IoT Based Smart Garbage and Waste Collection bins.

These dustbins are interfaced with microcontroller based system having IR wireless systems along with central system showing current status of garbage. The status will be Wirelessly send to the control unit. The main aim of this project is to reduce human resources and efforts along with the enhancement of a smart city vision.

INTRODUCTION:

Internet and its applications have become an integral part of today's human lifestyle. It has become an essential tool in every aspect. Due to the tremendous demand and necessity, researchers went beyond connecting just computers into the web. These researches led to the birth of a sensational gizmo, Internet of Things (IoT). Communication over the internet has grown from user -user interaction to device –device interactions these days. The IoT concepts were proposed years back but still it's in the initial stage of commercial deployment. Home automation industry and transportation industries are seeing rapid growth with IoT.

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Since most of the process is done through the internet we must have an active high speed internet connection. The technology can be simply explained as a connection between humans-computers-things. All the equipment's we use in our day to day life can be controlled and monitored using the IoT. A majority of process is done with the help of sensors inIoT. Sensors are deployed everywhere and these sensors convert raw physical data into digital signals and transmits them to its control centre. By this way we can monitor environment changes remotely from any part of the world via internet. This systems architecture would be based on context of operations and processes in real-time scenarios.

Smart collection bin works in the similar manner with the combination of sensor namely IR sensor that indicates its different levels respectively. The IR sensors will show us the various levels of garbage in the dustbins and this values are send to the control unit through GSM and GPRS.

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