# Smart Dustbin

One step towards cleanliness of India.

एक कदम स्वछता की ओर .....

# Idea/Approach Details:

- Theme : Smart people(Who build use and sustain a smart village , human development village)

- Definition: Smart Dustbin

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- College Name: Marwadi Education Foundation Group of Institutions, Rajkot, Gujarat.

# Idea Description:

- Aim: Country like India is leading towards the success in every direction but the biggest issue of India, is cleanliness. Our prime minister Mr.Narendra Modi is leading towards the "Swatch Bharat Abhiyan" which was originally initiated by Mahatma Gandhi. So , we have a solution to our Swatch Bharat Abhiyan .And solution is "The Smart Dustbin". A smart dustbin which collect dust and will also alert the municipality whenever dustbin is full to collect the waste from it. The main aim to make Smart Dustbin is to clean every part of nation and to provide healthy life to every citizen of our nation.

# Idea Description:

❖ **Why " Smart Dustbin "?**

- In a country like India where our Prime Minister promotes Digitalization and people are more or less dependent on technology and expect more and more of it to make their life easier. Due to this dependency , there are many problems faced daily. One of such major problem is people are not throwing garbage which are nearer to dustbins and lying on the floor

- Because cleanliness and proper waste management became one of the major issue for the developing countries and also an important requirement for ecologically sustainable development in many countries. We have seen in day to day life that garbage is burnt here and there, which produced immense of pollution.

- So , to help the society and to clean our nation we have a very smart solution for it. A solution is "Smart Dustbin" which collects waste , open and close automatically whenever user is near or far accordingly. Whenever the user is in certain range of distance the dustbin will open otherwise it will remain closed. So , it will reduce human efforts and also our main motto for Swatch Bharat Abhiyan will be satisfied. One other functions of it which is most essential to solve , is what to do when Dustbin is full? Smart Dustbin will sense that Dustbin is full and Municipality will be informed and proper manipulation of that waste will be executed. So, not to worry if the dustbin is full.

- Finally we can pronounce that, a garbage-free environment can only be established if we put ourselves into this concern. For hundreds of years we have witnessed that it is our fault for the pollution that is caused in our surrounding, by burning up the garbage or littering the earth by the waste material, rather than disposing them properly. Now is the time to get into action to save our Mother Earth. This proposed system will definitely help to over-come this striking issue. We can also guarantee a safe and a healthy environment, by which we will finally have a clean bright outlook for the future generation.

# Idea Description:

❖ **Functionalities**

➢ Will detect waste whether it is degradable or it is Non-degradable for proper manipulation.

➢ Will open automatically whenever user is in its range area otherwise it will remain closed.

➢ Location will be traced and thereby the nearer Smart Dustbin will be located once user start his/her GPS to locate it.

# Our Technology:

- **Front End Technologies:**
  - Android Studio (XML)

- **Back end Technology:**
  - Java
  - C

- **Database Technology:**
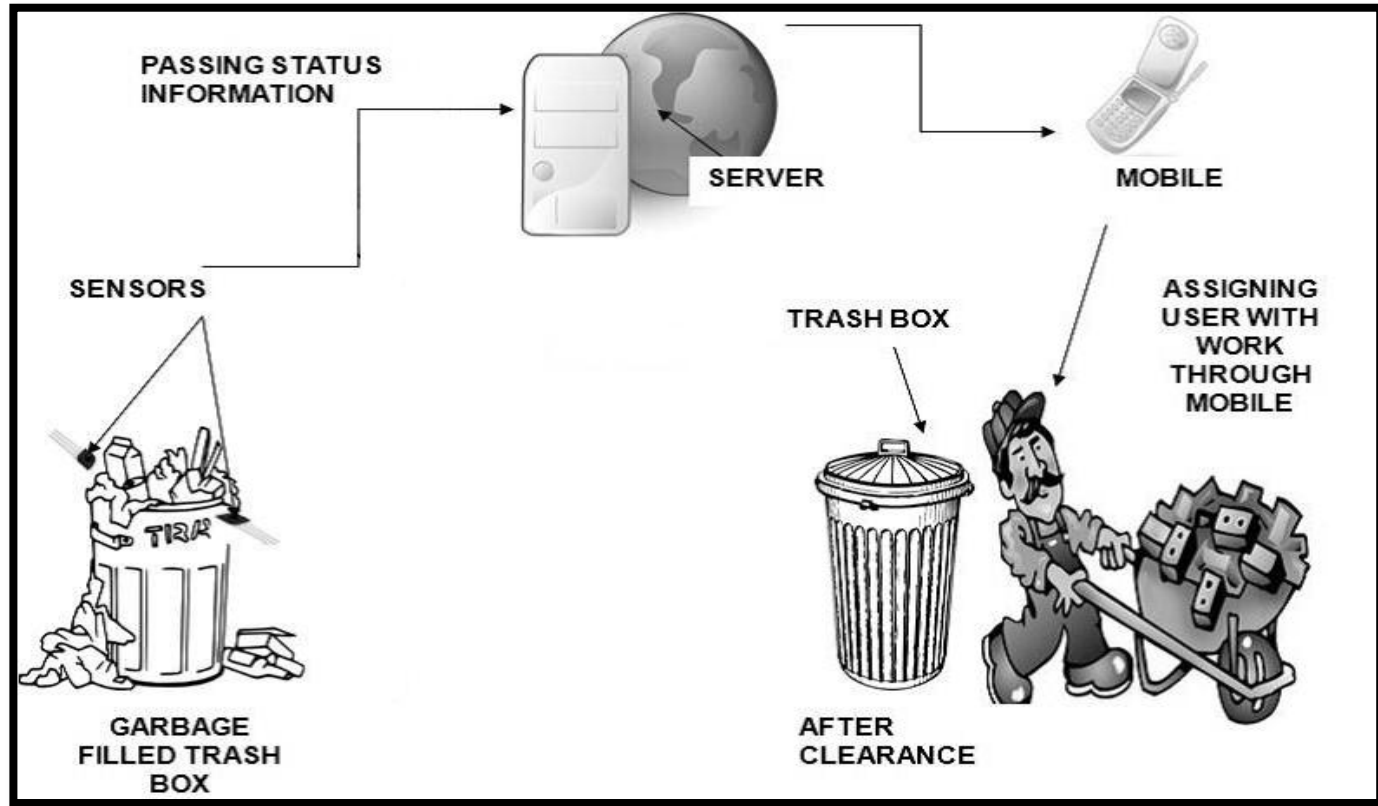  - SQL
  - Firebase

# Idea Approach Details: Snapshot 1



Fig. 1 Architecture of working model
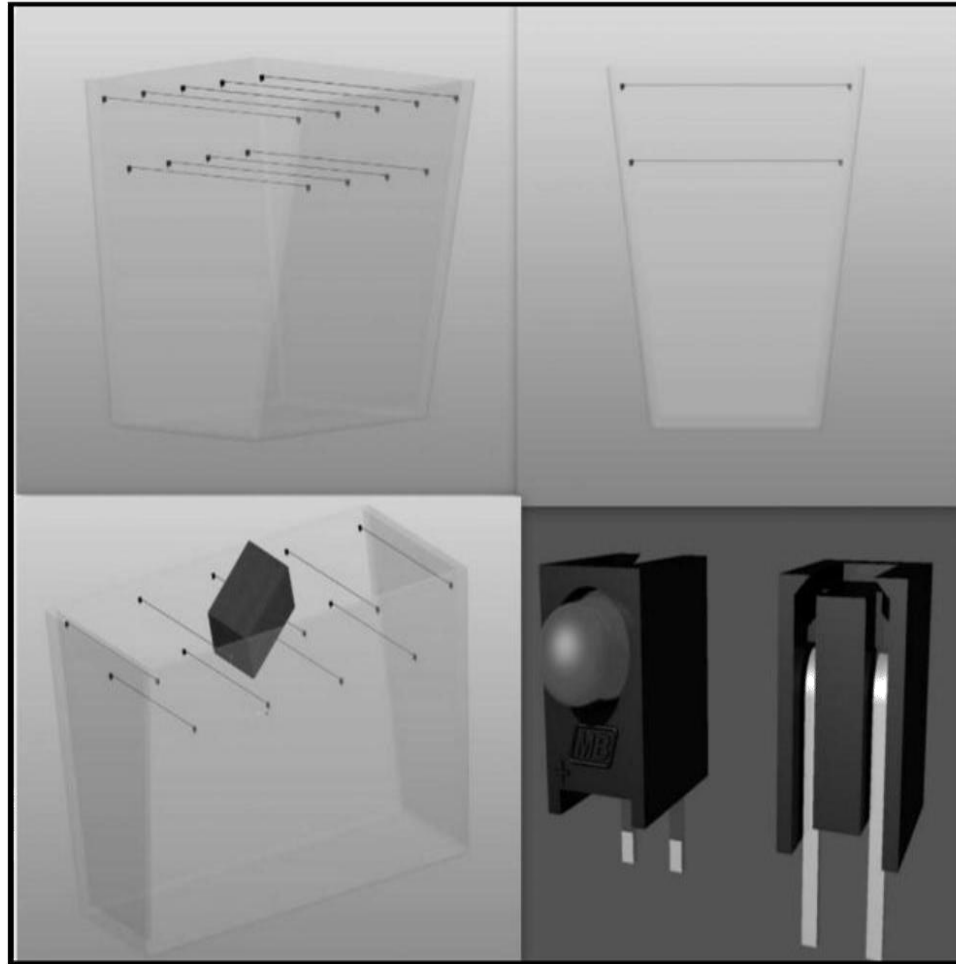
# Snapshot 2



Fig. 2 Picture showing various perspectives of the garbage bin with sensors

# Dependencies/ Show Stoppers

- The internet and GPS should be in ON condition is necessary for tracing of location.

- Android is necessary.