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WASTE ALLOCATON LOAD LIFTER EARTH CLASS (WALLE)

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ABSTRACT

This paper basically involves an application and a product which acts as a communication medium between the normal people and the people who recycle it. This project deals with Electronic, Plastic, glass and medical waste. Our project consists of an application and a product. The application provides a platform for the users to share their views about the waste and a hazard present in their locality and also helps them to communicate with each other. Our application is for those people who have electronic, glass, plastic and medical waste at their home, but has no clue of how to dispose it. Our application also has an Environmentalist chat (EC) which provides a platform to communicate with each other regarding environment problems. We also have a platform which provides facts, issues and awareness which can be shared among a community of people. Once the bin is "FULL" a notification will be sent to the Wall E team stating "BIN IS ALMOST FULL". The GPS tracking system will be used to locate the users location.

Keywords: *Communication medium, Electronic waste, Glass waste, Plastic waste, Recycle, GPS tracking system*.

I. INTRODUCTION

As the technology and number of devices keep increasing in the world, there is an increased demand for recycling the modern waste known as E-Waste. India being a technology empowering country is the 5th biggest producer of E-Waste in the world this regarding approximately 1.7 million tonnes are electrical and electronically equipment. As internet continues to grow in the world and report by the UN has warned that the volume of global E-Waste is likely to rise by 21% in the next 3 years. India is behind U.S., China, Japan and Germany. CRT's which are widely used in displays have high content of lead and phosphorus which is harmful to the environment. Though a debate between commodity and waste electronics is undergoing for generations, some exporters deliberately leave heard to recycle products obsolete. Our paper suggests an application to solve this problem to some extent.

II. LITERATURE SURVEY

Asia being the largest and most popular continent in the world has generated the most E-Waste in the world approximately at 16 million tonnes or 3.7 per inhabitant. India, which generates

1.7 million tonnes of E-Waste, is the 3rd highest Asian nation leading in E-Waste generation behind China which generates about 6 million tonnes of E-Waste and Japan which generates 2.2 million tonnes of E-Waste per year. Tamil Nadu is the 3rd among highest E-Waste Generator in India. This problem should be considered serious and necessary action should be taken. As our application also deals with plastic and glass waste, we will now see the statistics based on the same. In the year 1996, the consumption of plastic in India was 61000 Tonnes which swiftly raised to 300k Tonnes in the year 2000. India being a population thick country generates about 15000 tonnes of plastic waste per day of which 6000 tonnes remain uncollected and reserved. Especially in the urban areas, according to a report generated by the planning commission in 2014, 62 million tonnes of municipal solid waste have generated. Of the 51.4 million tonnes of solid waste generated in our country, according to a CPCB report in 2014-15, a whopping 91 percent was collecting of which only 27 percent was treated and remaining 73 percent were disposed at dump site which is a problem for the country.

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III. PROPOSED SYSTEM

This system is proposed to overcome the issue like overflowing of waste, timely collection of waste from the bin and efficient recycling of the waste. Our project consists of two components-an application and a product i.e., a smart bin. The application provides a platform for the users to share their views about the waste and hazards present in their locality and also help them to communicate with each other. Our app is for those people who have electronic, glass, plastic and medical waste at their home, but has no clue of how to dispose it. Awareness is created among people using a news feed module in our application. We provide a platform called Environmentalist Chat (EC) for the people to communicate with each other. We also have a platform which provides facts, issues and awareness which can be shared among community of people. Once the bin is "FULL" a notification will be sent to the Wall E team stating "BIN IS ALMOST FULL". The GPS tracking system will be used to locate the user's location. Once the Wall E team collects the Electronic,

Plastic or Glass waste, based on the location detected by the GPS in the user's mobile, a sufficed amount will be given based on the quality and quantity of the given electronic waste. If the waste can be refurbished then a larger amount will be given to the user.

Fig 1. Waste Collection Concept

IV. WORKING PRINCIPLE

The WALL E application has 5 modules in total with the firebase database at the backend. On installing the app, the user is prompted to either login or signup. Once the user has logged in the user has to provide details about the electronic, glass or plastic that needs to be recycled. Based on the details given the estimated amount will be given to the user. The GPS system is used to locate the user and collect the waste. The application also provides a Environmentalist chat and News feed platform which can be used by the environmentalist to post any issues or hazards.

V. INNOVATION IN PROPOSED SYSTEM

Our application provides a platform for environmentalist to communicate with each other and provide awareness about the issues in various localities. This can be done through the Environmentalist chat module which is present in our application. We also provide a platform called news feed which is used to post about various issues and create awareness among various environmentalists. Our application also provides a method through which the amount for the user is estimated based on the various details given by the user. We also use GPS tracking system to locate the user which helps us in better locating the user even in rural areas. The modules used in the proposed paper are,

FIREBASE DATABASE - We use the firebase database to store the details of large number of users. We authenticate each user with an email and a password. We also verify the email by sending a confirmation mail to the

corresponding user. The user can also use Google or facebook account to login, as we have used the corresponding application programming interfaces (API).

GPS TRACKING SYSTEM- We use the Google Map API and the corresponding fused location and an Onclick listener to get the users location. The corresponding data is stored in the real-time database. The Wall E team uses the data in the real-time database to get the users location.

VI. ARCHITECTURE

It acts as an interface between the common people and the people who recycle the waste. The first user or beginner of the application should register into the app. Our application has two modules, one is for electronic waste and the other module is for plastic and glass waste. Depending upon the category of waste, the user should select the module. Customer should give a short description about the waste and must specify the weight of it along with their location. Once we get the information about the waste, the service will be provided by our team. After the service is provided, the customer will be given a sum amount depending on the type and quantity of the waste. The waste collected will be recycled efficiently.

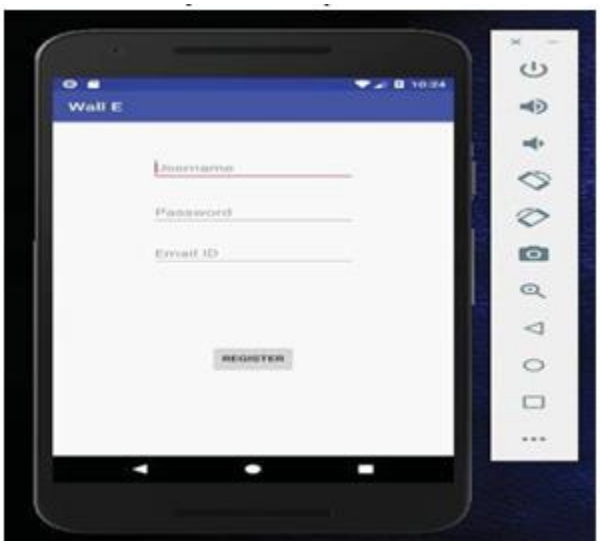

Fig 2. Screenshot of WALL E App

Once the user has given the necessary details about the electronic, glass and plastic product, an estimated amount of the product will be provided. By using the data provided by the GPS tracking system, the team will reach the location of the user. All the data of the user will be stored in the firebase database. So that it will be convenient for the user to login multiple times with the help of Google account

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Fig 3. Screenshot of WALL E App

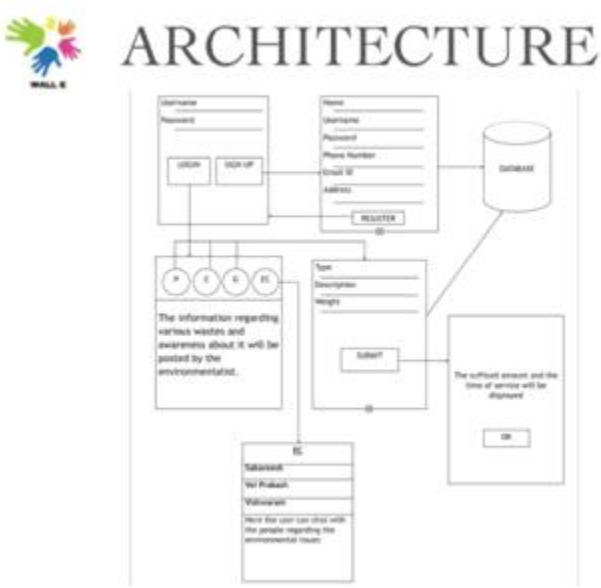

Fig 4. Working Concept

VII. RESULT

By using our app, the waste collected will be recycled efficiently by giving it to a third party (Recycler) so that our environment will not be polluted. It is user friendly as we go to the door steps to collect the waste. It also provides a common platform for the users to communicate and create awareness among them.

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