WASTE DISPOSAL SYSTEM

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Abstract — Proper Waste Management is a fundamental key to environmental sustainability. In this paper, the environmental problems that mostly arise from the garbage/waste are reviewed. Every city generates waste day by day which needs to be collected in smarter way. Environmental problems related to Plastic Waste, E-Waste, Scraps, Fabric Waste, Furniture, Medical Waste and Biodegradable Waste are discussed along with its proper way of management. Ways to manage Leftover Food is also discussed. Android based Waste Detox App provides a platform to people know about waste disposal based on the 3R's Mantra (REDUCE, REUSE, RECYCLE).

Keywords — Android Studio, Data, Recycling, Waste Disposal, Municipal, Type of Waste

I. INTRODUCTION

India is home to 1.21 billion people (based on 2011 Census) and the population has increased by almost 181.5 million (mn) since the last decade. The population growth in India has been high and it grew by 22% during 1991–2001 and 18% in the last decade. The growing economy of India has resulted in a vast change in the demographics of the country from a rural to an urban society with a fast process of urbanization, due to which an estimated 600 mn1 Indians would start living in urban areas by 2031.

Urbanization brings challenges to manage waste in proper way. Due to population growth, growing economic activities, industrialization, changing lifestyles, as well as introduction of emerging technologies bring in completely different challenges to be faced (e. g. E-waste management). Urban waste management is one such major issue that has emerged out of the other factors and has led cities and towns to be filled with piles of garbage left in the open (to rot) as we fail to manage our waste due to lack of attention to the demand and availability of services to develop an equivalent.

Waste Management is a consistently developing issue at local and global levels. Our waste is both hazardous and non-hazardous, some of it is biomedical, while the remaining is from electronic and IT related sectors. Hence, relooking into the present systems of waste management in the country is the need of the hour.

Android based platform is a connection between

Android Users and Sanitation Services, Waste Haulers, Scrap Dealers and Recycling Centers. Android Users will be able to learn about Waste disposal/Recycling Techniques, to measure Waste amount, increase rate of Recycling and to produce Custom Reports. According to user's residential areas, Waste Centers of all types are added in the App, along with their schedule, address and contacts.

II. LITERATURE REVIEW

Review of papers is done to collect information about the background, current status and previous system flaws, where we can find solution to the unattained problems. A variety of related papers are reviewed and summarized as follows.

In paper [1] Author focus on recycling of plastic waste and provides a general overview of the main issues associated with Plastic Disposal. Plastic can be recycled by Mechanical Recycling Process. If mechanical recycling is not possible then, Chemical Recycling and some usage of Oil reserves are added to creation of plastic material. Energy from Waste and Mechanical Recycling are likely to go hand in hand in Plastic Waste Disposal routes in the near future.

In paper [2] the environmental problems related with the discarded electronic appliances known as e-waste, are reviewed. Moreover, the current and the future production of e-waste, the potential environmental problems associated with their disposal and management practices are reviewed by author. Author carried out a survey about E-Waste Disposal Management in various countries like Greece, European Union, Switzerland, Japan. Author of paper [3] describes various health care waste and its controlling, as creating good practices for proper handling and disposal of health care waste is an important part of the health care delivery system. The paper focuses on the Reduce, Reuse and Recycle for Biomedical Waste Disposal. On-site medical waste treatment and Off-site medical waste disposal are categorized for disposal of bio-medical waste.

Writer of the paper [4] gives the technique of recycling the household biodegradable waste using composting method under a controlled environmental condition. Composting can be beneficial for improving soil fertility, extent fertilizers, save water and decrease the plant diseases. Composting provides organic farmers a way to recycle manures and plant residues.

III. METHODOLOGY

A. Flowchart –
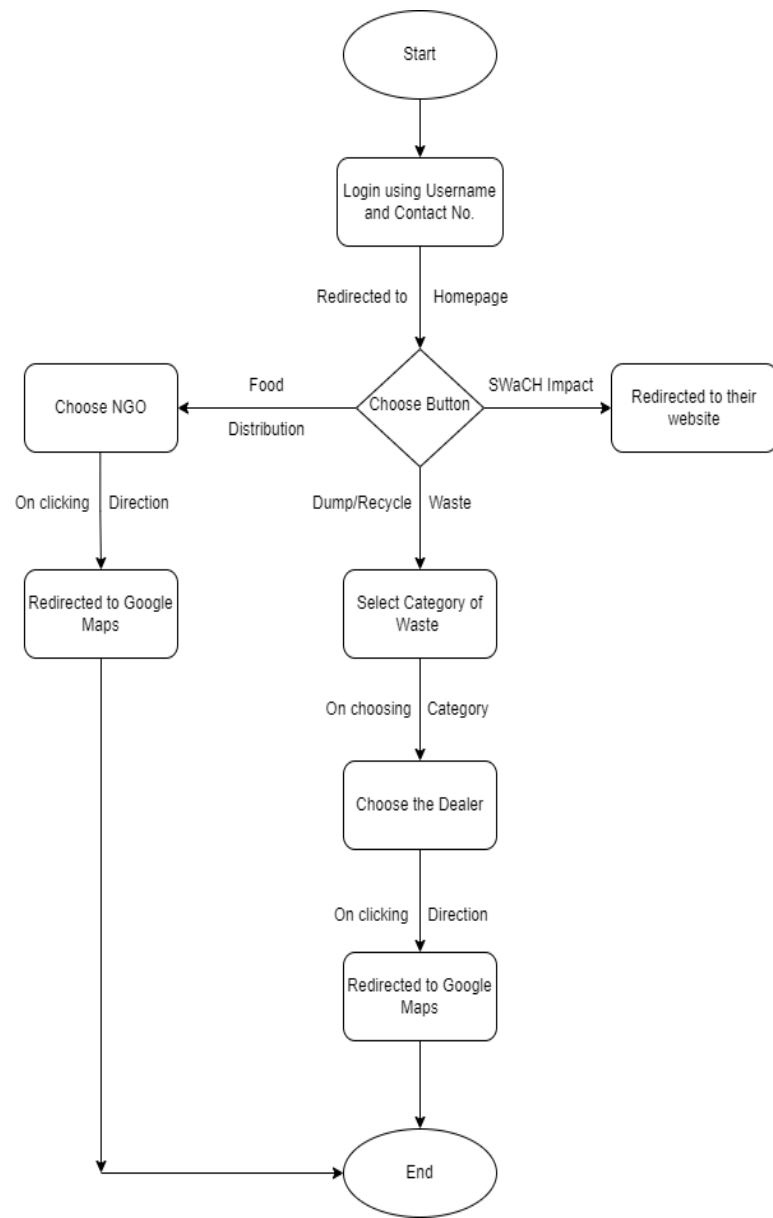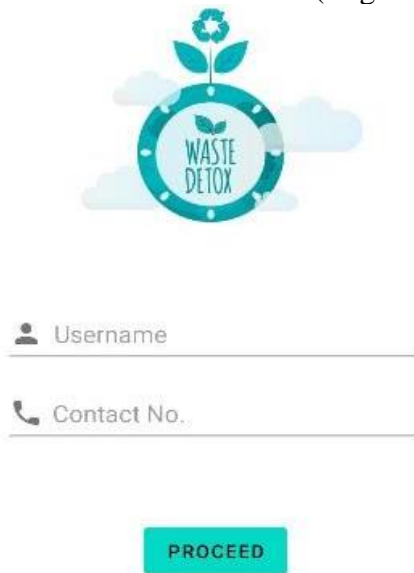
IV. RESULTS AND DISCUSSIONS

- The Project would help people in Inculcating the Habit of Waste Disposal.
- The Project would contribute towards the cleanliness and wellbeing of the environment.
- This Project would help Local Scrap Dealers / Recycling centers and their customers to Earn by Recycling their Products.
- The Project would help people save their money & time by Acting an Intermediate.
- This Project would help the poor by providing food via NGOs, also Avoiding Food Wastage.
- This Project would be appreciated by the Municipal Corporations / Local Governing Bodies as well as the Public.

Below are the screenshots of the final application –

- Screenshot 1 (Login Page):
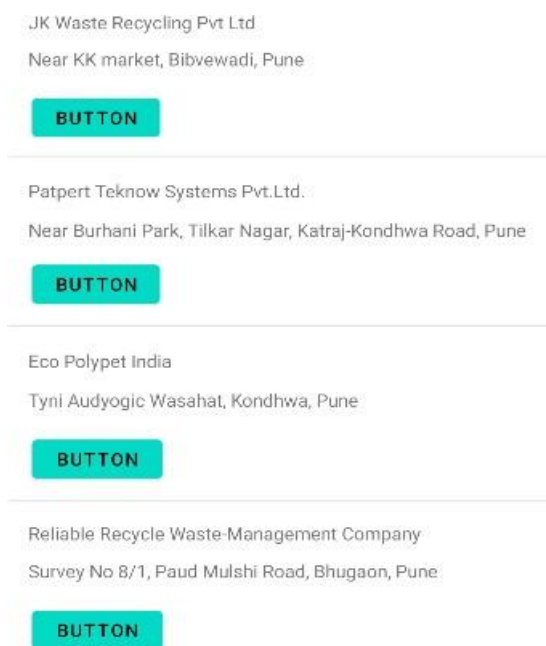

- Screenshot 2 (Home Page):

- Screenshot 3 (Waste Category Page):

- Screenshot 4 (Shop Page):

JK Waste Recycling Pvt Ltd

Near KK market, Bibvewadi, Pune

[BUTTON]

Patpert Teknow Systems Pvt.Ltd.

Near Burhani Park, Tilkar Nagar, Katraj-Kondhwa Road, Pune

[BUTTON]

Eco Polypet India

Tyni Audyogic Wasahat, Kondhwa, Pune

[BUTTON]

Reliable Recycle Waste-Management Company

Survey No 8/1, Paud Mulshi Road, Bhugaon, Pune

[BUTTON]

V. HELPFUL HINTS

A. References

[1] VANNESSA GOODSHIP, "PLASTIC RECYCLING" HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/5666181_PLASTIC_RECYCLING

[2] G. GAIDAJIS, K. ANGELAKOGLOU AND D. AKTSOGLOU, "E-WASTE: ENVIRONMENTAL PROBLEMS AND CURRENT MANAGEMENT" HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/49607064_E-WASTE_ENVIRONMENTAL_PROBLEMS_AND_CURRENT_MANAGEMENT

[3] MATHUSUTHAN KUMARASAMY, VASANTHINY JEEVARATNAM, "REVIEW ON MANAGEMENT OF HOSPITAL WASTE IN AN EFFICIENT MANNER" HTTPS://WWW.ACADEMIA.EDU/57416164/REVIEW _ON_MANAGEMENT_OF_HOSPITAL_WASTE_IN_AN_EFFICIENT_MANNER

[4] BUBA APAGU ANKIDAWA AND EMMANUEL NWODO, "RECYCLING BIODEGRADABLE WASTE USING COMPOSTING TECHNIQUE" HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/235684977_RECYCLING_BIODEGRADABLE_WASTE_USING_COMPOSTING_TECHNIQUE

[5] PROF. B.S.MALAPUR, PROF. B.S.MALAPUR, "IOT BASED WASTE MANAGEMENT:AN APPLICATION TO SMART CITY"

HTTPS://IEEEXPLORE.IEEE.ORG/DOCUMENT/9104069

[6] HIMADRI NATH SAHA1 , SUPRATIM AUDDY1 , SUBRATA PAL1 , SHUBHAM KUMAR1 , SHIVESH PANDEY1 , RAKHEE SINGH1 , AMRENDRA KUMAR SINGH1 , SWARNADEEP BANERJEE1 , DEBMALYA GHOSH1 , SANHITA SAHA2, "WASTE MANAGEMENT USING INTERNET OF THINGS (IOT)"

HTTPS://WWW.RESEARCHGATE.NET/PUBLICATION/320596482_WASTE_MANAGEMENT_USING_INTERNET_OF_THINGS_IOT

VI. LIMITATIONS

1. Due to limited time, our app would be restricted to some particular areas and cannot be used globally for time being.
2. If User enters invalid information regarding the category of waste or about the condition of material (fabric/furniture/leftover food), then it may cause problem.

VII. FUTURE SCOPE

- Trader login feature will be added.
- More target areas would be covered.
- Custom waste reports would be made available.
- More waste categories will be added (for example- medical waste).

VIII. CONCLUSION

This application would promote awareness amongst the people about proper management of waste, its uses and keeping the environment clean and pollution free. It would also save the resources by recycling waste materials and thus conserving energy.