**CN4005-Mental Wealth**-**Task-3-Group Work Proposal**

**by**

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**Title: Plastic Recycle for Collection Points and 3D Printer Filament.**

**Introduction:**

Our proposal is to collect plastic waste and convert it into 3D printer filament, these can be used to print accessories, products and other useful materials. Plastic usage has been increasing at an alarming rate for a long time (Plastic Pollution, 2018). We aim to put all that plastic to good use!

**Statement of the Problem:**

The issue of plastic in today's day and age remains to be seen as one of the worst issues of environmental protection and waste management. Moreover, the use of polymer has many applications in our daily lives. Because of the extended use of plastic waste has appeared. After they were withdrawn, they became hazardous wastes. The possibility of reusing the polymeric material gives an increased possibility of commercialization, enables effective and efficient waste utilization to obtain consumable results.

**Proposed Solution:**

The proposed system will be able to turn plastic waste into filament for use in 3D printing which reduces overall waste and allows for the reusage of plastics to contribute to the global plastic recycling effort. Our system incentivizes the recycling of plastic through a system of “Recycle and Reward” – as consumers recycle, they can redeem points as they go, the more they recycle, the more points they will accumulate which can be redeemed for online vouchers or it can be used for 3d printing services. Part of the recycled filament can be sold online as an eco-friendly filament.

**Objectives and Goals:**

* The goal of this project is to design, build, and test an extruder that converts PET bottles into 3D printing filament.
* The focus is specifically on creating 3D printing filaments made from PET bottles.
* The broader goal will be to Recover, Redesign and Remanufacture.

**Steps Involved:** ( We have to work here)

1. Reuse plastic bottles by recycling and converting them into 3D printer filament
2. To organise a program in supermarkets and other educational settings about plastic waste so that younger people are reminded to reuse 3D printed plastic bottles.
3. Organise collection points at supermarkets across the country to collect PET plastic bottles and encourage people to recycle to redeem points in our reward system.

**Benefits:**

* Our project will encourage people to recycle more plastic. This system has many environmental benefits like the reduction of plastic waste. 3D printing reduces manufacturing waste, lowers the carbon footprint, and supports the economy.
* 3D printing allows us to invest in the future generation of technology.
* It could be highly profitable for individual users making their own products as well as for small and medium-sized businesses.
* Less plastics will improve the environmental impact to reduce the overall waste on businesses.
* Encourage coming generations to think about reuse, recycling and sustainability of plastics.

**Potential Obstacles:**

* Equipment costs.
* Some supermarkets are not spacious to include such a collection point - Arrange an agreement with the council to collect plastic bottles from their collection points would be an alternative.
* Advertising.

**Conclusion:**

In conclusion, our goal is to help reduce plastic waste by reusing plastics in an innovative way, incentivizing the recycling plastics and building a brighter future for the coming generations.

**References:**

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