The Road to Zero-Waste

Title of the Project:

“The Road to Zero-Waste: Reinventing Plastic Lifestyle Management”

Problem Description:

We are all facing the problem of waste not being properly disposed of in dustbins, and single-use plastics are a major issue. Many stray dogs and cows ingest these plastics, leading to severe health problems. Additionally, burning plastics causes significant pollution and emits harmful gases like carbon dioxide, carbon monoxide, and other greenhouse gases, which are detrimental to human health and contribute to breathing problems and environmental harm.

Existing Solutions:

1. Plastic Ban and Single-Use Plastic Reduction Policies:

Solution: Governments and organizations have imposed bans or restrictions on single-use plastics to minimize waste. Alternatives, like paper bags and reusable containers, are promoted as substitutes.

Limitations: Enforcement of these bans can be challenging, and alternatives are often more costly. Consumers and industries also need time and incentives to adapt. In many cases, plastic use continues in informal markets and areas where regulation is harder to enforce.

1. Awareness Campaigns and Educational Initiatives

Solution: Non-profits and governments run campaigns to raise public awareness about proper waste disposal, the dangers of plastic pollution, and the importance of reducing single-use plastics.

Limitations: Awareness does not always translate into behavioral change. Some areas lack access to waste disposal facilities, and overcoming entrenched habits requires sustained effort and reinforcement.

1. Waste-to-Energy (WTE) Plants

Solution: WTE plants convert non-recyclable waste, including plastics, into energy. This process reduces waste volume and provides an alternative energy source.

Limitations: Although WTE reduces landfill waste, it still emits greenhouse gases and other pollutants, even with advanced filtration systems. WTE also competes with recycling programs for waste, potentially reducing recycling rates.

1. Animal-Proof Waste Bins and Street Cleanliness Initiatives

Solution: Some areas have introduced animal-proof waste bins and street cleaning initiatives to prevent animals from ingesting plastics and other hazardous materials.

Limitations: Maintaining these systems can be resource-intensive, and they require regular monitoring and enforcement. In areas with limited funding or staffing, these initiatives may not be sustainable long-term.

Our Solution and Its Uniqueness:

We are planning to create specialized bins for different types of waste, such as plastic, paper, dry, and wet waste. Each person who disposes of waste in these bins will receive points, which can be redeemed by logging in with their mobile numbers. These points can be exchanged for coupons and other rewards. An advantage of this system is that the collected plastic can be recycled to produce durable plastic products, while separated paper waste can be recycled, helping reduce deforestation for paper production. This initiative also promotes cleanliness, contributing to a dust- and dirt-free city.

The uniqueness of our project lies in the use of a LED display and the dialpad near each bin. Initially the user has to enter their registered mobile number and dispose the waste and for the amount of waste disposed is calculated and points are allocated according to that . The person then receives an SMS containing the number of points are rewarded for contributing to city cleanliness, which can later be redeemed for exciting rewards and coupons by clicking on the link provided in the SMS.

Technical Description:

We are using an LED display to guide users to access our web portal, where they can log in with their registered number and claim points for the amount of waste they dispose of in the bins provided by us. Once users accumulate points and complete their waste disposal, they will receive an SMS with their points total and a link to the web portal, where they can redeem a coupon of their choice.

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