

DESIGN COMPETITION-1

Submitted by:

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PROBLEM STATEMENT

Waste management at the municipality level is often non-existent. Cities need better incentives to tackle this problem.

EXISTING SOLUTIONS

- **Smart fridge from Samsung**

Costing £4,499, the Family Hub refrigerator is connected to the internet via Wi-Fi. The device has three built-in cameras so owners can check its contents while out shopping. It also includes Alexa, Amazon's AI assistant, which responds to voice commands – so you can tell it to turn music on, order more tomatoes and make notes.

- **Winnow**

Winnow is an electronic scale that weighs waste as it is thrown away, making it easier to keep track of the volume involved. Currently being trialled in commercial kitchens (and used by the likes of Hugh Fearnley-Whittingstall's River Cottage) Sainsbury's is looking to introduce this innovative technology to homes in Swadlincote.

- **Too Good To Go (TGTG)**

Founded in Denmark last year, allows restaurants and other food service establishments to list their unsold food inventory, which iOS and Android app users can buy directly from their devices at a cost as low as half the original price, and then pick up at a designated time for a low-cost meal. The app, which lists nearby participating restaurants in the UK (currently in Brighton, Birmingham, Leeds, Manchester, and just recently London), has foods listed for as little as £2 (~US\$2.60), with a maximum price of £3.80 (~US\$5.00).

- **Automated marketing and inventory**

Each package has a sticker sensor. Sensor detects gas build up inside packaged foods such as fruit, fish and meat. When products are nearing the end of their shelf life the price is automatically reduced and ads/notifications sent to customers. Smart shelf also knows when products need to be refilled. Same sensors can be used in home with RFID reader.

PROPOSED SOLUTION:

Place a force sensor beneath the trash can which measures the amount of waste by a particular restaurant. It has a digital display on the top, which measures the weight of trash present. More the trash, more the amount that has to be paid to the waste management company (WM-Phoenix Open for instance). This has an additional advantage; the managers can track the amount that they waste. Hence, they can plan accordingly, the amount of food to be prepared. Also, this is one of the steps which would promote recycling of waste.

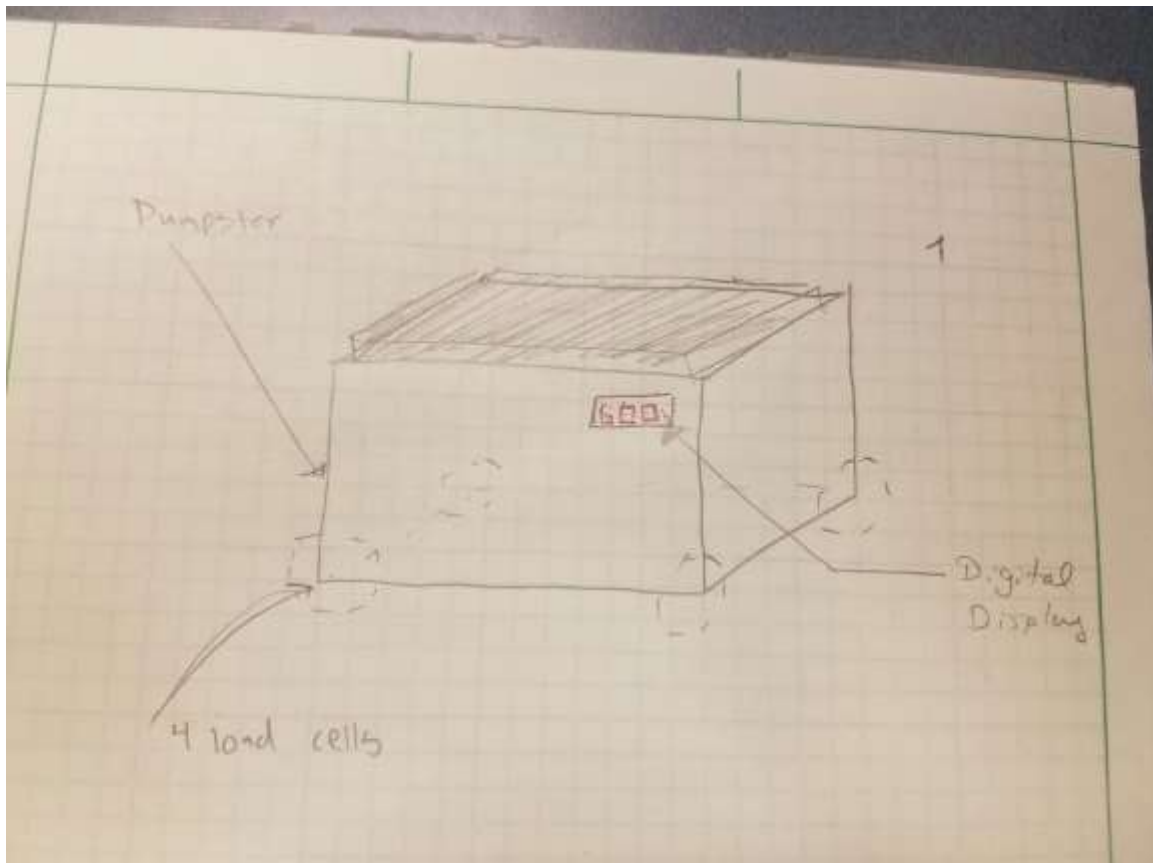


Figure 1

DESCRIPTION OF USER AND BUYER

Buyer: Municipalities across the country that are willing to be proactive and tackle this problem.

User: Restaurants and University dorms/housings within the municipal limits.

ASSUMPTIONS

1. Each restaurant has its own dumpster. It is not a public dumpster.
2. The restaurant personnel are candid in their approach of use. They follow the norms set by the municipality.
3. Municipalities are willing to adopt our proposed solution.
4. Payment amount is "weighted" based on business size, average waste, and business type.

PRODUCT ATTRIBUTES

1. Price
2. Eco friendly
3. Portability
4. Weather Resilience
5. Material
6. Size
7. Appearance/Aesthetics

PITCH

Food waste is a major epidemic in our society; our product (DUMP-SMART) offers communities an affordable, eco-friendly solution to help combat this problem providing better incentives for restaurants to manage their food waste.