# Suggested Design Specifications

## Constraints

The final design must:

* Be an electro-mechanical system
* Be able to differentiate between 5 categories of waste: paper, plastic, glass, metal, and “other” with an 85%+ success rate
  + “Other” will be any non-recyclables and/or unrecognizable substances
* Be safe to operate and to leave unattended
  + No exposed hardware, no sharp edges that could cut skin, no exposed rotating parts
* Be able to accept waste up to the size of 30 cm x 30 cm x 30 cm (if it can accept larger sizes of waste that is even better)

## Objectives

The final design should:

* Be able to sort an identified piece of waste into the appropriate location with a 90%+ success rate
* Be scalable or have a few size options to choose from
* Be easy to operate
  + Criteria: time it takes for a user to operate it on the first attempt, and time it takes for subsequent uses once the user is familiar with the functionality
    - Time should be minimized
* Be able to identify the waste in under 10 seconds (note: the faster, the better)
* Be water-resistant (if there is food waste, or any another wet substance being processed through)
* Weigh less than 25 kg