**Trash Bot**

Original Ideas

1 - Trash can that detects the trajectory of the flying trash and moves to catch it

2 - Trash can with multiple “plates” on the edge of the lid that can lift and block the flying trash to prevent missing

\*\*idea 2 sounds easier to do than 1, but idea 1 is more interesting and has a higher success rate because it isn’t stationary (allows a wider range to “catch”)

| Pros | Cons |
| --- | --- |
| * Convenient when throwing out simple solid waste * The novelty of a robotic trash can catching your throws is appealing * Can be great for places where trash is frequently being thrown out (office (paper), warehouse (cardboard), etc.) * Can encourage people to throw out trash properly | * Powering trash bin can introduce sustainability problem * Unnecessary robot to have in most cases (placing waste bin next to you) * Limited in size * Isn’t the most ground breaking idea |

Potential Parts

Idea 1

# 1 - Adeept 5-DOF Robot Arm Kit 5Axis ($67)

<https://www.amazon.com/exec/obidos/ASIN/B087R8DLG6/ezvid02-20>

2 - MicroBotLabs ArmUno 2.0 MeArm ($45)

<https://www.amazon.com/exec/obidos/ASIN/B00X3C3ZFO/ezvid02-20>

3 - Plexiglass Sheet 24” x 36” ($34)

<https://www.amazon.com/Clear-Acrylic-Plexiglass-Sheet-Thick/dp/B01NAFYRPE/ref=sr_1_3?crid=3HYC7Y3KDM7U6&keywords=plexiglass&qid=1658117966&sprefix=plexiglass+%2Caps%2C83&sr=8-3>

Idea 2

# 1 - 48mm Omni Wheel Robot platform chassis(with encoder ($121)

<https://www.alibaba.com/product-detail/3WD-48mm-Omni-Wheel-Robot-platform_62309887983.html?mark=google_shopping&seo=1>

(same product different site)

<https://ozrobotics.com/shop/omni-wheel-robot-platform-chassis-with-encoder-black-15001b/>

2 - REX Chassis Series Cruise Omni-Wheel Mini Robot Platform ($40)

<https://www.etsy.com/listing/1217915009/rex-chassis-series-cruise-omni-wheel?gpla=1&gao=1&>

3 - 4WD 58mm Omni Wheel Arduino Robot ($276)

<https://www.robotshop.com/en/4wd-58mm-omni-wheel-arduino-robot.html>

4 - 4WD Omni Wheel Arduino Compatible ($654)

<https://ozrobotics.com/shop/4wd-omni-wheel-arduino-compatible-mobile-robotics-car-10008/>

Other Ideas Trash Related

1- Trash Lid that sorts waste (paper, plastic, glass, etc.) (Maybe limit it to bottles/cups)

\*\* We can use capacitive sensors to determine material

\*\*Baomain Capacitance Proximity Sensor ($10)

<https://www.amazon.com/Baomain-Capacitance-Proximity-LJC18A3-B-Z-BX/dp/B01C57A80M/ref=asc_df_B01C57A80M/?tag=hyprod-20&linkCode=df0&hvadid=167148449262&hvpos=&hvnetw=g&hvrand=18379396648179730976&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9002012&hvtargid=pla-311358798664&psc=1>

2- Trash can that compresses trash (can be an additional feature)

3- Trash can that automatically ties fully bags and loads new ones (nvm, there’s one that exists already)

\*\*<https://www.youtube.com/watch?v=nvhF_BcCtYw&ab_channel=Freakin%27Reviews>

4- Public roomba (trash detection)