

Student: LAU Sze Chung

Programme: BEng4-ECE

Supervisor: Dr. WONG Steve H.

Background

- Many citizen throws **recyclable waste** in **wrong recycling bin**.
- **No one collect** the recyclable waste after the bin is full.

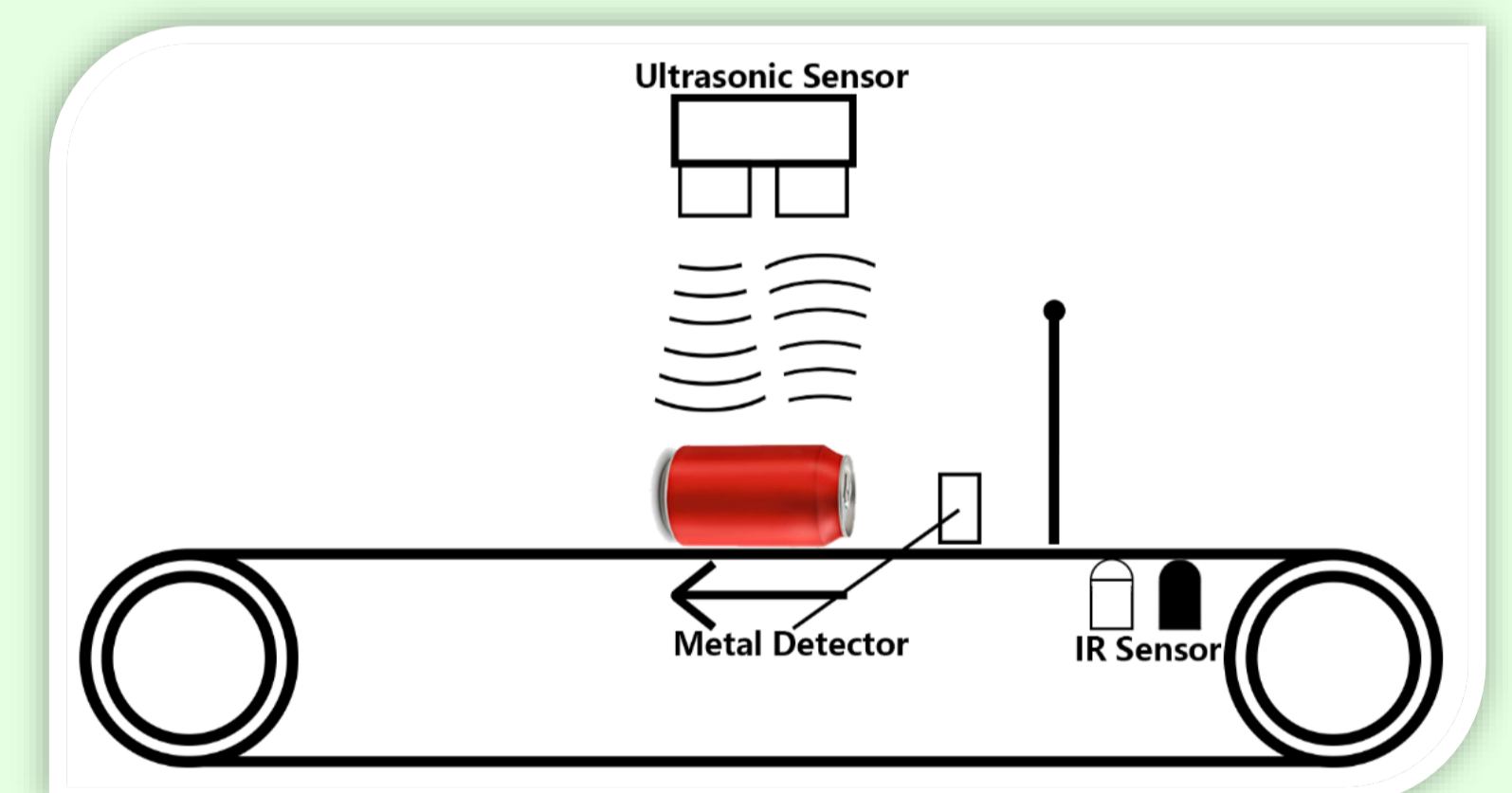
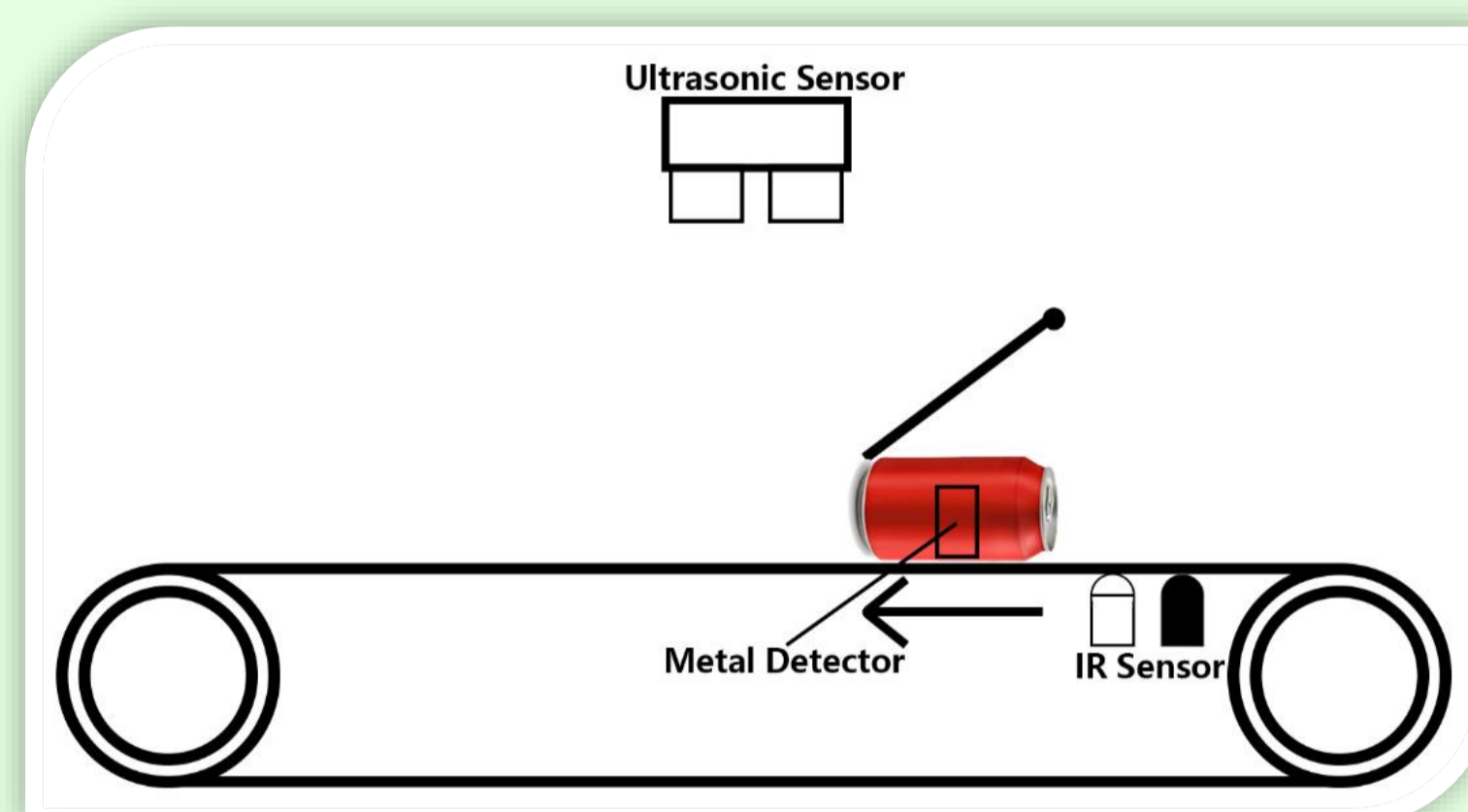
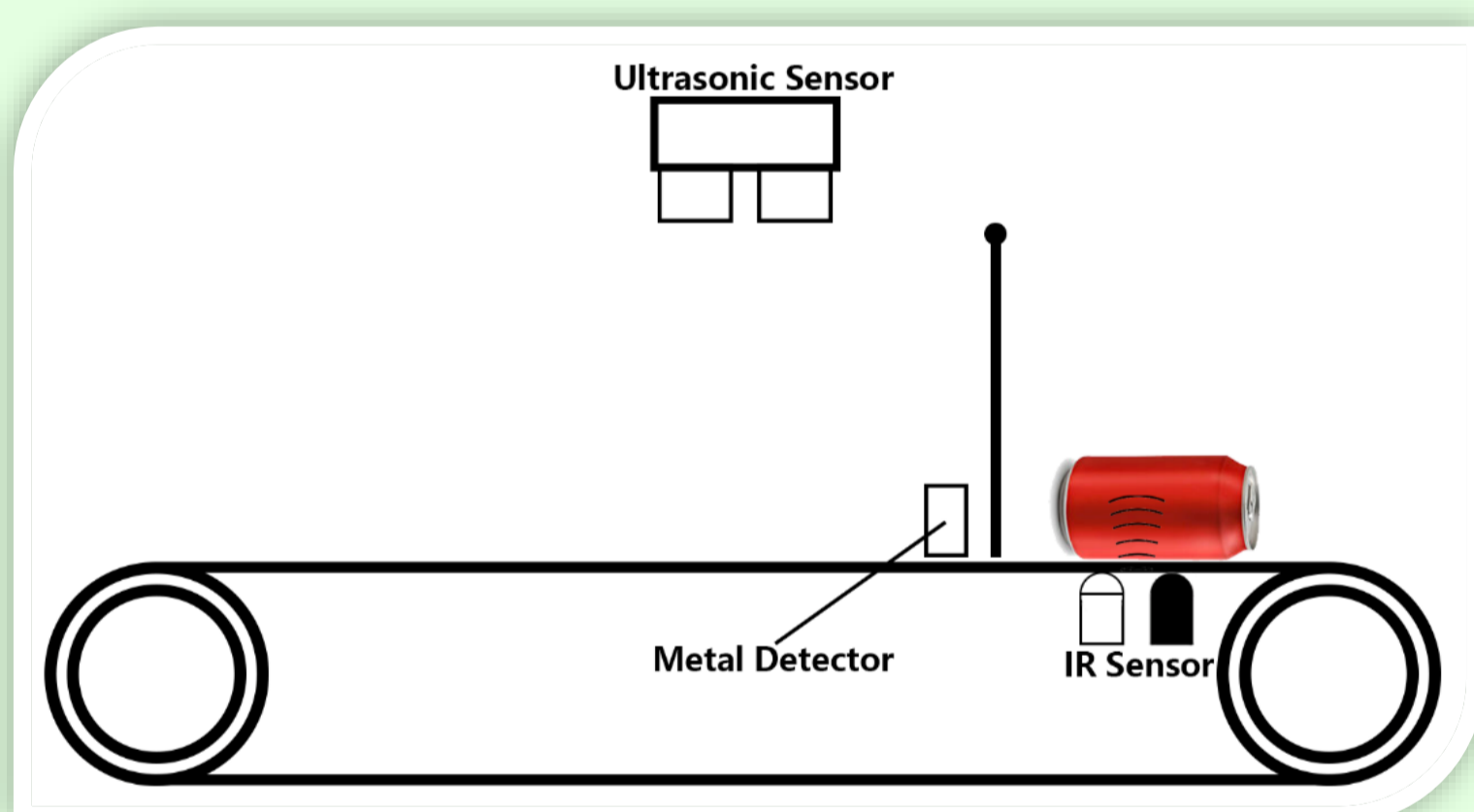
Objective

- By the assist of IoT, the **data** collected by the smart recycling bin can be **transmitted through wireless network**.
- The purpose of the bin is **providing real-time monitoring** on the number of collected recyclable waste **to recyclable waste collectors**.
- **Advantage:**
 - Help the recyclable waste collectors to plan a **higher efficiency route** and **better man power allocation** to collect the waste.
 - **Reduce the pollution** during recycling procedure.



Methodology

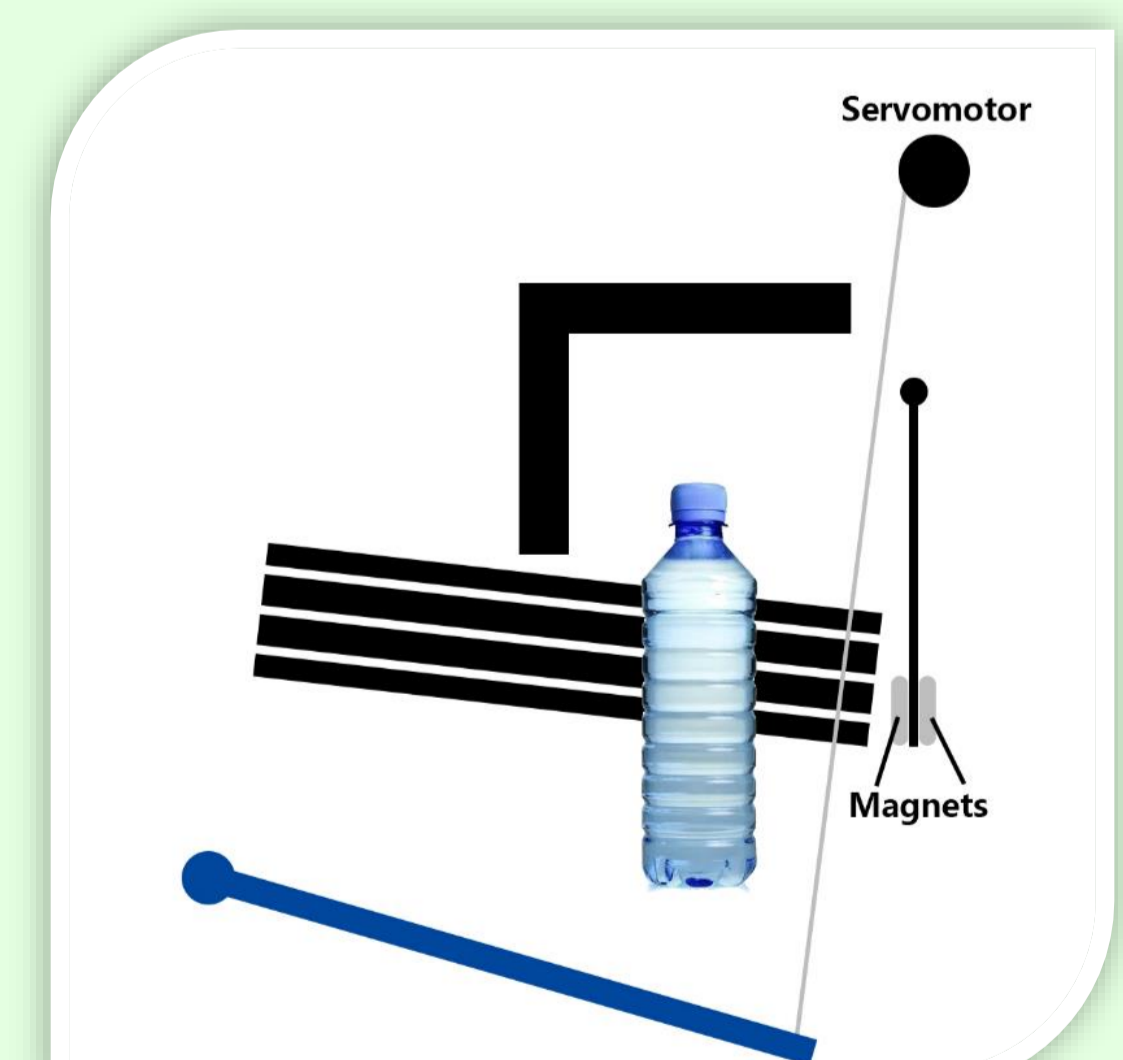
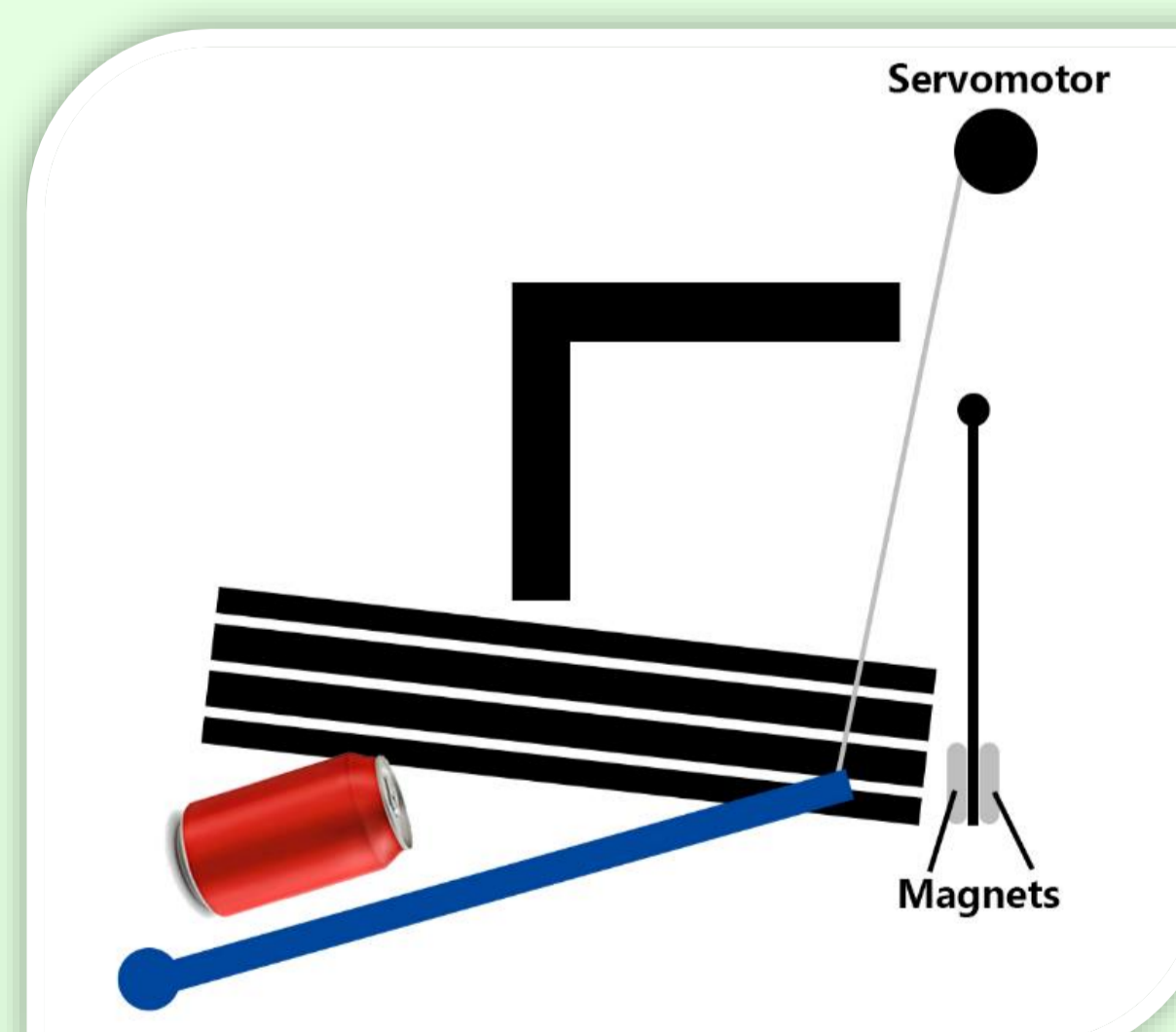
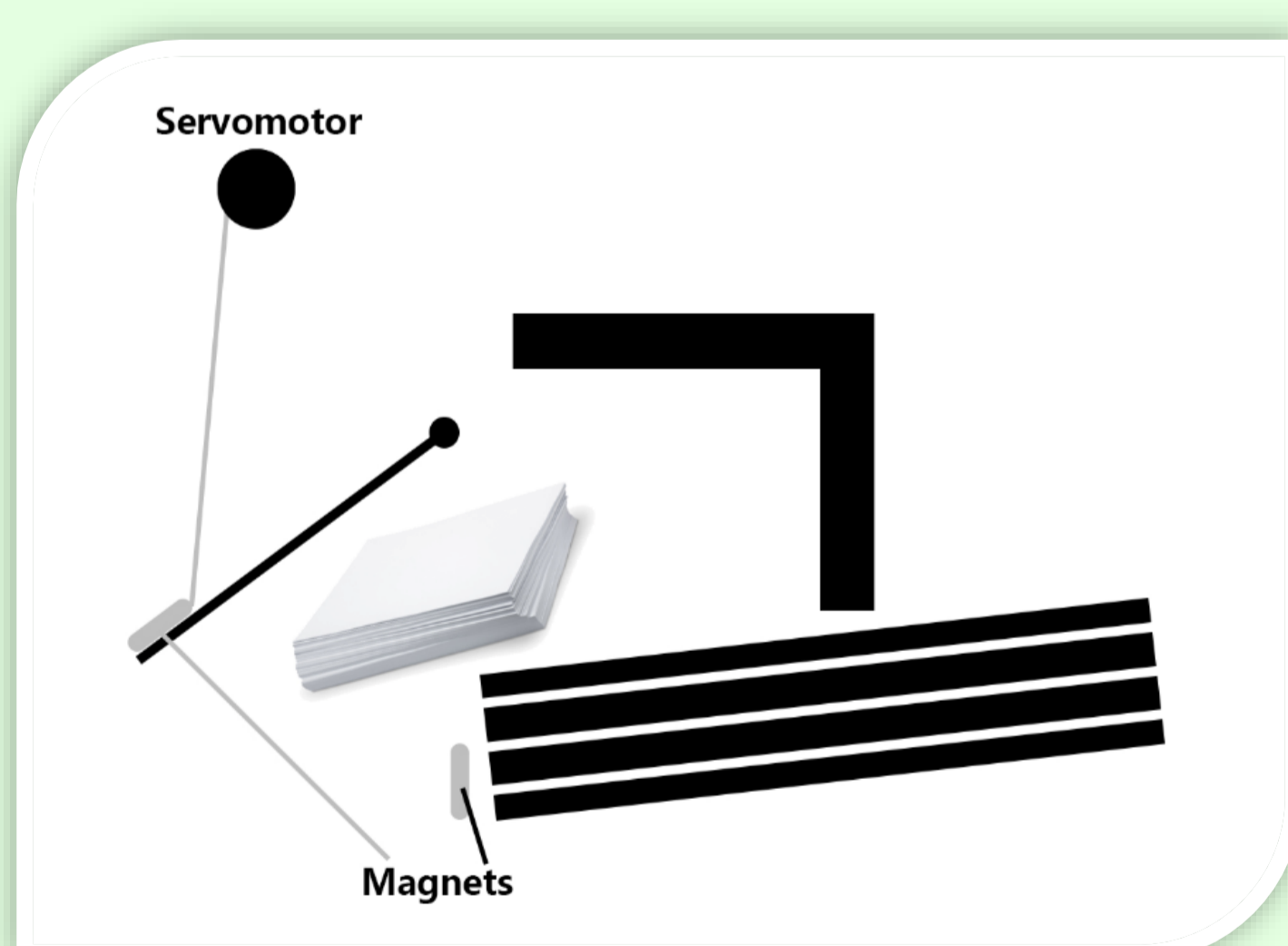
Detection Part



-**IR sensor** to detect the presence of the waste. And **trigger on the track motor**.

-**Metal sensor** to detect the **aluminium can**. -**Ultrasonic sensor** to detect the shape of **plastic bottle**.

Classification Part



-**Paper** will drop next to smart recycling bin.

-**Aluminium can** will slide behind the bin.

-**Plastic bottle** will fall under the bin.

Results

- It can distinguish the type of recyclable waste.
- It can provide the number of recyclable waste collected.
- We can monitor the data real-time wirelessly.

Demo Video

