

# Development of a self driving “Cleaning Buddy” in association with Stadtreinigung Hamburg (Hiicce)

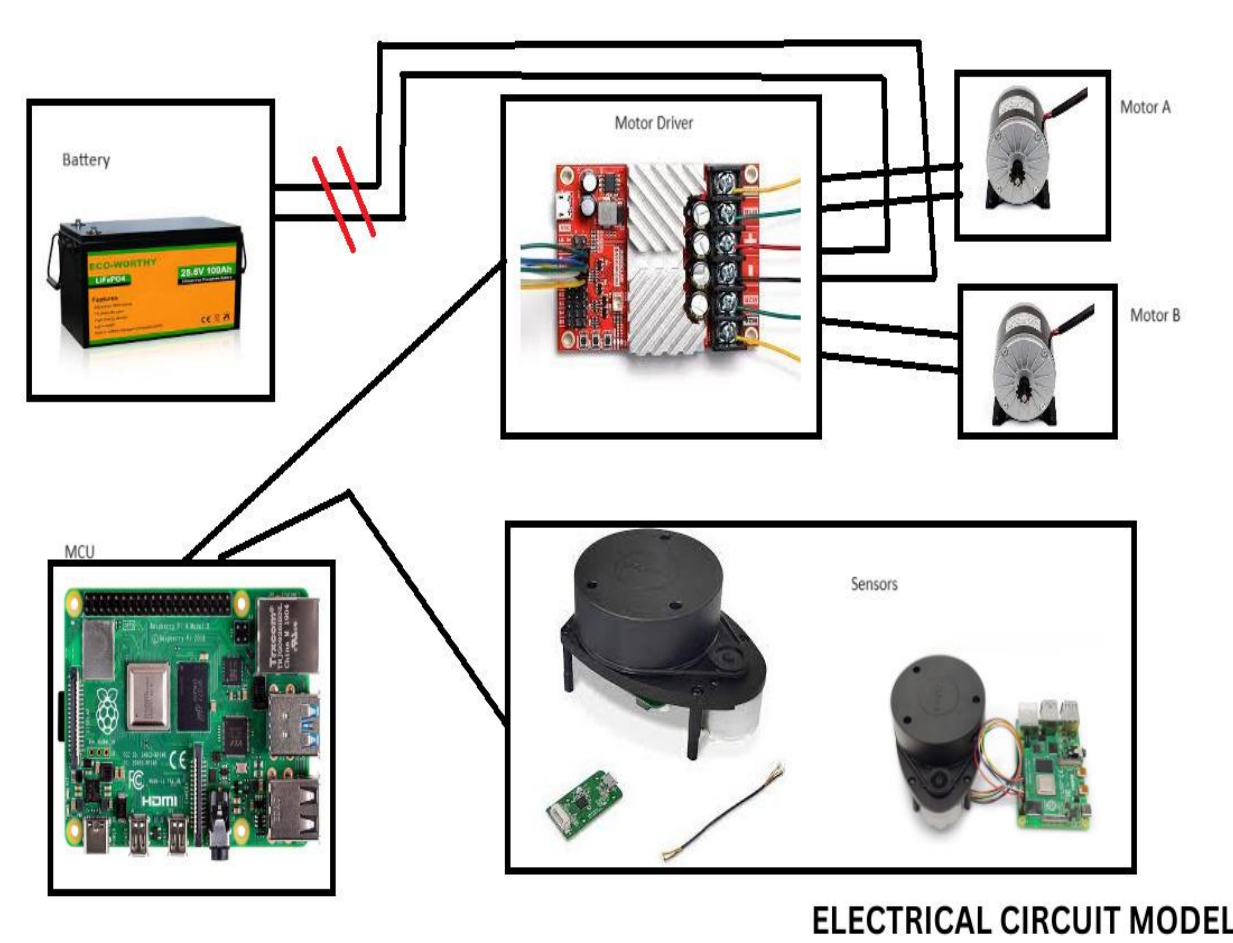
**Team:** -Arpita Anand Prayag, Arpita Sanjay Shirahatti, Florian Probst, Kowsalya Thirupathi Raja, Mohammed Ahmed,

Sanjo Simon Jain, Vyjayanthi Mala Perumal

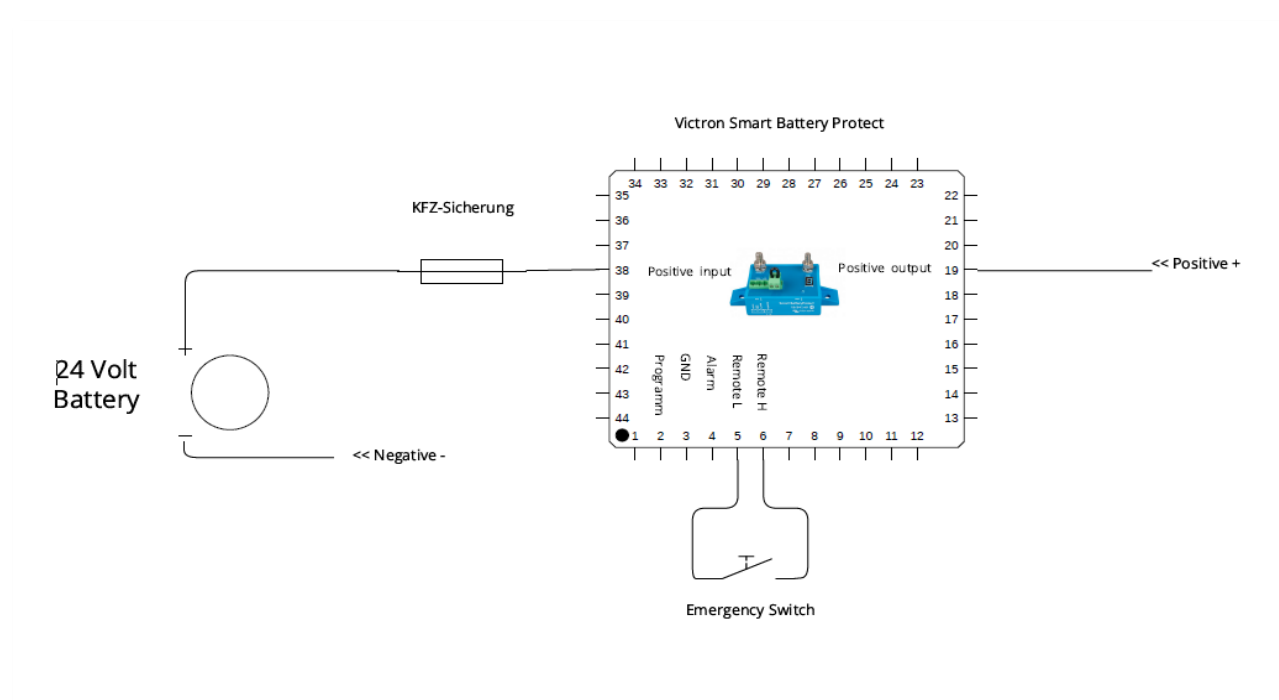
## Objective:

Employees at SRH face challenges in carrying essential cleaning equipment due to limited parking, resulting in frequent trips back to the truck and significant time spent organizing tools. The proposed solution is to develop an automated tool-trolley that follows the employees and carry the required tools to enable the employees to concentrate on their core tasks.

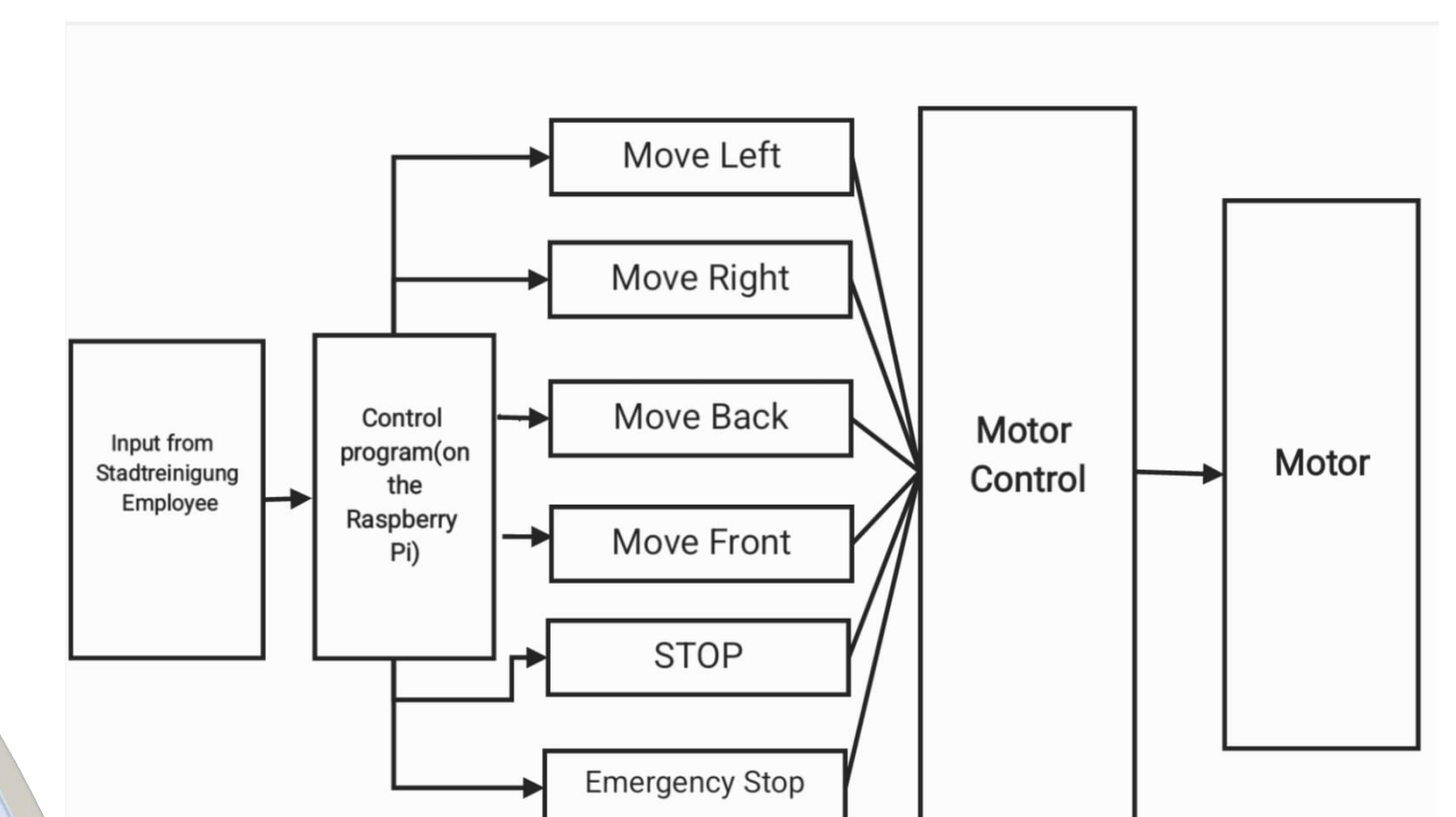
### Electronics



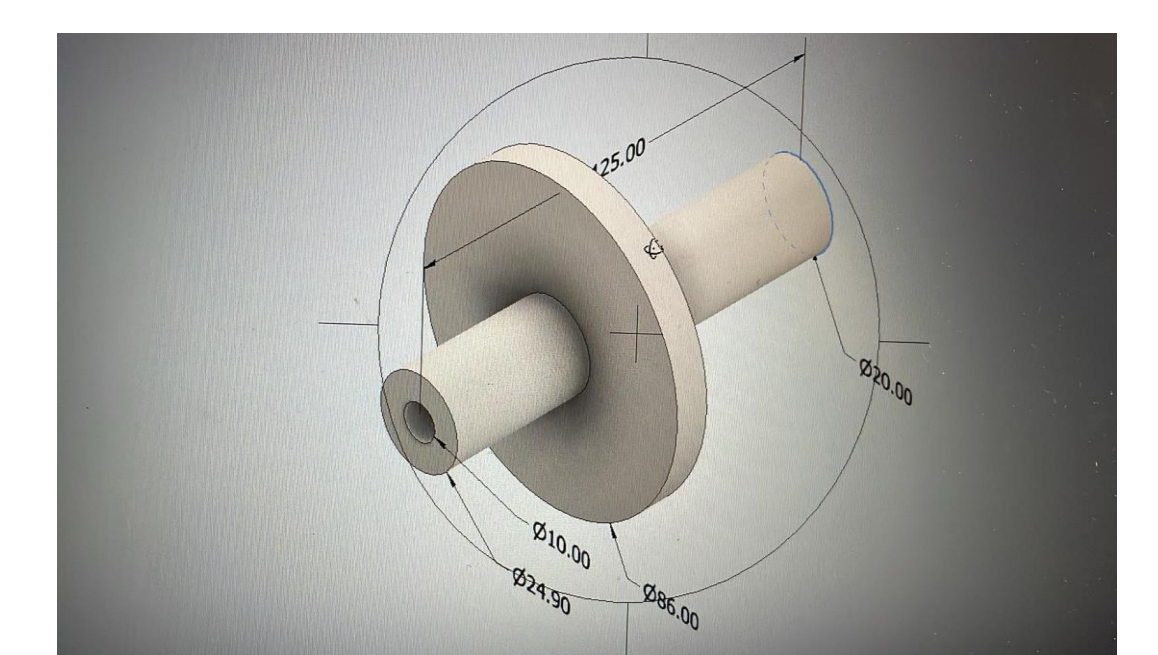
The electrical operations of the Cleaning Buddy encompass an MCU connected to the motor driver and sensors. The battery is linked to the motor driver and connections are established between the motor driver and two motors. The MCU is programmed to support the movements and functionality of the buddy.



### Programming & Mechanical



The power is transferred from the motor through a shaft that is specifically designed to all terrain wheels that ensure versatile and stable movement across diverse landscapes. The momentum is transferred from the rear to the front wheels by a Chain drive mechanism.



## Developments in the Current Phase:

- Preliminary Assembly of components and electrical connections.
- Completion of initial programming

## Developments to target in subsequent Phase:

- Incorporating autonomous properties by incorporating RPLidar Sensor and a GPS Module
- Development of Housing of Electronic Components including the battery to the frame
- Aesthetics and Ergonomic Optimization