

Limit Breakers

Smart Robotics, Boundless Possibilities

Technical Overview

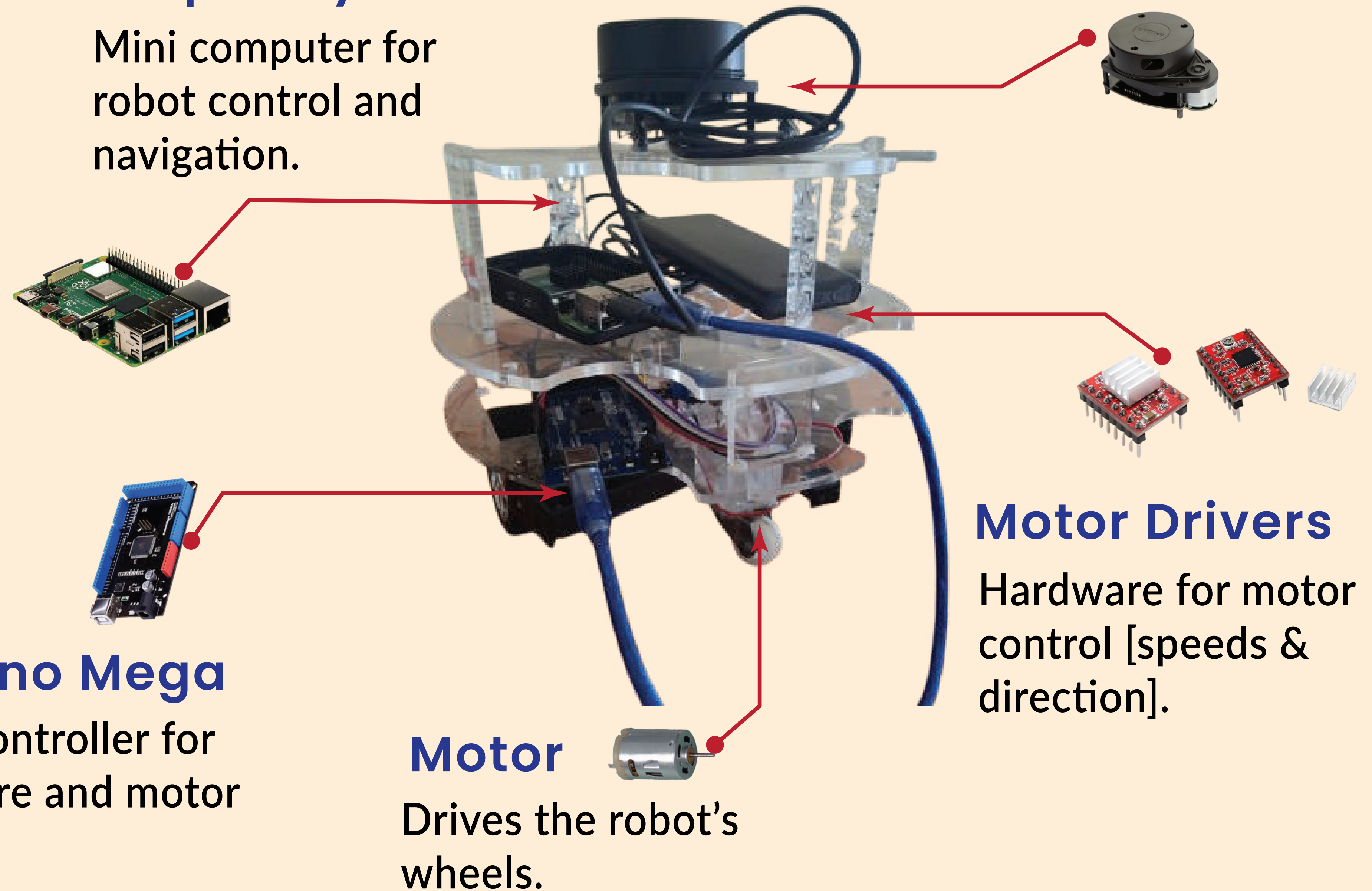
- > Chasis Dimensions: 25 * 25* 26 cm
- > Motor Control: Arduino Mega PID
- > RPLidar A1 2D scanner
- > Li-Ion (4*3.7v) 14.8 v Power Supply
- > Processor: Raspberry Pi 4
- > Communication: UART

Raspberry Pi

Mini computer for robot control and navigation.

Rpidar A1

2D laser scanner for mapping and object detection.



Achievements

Stable and Efficient Design

A narrow track width for improved stability

Three layer chasis with large area for packaging electronic components [heavy ones at the bottom and Middle layers].

Optimized Traction

Thick wheels closely -arranged together with large treads improve traction and maneuverability on various terrains.

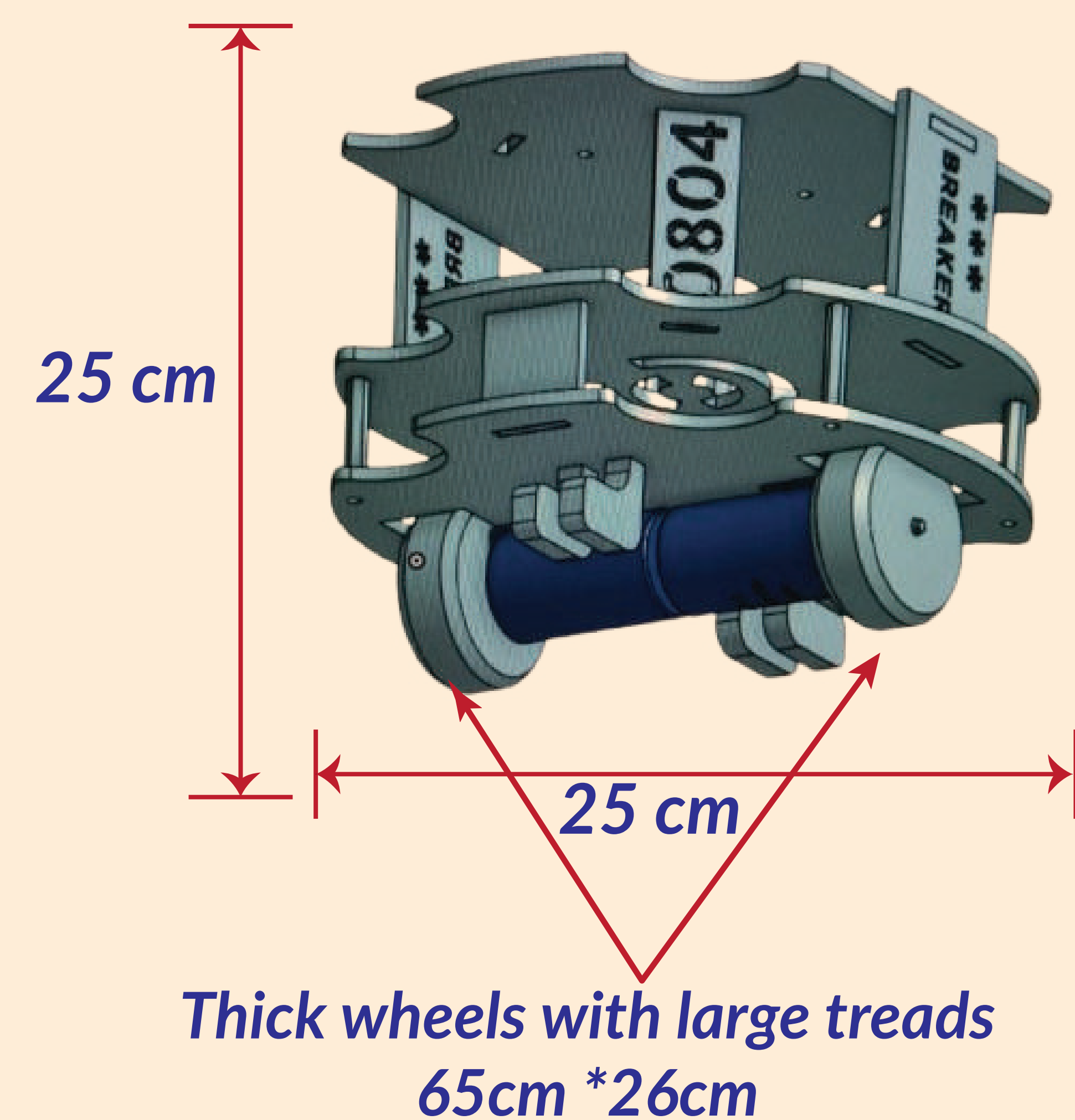
Two caster wheels close to the main wheels to achieve stability.

Streamlined Build

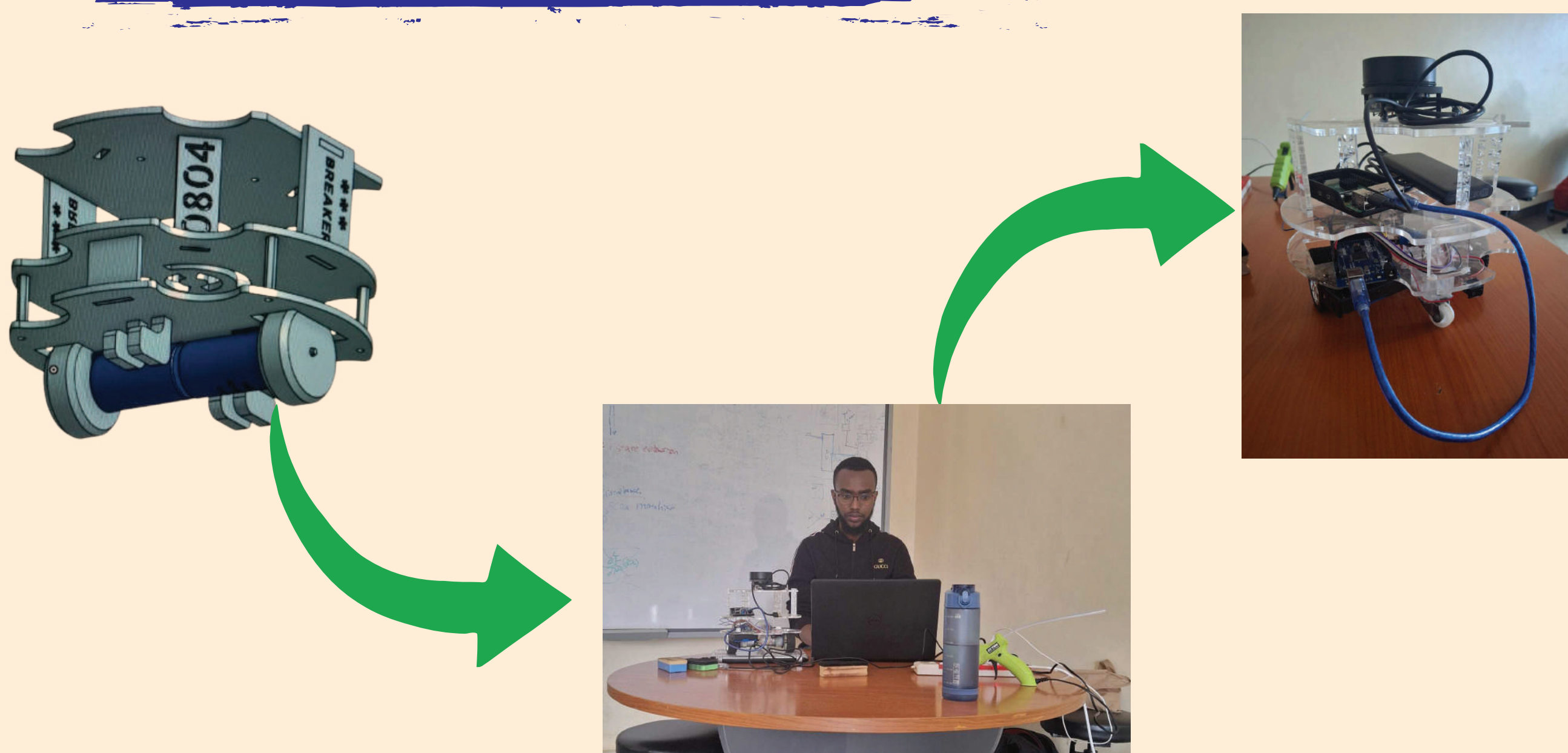
A Slim design with three layer chasis for achieving high maneuverability in tight spaces.

Automated Mapping

Our robot autonomously maps its environment using advanced SLAM technology, with integrated path planning and real-time sensor data for precise navigation and efficient exploration.



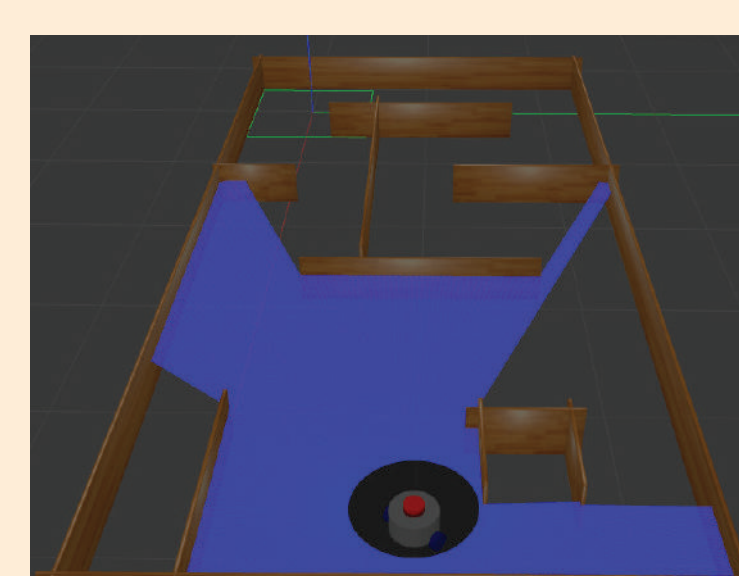
Construction



Robot Creation from design to implementation

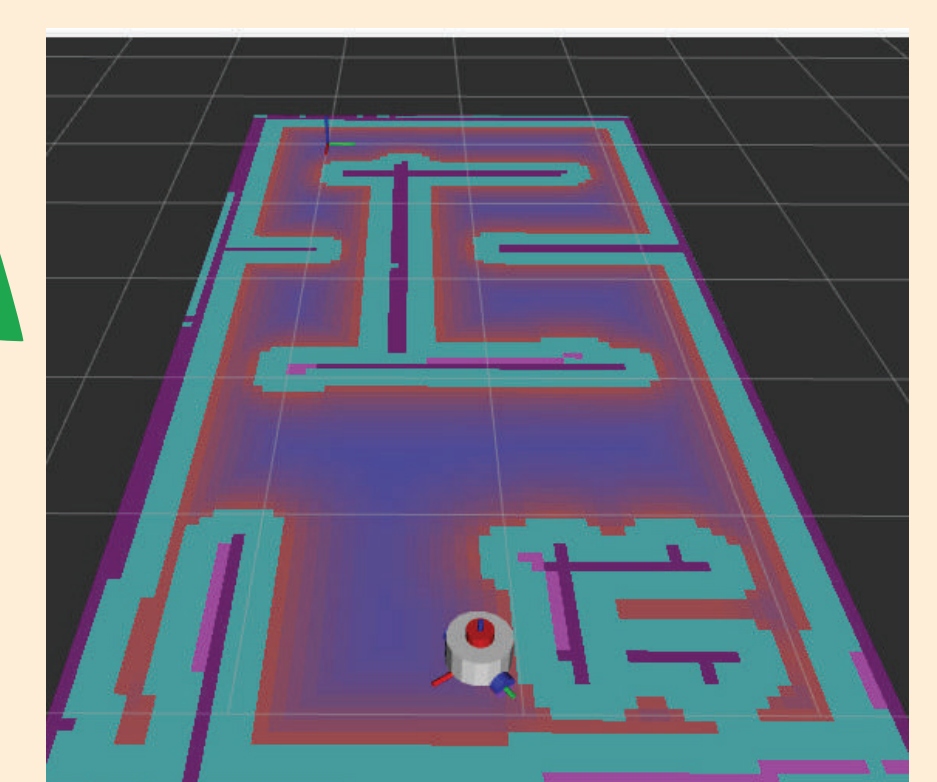
Visualization

Gazebo [virtual]



A visualization of the robot in a virtual environment

RViz [Real time]



This is a representation of the map according to the Rpidar scanner

