

# Five Link

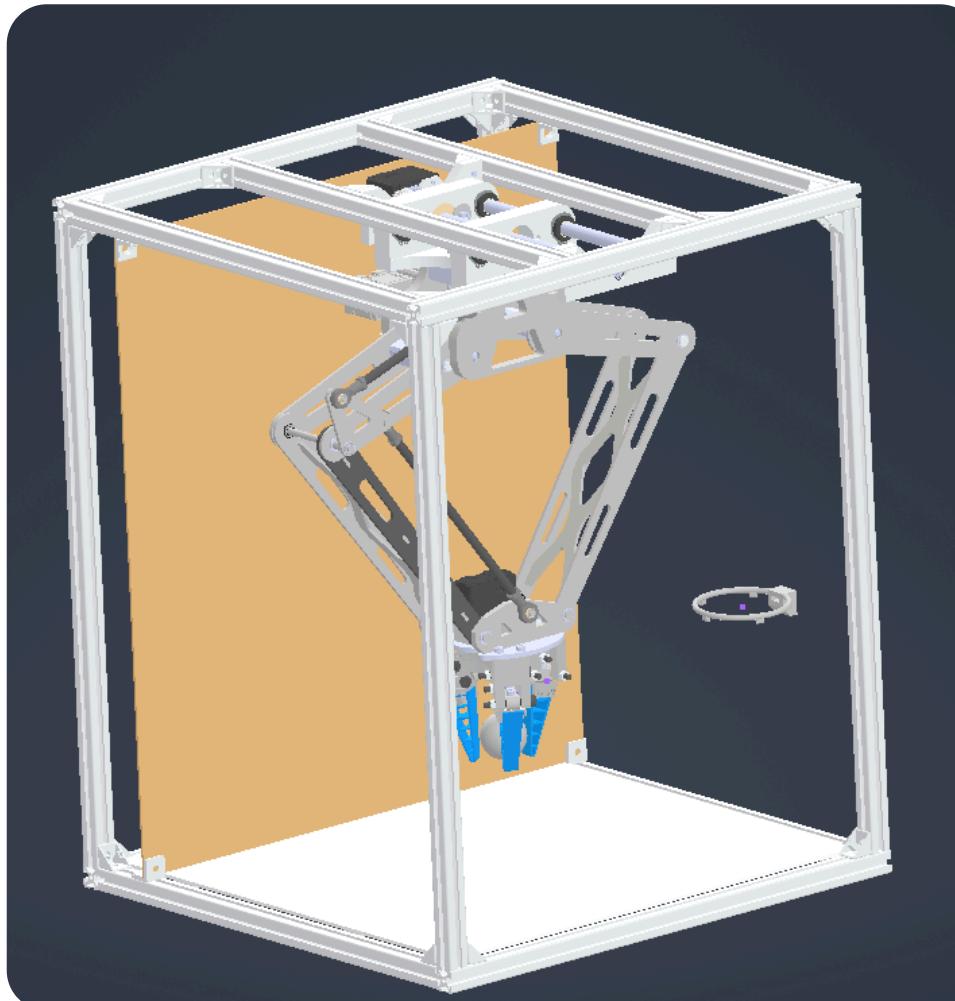
Group 19: Nökkvi Ágústsson, Araz Bastani, Jacob Solberg Ellingsen and Jesper Moe

The **Five Link** robot was created in collaboration with **Tronrud Engineering**. The task was to improve a robotic arm formerly known as DuoArm. The arm was redesigned for exhibitions, where people could try out the robot and have fun playing a simple game.

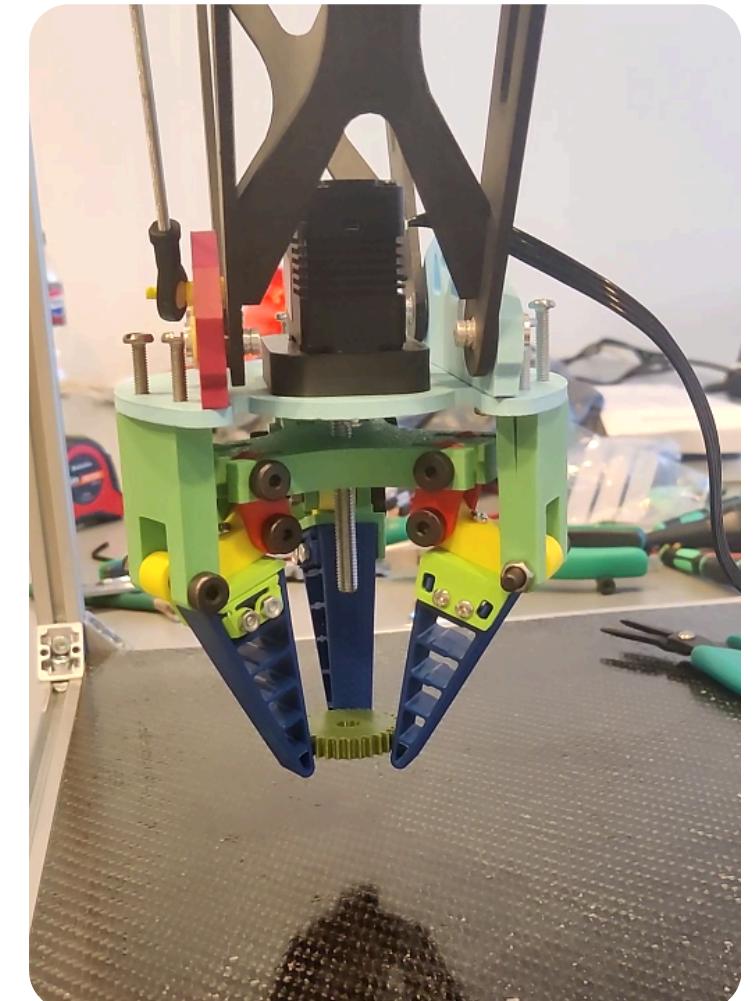
**Five Link** now has a functioning gripper that holds itself horizontally. The arms can move three axes with the help of a leadscrew system controlling the z-axes and two servos controlling the x-y axes movement of the arms.

The movement of the arms is programmed using **inverse kinematics** in Python, letting the user intuitively control the endpoint. The robot comes equipped with a screen that gives a tutorial for the controls, a ranked scoreboard for a future game (nearly there) and a virtual simulation of the robot itself, so people can pick up the controller and use the robot immediately!

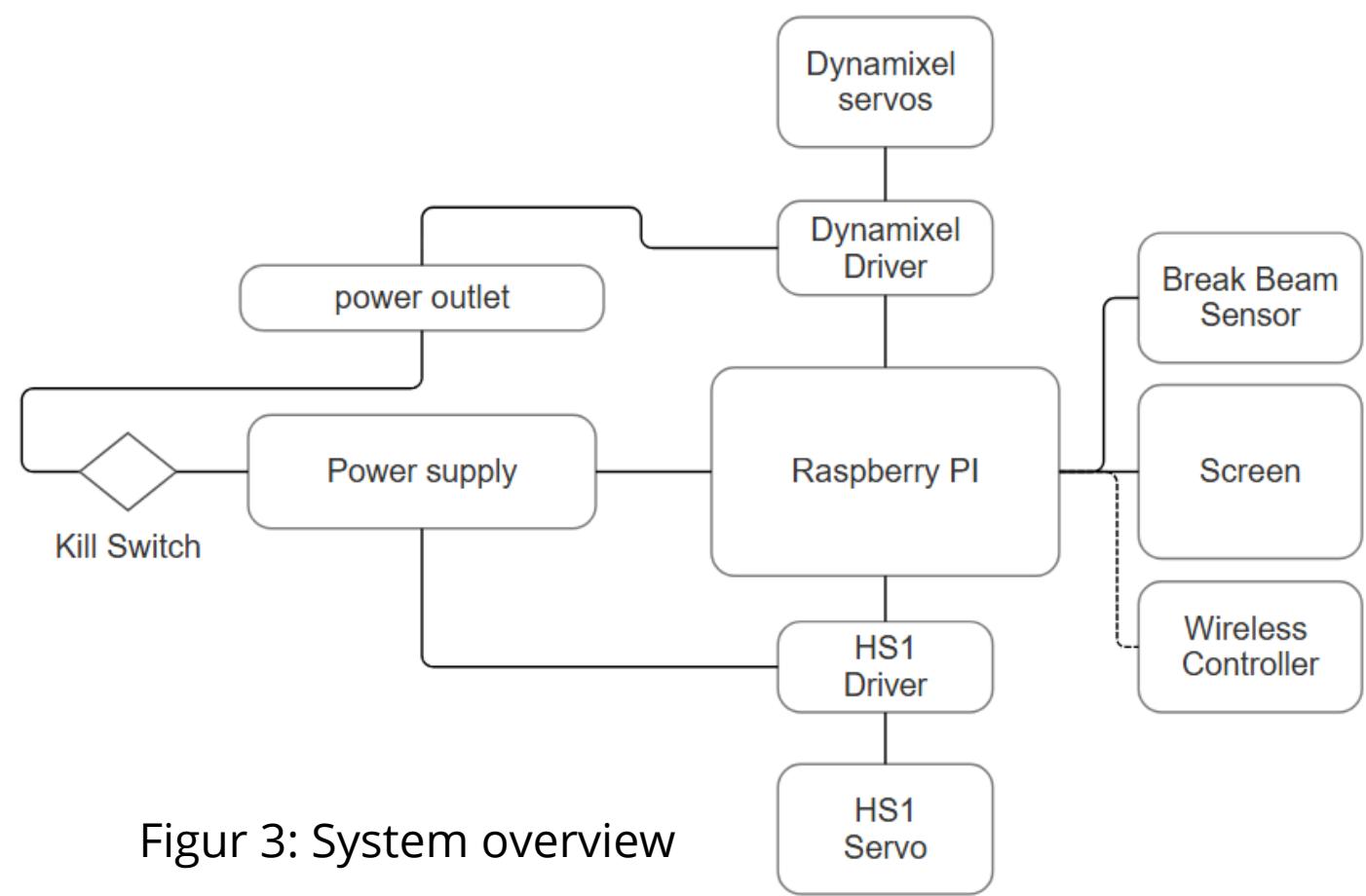
The system runs independently on a **Raspberry Pi**.



Figur 1: Step assembly of robot



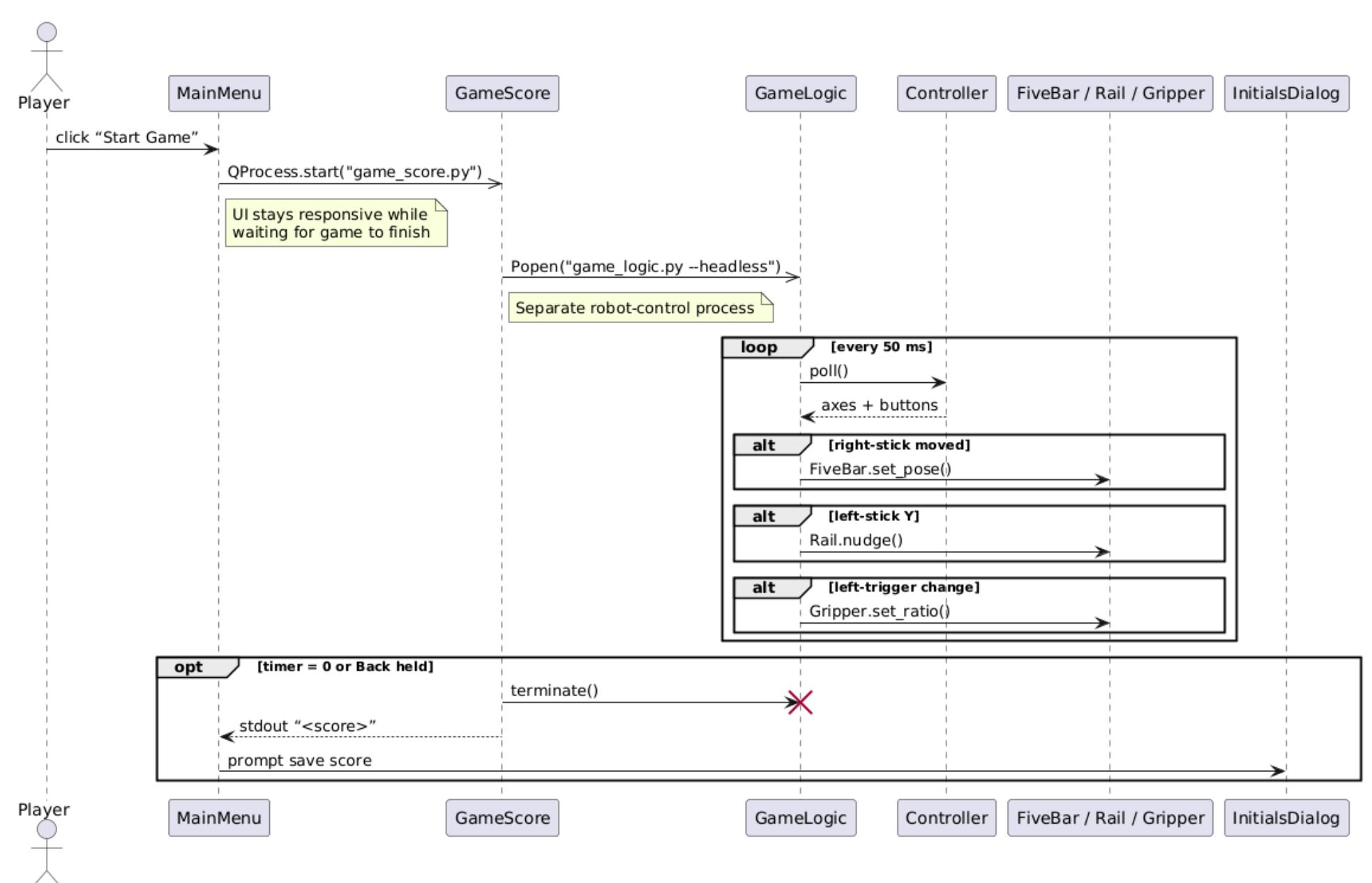
Figur 2: Gripper module



Figur 3: System overview



Figur 4: Robot with all components



Figur 5: Data flow of program from Main\_menu.py