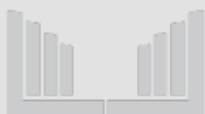
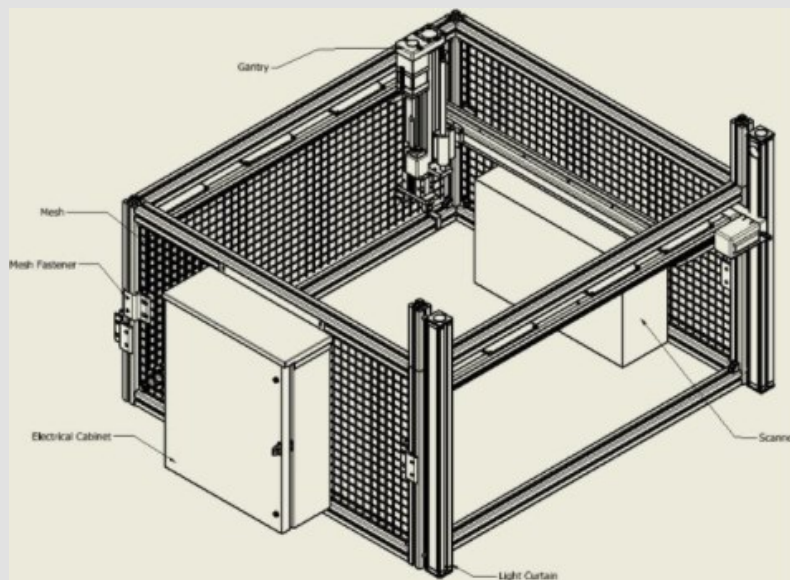
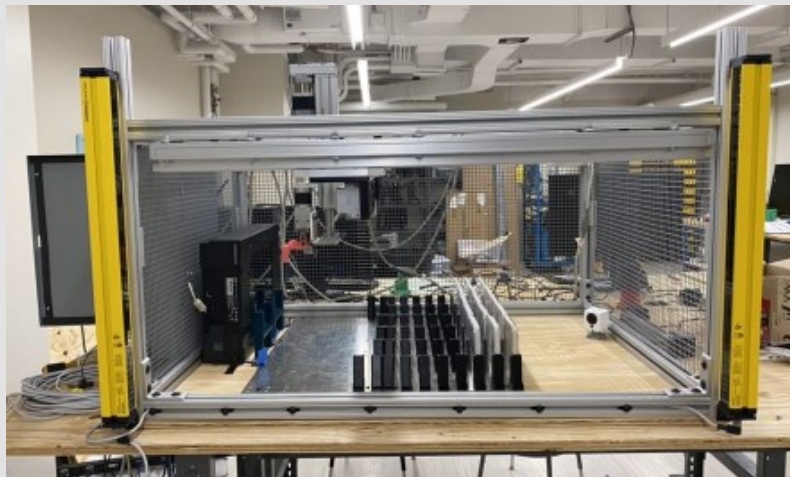


Team 2.1: Automated High Throughput Image Acquisition of Roots



SALK INSTITUTE
FOR BIOLOGICAL STUDIES



Background:

Salk Institute of Biological Studies conducts research of plant roots through image acquisition and analysis. The goal for this project was to create an automated solution to acquire images of plants to eliminate human error and to improve the speed of the acquisition.

Solutions from Team:

Problem: Gantry System

Solution: Adjust PLC controls for movement in 3 axes using a set path

Solution: Set coordinates for plate positions and scanner

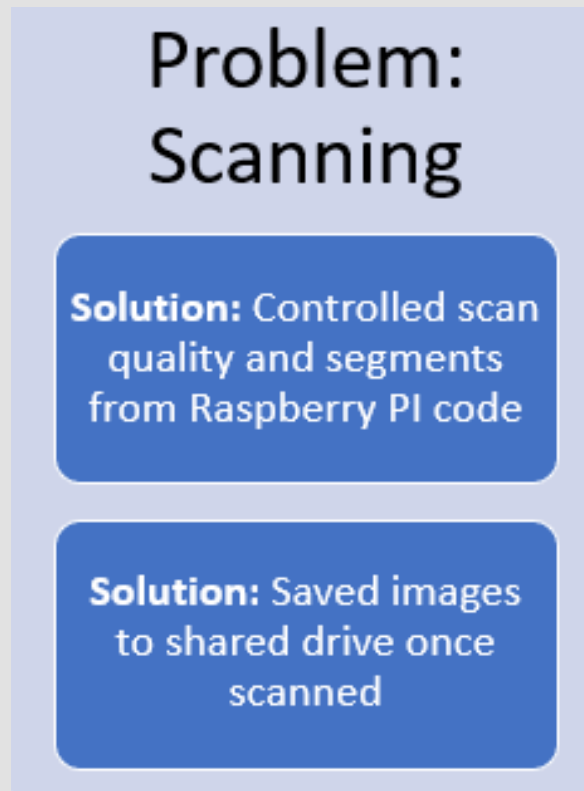
Problem: Remote Access

Solution: Implement software to control Raspberry PI virtually from cell phone or laptop

Solution: Able to give commands to Raspberry PI software which control scanning process



Solutions from Team:



Future Work:

Camera

- Connect webcam to provide researchers with live stream of gantry operation
- Find viable option for constant streaming needs

Light Curtain to PLC

- Connect light curtain to PLC to provide emergency stop



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