



A System for Watering and Autonomously Monitoring Plants 2.0

Cristian Oliveira (RBE), Kaloyan Dimitrov (RBE), Steven Phan (ME/RBE), Randy Zhang (CS/ME)

Advisors: Professor Gregory C. Lewin (RBE/ME), Professor Loris Fichera (RBE/BME)

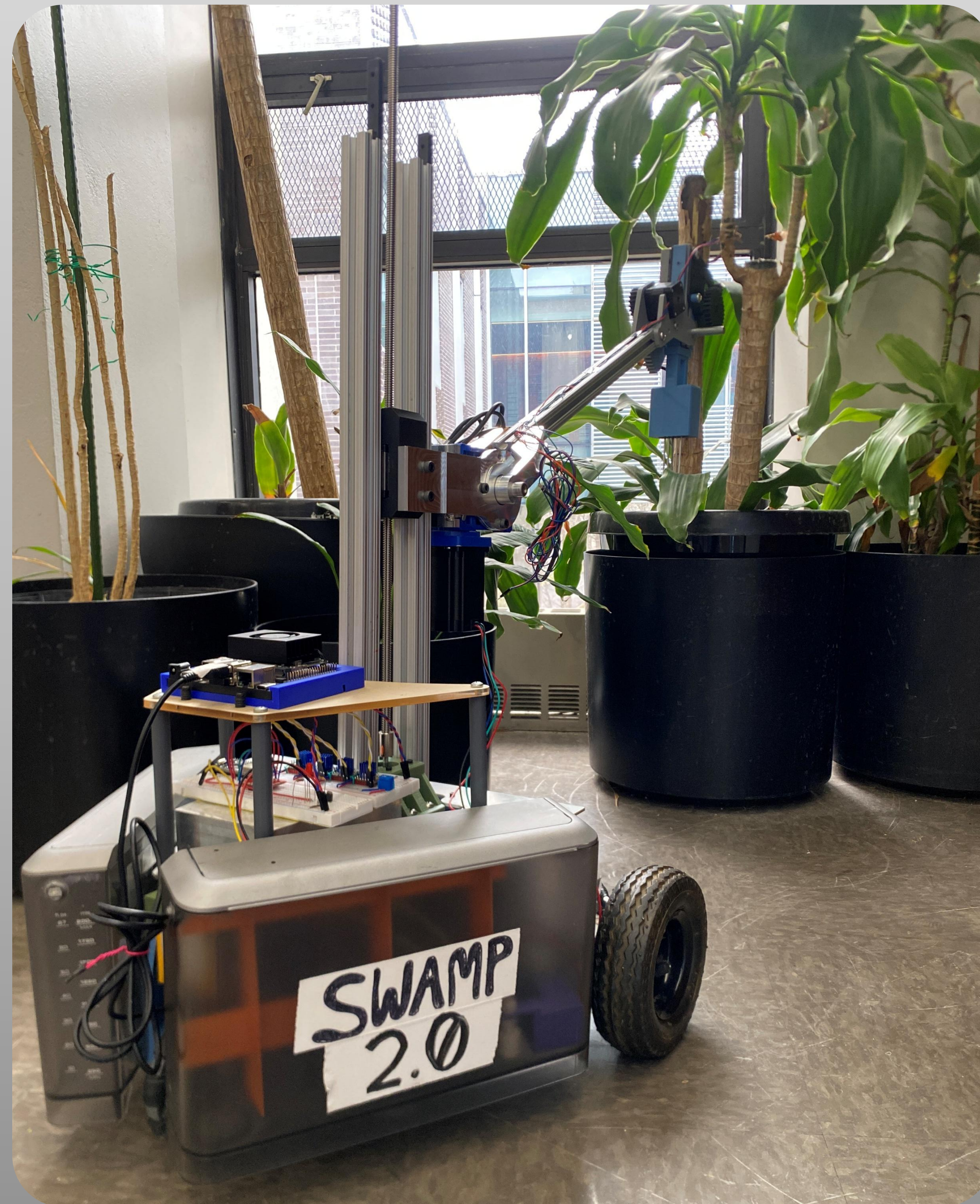
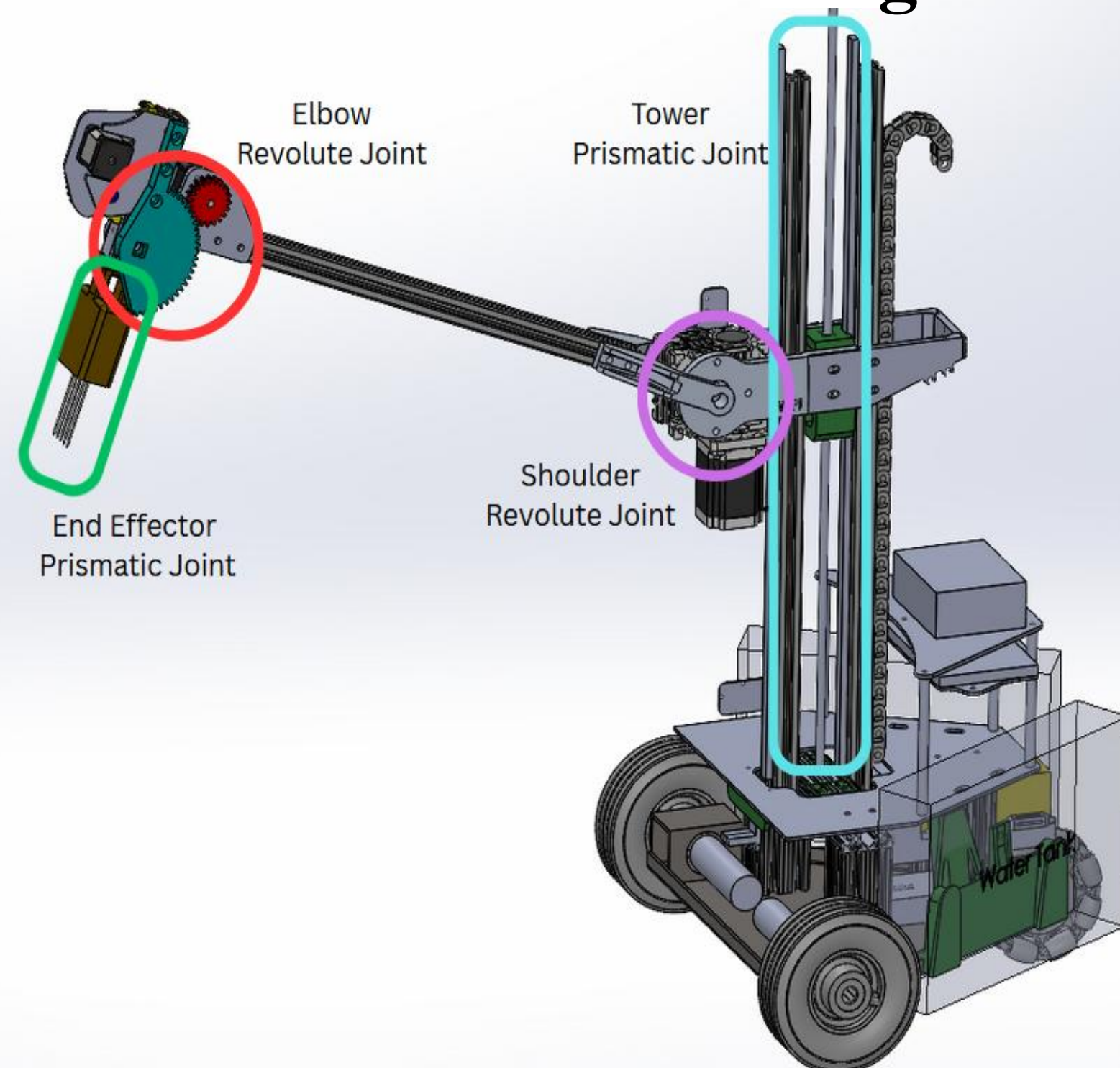
Abstract

S.W.A.M.P. 2.0 provides an **autonomous** plant care solution that can actively monitor and water plants. With a **mechanical and architecture redesign** for stability, in addition to an **object detection model** for autonomous plant detection, and a user-friendly **web app interface**, watering plants has never been easier!

Stakeholder Needs

- 1) Fully Autonomous Solution
- 2) Reliable and Consistent Performance
- 3) Ease of Use Interface

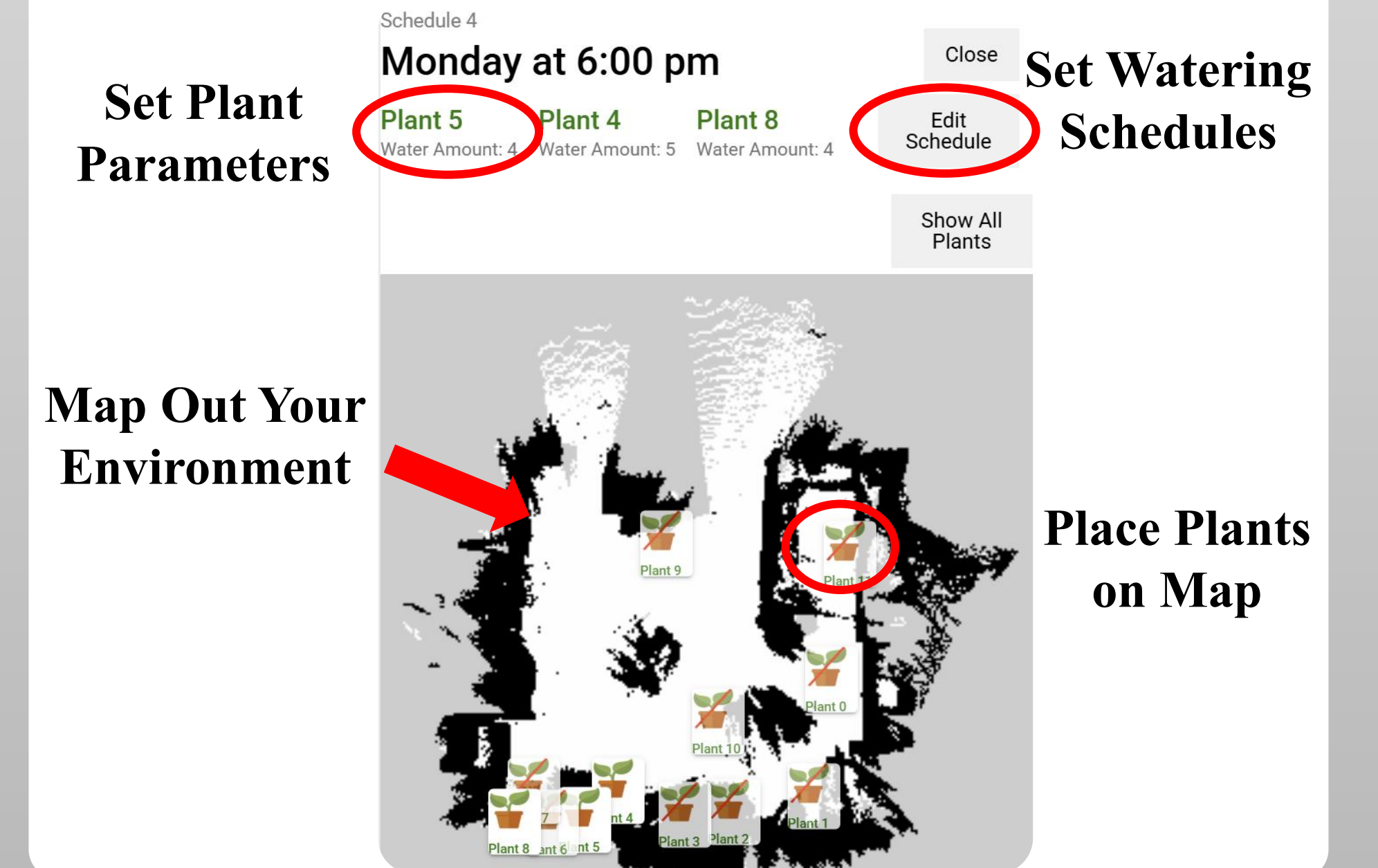
Mechanical Design



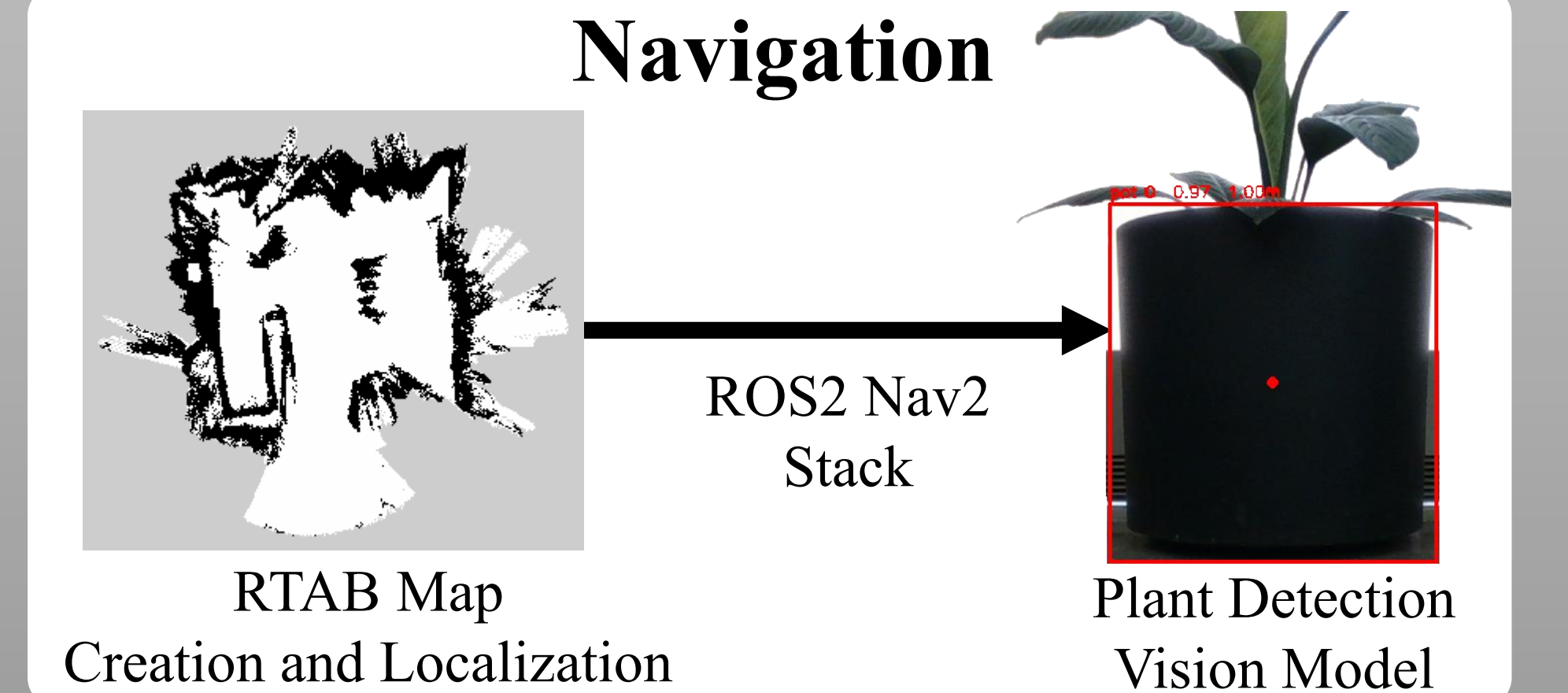
Validation

For assessing if S.W.A.M.P. 2.0 meets the Stakeholder's Needs, our team demonstrated its capabilities in the Gordon Library. With the help of the library staff, S.W.A.M.P. 2.0 successfully demonstrated a system that is fully autonomous, is easy to use, and gives reliable plant watering performance.

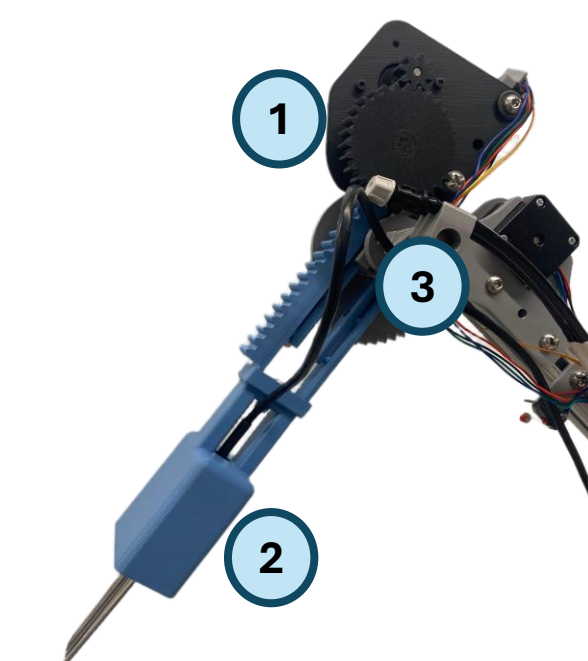
S.W.A.M.P. App



Navigation



Watering



- 1) Extend Soil Probe
- 2) Read Soil Moisture
- 3) Dispense Water