Project 2:

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Hardware
Software System Architecture

Robot system
- Sensor sweep
- Strategic behaviors
- Tactical behaviors
- Motor control
Sensor Sweep
Strategic Behaviors

- **Sensor sweep output**
  - Input
  - **Move forward**
    - **Tropotaxis**
      - Enables / Disables
      - **Light search**
  - **Strategic output**
Tactical Behaviors

- Strategic output
  - Input
  - Avoid low obs.
  - Avoid high obs.
  - Tactical output
Software Lessons Learned

• The frequency of turns in the light search behavior was too high.
• Simplicity in design is more important than flexibility in design.
• Adding a certain amount of randomness can eliminate some cyclic behavior, but it is still easy to get into such a situation. Fixing it adds quite a bit of complexity to the design, which can introduce other problems.
Demo Results

- Demo 1 – 0 Lights
- Demo 2 – 1 Light
- Demo 3 – 2 Lights, Bucket, 1 Light
- Demo 4 – 3 Lights