

# Prototype Planning

## MVP Version for 11/22:

- Functional xz plotter
  - Stepper motors driving end-effector to specified position
  - End-effector rotate & move out
  - Slot end-effector into boxes
  - Lift box out
- Prototype Shelf
  - Button assembly
  - Box mount with holes
- Clickable UI on screen
  - Separate input or hardcoded position for end-effector
- Stretch: Frame

## Tasks

- ☐ End-effector Mechanism
  - ☐ End-effector CAD
    - ☐ Mount rotation to screw assembly (S)
    - ☐ Mount linear to rotation (S)
    - ☐ Mount prongs to linear (S)
  - ☐ Print end-effector components
- ☐ Shelf Assembly
  - ☐ Update button assembly CAD (T)
    - ☐ New angle
    - ☐ T-slots
  - ☐ Print button assembly (T)
  - ☐ Laser cut boxes (D)
  - ☐ Print box attachments (D)
  - ☐ Construct shelf
- ☐ Plotter
  - ☐ Screw assemblies
    - ☐ CAD Mounts
      - ☐ Mount one assembly to other (R)
      - ☐ Support bottom assembly (R)
      - ☐ End support on top assembly (R)
    - ☐ Fabricate mounts
    - ☐ Assemble
  - ☐ Combine end-effector with shelves
    - ☐ Test
- ☐ Electronics

- ☐ Determine power source
- ☐ Steppers
  - ☐ Wire motors
  - ☐ Drive stepper motors
- ☐ Actuator
  - ☐ Wire
  - ☐ Drive
- ☐ Rotational motor
  - ☐ Wire
  - ☐ Drive
- ☐ Code sequence
  - ☐ Identify location
- ☐ Frame
  - ☐ Plan structure
  - ☐ T-slots
    - ☐ Determine appropriate sizes & holes
    - ☐ Cut to size
    - ☐ Drill holes
  - ☐ Attach shelves to frame