# Project Plan

## Testing

* Arduino capacitance sensing
  + <https://www.youtube.com/watch?v=Nj31qloMX54>
* Aluminum strips
  + Test multiple nodes

## Purchasing

* Xbox adaptive controller
* Bare Conductive
  + Pen
  + Ink
* Adafruit
  + Capacitive breakout 12-pin (×3)
    - Extra for buttons
  + Mini boards
* Extra
  + Acrylic spray coat
    - Lowes
    - Home Depot
    - Canadian Tire

## Assembly

* Drawing
  + Design layout
  + Print and ink
    - Multi-layer?
* Parts
  + “Joystick”
    - Uno or Mega32U4 board
      * Check USB function with HID controllers
    - Print pad, ink
      * Touch through to wire?
    - Capacitive breakout 12-pin
      * 3 total, 1 for each circle
  + Buttons
    - 3.3V Arduino board
      * Test voltage
    - Capacitive breakout
      * Connect to buttons
      * Test voltage (as passive and active switching)
      * Test current (make sure total doesn’t exceed Arduino limits)
  + Cardboard surface
* Coding
  + Libraries
    - ~~Capacitance sensing~~
    - Joysticks
      * HID-master
      * Figure out compatibility with USB and games
  + Functions
    - Button click
    - Recalibrate
  + Uploading to board
* Final design
  + Print layout
  + Paint middle button line
  + Paint and glue in capacitors
  + Test capacitors
  + Paint lines to sensors
  + Test sensors
  + Overlap with cutout
  + Test with cutout

## Resources

* <http://sybarite.us/2018/12/02/xbox-adaptive-controller-diy-joysticks/>
* <http://html5gamepad.com/>