Problems and Suggested Improvements

As this was my first time making this, there were some problems and things that could have been done better. This will list out those problems and my suggested solutions.

- Plywood boards warp and don't stay flat, no matter how much you try.
  - This is a problem for two reasons. First is that any warps in the board while laser cutting will lead to cuts being slightly out of place. Second, assembling the 3 boards together is much more difficult. Despite my best efforts to keep the boards flat by clamping them together, placing them under heavy objects, and getting them damp before cutting, they would never stay flat.
  - I'd recommend trying to find some MDF of the same thickness. This was suggested to me by guys at the hobbyist center where I was doing my laser cutting.
- Etched text needs to be thicker.
  - Our original plan was to etch the labels on and paint them white. Unfortunately, the text was so small that when peeling off the paper cover, much of the paint came with it. I attempted to fix this by painting with a thumbtack, but it was not a pretty sight.
  - This is why we ended up with the black foamcore and printed labels. If you want to try etching and painting, go for it, but make the text thicker and bigger.
- Titanium nuts and bolts are overkill.
  - I selfishly purchased titanium nuts and bolts thinking that they'd be darker than they are and look better on the front of the model. However, they're not all that much darker while being a lot more expensive.
  - Just standard screws would be more than enough. You can paint over them if you really don't want them to stick out.
- The angle brackets did not fit perfectly.
  - I am not sure where the error happened, but when trying to assemble the display, the angle brackets did not fit to the laser cut holes on the supports. I had to go to the machine shop and make the holes on the brackets farther apart.
  - I'll fix the error once I find out where it originated from. Until then, you can either double check my model and adjust the bracket screw holes, or plan on machining the brackets like I did.
- We ended up not needing the Wifi adapter for the Pi.
  - The Raspberry Pi Model 3 B+ has it's own built in Wifi connectivity, so the Wifi adapter we purchased is not being used. Depending on your Pi and Network, you may or may not need it.
  - Check your Pi's Wifi capability before buying an adapter.
- The model is top heavy and can easily be pushed over.

- It'll stand up on its own, but a little nudge at the top is enough to make it start falling backwards. I made the triangle supports from drawing a square around the hex, without thinking of this.
- You can either increase the slant of the supports, put something behind the model, or weigh down the base. We are doing a combination of the latter 2.