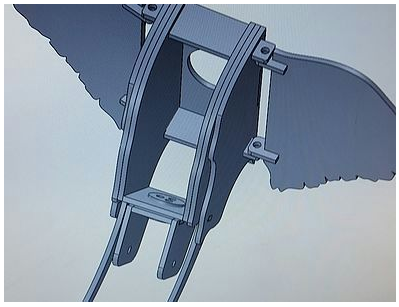
Wooden Menagerie Project Walkthrough

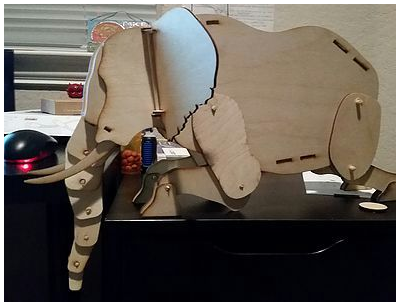
Have you ever had one of those days where you just absolutely had to make something?

I have those days far too often. I belonged to a hackerspace that had a Laser Cutter that was begging to be used. So I complied! I decided to start making articulated wooden animals that were able to be cut on the laser cutter, then assembled.

The first animal I began designing was a giraffe. It was fairly simple, using layers of wood to capture shafts and create joints. I used an image of a giraffe to measure and create a scale version of the animal. I also used these images to make sure that the shapes I used were accurate to the original animal.

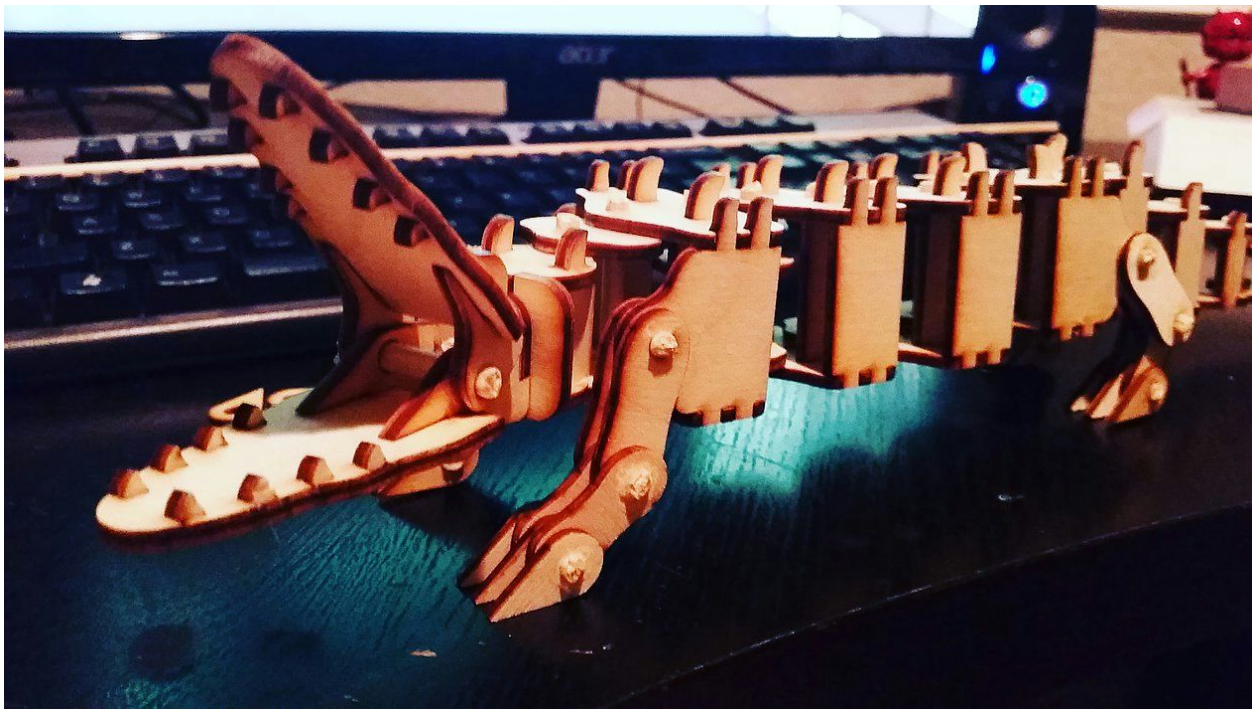
When the pieces were cut out and I began to put them together, I found that I had made some mistakes and it didn't work as I had intended. The neck was not able to support anything and hold the head up. The pivot at the base of the head, where it connected to the neck, had not come out right in the files either.





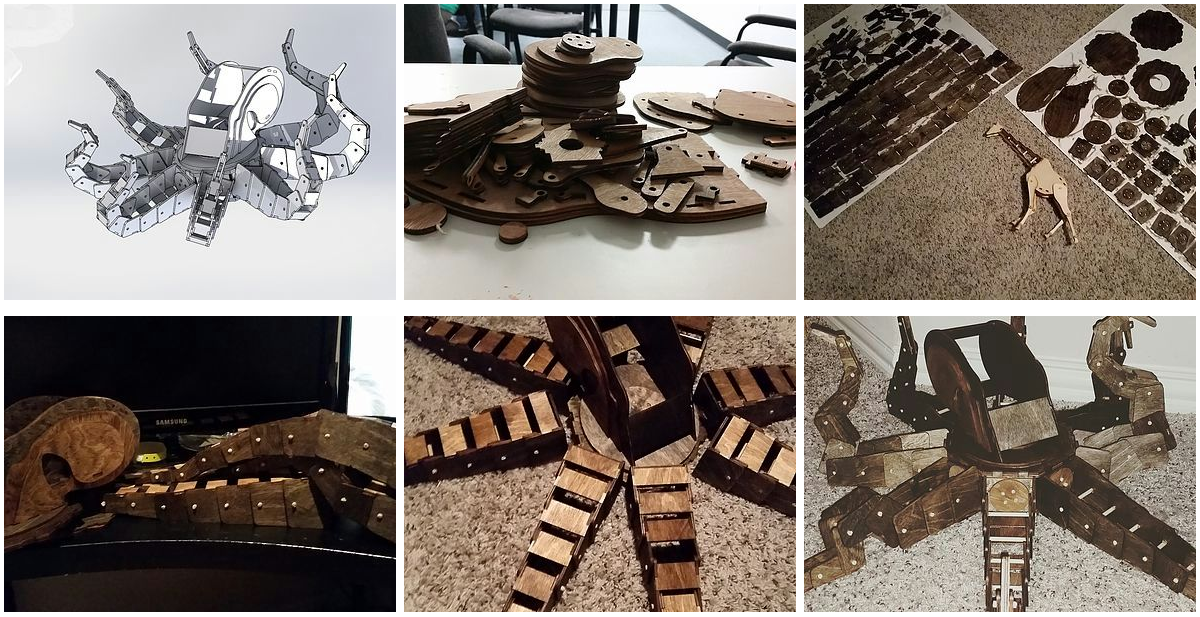
The second animal I designed was an elephant. The elephant was much more complex than the giraffe, with more pivots and complex build structures. The head could pivot side to side, all of the legs moved at the joints, and the ears flapped on the sides of the head. The most impressive part was the trunk, it was made of smaller and smaller sections that pivoted off one another. The trunk also pivoted at the base of the face so that it had unlimited degrees of freedom.

While assembling the elephant, the design was much more well thought out and complete, but I felt that I could still do even better.



The third animal I designed was an alligator. The alligator was by far the most complex in the smallest package. It was made of many pieces that were similar, but would only fit together in a certain way. The entire length of the alligator was able to wiggle back and forth from the head to the tail. The legs were articulated down to the toes, and the jaw was able to open and shut.

Putting together the alligator took the longest amount of time because of the number of joints, as well as the similarity of all of the pieces.However, I still had more material I wanted to use before I moved and no longer had immediate access to the laser cutter.



The fourth animal I created was an octopus. For this one, I decided to make it larger than the others. The final octopus is three feet across. The head of the octopus is able to rotate around completely. Each of the tentacles is able to rotate at the base a full 360 degrees, as well as pivot at each of the sections of the tentacles. Because I wanted to make this octopus a more finished piece than the others, I stained the parts in two different color stains before I assembled the creature together.

This project has been one of my favorites because it still has room to continue and grow, it could potentially go on forever as I learn more and more about the materials I could use and the different types of cuts and bends I can create with the laser cutter. I chose to share this project with you because I feel it shows a different side and thought process to design.