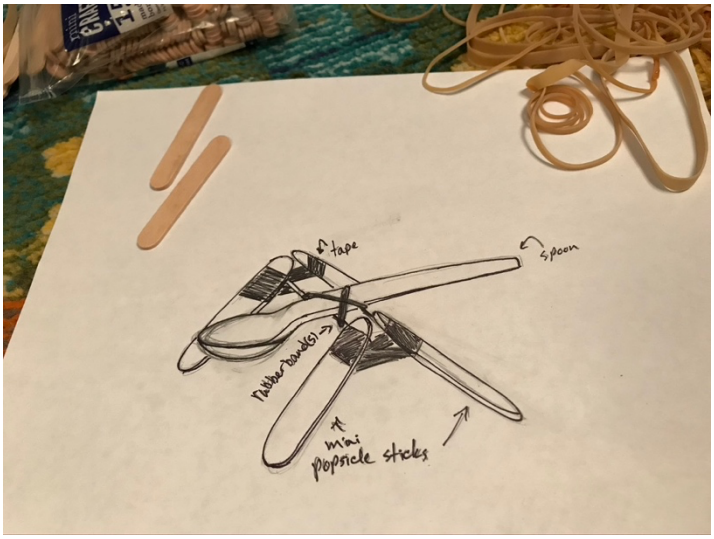
Activity: Design, Launch, Iterate, Reflect

"Make something the best for the most for the least."
"They didn't believe in the gifted few. They believed that you got good at what you liked to do."
– Lisa Demetrios speaking about her grandparents, Charles & Ray Eames

For this activity I was determined to use the items a had readily on hand to give myself an extra design challenge. The supplies I had included plastic spoon (tried three types), mini craft sticks (2 inches), old rubber bands (that did not work half the time), and painter's tape (that did not stick well). To the right is a quick sketch of my first iteration. I did not put too much thought into the initial design knowing that the tape was not going to stick well. I wanted to have a basic concept to start though.



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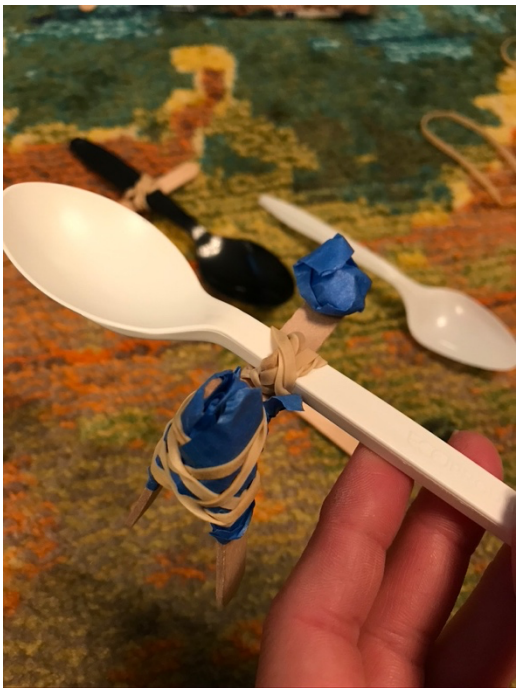
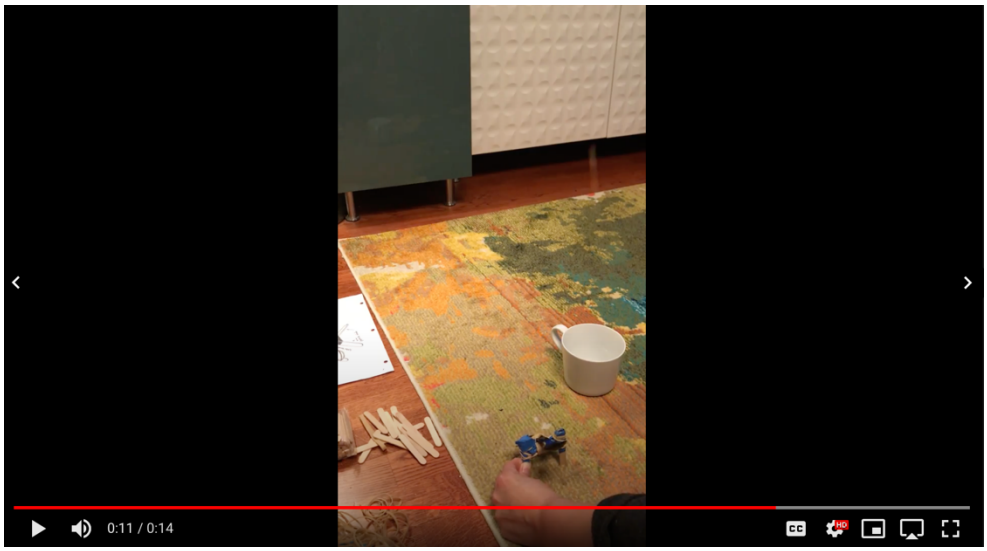


As expected, the tape did not work, and I had to make adjustments on the fly. I added a ball of tape (top right blue mass) to stabilize in between the A-frame design as well as two layers of tape and rubber band for extra strength (in this order: tape, rubber band, tape, rubber band). This gave it too much strength however, so I added additional sticks below main launch stick. I later had trouble with the spoon, so I switched it out to compensate for the unexpected flexibility in the spoon-stick-rubber-band attachment.

I took a longer video of where the peanuts landed in order to find the right placement of the cup. That clip is not provided because I was in my pajamas at the time and forgot about taking pictures at the stage.

The catapult's small size made it a bit difficult to aim. I eventually found the right angle. I am ricocheting the peanuts off a cabinet to show the whole thing on video. Turned out to have a lot of power with the extra rubber bands and sturdier spoon so things launched too far. Also, the trick shot is pretty cool.



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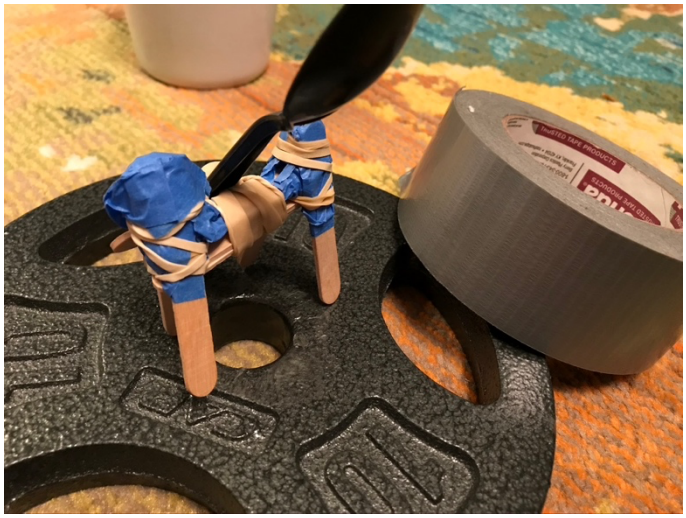
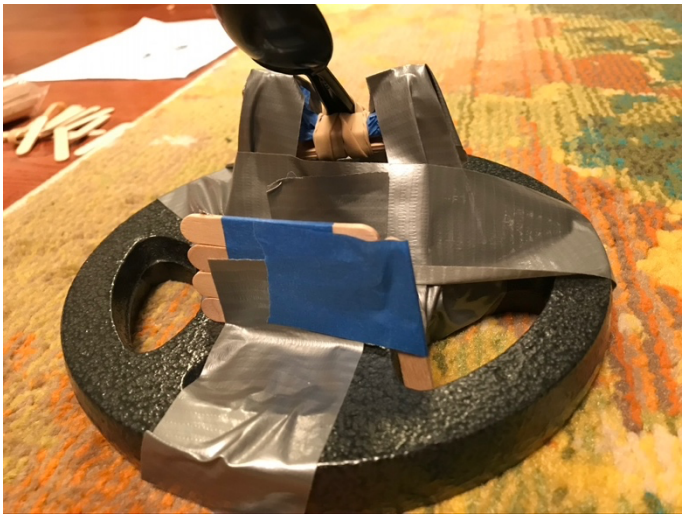
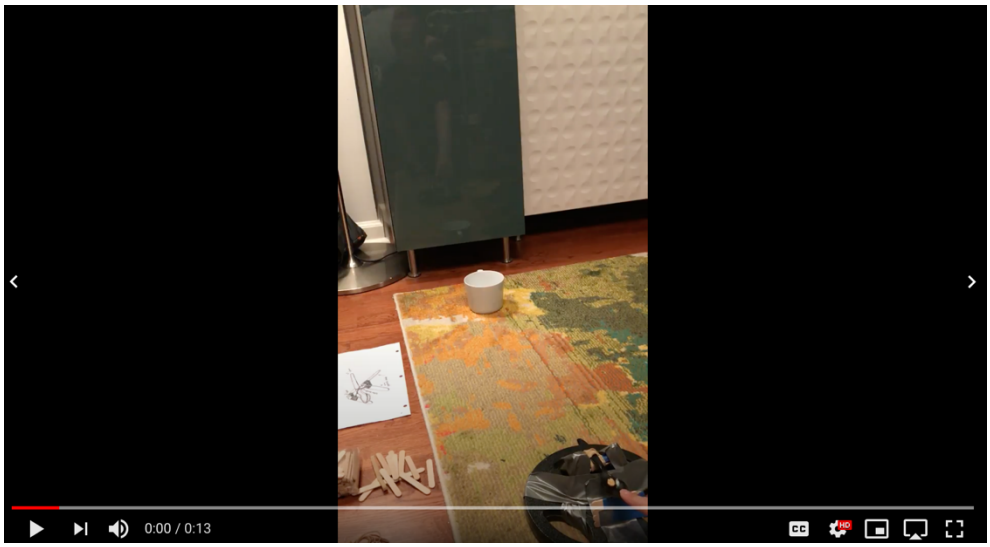
To improve the design, I could mount the small base to a larger base for better accuracy. The spoon launcher seems stable enough. Having something bigger to hold and more weighted may make it easier to aim. Also decided to go through the effort to get duct tape. (Worth. It.)





The heavy weight was the prefect element to add. Now that the base was stable, I tweaked one more variable. I noticed that the amount of power (how far I was pulling) was creating an inconsistent toss. By adding a few mini sticks to the back as a measurement I was able to have more consistent power. The only two variables left were aim and finger flick (how quickly I pulled my finger away). Adding this final adjustment made it feel more like an enjoyable game with some level of skill still.



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