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My prototype design test is the moving picture. The requirement is to create a painting on a wall that can be easily changed out to another painting in between scenes. My instant thought was a moving scroll that could be manually rotated to reveal a new picture in the frame visible to the audience. This idea came from a childhood experience when I owned a toy television, which had a rotating image to create the illusion of a television show actually playing.

For this prototype, I drew various sketches and researched information online. I looked for information on scrolls and gears, as well as how the toy TV I used as my inspiration was made. I built a wood box open frame, which I attached to the back of a scaled down model stage flat. I then inserted two 1 1/2" wooden dowels on both ends of the frame. The dowels act as the mechanisms to rotate the attached picture. I used a strip of brown paper to act as the temporary canvas picture to see how the prototype would work. The ends of the paper were attached to both ends of the dowels with gaffers tape for now. My original plan was to have the picture canvas wrapped continuously around the dowels, but when I tried rotating the scroll I ran into the problem of the picture not being able to rotate smoothly and the picture getting caught between the gears. Therefore I halved the picture so it could rotate from left to right or vice versa with two pictures side by side on the paper instead of front and back.

I feel my research was thorough enough for me to understand my direction and how to build my first prototype. I am not sure if I would make any major changes to my prototype as when it was tested it did exactly what it was supposed to do. I may add handles to the dowels for ease of use. I also plan to replace the brown paper with actual canvas. Some cosmetic adjustments are also in order. I really like this project because even though a scroll seems easy to create on first glance, it actually isn't and required me to do a lot of critical thinking, which I appreciated.