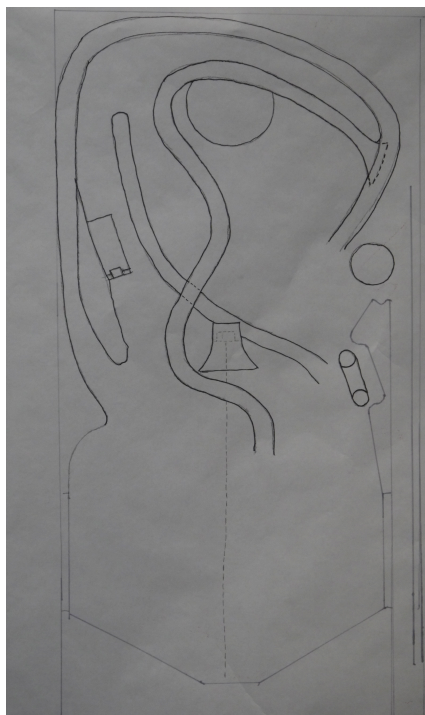
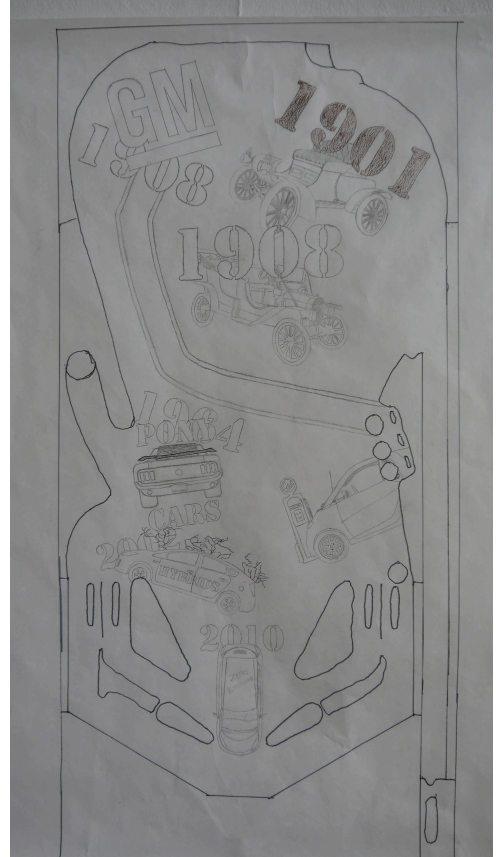


It all began with the broad question, “What is movement?” There were many ways to answer the question, therefore after a few conversations I soon developed a more concentrated question; “How can we capture the movement of the automotive industry?” I have always been fascinated by the history of the automotive industry and for this project I was able to actually dive in and do a lot of research about it. My initial visual form, a marble going along a fixed route on the inside of a box, was inspired by a number of rude Goldberg machines and electrical lighting. After staying with this idea for a few days, I found out that there would only be one outcome and the box would be completely predictable which is not the effect that I wanted to give. I once again spoke with some faculty members and we discussed different types of moving art pieces; kinetic art. We soon came across the idea of designing a working pinball machine that would include a deck that would be designed in a way that expresses the History. The timeline begins at 1901 with the invention of the Olds Automobile Curved Dash and goes on to 2010 with Nissan's Zero Emission Leaf. Along with the timeline on the deck of the pinball machine, there will also be a few sets of ramps made for the player to get the marble onto. There are also spinning wheels and vehicles sticking off of the deck itself. The artwork continues onto the sides of the machine where there are number of automotive manufacturer logos however, they are all be in order of old to new. This machine will be a great way to represent the timeline of the automotive industry.

When the process began I knew that I was going to need full size sketches of the playing field and its obstacles, so my first self-made assignment was to sketch out these drawings. By the end of the sketching process, I will have a full size sketch of the deck that I am going to paint; a full size sketch of the ramps and obstacles on the deck, and lastly, the sketch of the side of the machine. These sketches took a good amount of time each but I knew they were going to be useful in the end so I kept a positive attitude. Following the sketches I will began painting the graphics onto the main playing field deck. The painting will take a few days so after I finish I will return to the sculpture studio to began to make the game pieces and elements that will sit on the deck. When all pieces are made I will once again return to the painting studio to paint the game pieces and the box that contains the entire game. Once the painting is fully complete I will test the game and make any final changes that may be needed.

After the sketches were complete, the next thing on my agenda was to jump right into the work and start the painting on the deck itself. The first thing that needed to be done was to get the wood from Patrick, my sculpture studio instructor, in the sculpture studio and have him cut it to the correct measurements. I used the same measurements as my full size sketches, which once again made the process easier. The official measurements that I ended up using are 22 inches by 55 inches, which is significantly smaller than the regulated pinball machines. I soon got the wood cut and I headed back over to the painting studio and started working on the backdrop colors, which I decided to be a fade of grey to blue. I chose the grey because it has an older feel to it. I chose the blue in the background because it has a more current feeling to it and would blend in with the cars that are going to be painted on it. After painting the background, I started painting the Olds Automobile Curved Dash model. This was not a very complicated vehicle to depict, however, it was time consuming, which also goes for the rest of the vehicles on the deck. To me, the shade of yellow that I used in the Ford Model T needed a large number of coats to actually have a color so it was very time consuming. When the painting of the deck is complete I will move onto the obstacles of the game that will be placed on the deck, such as the ramps and hills.

There are two different rail systems on the deck that the marble goes along and they each have a different use. The first rail is engaged when the ball is shot up from the plunger and its purpose is to take the ball along the first half of the timeline. Taking it through the Olds Automotive Curved Dash model, General Motor's logo, and the Ford Model T. The ball is then let off in the center of the playing field. The purpose of the second rail is strictly for the fun of the game and to add another obstacle to the project to make it more intuitive. The ball enters from the left side of the board and then travels along the back edges of the playing field and then the ball exits the rail by coming down on the other side of the playing field. The next obstacle in the field is the ramp, which is going to be located in the more recent years of the timeline, which is closer to the player. This ramp is just another obstacle in the game to make it more interesting. However, its one use to allow the ball to jump back onto the first rail that goes on the older events of the timeline. This will be very complicated for a player to understand so it will mainly just be another obstacle in the game. I was inspired by pinball machines of the past to make the rails out of metal. There would be a pair of metal "tracks" that the ball would ride along. Through out the system of the rails there would be multiple pins going to the playing to keep the rails where they need to be. The metal poles for the "tracks" will be bent using a small wire bending mechanism. I believe that this is the most important and complicated area of the entire process and will call for a good amount of trial and error.



I believe that another important aspect of pinball machines is the lighting and flashing that is used because it basically brings the machine to life. I have always been fond of using lighting in my projects because it makes it more interesting in my eyes. I have to decide to have lights in three main places in the playing field. Those places are; the back, the left side, and the right side of the playing field. I intend on ordering about 18 miniature light bulbs from a science website and have them mounted in small boxes so that the circuit is connect in a series and is simple. Although at this time in the process I do fear that I will not have a lot of space for the lights and that mounting them will not be simple. I have decided to put these lights in these places because I feel that the lighting needs to be spread throughout of the playing field so that the field will

actually be visible in the darkness. Also in my vision of the lighting on the field I would like the lights to be behind some type of tinted paper so that they give off an illuminated feel to the playing field.

Once everything on the actual playing field deck is complete, including the lighting, it will then be time to assemble the walls that surround the playing field. I feel like this time in the process will be like a cool down area because I will then be finish with all of the complicated wiring and test areas on the project. I would like my process of assembling the machine to start out with having each wall cut out so that I can take them all to the painting studio and paint them so that they are ready to be put together in the end. On one of the side walls I must depict over 20 automotive logos which I know will be time consuming so I hope that I will be very interested in painting them onto the wood and being close to finish. However the most important part of the assembling process will be the installation of the flipper mechanism, which could also be very complicated. So I intend on having a large number of defined sketches of how the deck and the walls will meet with the flipper mechanism involved.

This project is very fun, interesting, and time consuming. I picked this project because I knew that I would hold my attention and I would always want to get more work done on it and I maintained this feeling throughout the process.