



# INTRODUCTION

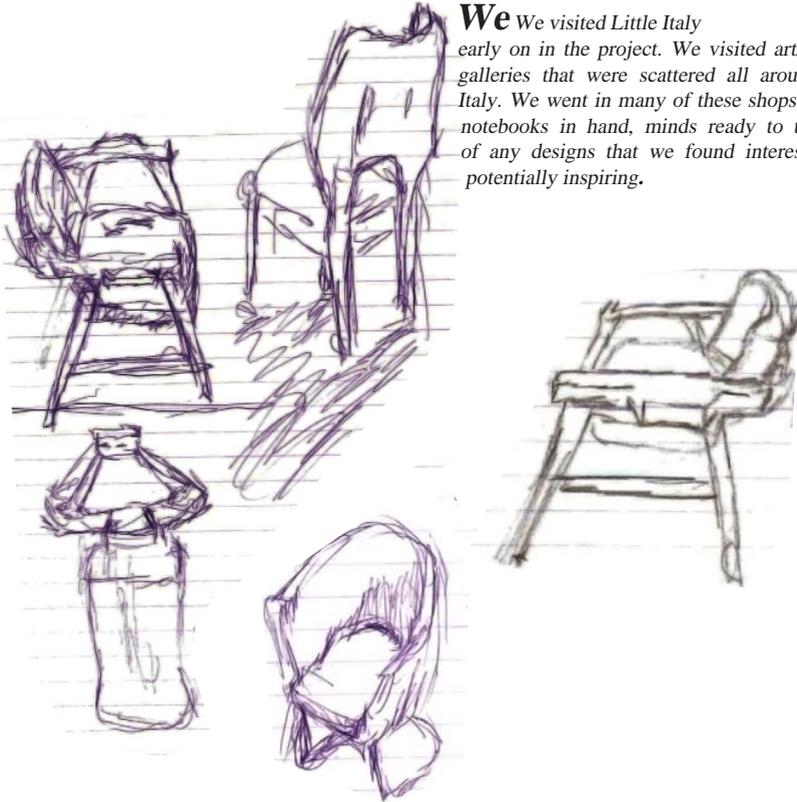


Hello and thank you for choosing to read our book. This book is part of our “Get Bent” project where we were required to make a chair, a lamp, and this book. This book details our thought process and how we did things from beginning to end in this project.

We hope that by picking up and reading this book you will be enlightened as to what we have put forth into this assignment. We strive to capture the nature and work done within this senior project by putting it in this book. Again, thank you for choosing our book and enjoy.

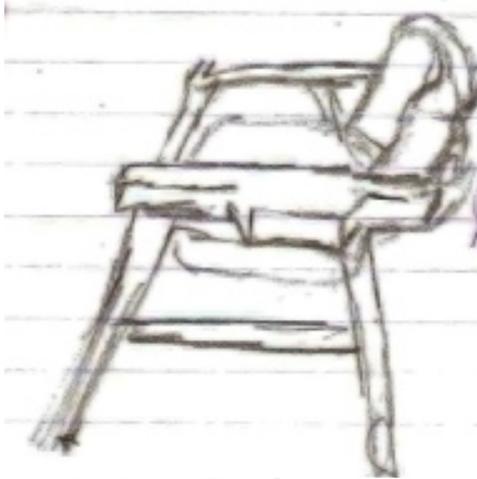
# LITTLE ITALY SKETCHES

**We** We visited Little Italy early on in the project. We visited art/furniture galleries that were scattered all around Little Italy. We went in many of these shops with our notebooks in hand, minds ready to take note of any designs that we found interesting and potentially inspiring.



We walked from our school down to Little Italy, and visited some galleries. We were very cautious when we were within these galleries, making sure not to bump into any priceless art; we even took off our backpacks when we were inside some of the smaller shops. We would make sketches of anything that we would possibly want to take artistic cues from and we would carefully sketch it in our notebooks, so that later when we were back at school we could remember what we had seen at the shops. Above are the some of the sketches we made in numerous galleries across Little Italy. The top three chairs are from a gallery named Klassik and in the middle is a lamp from an antique store. We decided to sketch up the lamp because we were interested by how the lamp shade was mounted to the base. The last chair we stumbled upon was in a more urban gallery called Permission.

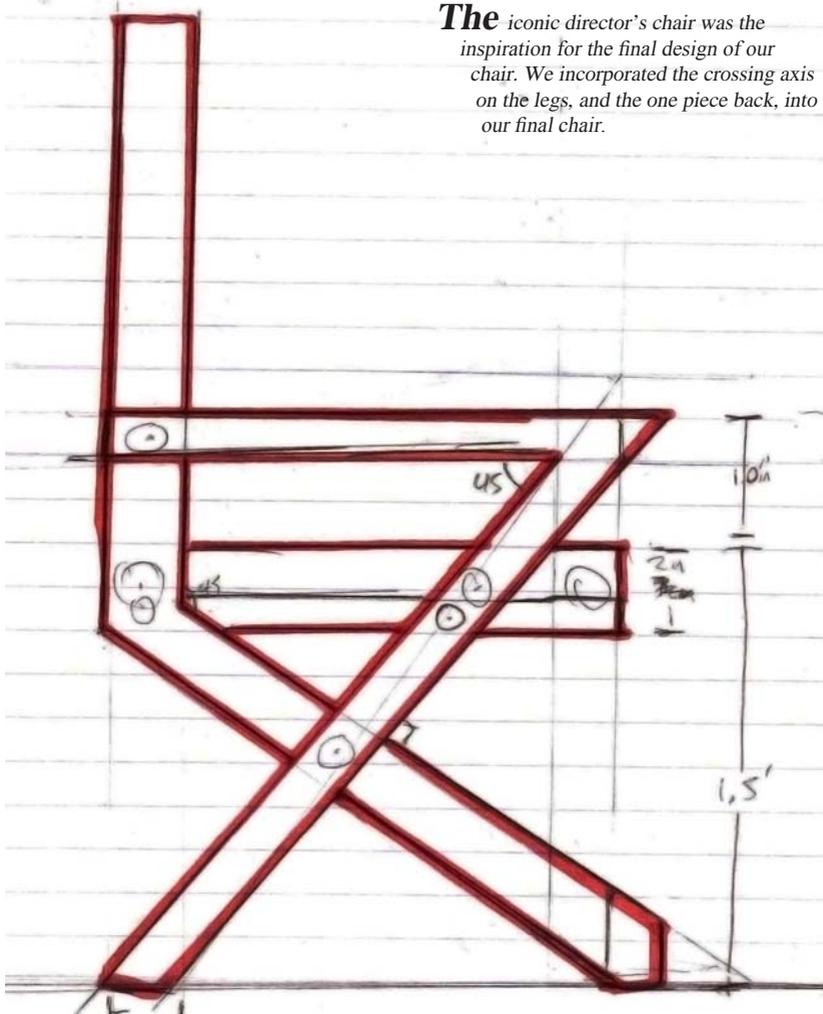
# OUR FIRST CHAIR



When we went on the field trips to look at chairs in IKEA and galleries in Little Italy we had a solid idea on what kind of chair we wanted to build. We found one we liked during the Little Italy trip, and we decided to go ahead with it. We planned the chair out, sketched it, and got ready to present it. When we showed it to Jeff he told us it wasn't creative enough, and that we should try to be more creative with our design because this was one of our last projects as high school students. As a result we had to come up with a brand new and better chair design, and in the end we built a very cool looking chair.

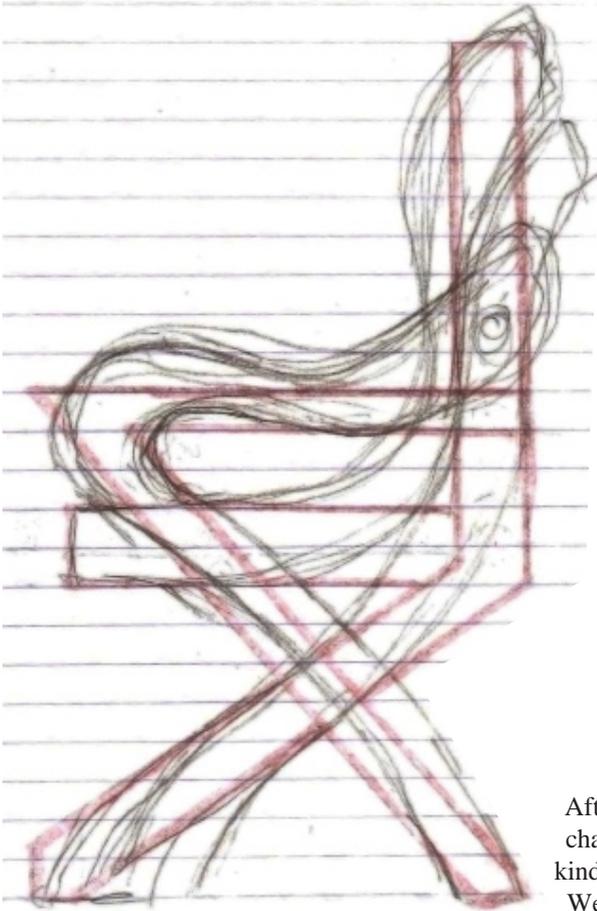
# OUR INSPIRATION

**The** iconic director's chair was the inspiration for the final design of our chair. We incorporated the crossing axis on the legs, and the one piece back, into our final chair.



We spent a lot of time looking at multiple chairs trying to find an idea or some inspiration for our own chair. We looked at old chairs, new chairs, urban chairs, and modern chairs. But everything we found was either too plain or too difficult for us to make within our time/resources. Until finally we found the perfect chair to base our final design after: the classic director's chair. This chair was the foundation for our actual chair.

# OUR FIRST CURVED IDEA

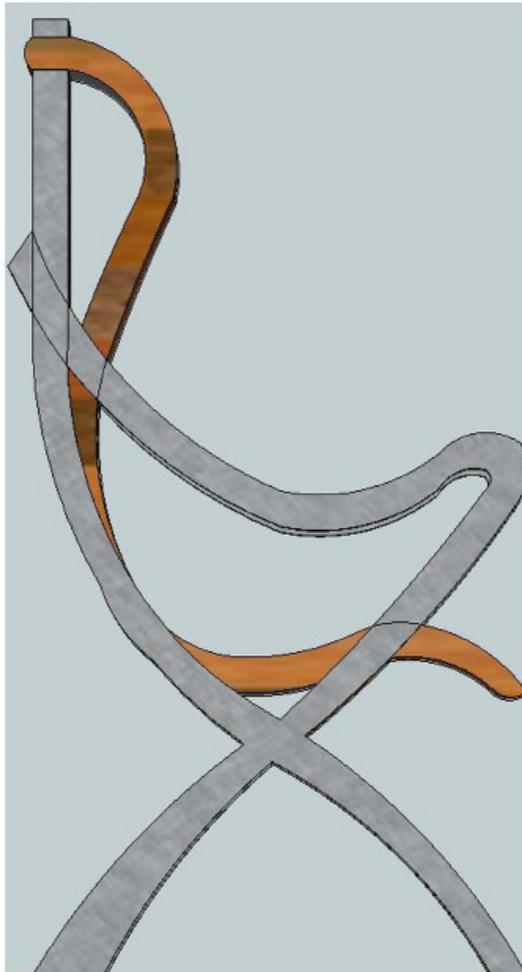


After Jeff told us to make a new chair, we had no idea as to what kind of chair we wanted to build.

We were soon getting desperate because we were running out of ideas, and we wanted to make a chair quick so we wouldn't fall behind. We started studying iconic chairs and the director's chair became our inspiration, and for our final idea we gave the iconic director's chair our own twist. And from the fanatical mind of Eli Komai, this is the first plausible design we had for our bentwood chair.



# GOOGLE SKETCHUP



Before we just started building our proof model, we had to make a model of our chair in Google SketchUp. Google SketchUp is a program where one can easily make models of things like buildings, furniture, in our case chairs, in 3D form. We built our chair in the program using our measured plans, and made it as close as to what we wanted the chair to be. While making the chair on sketchup we assumed we were going to use three separate pieces to make the armrests, the back and the seat. However while using the program we realized that doing so in real life would prove to be extremely difficult, so we opted to make the sides one piece instead.

# PROOF MODEL



*A side view of our completed proof model (above); Peter Gloag is testing the integrity of our proof model (left)*

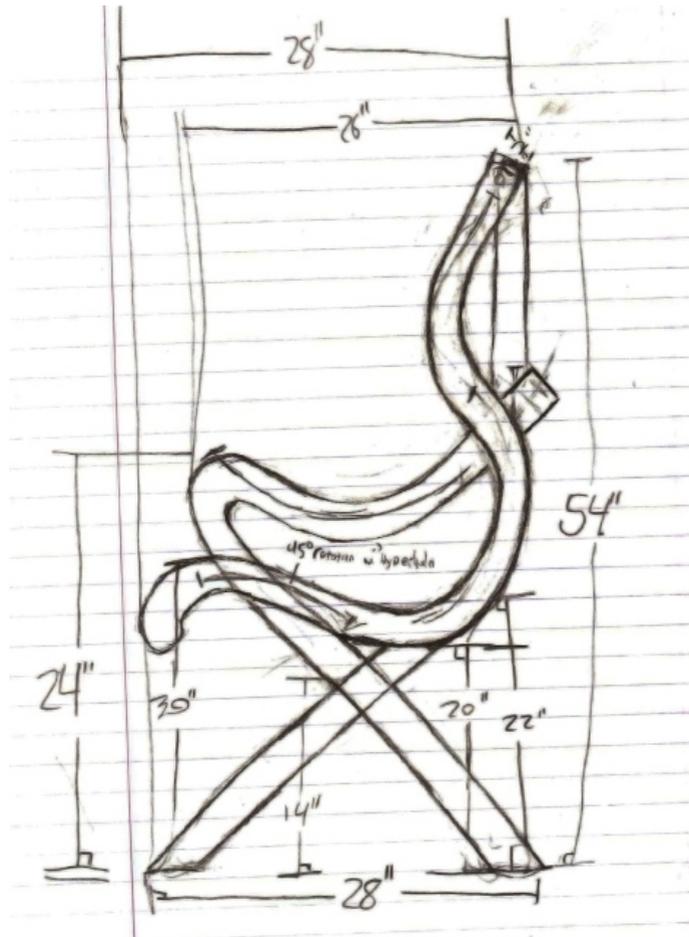
Our proof model helped our group figure out many obstacles that we could have potentially run into when making our final chair. Had we not built a small scale model before building the final chair we would have had a lot more trouble when building our final chair. This in turn would have potentially wasted a lot more time and resources. One of the problems we did not foresee, that the building of our proof model helped us with, was the strength of the feet. The legs are relatively thin as they meet the seat of the chair, proving to be relatively weak under the weight of heavier sitters. We were required to have our chair comprise of math concepts we were learning, but we hadn't done that to our chair so we had no real math. Thus our final chair model is a math based adaptation of our proof model. Our proof model was built to approximately one half scale, which means that our final model would end up being twice as big as our proof model. In order to make the proof model we traced the SketchUp model off the projector onto brown paper, and then used it as a stencil to cut the sides out of a thick wood board. Once we cut both sides we glued and nailed the middle into it.

# PROMOTIONAL POSTER



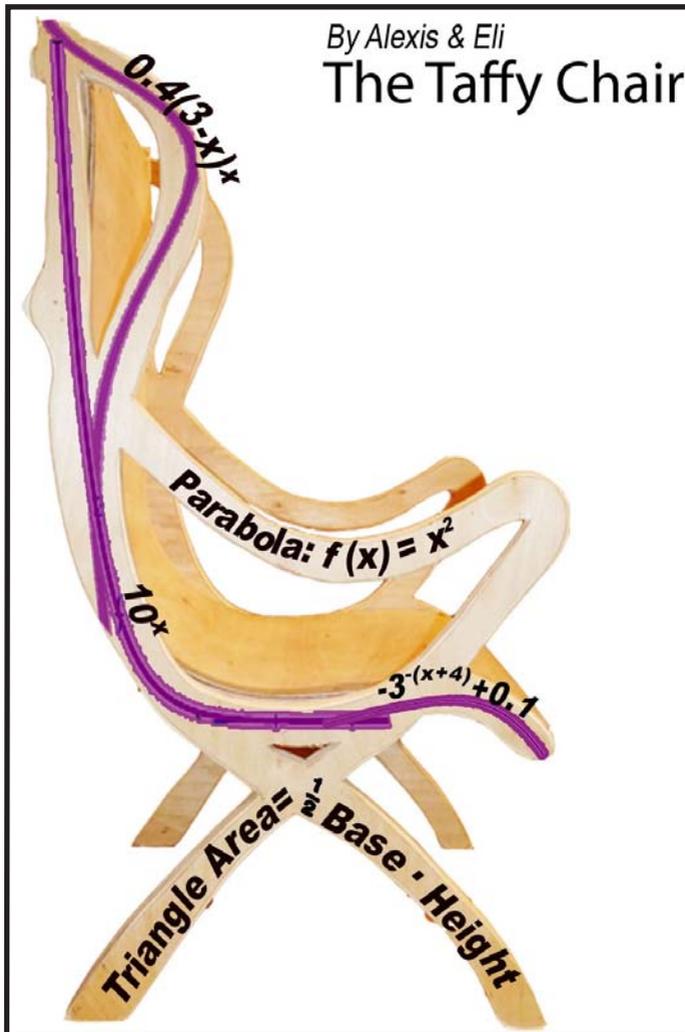
This is a poster that we had to make, going off the premise that we were going to have to promote our chair. The model we used for this poster is Peter Gloag. When we first made the poster, we thought of putting him underneath the Hollywood sign because we had based our chair on a director's chair, but after some reworks, the idea didn't really work out. Then we thought of putting him on the beach, but we were told that didn't cohere with the design of the chair. After that we finally made this simple and effective poster.

# SECOND CHAIR DESIGN



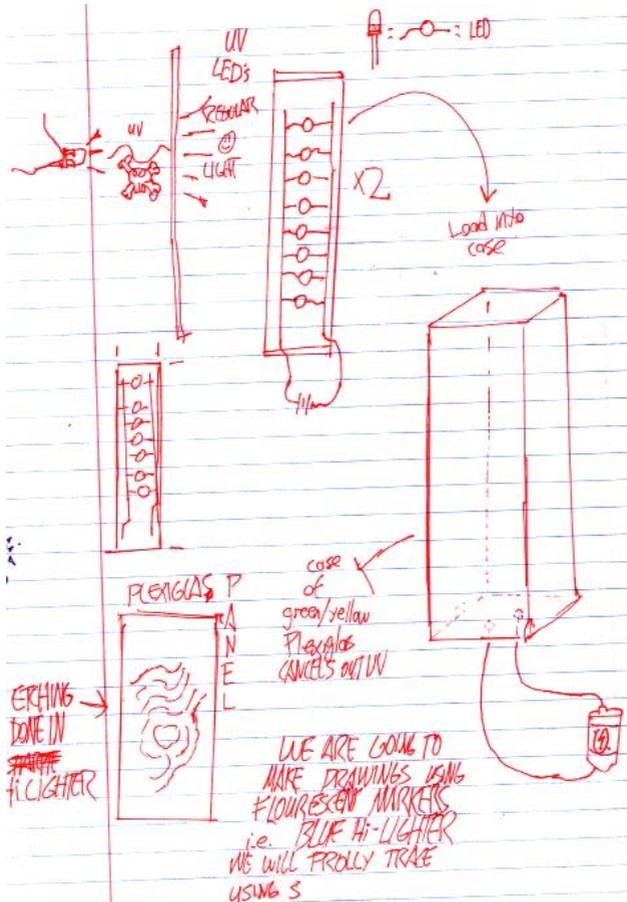
This is our final design. After we made our first curved design, we got a thumbs up from Jeff, but all we got from Andrew was a disapproving look. As it turns out, he gave us this thumbs down because we hadn't incorporated any math into it. When he told us that, we started desperately looking for math in our chair. Once we found some we made this new sketch, incorporating the math we found into this final design. This is a new sleeker design for our chair, with measurements included.

# MATH POSTER



This is a poster we made detailing all of the math that we put into building our chair. In the beginning we didn't think of putting math into our model, so when we built our proof model we were frantically searching for some math concepts in it. We made countless revisions to this poster because Andrew kept pointing out flaws in the math concepts, but in the end he accepted this one above

# OUR LAMP



When we started the project we were told we would be making a chair, a book, and a lamp. Throughout the whole process Jeff and Andrew started to figure out that we might not have enough money or time to make a lamp. So they instructed us to bring our own materials since we spent the entire budget on building the chairs. Eli brought a lamp from home, but Andrew didn't like the fitting on it and suggested we do something else. That's when we stumbled upon some Ultra Violet LED lights from an old project and Andrew told us we could use them. Since they are UV lights, it can be harmful to both optical and epidermal health so Andrew suggested we use some Plexiglas to cover the light, and we came up with the idea of putting the LED's in a Plexiglas box. From there we could put things in the box that fluoresce like highlighter, to make the light more bright.

# MANAGING OUR TIME



I would call our time management adequate. We did mess around during the project, but we didn't mess around as much as Jeff thought because if we had we would have never had anything to show. There were also some things that we took a long time to do, because they were difficult for us. We were ultimately one day late building the chair, but finished it on the first day thereafter. All in all, we could have had better time management practices, and if we had implemented said time management practices, the project would have been less complicated.

# OUR PITFALLS



We had many pitfalls throughout this whole project. The problems started early on when Jeff rejected our initial design, leaving us frantically looking for a new kind of chair to make. There were some check-ins where we didn't have enough material to satisfy Jeff, and had to go back to fix it. When building our proof model we realized that we had to change the design of our chair because there was a weak point where the feet of the chair met and would not support bigger people, we also realized we had incorporated no math in our original design even though it was a requirement. On our final chair some cuts were done incorrectly, and in the end that made even more work for us.

# SUCCESSSES



Although there were a lot of pitfalls throughout our project, we also had a lot of successes. Just by looking at our chair, we think that it is a pretty cool and original design and we are proud of how it turned out. We have also sat in it, and while it is a little unstable, it managed to support a few people and it is relatively comfortable. Our lamp is also coming along nicely, and I anticipate it coming out very well. I also consider not being extremely late with the chair a success, because it seemed like it was going to take a while to finish it but we got it done quicker than expected.

# CONCLUSION



Now that we are at the end of this project, we realize the many mistakes we made and the cool things we have done. We had way more pitfalls than triumphs, and all we can take from those pitfalls are learning experiences. We also recognize that the chair came out quite nice, and the design is creative and original. The project was fun, we got to build, and the product came out great. Obviously there are many things that we could have done better, but in the end we are satisfied with what we have accomplished.