

Digital Fabrication and Documentation

part 1

Project Overview

This assignment is two-fold, will yield two separate grades, and will need to be created simultaneously with each other.

Firstly you will design a self directed project that makes use of the FabLab. The content and form is up to you but it must be worthy of university level artwork.

Secondly you will document your process using video, photographs and other static imagery, animation, and audio. Think of the documentation as your own Art21, Aspect, or StoryCorp clip - A short video that gives insight into your thoughts and creative process as they pertain to your Digital Fabrication piece.

Be mindful of what you want to say with this work. Will you be political, personal or champion a social cause? Will this be an extension of a work made earlier this semester or in another class? Will it coincide with your other non-art course work? Will you explore new conceptual ground?

Explore new techniques and play with digital and non-digital formats.

Artwork Considerations

You may work on a large scale or be intimate. Create a single digitally fabricated artwork or a traditional artwork that incorporates digital fabrication techniques. Your work may be kinetic or static. It can be mobile or sight specific. Whatever you choose your art/design piece must fully incorporate or utilize at least one of the tools, and possibly several, located in the FabLab and should also incorporate your other artistic interests or skill sets.

Documentary Considerations

Consider how you want to tell the story of your artwork. Will there be a narrative voice over or talking within the clips or both? Will it be chronological or non-linear? Will there be background music...all the time...sometimes...not at all? It is ok to document and discuss your failures along the way. How do you want to frame your story? Watch several short documentaries to get a feel for how you might make yours. You may use other video editing software if you like but I will demonstrate with Adobe Premiere. High standards apply whichever software is used.

Due

1 digitally fabricated work
(or work that incorporates digital fabrication techniques with traditional art making methods)

1 minute video documentation of your thoughts, process and final artwork.

art21.org
storycorps.org
aspectmag.org

<https://www.tinkercad.com/>
<https://tools3d.azurewebsites.net/>
<https://free3d.com/>

<https://onlinesequencer.net/>

Any sufficiently advanced technology is indistinguishable from magic.

— Arthur C. Clarke

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3D printing
3D scanning
Laser cutting
Vinyl cutting
Digital Routing
Digital Sewing
and more

Adobe Illustrator / Photoshop
Adobe Premiere
Blender / Maya / 3DSM/TinkerCAD
Corel Draw
other (based on FabLab)

**Plan your time carefully and stay on schedule.
Account for trial and error and starting over.**

Technology is nothing. What's important is that you have a faith in people, that they're basically good and smart, and if you give them tools, they'll do wonderful things with them.

— Steve Jobs

The FabLab

The FabLab has 3D printers, Lasercutters, CNC Routers, Vinyl Cutters, 3D scanners, digital sewing machines, and numerous other tools for your use. Explore and familiarize yourself with the space.

Some machines are free to use since you provide the raw materials (laser cutter). Other machines charge a very modest fee rate (3D printing). You may need to put money on your UTA student ID card. Be sure you know the expectations and policies of the lab.

Assistants at the Fablab vary in skill and experience however I have found them to generally be very helpful. Seek their guidance and ask questions.

Be aware 'printing' or fabrication can not happen the day before you present. There may be a back up to use the equipment or possibly equipment may be getting repaired. Plan ahead.

Timeline Blueprint

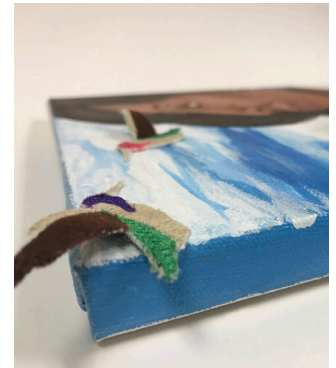
1. Develop your concept. Do research, take notes, and develop your idea deeply before moving forward. You must have a direction prior to the end of the day. Watch Art21, etc. Begin to familiarize yourself with the FabLab and any other hardware and software you may utilize. Remember Lynda.com is at your disposal.
2. Begin to collect imagery and notes about the early stages of your process. What materials will you need? How much? What style do you want to use for the documentary. These decision must be made by the end of class. Demo on video and animation techniques. Familiarize yourself with video editing techniques as shown in class.
3. Production on both physical artwork and your documentary should begin. You are likely in software at this point but it will not be long before you need to start going to the FabLab to produce your work or utilize that technology into your making process. Continue to archive your process and collect in-progress images and video/sound clips.
4. Interview yourself or begin to develop a script to create a voice over narration. You should be collecting, editing, and putting together your documentary files - even though it will be a rough cut at this point. Two weeks have past now. Production of both fabrication and documentation should be in full swing. If you are still 'coming up with an idea', then you are far behind schedule. Consider creating trial versions or test pieces of your art process. What glues work best, what paints will adhere to your surface, how can you frost that glass, can a 3D print be casted in metal? You need to figure these things out now. Play and experiment as you create and document along the way.
5. Work Day - get done what you need to get done. It's all about production now. You should at least have a grasp of all software, hardware, and process you will use. It is just a matter of doing it.
6. You need to be in the final stages of your fabricated work. It always takes longer than you think. Make a push here to finish it. You will need a finished artwork before you can finish your documentation.
7. Last work day. You now need to be finalizing your video. Again, this will take longer than you initially anticipate.
- *8 Critique. Hand in and watch the documentaries, and discuss. Bring your final work that incorporated digital fabrication to class.

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This student created wood block for prints. A file was created in Illustrator then cut with the laser cutter. Lastly a series of prints were created.



Digital Sewing in combination with traditional painting methods were used to create this homage to this student's grandmother.



This student utilized both laser cutting and digital sewing technology to create a one of a kind baby book.



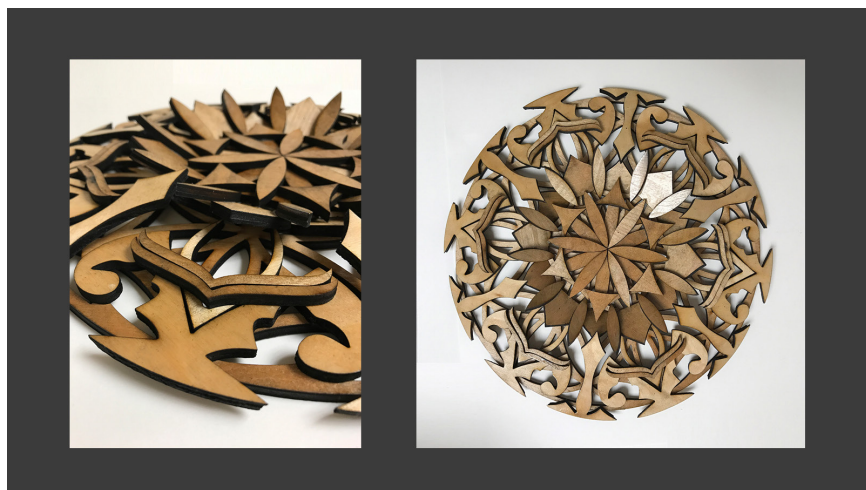
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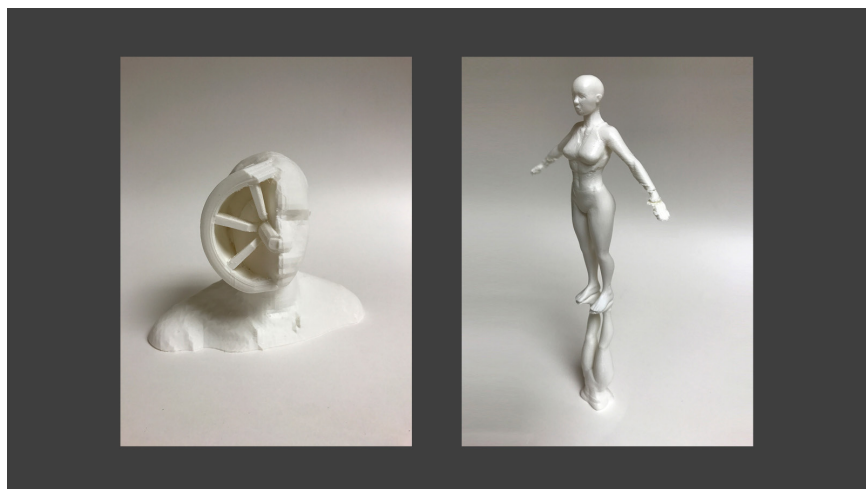
Above a student interested in combining glass and vinyl cutting created these two cups. Considerable amounts of trial and error occurred before perfecting the process.

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Laser cut dimensional mandala.
This took multiple Illustrator files
and careful glueing.



This student used 3D scanning,
software and printing technology to
explore notions of the body.



This student also used 3D software
and printing technology to explore
notions of the body with a more fo-
cused element on soilder amputees
and the effects of military service.
The model was then painted to
emphasize los of limbs and mental
distress.

