Design Brief

Who - I am designing and making this product for my little brother.

- My little brother is part of my main target audience, the FTL fanbase. He has been a part of this fanbase for roughly 3 years now. He has completed the game multiple times in the past. Players whom have completed most of the game tend to set challenges for themselves, this includes speed-running where you try to complete the game in a set amount of time. I like how this fits into this unit's main theme of time. The FTL fanbase is quite large and still active. Which is why I believe it would be a good target for my clock design. This also ties into my initial explanation as to what my project targets are because another reason I'm targeting the FTL fanbase is because of its lack of merchandise in particular clocks.
- The FTL Fan-Base has a wide range of ages that are anywhere from 9-40 years old. However I will be using 11 as my targeted age as that is the age of my brother. The FTL fanbase has a very strong connection with images, particularly of in-game ships. These ships have influence over their play styles and attitude. I tend to utilise this by incorporating my brothers favorite ships at 12, 3, 6 and 9. Having ships which he prefers less in other locations. The FTL fan-base as far as I know is devoid of any recognizable purchasing habits for 3 reasons, there isn't a whole load of available merchandise, as far as I know Subset Games hasn't releases any of their data on consumers and Subset Games was kind enough to include their DLC expansion (Advanced Edition) with the base game.

What - My product will solve the following issues for the FTL fanbase.The clock will include a method of measuring up to an hour. In order to help streamline the experience of speedrunning in-game. Just like the first party merchandise I entend for the main aesthetic focus of the clock to be the in-game ship designs. It will also provide an aesthetic and pleasing design that stays loyal to the game's art style. I have 2 ways of painting it in mind: painting it with Latex paint (As my brother and I agree). As this will add a pleasing and glossy effect to the clock. However Mr. Shaw has in formed me of another more feasible method that can be carried out at school. Using MDF and varnishing it with clear varnish and then spray painting it to achieve the same glossy effect. Whatever the technique it has to be glossy and professional. It will also provide a pleasing solution to help ease the issue that the FTL fanbase lacks merchandise.

- I will hopefully design a clock that says to its user/buyer that it is a functional and effective clock for recording speed-runs in a stylish analog fashion. It will also tell it's user that it is loyal to the game's original top-down retro pixelated art style that so many fans have fallen in love with.

How - My main guideline and rule for this project will be that it has to follow the original art style of the game. Nothing fan made or not in the game. I believe that this guideline actually contributes greatly to the feasibility of the project, as it narrows down the amount of art I am allowed to base my clock on. I also believe that this clock is quite feasible due to the fact that we have all of the materials and tools available in class. It will be hung on a wall using a normal painting/picture hanger that will connect with a custom made hook located on the top of the clock. This will allow for the removal of the clock from the wall to replace the batteries. This creates an easy and efficient battery replacement system.

Design Specifications

1. Aesthetics.	- Hopefully my final design will have multiple layers, the background, foreground, ships that signified the times and ships that are the handles. - As I have previously mentioned it will also stay true to the original retro/pixelated art style of the game. - It will be circular with bits sticking out being the playable in-game ships that signified the time. - It's finnish over the latex paint, that will be applied with a latex primer (if available) and will have a wax coating. As it offers a pleasing aesthetic finish and a protective layer that will hopefully protect it from an 11 year old boy. Or I could follow Mr. Shaw's more feasible in school technique. Of using clear varnish over MDF and then spray painting it, to achieve the same glossy effect.
2. Customer (My little brother).	- Long time FTL fan. - 11 year old. - Male. - No-income or previous employment history. - Self identified Libertarian (His political and economic stance).
3. Function.	- The clock will be designed to be a timer that counts up to an hour. - With the the traditional numbers (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12) substituted with (5min, 10min, 15min, 20min, 25min, 30min, 35min, 40min, 45 min, 50min, 55min, 60min/1 hour). - Hopefully this will allow for a more precise and interactive method of timing a speed-run of the game in a more fashionable analogue style.
4. Environmental Considerations.	- As I mentioned in my research I will hopefully be using and have access to a "green" eco-friendly wax to coat my clock with for it's finnish. - This would greatly help to reduce the environmental impact of my clock and it's manufacturing process. - I will also attempt to avoid plastic as it is made from oil. However I will utilise wood as I hope that the school gets its supply of plywood from either non over exhausted or recycled source.
5. Manufacturing.	- The Design itself will probably take about 2-3 weeks to create. - The tools and equipment necessary for the manufacturing of the clock are present and provided by the school. - There are two main limitation I will have to face in the manufacturing process. I will have to scale my clock handles dimensions to match those of the clock mechanism itself (Length = 5.4 cm, Width = 5.4 cm, Height = 3 cm, Height of clock mechanism shaft = 1.8 cm, Diameter of Clock mechanism shaft = 0.2 cm). I will also have to scale the thickness of each layer accordingly. - I will also have to create an overall clock that is under the size of

	1mx60cm. As this is the overall size of the Laser-cutter. - However it is my opinion that this isn't very much of an issue. As I consider any clock design that I come up with that is over a diameter of 30cm to be oversized.

6. Safety.	- In order to follow safety protocols during the manufacturing of my clock I will:
	    - Wear proper safety equipment whenever I am around heavy machinery (saws, belt sander and drills). This would consist of safety glasses.
	    - I will follow Mr. Shaw's instructions as accurately as possible.
	    - I will never operate any dangerous machinery without the supervision of a teacher.
	    - I will always allow Mr. Shaw to operate the Laser-cutter and 3D printer.
	    - I will always ask for Mr. Shaw's permission before operating any machinery.

7. Materials.	- For me the materials I will be utilising need to be easily laser-cuttable (It will be cut with the laser-cutter as I believe it gives a cleaner and more professional cut):
	    - This leaves Plywood, soft metals and a variety of plastics (such as Polycarbonate, Polyethylene...etc).
	    - Soft metals are in my opinion to heavy for the clock mechanism to function correctly and too heavy to easily hang on a wall.
	    - Plastics don't work very well with finishes as they are designed for wood.
	    - Plastics are also less environmentally friendly as they are made from oil.
	    - I will utilise plywood as it is more ecologically friendly than plastics and works better with finishes.
	    - Plywood is also sturdy enough to remain structurally sound under pressure and it weighs less than soft metals.
	    - However Mr. Shaw recommends I use Medium-density fibreboard as it will work better with clear varnish and spray painting.

8. Size.	- I believe that my clock should have a diameter of 30cm in order to remain reasonably large and not oversized.