



**MATT NUGENT**  
**AFTERBURNER STUDIOS**



**CONTENTS**

---

<b>BOBBER</b>	<b>4 &amp; 5</b>
<b>BOXER CART</b>	<b>6 &amp; 7</b>
<b>VOYAGER</b>	<b>8 &amp; 9</b>
<b>MODDED MINI</b>	<b>10 &amp; 11</b>
<b>SPITFIRE</b>	<b>12 &amp; 13</b>
<b>LAKEHOUSE</b>	<b>14 &amp; 15</b>
<b>WOODLAND HOUSE</b>	<b>16 &amp; 17</b>
<b>VIRTUAL EXHIBITION</b>	<b>18 &amp; 19</b>
<b>AMSTERDAM</b>	<b>20 &amp; 21</b>
<b>LAMINAR</b>	<b>22 &amp; 23</b>
<b>X95 CLOCK</b>	<b>24 &amp; 25</b>

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## THE BOBBER

The Bobber was a project that I began during the start of second year. The initial brief I set myself was to build a vehicle inside and out. I Built the bike during summer using fusion 360. Following learning Blender I decided to revisit the project to improve the final renders with PBR materials and Blender's Cycles engine.



The Bike Features an air cooled Twin Cam engine, full front suspension system and duel exhaust. This challenged my skills as at the time I had never taken on such a complex project to this degree of accuracy.



## THE BOXER CART

For the boxer cart I wanted to build it from the inside out. I knew the type of engine I wanted to create and then I wanted to build a vehicle to go around that. Sticking to my own design style of exposed components I have allowed the engine and most of the systems to be seen from the outside of the cart.



All of the building work was done in Fusion 360. Although a more dedicate peice of engineering software like Solidworks would have been more appropriate, I thought as I work much so much faster with fusion it would be suitable for this project.



## THE VOYAGER

For this project I approached the client who I knew was renovating a van. I asked if I could help by creating CAD drawings and renders for him. Therefore, I split the project into two making one basic model (The Pioneer) and one Deluxe model (The Voyager). The aim for the Voyager part of this project was to create a deluxe living space that could go anywhere with you.

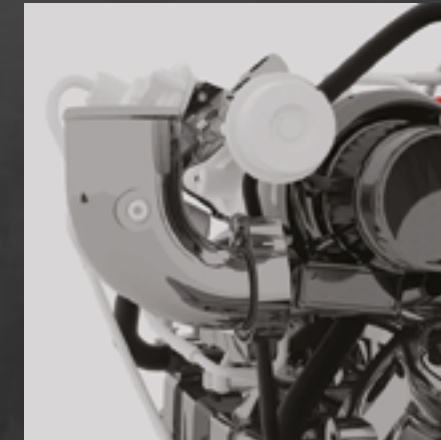


For the interior of the Voyager, I wanted to go big. Therefore, I decided to try and replicate a high-end modern kitchen inside the van. Therefore, I went for a flat gunmetal material for the draws and cabinet faces. For the surfaces I used a polished light hardwood. Then finally to give it a more modern touch I created LED light strips which I ran down the length of the van.



## THE MODDED MINI

This project was a revisit of a personal project I undertook about this time last year. The idea was to put a massively oversized engine into the mini to offset its classic car look and bring it right into the 21st century. I did not want to change much about the look of the car as I believe its styling done by Alec Issigonis still holds up today.



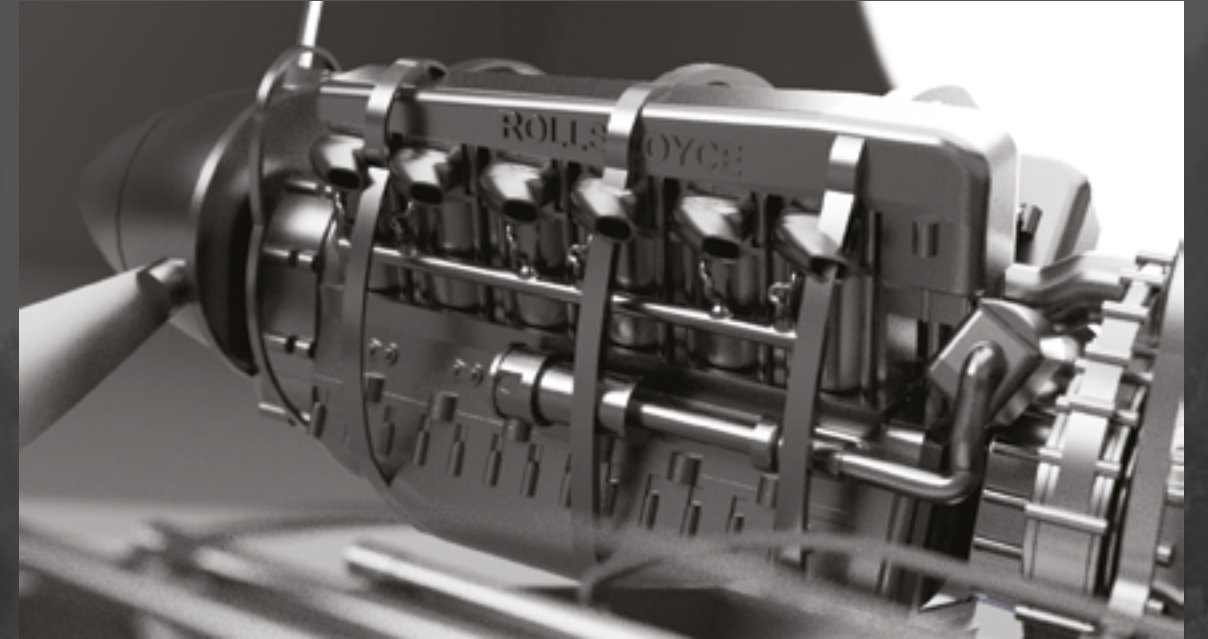
The purpose of this project was to illustrate just how far my CAD design skills have come within one year. Therefore, it was important to me that I had more detail on almost every aspect. Within the model I am most proud of the tyre walls. For these I created my own bump maps in Photoshop and had to use, for the first time the UV editor in Blender to correctly map these onto the wheels.





## THE SPITFIRE

The Spitfire was a project I undertook in second year. The brief asked the team for a website with a 3D model of the Spitfire which could take a user through the components and the people's stories behind them. Therefore, I was tasked with the internals and build of the component features of the Spitfire.

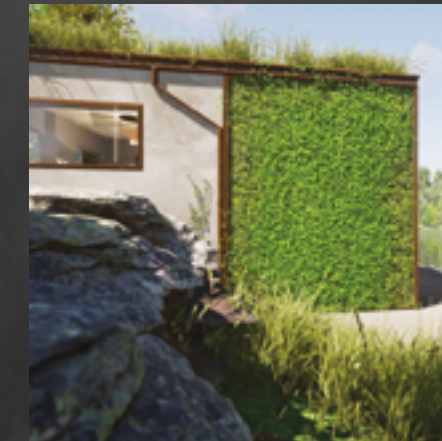


At the time of building the spitfire I had never built an engine or any CAD model with moving parts. Therefore I had to follow alot of online lessons to achieve the outcome I did. In the final build the spitfire had a fully developed working engine.



## THE LAKEHOUSE

The Lakehouse was a project I undertook as it was necessary for my dissertation. I needed to create a house in which the level of incorporated nature could be varied. The renders would then be put in a questionnaire and given to an audience to see how the changes impacted the worth of the building.



To create the house I used fusion 360. Once again as it is my most efficient software. I considered Using revit, however after some consideration I felt fusion would be better as it would make switching components in and out easier.





## WOODLAND HOUSE

The Woodland house was a project I undertook at the start of third year. The purpose being I wanted to put all the new skills I had learned over the summer into practise and demonstrate what I could now do. Therefore in my own brief I decided I would create a house inside and out.

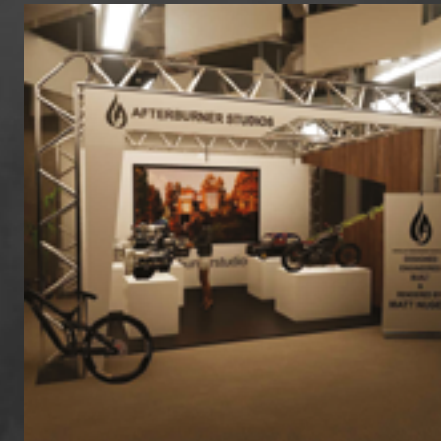


The outside of the house was made Using Revit. This being the perfect architectural tool for the job. Then the steel structure was made in Fusion. Then all the interior and the rendering was made in Twinmotion.



## THE EXHIBITION

The Virtual exhibition was a project I completed in third year. Due to Covid-19 our transmedia exhibition was unable to go forward. I was then given the task of creating a virtual alternative. I wanted it to be an opportunity for students to show off maximum creativity so I rebuilt the digital media floor and allowed students to make stands to put in the room.



I collaborated with one of the second years who helped on this project by measuring out the DMD floor and sending me a floor plan which I built in 3d in revit. I then made my own stand in blender and along with everybody else's stand imported it into the floor model for people to be able to walk around and view everyone's work.



## AMSTERDAM

I set myself the amsterdam project as I wanted a built environment to render my future models in. Therefore I needed it to be as realistic as possible. To achieve this realism I Needed to use PBR materials. As I had never used them before I thought this would be the perfect exercise to teach myself.



The quality of these renders is therefore owed completely to Blender which allows very quick implementation of PBR (physics based rendering) materials. The main projects that I used this environment for were the Bobber and the Voyager shown here on the left.



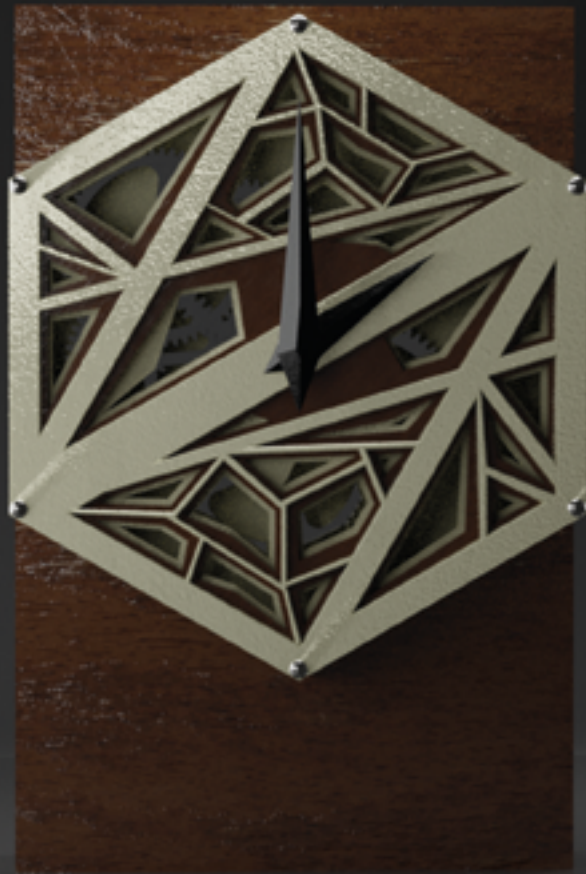
## THE LAMINAR

The laminar is a project I have redone every year I have spent at university. As each year my skillset improves I recreate a mountain bike using the new things that I have learned. This year the most obvious being organic modelling meaning I can now have a rider using the bike.



The bike also displays other unique skills. The mechanism of the frame being a major one. this is one of the few things I have made that has a mechanism which doesn't involve rotary motion.





## X95 WALL CLOCK

This project is answering a brief given to me for the princess yachts job application in plymouth. The brief asked applicants to design a unit of furniture to go in a given room. I decided to design a wall clock as it gave me an opportunity to display my knowledge of engineering as well as my eye for design.



To further stand out from other applicants I decided to take my project one step further and recreate the room which the piece of furniture could go in. In order to do this I used the images on their website as reference and built the room in Fusion. Then I exported to blender from the final render.





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