

Criteria 1

Valentino T'Blaxill

Criteria 1:

User interview:

Any personal restrictions? No real personal restrictions V, except for I would like it to be produced for \$250 and to try and keep the weight down.

What materials would you like to be used in the construction of this product? I would prefer the main structure to be made out of structural plywood but I am not opposed to other materials being used. Maybe there could be some metal highlights or some coloured acrylic. These materials just have to be very durable and light.

If Plywood is used which type would you prefer structural or non-structural? I would prefer structural as its characteristics are better suited to the products requirements.

Any size requirements for the product so I can ensure that it fits into the designated area in the van? The cupboard must fit between the passenger side driver's side door and the rear door, it also must not be too thick as I would like to be able to still have room between the two cupboards at the back of the van. There are some general dimensions below for the area that the end product can fit in.

Thank you for allowing me to design and construct this product for you; Anything in specific are you looking for John? Thank you for returning my enquiry. I would like you to design and construct a custom fit wooden cabinet for the left-hand inside rear wheel hub of my camper van. I need it to be safe and secured to the vans floor and frame so it cannot move around. I would like the cabinet to be able to store a water tank, garbage bin, cups and plates, toolbox, and have multi-use compartments. Aesthetics and an original design with some unusual elements will be much appreciated. I trust you can help me and I look forward to this project moving forward. Regards, Mr T

What is the problem?

van update

 **john blaxill** <johnnytsoriginal@gmail.com>
Today, 7:15 AM
T'Blaxill, Valentino

Reply all | v

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Action Items

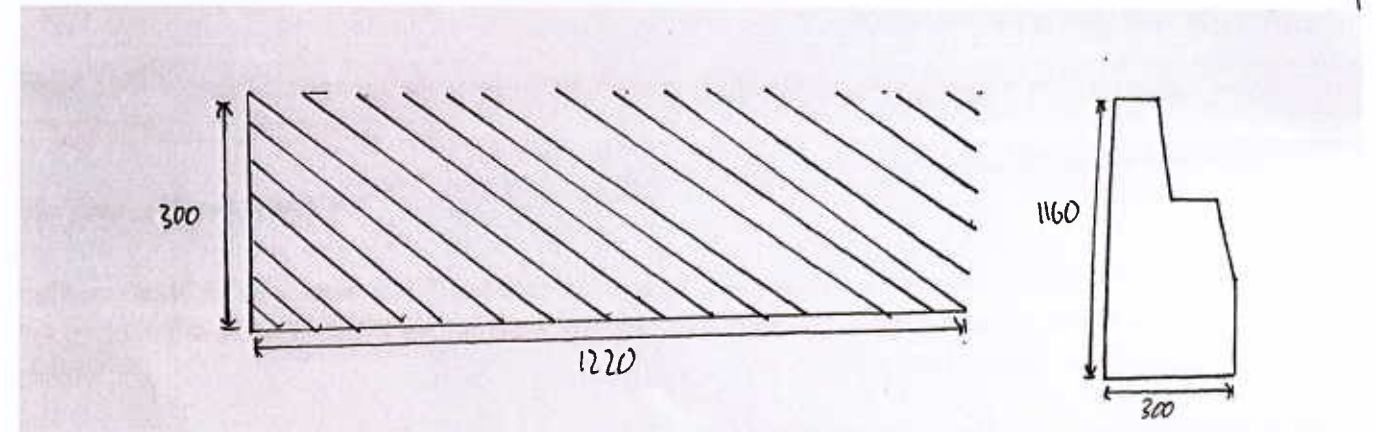
Further to our discussions in regards to the van internal storage solutions, the problems I am facing and trying to resolve are :

Work takes me on the road with a few multi night trips a month, but with a projected increase of sales I am anticipating this to grow. Currently I have been storing food, tent, kitchen, clothing and cooking supplies in boxes. This takes up floor space moves around and is hard to keep all of it in order over a few days.

My hope for the project is you will be able to come up with storage solutions , locking things down and generally making life better on the road.

Thank you for your time, looking forward to seeing your ideas

Sent from my iPad



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User profile:

My end-user is a 45 year old male. He has one child and loves spending time with his family. He works as a bespoke jeweller in the Blue mountains. His hobbies include fishing, surfing, jewellery, nature and watching the footy. He prefers an industrial, functional look with the raw texture and colours of the materials to be highlighted. He also likes clean, sleek and shape lines and a product having multiple functions. He owns and runs a small online T-Shirt business at <https://www.saxtees.com/collections/johnny-ts> . Some example of his work are down below.

Name: John T

Age: 45

Who they live with: 1 teenage child, his wife and 1 dog

General interest: His hobbies include fishing, surfing, jewellery, nature and watching the footy

Location: Blue mountains, New south wales

Work: self-employed, bespoke jeweller, He owns and runs a small online T-Shirt business at <https://www.saxtees.com/collections/johnny-ts> . Some example of his work and company logo are down below.

Cost limitations: \$250

Environment of the product: The environment of the product will be used in, is on the inside of a 2004 Mazda E1800 SWB van. This van will be road tripped around the country. This product will be located in the back left corner of the van and run the length between the side door and the rear door of the van. It will run flush along the body lines of the vehicle.

Attitude towards sustainability: John believes that it is important to have a sustainable product which still meets its requirements. Although john has a positive attitude towards sustainability he will not sacrifice function of the product for sustainability. He is open to the idea of using sustainable materials including recycled timber and other recycled products. Using recycled products or using sustainable construction methods, will also keep the overall cost of the product down.



Figure 1.1 Users van(Mazda E1800 SWB 2004)

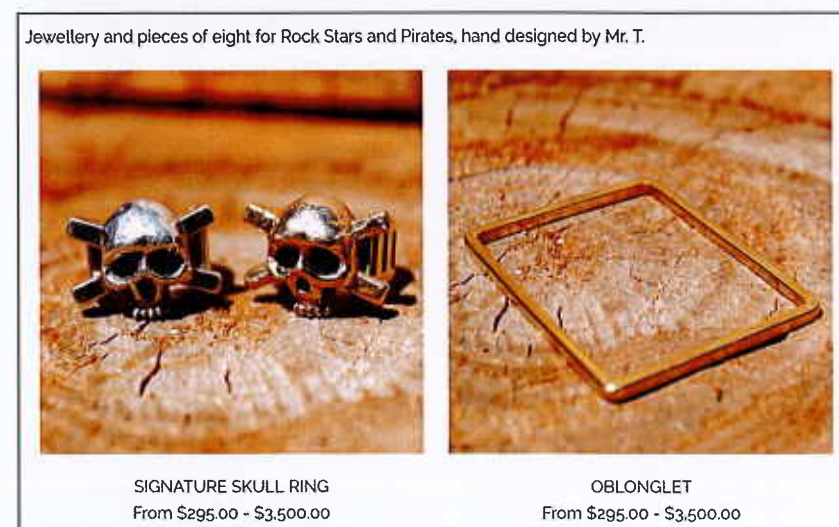


Figure 2 Examples of my users work



Figure 3 Users brand logo



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Outline of context:

Design brief: who: what when where: why: how:

My end-user John T needs a small compact cupboard with large storage spaces which hold various house hold items which sits inside my users van, to make it easy to go on small road trips and not have to worry about setting up a tent as the car is his accommodation. The internal cupboard will have to be strong and made out of durable materials as it will be used regularly. The weight of this cupboard must be low as the vehicle it is going into isn't very powerful and after all the extra wood is added it will affect the vans performance. It also must be light weight as it will be located on one side of the van and if it causes an unbalanced weight distribution it will affect the handling and ride of the van, the suspension in my users van is 15 years old and if there is too much weight added it will cause the suspension to bottom out and sag into the travel more which will cause rubbing issue which can damage the exterior body panels. John would like the product to be completed between November-December 2019 so that it is ready for the 2019-2020 summer when he is planning to do a small road trip around Australia. This cupboard will help him to organise and store cloths and cooking appliances and just act as a general storage place as well as the top of the cupboard acting as table. This product will be constructed threwh the use of effective design.

Product design factors: Purpose, function and context. Materials properties. User centred design innovation and creativity

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Considerations and constraints:

- **Purpose function and context**
- Must be able to store plates and cutlery and have general storage areas including an area for a 20l water tank
- The cupboard will used in the back of my users van as a storage area
- Must be secured to the floor so that it does not pose a danger in the invent on a crash
- Sperate draws and cut outs to hold items securely and with minimal rattles/noise
- **Size**
- Must fit flush against the contour of the inside of the van
- Must not impact drivers rear vision
- **Materials**
- Robust and strong to withstand regular use
- Must be light weight
- The end user would like the cupboard to be made out of marine grad plywood to match the rest of the interior
- **Legal responsibilities**
- **Safety**
- Must comply with ISO standards
- Must be built using safe practices
- Must be bolted down to the floor to insure that it is secure
- **Visual tactile and aesthetics**
- My end user would like the product to have smooth lines and remain functional
- My end user would like a smooth durable coating such as Polywipe

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- **User-centred design**
 - The end user would like easy access to the water tank including filling up and using
 - Must make the most of the space and maximise storage for the area
 - The product must be secured to the van as well as any hinged doors to make it safe for the end user when driving
- **Innovation and creativity**
 - The product must be imaginative and creative whilst being relevant to its primary function
 - This product must push the boundaries of existing product
 - The product must be manufactured using emerging technologies e.g. CNC router
- **Date**
 - 12th September 2019?
 - My end user would like it to be finished before next summer
- **Technologies tools, processes and manufacturing method**
 - Appropriate technologies and tools will be used in the production of this product
 - New technologies will be used in the design and development of this product
- **Sustainability**
 - Minimal waste will be created in the production of this product. This will be down by carefully measuring and getting as much out of the sheets of plywood as possible
- **Economics time and cost**
 - Budget of \$250

Quality statement:

- Quality is important to the development of this product and primary and secondary functions will be considered. The way that this will be met is through the use of thorough quality checks and quality measures. These checks will give the designer quality control over the product and will include to what extent does the product perform its job properly and how durable the product is. It is important that the functions of the are as intended and how affordable the product is for its style and how well it performs its functions. These quality checks will come in the form of the designer checking the development of the product throughout the production process to ensure it is to the highest quality and meets all the quality standards.

Design option criteria:

PDF'S:	Criteria	Score out of 5	User feedback
Purpose, function and context:	<ul style="list-style-type: none"> - Is this cupboard suitable for holding kitchen essentials and a water tank safely and securely? - Does the product has primary and secondary functions? 		
Visual, tactile and aesthetics:	<ul style="list-style-type: none"> - Is this product a unique design and fit for its purpose, as well as minimalistic and compact? 		

	<ul style="list-style-type: none"> - Is the product an example of a modern contemporary design style? 		
Materials:	<ul style="list-style-type: none"> - Is this product made of durable and light materials? 		
Legal responsibilities: Safety:	<ul style="list-style-type: none"> - Does the product have necessary attachment point to ensure that the cupboard and its contents are secure and cannot cause injury? 		
User-centred design	<ul style="list-style-type: none"> - Does the product have easy access to the plates and cutlery? - Does the product offer the user easy access and operation of the water tank? 		
Overall User feedback:			

4- part evaluation

PDF'S:	Criteria	Justification	Ways to achieve this	Evaluation against the finished product	Comment
Purpose, function and context	<ul style="list-style-type: none"> - Is the product suitable for storage of kitchen essentials and water? - Is the product appropriate for to secure storage of a water tank? 	<ul style="list-style-type: none"> - This is a primary function requested by the end user. - This is a necessary function. requested by my user to ensure that the product has a secure and easily accessed place for a 20l water tank. 	<ul style="list-style-type: none"> - Measure all kitchen items that the my end user has outlined must be included. - Make sure I take detailed measurements of the water tank so that I can design a designated area in my design to hold this item. 	<ul style="list-style-type: none"> - Test that the storage compartments by putting kitchen items to see if they fit securely. - Test that the water tank can easily be accessed and used and go for a drive around to make sure it is secure. 	-
Size	<ul style="list-style-type: none"> - Does the product fit in the designated area? - Does the cupboard impact on the drivers rear vision? 	<ul style="list-style-type: none"> - This is necessary as this is the only available space and it would get in the way if it does not fit in the required space? - This is necessary as it would be unsafe if the driver has impaired rear vision. 	<ul style="list-style-type: none"> - Precisely measure the length and width and height of the specific area that it will be fitted to in my users van. - Measure the area that the cupboard can't be. This will be done by someone sitting in the driver's seat telling 	<ul style="list-style-type: none"> - Test this by mounting the cupboard to my end users van to see if it fit's the dimensions of the van. - Test by sitting in the driver's seat and looking out of the rear vision mirror to see if it compromises your vision. 	-

			the designer wear it will compromise their vision.		
User-centred design	<ul style="list-style-type: none"> - Will the end user have easy access to the items inside? - Does the end product neatly and securely hold items without any rattling or excess noise? 	<ul style="list-style-type: none"> - This is relevant to the function of the product as its intended user is day to day and it must be easy to operate. - This is relevant to the product as excess noise whilst driving can be annoying and can cause accelerated wear on items inside, whilst being unpleasant. 	<ul style="list-style-type: none"> - Gather ergonomic data of the end user such as measuring the person's size/height to make sure the drawers can be operated at comfortable angles. - Ensure that the measurements are accurate and use soft materials e.g. silicon in-between two hard surfaces. 	<ul style="list-style-type: none"> - Test to see if the end user can easily use and access items within the cupboard by asking them to grab them out of the cupboard. - Test by going for a drive along varied road surfaces and listen for any rattles coming from that area. 	-
Technologies- tools, processes and manufacturing methods	<ul style="list-style-type: none"> - Has the appropriate technology been used in the manufacturing of this product? - Are new and emerging technologies being used in the design and development and production of this product? 	<ul style="list-style-type: none"> - This is relevant to ensure that the job is performed in the best possible way. - This is relevant as the user has requested that the product is made using new and emerging technologies to achieve the best possible product. 	<ul style="list-style-type: none"> - Research a range of appropriate technologies and apply them when manufacturing the product. - Use new and emerging technologies in the production of this product such as a CNC router. 	<ul style="list-style-type: none"> - Test by looking at the design to analyse whether the appropriate tools and technologies were used. - Analyse the production process to assess whether I have used appropriate technologies and tools. 	-
Materials	<ul style="list-style-type: none"> - Does the material used meet the requirements of the end user? 	<ul style="list-style-type: none"> - This is relevant to the product as my user has requested that a specific material be used. 	<ul style="list-style-type: none"> - Make the cupboard out of the requested structural plywood. 	<ul style="list-style-type: none"> - Ask the end user whether they approve the materials used in construction of this product. 	-
Sustainability	<ul style="list-style-type: none"> - Is this product as sustainable as possible? 	<ul style="list-style-type: none"> - As stated in my user's statement towards sustainability he would like the product to be as environmentally sustainable as possible whilst not impacting on functionality. 	<ul style="list-style-type: none"> - To minimise waste of material precisely measure out material to maximise the number of cuts you can make on one sheet of plywood. Minimise power usage. 	<ul style="list-style-type: none"> - This can be tested by measuring the amount of wasted material and the power usage over the manufacturing of this product. 	-
Product quality	<ul style="list-style-type: none"> - Is this product durable and long lasting? - The quality of joints on the product and overall finish? 	<ul style="list-style-type: none"> - This is relevant to the product as the end user has stated that it must be durable and hard wearing for its intended use. - This is necessary because my user is expecting a high quality product. 	<ul style="list-style-type: none"> - Make the cupboard out of durable and long lasting materials and produce it using manufacturing methods that cater towards these characteristics. - Make sure to precisely measure and mark out cuts and use appropriate finishing products to get the best possible aesthetic to the product. 	<ul style="list-style-type: none"> - Here will be a physical test conducted to measure the strength of the product as well as contact with the user months after the product is finished. - Ask my end user if they are happy with the quality as well as a visual inspection during production process. 	-

Date	<ul style="list-style-type: none"> - Is the product completed by the designated completion date? 	<ul style="list-style-type: none"> - This date must be met so that my end user can use the product in the 2019-2020 summer. 	<ul style="list-style-type: none"> - The way this will be achieved is through hard work and dedication as well as efficient workshop practices and the use of a production planner to stay on track and meet the completion date. 	<ul style="list-style-type: none"> - Check the date and ensure it is met. 	<ul style="list-style-type: none"> -
Environmental issues	<ul style="list-style-type: none"> - How will minimal waste be achieved during the production process? 	<ul style="list-style-type: none"> - This is necessary as the end user has requested that waste and cut offs is kept to a minimum. 	<ul style="list-style-type: none"> - Ways that this will be achieved is making accurate measurements and double checking before cutting as well as not rushing these processes. 	<ul style="list-style-type: none"> - This can be tested by measure the amount of waste and recycling it. 	<ul style="list-style-type: none"> -
Safety/ legal responsibilities	<ul style="list-style-type: none"> - Is the cupboard securely bolted down to the users vans wall and floor? 	<ul style="list-style-type: none"> - This is important as the product is going to live in a van which if it was in an accident or under heavy breaking could if not secure could become a projectile and potentially becomes dangerous for the end user. 	<ul style="list-style-type: none"> - The cupboard will be bolt down on two axis's (the vans side wall and the floor) to ensure that it is secure. 	<ul style="list-style-type: none"> - Inspect final product and try to move it when in place. 	<ul style="list-style-type: none"> -
Visual, tactile and aesthetic	<ul style="list-style-type: none"> - Is the product original and fit for its purpose as well as minimalistic and pertinent to its function? 	<ul style="list-style-type: none"> - This is necessary for the visual appeal of the product as well as meeting the users requirements. 	<ul style="list-style-type: none"> - Ensure that during the production process and design options that the visual aspects of the product are considered. 	<ul style="list-style-type: none"> - The user will submit feedback and suggestions to help further develop the product. 	<ul style="list-style-type: none"> -
Innovation and creativity	<ul style="list-style-type: none"> - Is the product imaginative and creative whilst being relevant to its primary function? 	<ul style="list-style-type: none"> - This is a requirement to ensure that the product is appealing to the end user. 	<ul style="list-style-type: none"> - Imaginative and creative design options and design processes. 	<ul style="list-style-type: none"> - To test ask end user for feedback on whether they believe the product is imaginative and creative. 	<ul style="list-style-type: none"> -