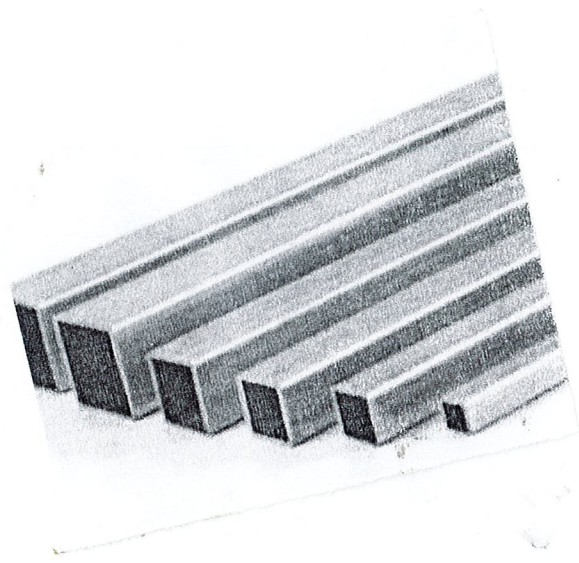


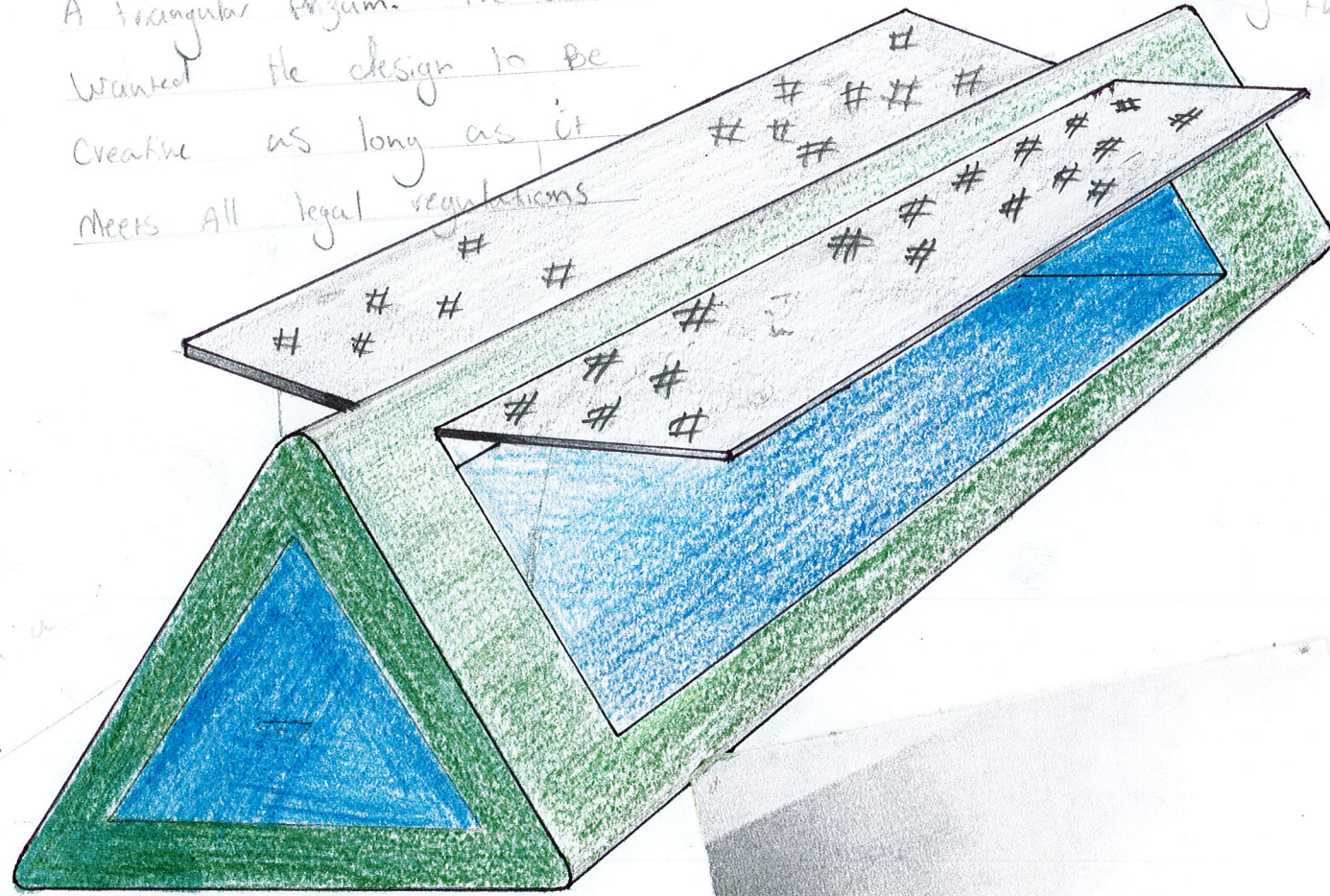
Criteria

3

Design Option 1



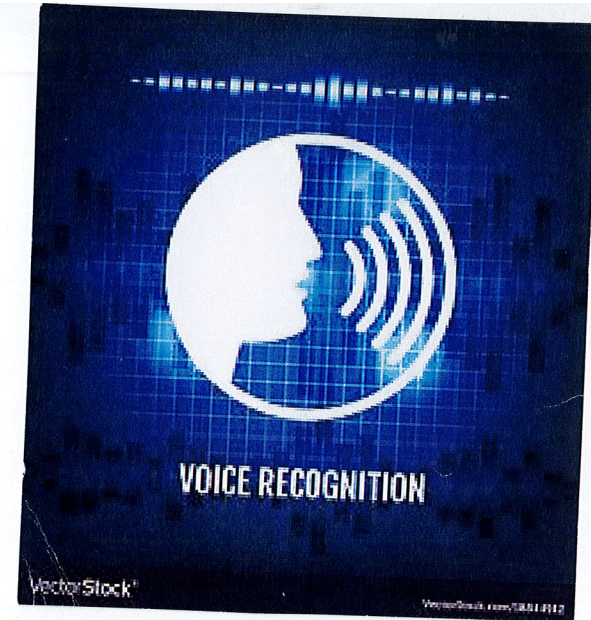
Visual, tactile + Aesthetics
The Shape of the design is A triangular prism. The user wanted the design to be creative as long as it meets all legal regulations.



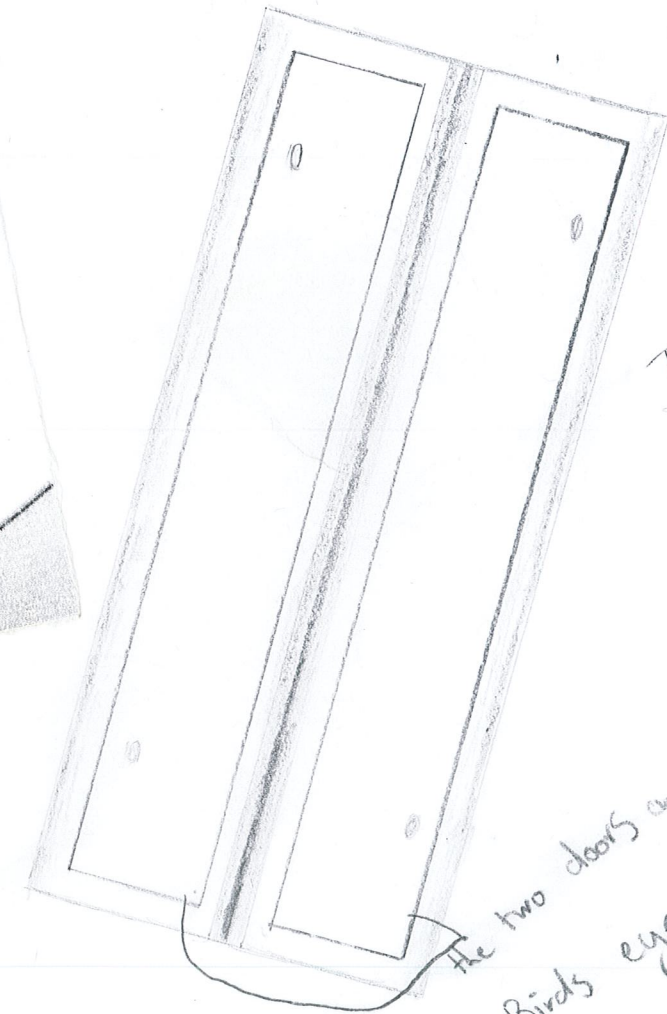
Purpose, Function + Context
The door that I have added will be a secondary function. This allows the user to put small things in a safe secure location.

Materials
For this product the frame will be made using steel. it is very strong and so does the product. The frame will be covered using steel aluminum. it is light weight yet very strong and is also corrosion resistant which is good for outdoors where the product will be used.

Visual, tactile + Aesthetics
The corners and the shape of them give the design a natural feeling with natural lines and curves. looking natural is not requested by the user.



Innovation + Creativity
The canopy will have voice recognition locks so that when a specific voice is heard or a specific word the doors will open.



Top view

Birds eye view
The two doors on either side

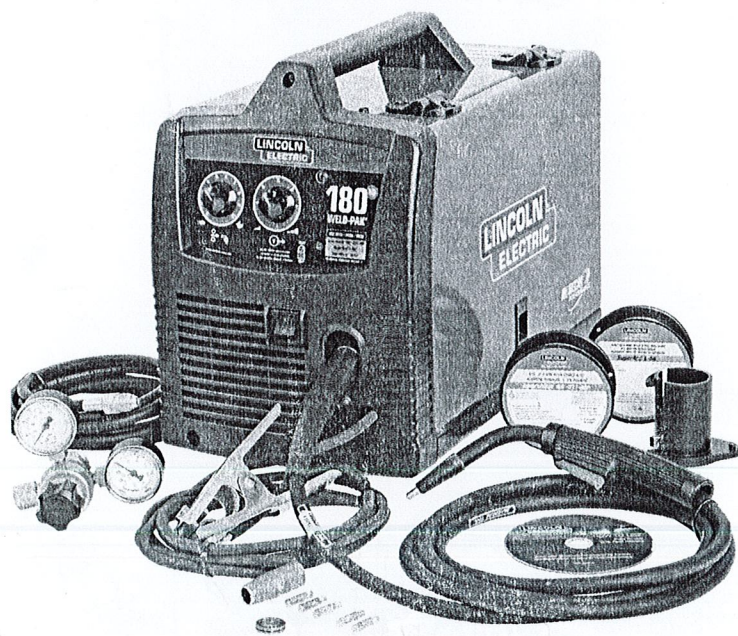
Construction Methods

Design Option 1

Design Option Criteria

In the Making of the Product i will be welding the steel together i will be using a mig welding method which if done correctly, should give me strong, reliable joints. i will need to make sure everything is set-up correctly but once it's correct i should be able to weld the whole frame together.

I will also need to tig weld the Aluminium because mig will burn through. tig welding is a slow process but also gives strong, reliable welds. the user wants it to be strong and these welding methods will be key to the products strength



	Questions	Score /5	User Feedback
PDF	Does the colouring suit the utes colour or maintain the silver metal colour?	4	- there isn't any colour, on the design
Visual, Tactile and Aesthetics	Is there a good balance between colour shape that will match the utes colour and shape?	0	- different shape to where the ute is and wouldn't fit in with the new
Purpose, Function and Context	Is the product suitable for storage of his tools, fishing equipment and other items?	2	- it has plenty of storage space, especially with the door on the end.
	Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	4	- yes i'd say so. everything will be out of sight
	Does the product have some sort of water and dust prevention method?	3	- it has a seal around the inside of the door - yes
Materials	Does it have a specific way that makes it easy to take off and put on?	0	- not specifically, no
User Centred Design	Does the User have access from both sides of the ute?	5	- yes

End user feedback

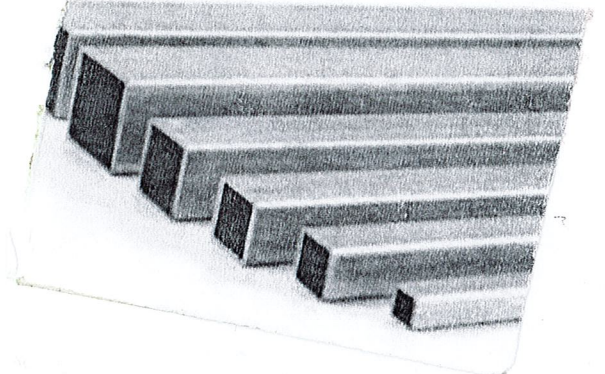
I like the overall design i like the shape idea even though it's not very practical for the utes bay. it would be hard to get the overall shape. i like the idea of having a few drawers in the product as well for safer keeping. the voice recognition seems great and will be good if i have my hands full.

Design Option 2

Visual Tactile + Aesthetic

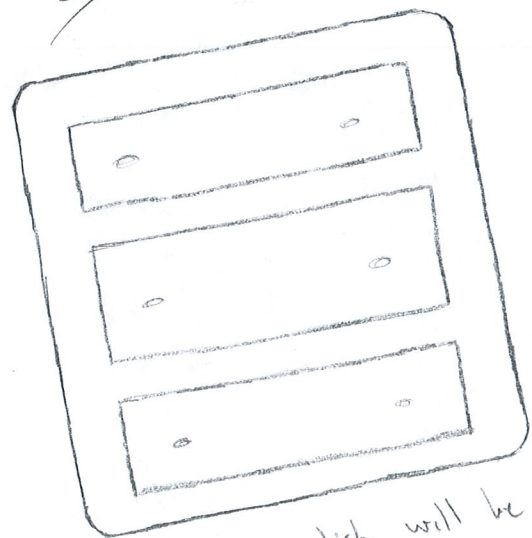
The Shape of the product allows the imagination of the viewer to wander. The shape can come from many things and looks like a storage unit. The shape could fit in with the use.

The Visual tactile + Aesthetic. The Semi-natural Shape with the curved corners give the product a natural look. It has natural feels to it but also looks industrial which is what the user wanted so it fits in with the use.



The draws that have been included are a secondary function and act as a second point of storage for the smaller items that don't want to go in the main section.

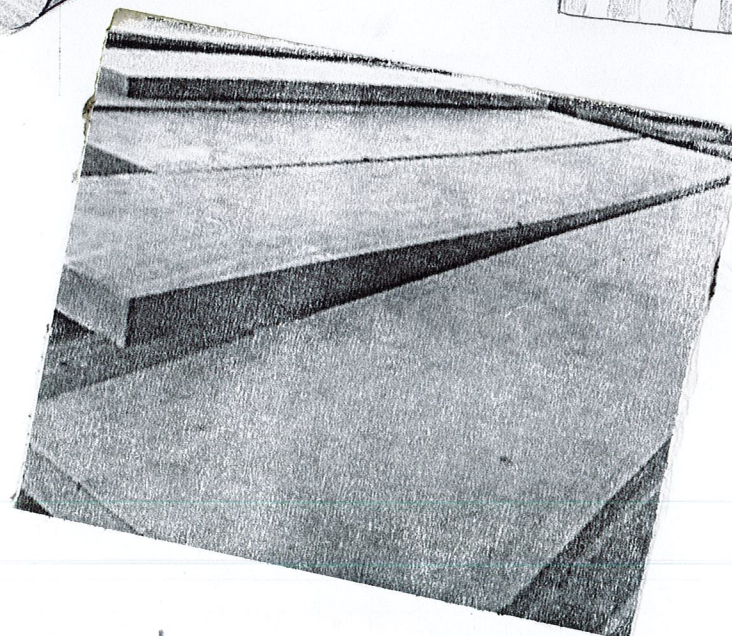
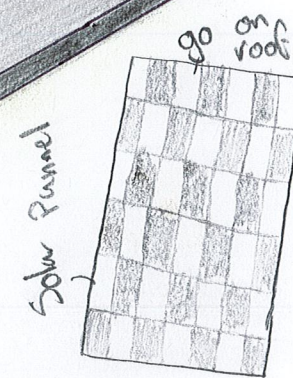
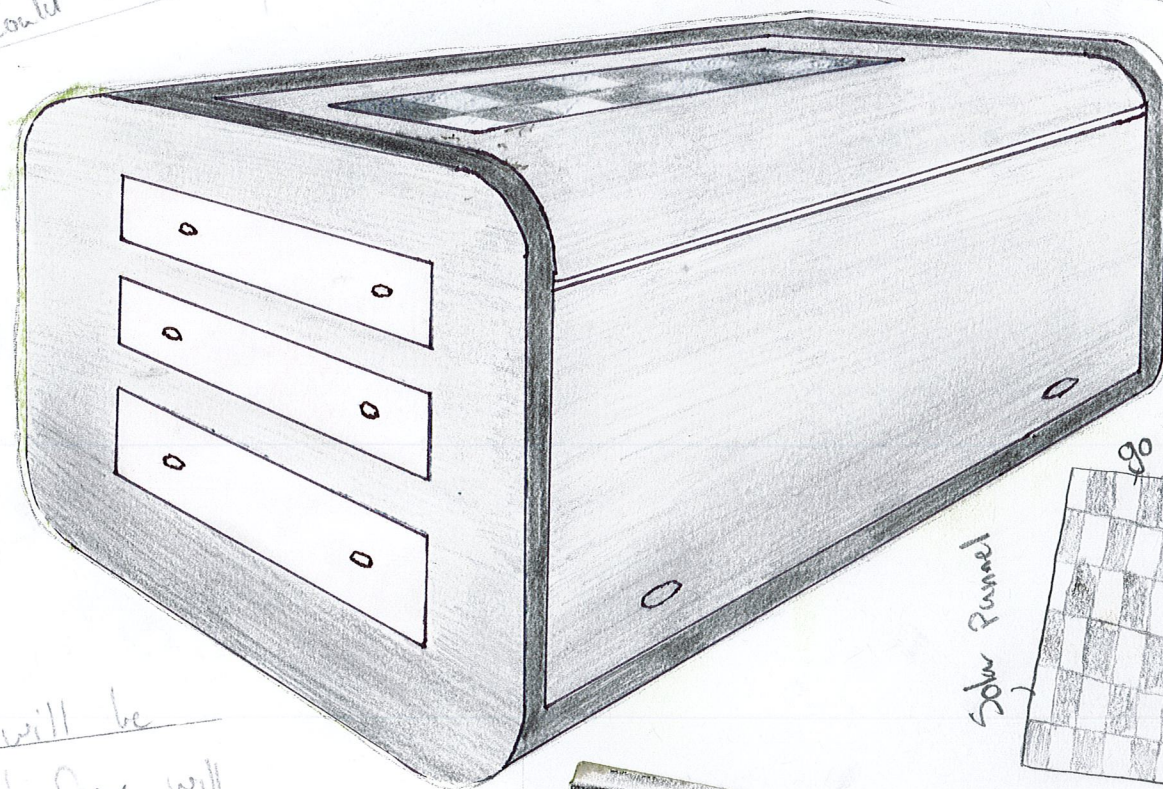
Side view



3 draws which will be on the end

For this product it will be using wood + metal. The frame will be made using steel and it will be covered in steel aluminium. The draws will have a aluminium frame but the insides will all be made from mahogany. Steel is strong. Aluminium is strong + corrosion resistant and mahogany is lovely looking. These allow for strength and looks.

Like what the user wanted. It's suitable for outdoor use.



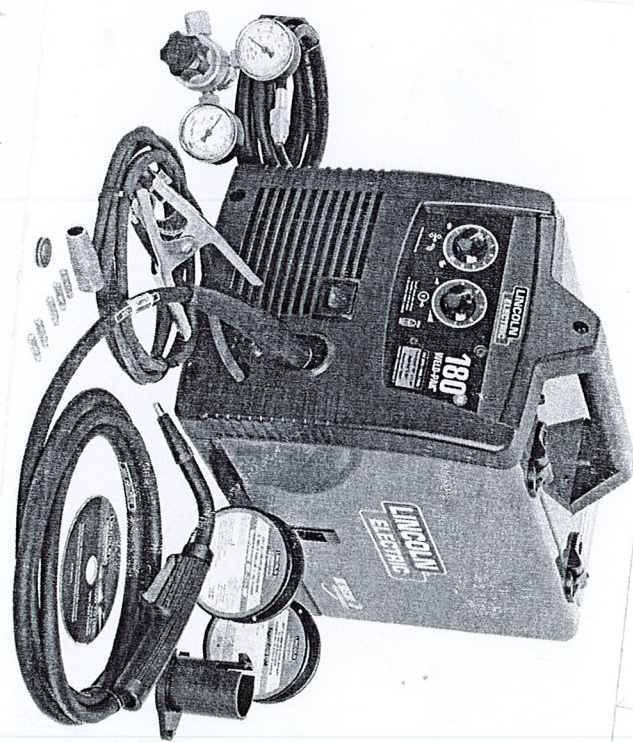
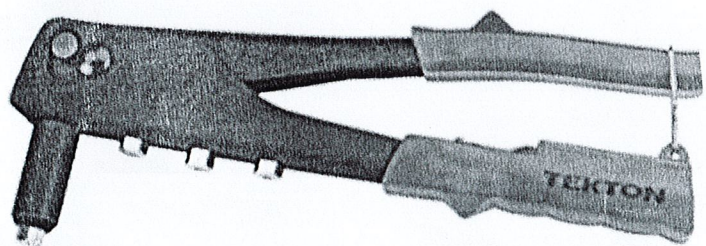
Innovation + Creativity

The canopy will have solar panels on the roof. This allows me to charge items from inside the canopy with power points. It will be hooked up to the USB Battery which means it won't go flat. The solar panels will also act as a sensor and when the light levels get below a certain level when the canopy is open, lights will turn automatically with the sensors. This means the user can see what he's doing at night and also charge any electronic devices he has taken with him without plugging the USB Battery.

Design Option 2

Throughout the Making of the Product i will be using 2 main building techniques. Mig welding and Also Pop rivets. Pop rivets are used to join metals together and hence will be used to join the Steel Aluminum and the Steel frame. Pop rivets are good if you are wanting to achieve Maximum strength and Minimum corrosion.

Mig welding, if done well and correct can give extremely strong and reliable joints. Once the weld is at the correct settings it should work like a dream and i should be producing high quality strong, reliable welds there will ensure the canopy closes full Apart.



Design Option Criteria

PDF	Questions	Score /5	User Feedback
Visual, Tactile and Aesthetics	Does the colouring suit the utes colour or maintain the silver metal colour?	3	no colour on design
Purpose, Function and Context	Is there a good balance between colour shape that will match the utes colour and shape?	1	the shape will match the ute but not the bags shape - seams
Materials	Is the product suitable for storage of his tools, fishing equipment and other items?	3	-plenty of space and also doors
User Centred Design	Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	4	People can see into it to see what's in there - yes
	Does the product have some sort of water and dust prevention method?	3	Seals all around the doors inside
	Does it have a specific way that makes it easy to take off and put on?	0	not specifically - no
	Does the User have access from both sides of the ute?	0	not on this design no line a bigger access space on 1 side

End user feedback

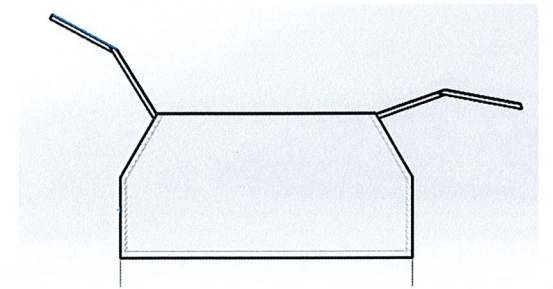
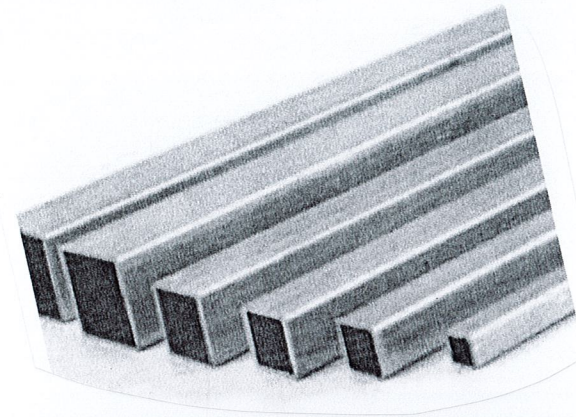
The overall design looks innovative with the Solar Panels etc. it looks natural whilst also looking industrial.

Draws are a good extra and i also like the door which is also the roof in 1 - its just a massive door. Shape would fit well with the ute but probably not with the bag.



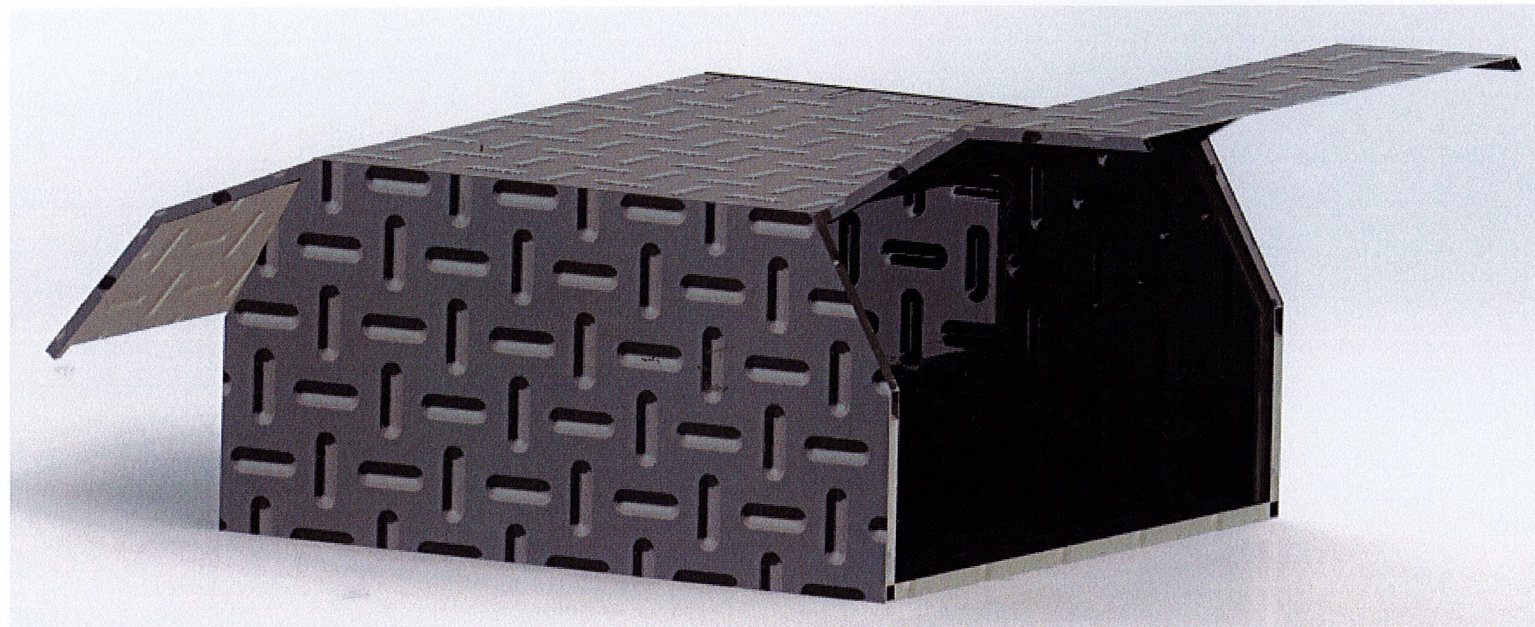
Visual, Tactile & Aesthetics.

The shape of the product has a modern feel and fits in and follows the shape of many of the existing products similar to what I'm trying to achieve. The shape fits the ute's shape and follows the edges of the site that it will be positioned. The user wanted it to follow the ute's shape and remain modern.



Innovation and Creativity.

The canopy will feature a camera on the back of the canopy which the footage will be displayed in real time on the rear-view mirror in the front of the ute. This means because the canopy blocks vision that it will now not matter because the user can still see what's behind him. The user wanted his ute and the product to remain legal and follow the regulations and this will help ensure that.

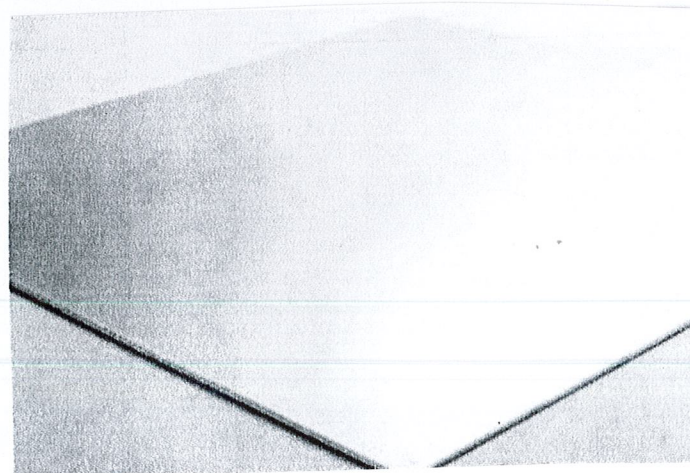


Visual, Tactile & Aesthetics.

The symmetry of the canopy means that weight will be evenly distributed and will ensure that the ute's function ability isn't sacrificed for an added extra to the ute. The user doesn't want the function of the ute to be sacrificed by the product.

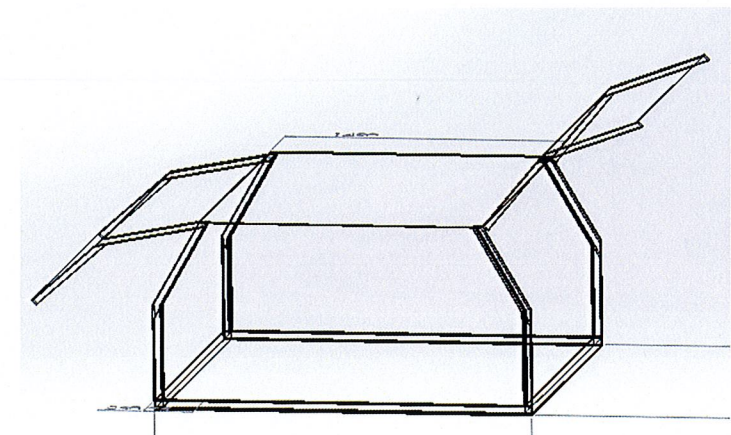
Purpose, Function and Context

The cameras on the canopy act as a secondary function because it means that not only can the user have a large storage area on the back of his ute but even though vision is limited in reality he can still see where naturally his eyes can't.



Material

For this product I will be using sheet aluminium with a steel frame. Steel is strong and is durable and aluminium is lightweight yet very durable and strong and is corrosion resistant. The user needs the canopy to be strong and durable while not being too heavy so it doesn't affect his ute's results.



Construction method.

Whilst producing this product i will be using 2 different welding Methods Mig and Tig. i will be Mig welding the steel frame which will give me strong, durable welds when done correctly. i will then be attaching the Aluminium Sheet by Tig welding. i need to do this as its the way to connect the 2 Metals together correctly. it will produce strong welds although it takes time to do.

Design Option Criteria

PDF	Questions	Score /5	User Feedback
Visual, Tactile and Aesthetics	Does the colouring suit the utes colour or maintain the silver metal colour?	4	- Yes it has the Silver Metal Colouring
	Is there a good balance between colour shape that will match the utes colour and shape?	4	- Yes the modern Shape will Match the ute and tray
Purpose, Function and Context	Is the product suitable for storage of his tools, fishing equipment and other items?	5	- Yes, Plenty of room and space for items
	Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	5	- Yes, no viewing across from outside.
Materials	Does the product have some sort of water and dust prevention method?	5	- Yes, rubber Seal around the doors
User Centred Design	Does it have a specific way that makes it easy to take off and put on?	4	- Yes it will have jack legs
	Does the User have access from both sides of the ute?	5	- Yes

End user feed back

i like the Shape and colouring of the Canopy and it will fit in with my ute. the camera sounds like a good idea so i can still see whats behind.



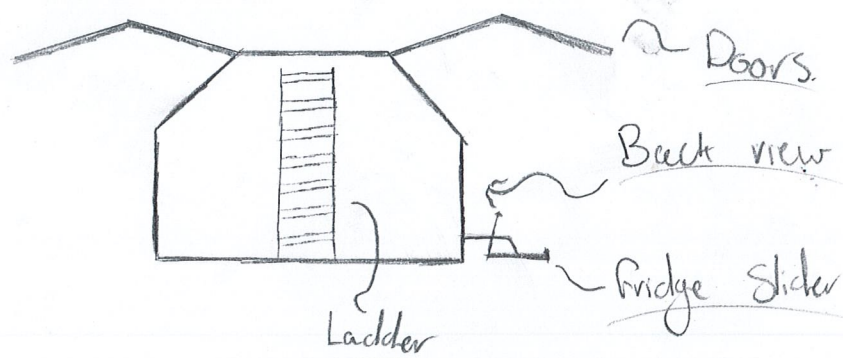
Des option 4.

Purpose, Function and Context

The ladder on the back acts as a secondary function allowing the user roof access. The roof can be used for extra storage for longer and bigger items. User hasn't asked for this extra but doesn't mind the idea.

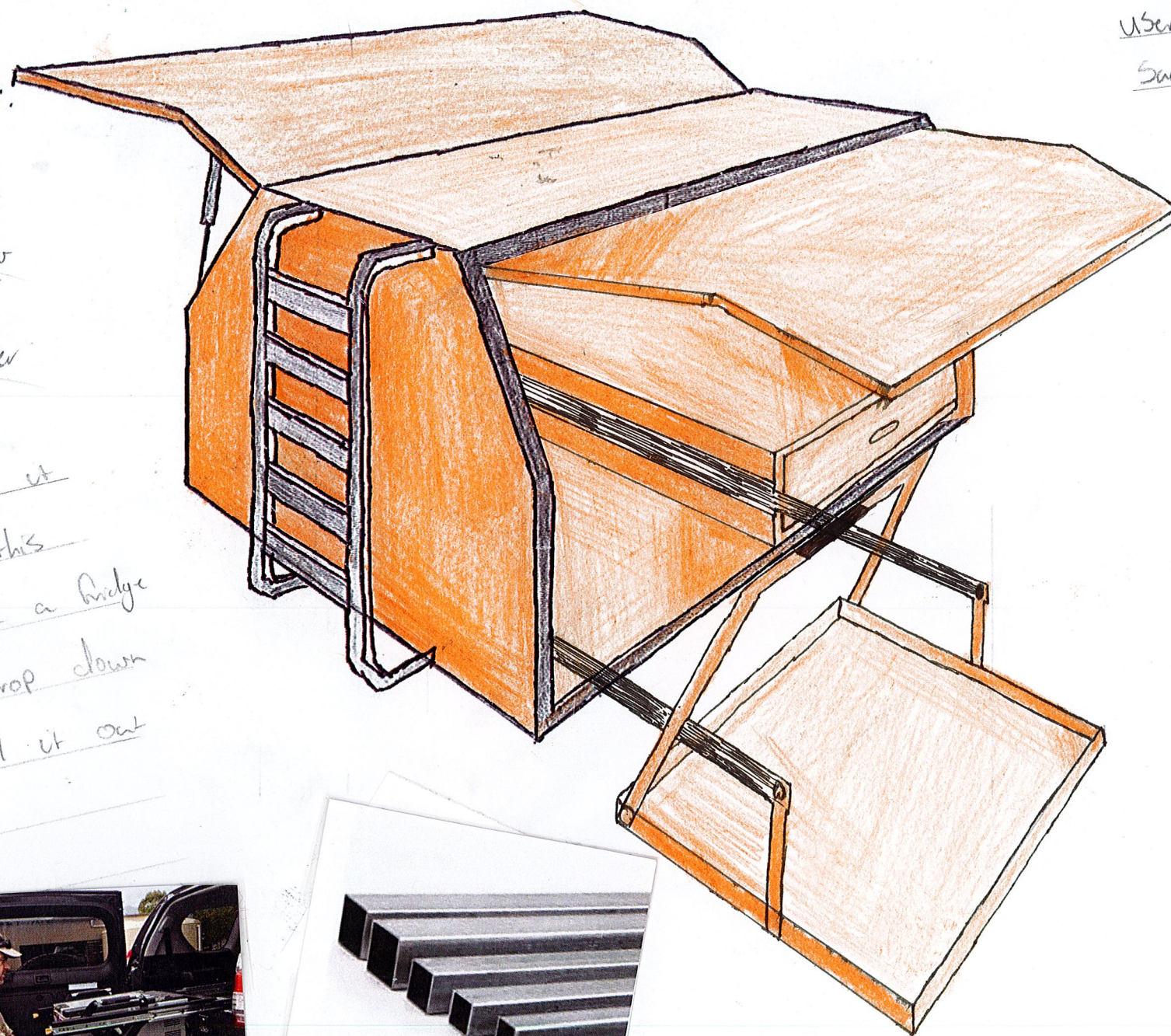
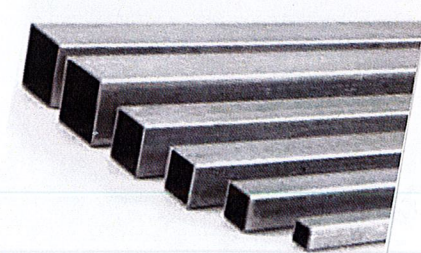
Visual, Tactile and Aesthetics

The shape of the canopy would fit the users requirements and would fit in with what the user looks like. It has a modern look and fits in nicely. Like the user wanted.



Innovation and Creativity

The canopy will have included into it a drop down bridge slider. This firstly allows the user to have a bridge on his canopy and the drop down slider means he can pull it out and have easy access.



Visual, Tactile and Aesthetics

The symmetry of the product means that the canopy will have even weight distribution allowing for full functionality of the canopy. The user wants his use to not be sacrificed because of the canopy.

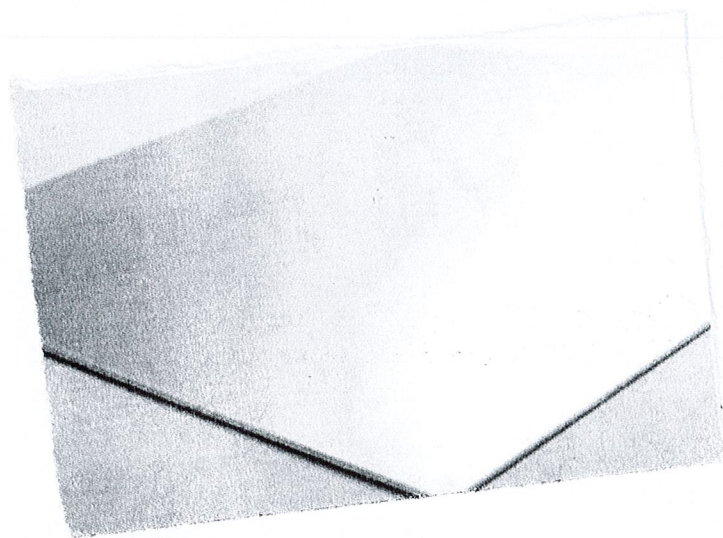
Materials

For this canopy I will be using steel and aluminium. The frame will be made from steel and the shell will be made from aluminium sheet. The bridge slider will also be aluminium. I'm using steel because it's strong and durable and aluminium is strong, durable and light weight. Suitable for outdoor use.

Construction Method.
 in the making of the canopy it
 will be welding the metals together
 Both Mig and Tig welding practices
 will be used Mig will be used
 to create the frame because it's
 strong and durable and long lasting it
 done correctly. also Mig welding be
 connecting the steel to the aluminium.
 because it's the proper way to do it.

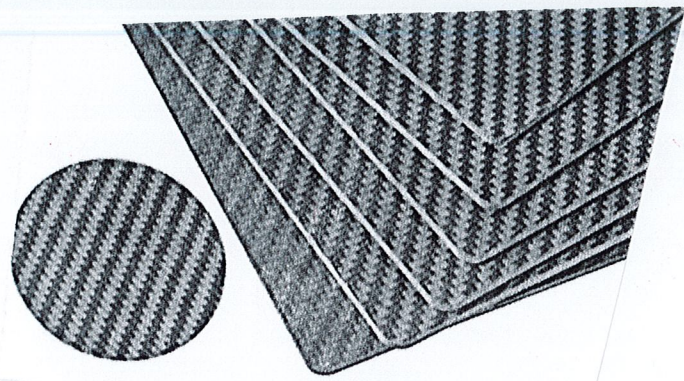
Design Option Criteria

PDF	Questions	Score /5	User Feedback
Visual, Tactile and Aesthetics	Does the colouring suit the ute's colour or maintain the silver metal colour?	3	-cant tell from the design
	Is there a good balance between colour shape that will match the ute's colour and shape?	4	-Shape fits well with the ute
Purpose, Function and Context	Is the product suitable for storage of his tools, fishing equipment and other items?	4	-Yes, include for roof and also a ramp
	Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	4	Yes - not visible from the outside + plenty of room
Materials	Does the product have some sort of water and dust prevention method?	5	Yes, rubber seal and the door.
User Centred Design	Does it have a specific way that makes it easy to take off and put on?	2	not atm
	Does the User have access from both sides of the ute?	5	Yes.



End user feedback

I like the overall shape of the design, it would fit the ute well and would suit it. the Ridge Slide seems like a good idea, it might help keep food fresh/cool when im traveling. I like the ladder allowing me roof access as well.



Materials.

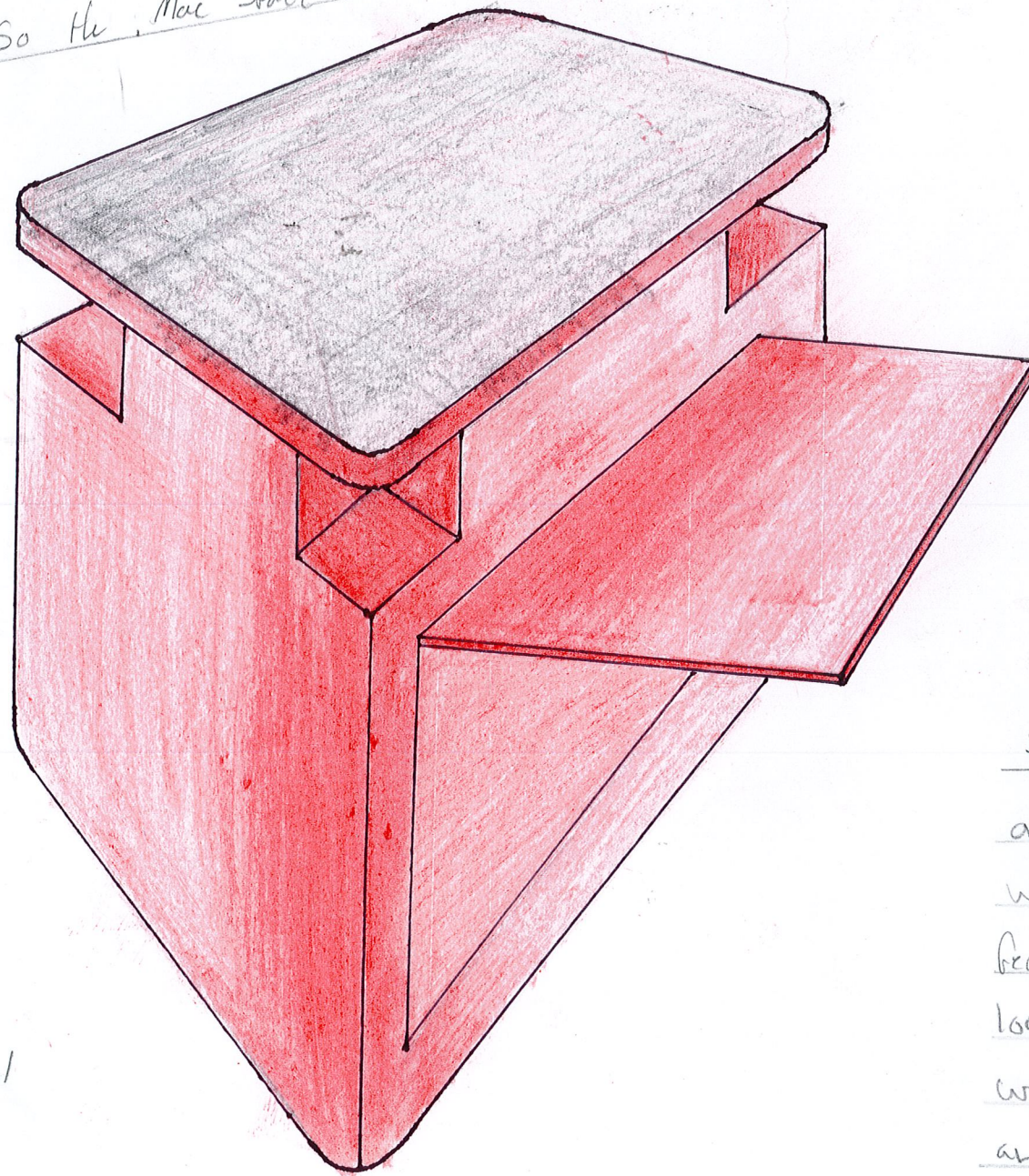
The canopy will be made using carbon fibre. I will use this material as a shell over the steel frame. Carbon fibre has high tensile strength and is extremely light weight. Although expensive it will look visually appealing. Steel is strong durable. The user wants it to be strong, durable and light weight. This will help achieve that.

Innovation and creativity.

The canopy will be made using a material called carbon fibre. Carbon fibre has high stiffness and high tensile strength. It also has low thermal expansion and high chemical resistance. It is also extremely light weight. Meaning it's not going to affect the user's performance like the user asked for.

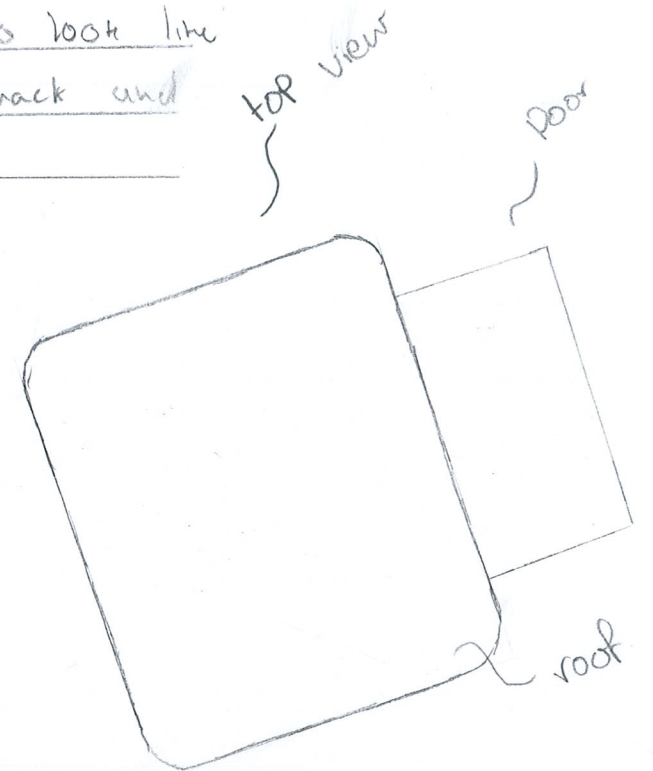
Purpose, function and context.

The holes under the roof on each top corner can act as a storage location and there are mounts that can be put here to allow the storage of specific items. User wants it for storage so the more space the better.



Visual, tactile and Aesthetics

The shape of the canopy will mean that it fits on the way perfectly and also means it will fit in with the other modern boxy look. The user wanted it to look like it belongs on the back and fits in with the rest.

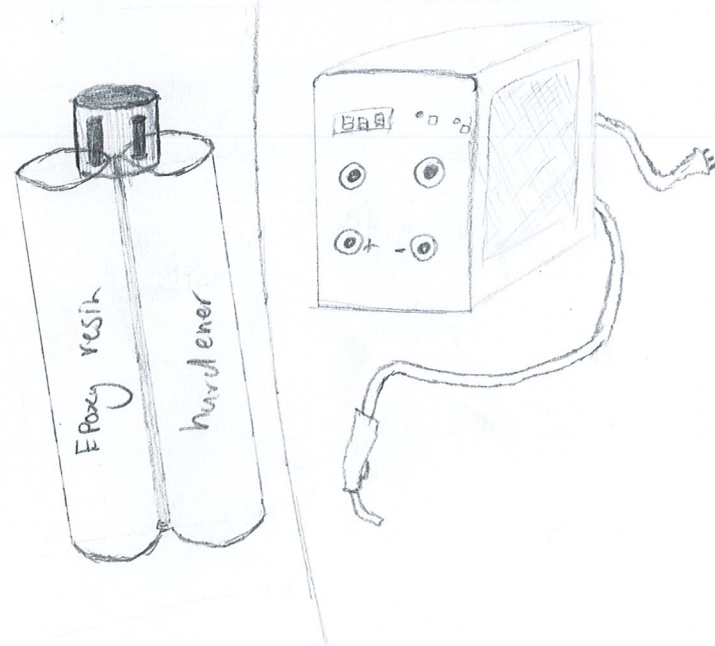


Visual, tactile and Aesthetics.

The texture of the carbon fibre is one of a smooth nature. The canopy will be used often and the smooth feature means it's more appealing when looking at and also using. The user wants it to be appealing and have an even texture.

Construction methods

Whilst producing this canopy i will be using 2 joining methods. Mig welding and epoxy glue. i will be Mig welding the steel frame together to give me a strong, solid frame and the welds are even and free flowing. i will be using a 2 part epoxy one part is an epoxy resin the other part is a hardener. when mixed it creates a strong, hard and chemical and solvent resistant finish. i will use this glue to attach the Carbon Fibre to the steel.



Design Option Criteria

PDF	Questions	Score /5	User Feedback
Visual, Tactile and Aesthetics	Does the colouring suit the ute's colour or maintain the silver metal colour?	1	no the Carbon Fibre doesn't follow the ute but has a nice finish
	Is there a good balance between colour shape that will match the ute's colour and shape?	2	-Yes it will match how the colour went match.
Purpose, Function and Context	Is the product suitable for storage of his tools, fishing equipment and other items?	3	-Yes plenty of room for items
	Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	3	Yes there is no way for people to look inside.
Materials	Does the product have some sort of water and dust prevention method?	2	Yes a rubber seal around the door
User Centred Design	Does it have a specific way that makes it easy to take off and put on?	1	not specifically
	Does the User have access from both sides of the ute?	0	no. only the driver side.

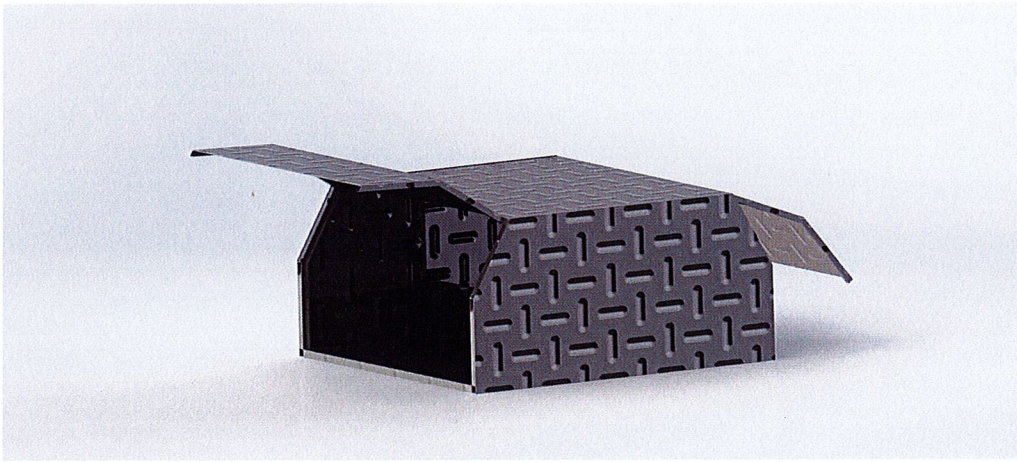
End user feedback

Overall i like the shape however i don't like under one roof and a few small things i like the idea of carbon fibre because it looks cool and is going to mean it's going to be lighter weight. it also means that it's going to break easily if

i drive past a tree and a branch hits it. carbon fibre would be nice but is impractical.

Preferred Design Option/ Justification

Questions	Design Option 1	Design Option 2	Design Option 3	Design Option 4	Design Option 5
Does the colouring suit the ute's colour or maintain the silver metal colour?	4	3	4	3	1
Is there a good balance between colour and shape that will match the ute's colour and shape?	0	1	4	4	2
Is the product suitable for storage of his tools, fishing equipment and other items?	2	3	5	4	3
Will the canopy be practical for what its intended use is of carrying his items and keeping them out of sight of other people?	4	4	5	4	3
Does the product have some sort of water and dust prevention method?	3	3	5	5	2
Does it have a specific way that makes it easy to take off and put on?	0	0	4	2	1
Does the User have access from both sides of the ute?	5	0	5	5	0
TOTALS /35	18	14	32	22	12



The Design option that me and the user have chosen to build after much discussion is **Design Option Number 3** because it best suits the criteria which I previously created based on the design brief and the other interactions I've had with my user.

The Design option scored 32/35 which was the top ranked design and it best suits the user's wants and needs because it ticks almost all of the criteria and is like what the user had in mind. The design option suits the user's vehicle which is the location of use and will fit in very well. The canopy will perfectly fit into the location and is the most size effective for the storage needs of the user because it makes use of all space provided, although option 3 and 4 were mostly the same the fact that number 3 was much more open meant that there was much more room and it also allows the user to develop his own storage system inside and isn't restricted to drawers that can't be taken out. The design option also includes a way to easily remove the canopy from the ute which was a big thing for the user because he wanted to be able to remove it and put it back on by himself and leave stuff in it whilst he's not using it. The design option also includes a camera on the back which is displayed through the rear-view mirror which ensures maximum safety whilst driving around. The material of the canopy requested by the user was either flat sheet or checker plate and this design has used checker plate which will look good and work with the use based on me and my client's observations from the primary and secondary research that has taken place. The aluminium sheet which doesn't corrode means that the canopy because it's an "outside" and "weather prone" item ensures a long lasting canopy and means that my user is paying for quality and maximum lifespan on the canopy.

I'm very happy with the choice we've made and I hope that all goes well for the building process. Although it's got many positives like there to be 2 holes in the sides for the jack off legs so that there is less of a chance of the legs twisting and bending. I would also think that it would be easier to use either all mild steel or all aluminium because it can be hard to weld the two together. Aluminium would be the preferred because it's a lot lighter although it's a bit more expensive. Apart

