

Criteria

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User Profile

Name: Richard Beggs.

Age: 50

Interests/ Passions: Fishing, Shooting, Farming

Location: South West Victoria, 3 Hours West Of Melbourne On A Large Scale Sheep Property.

Family: His Wife, 3 Teenage Children.

Work: Self Employed On The Family Farm.

Where And Why Richard Will Be Using The Product: On The Back Of His Hilux For Putting Stuff In While Away On Trips Fishing, Shooting And Camping.

Cost: \$2000-3000

User Profile and User Communication



User Communication

Hi Ben,

I have been looking around for someone to design and build a ute canopy box for my Toyota Hilux.

I would like to be able to keep items in the canopy while I'm traveling, the main problem I have is that when I'm off walking/ fishing I am worried that people will steal my stuff from the back of my ute or break into it to get items that are inside. I go away fishing a few times a year and would like to have this canopy to be able to keep my items in so that people can't steal my stuff when I'm off fishing. The canopy needs to be dust proof and water proof to that while I'm driving I don't have to worry about dust and water getting into the canopy. The canopy will need to be strong so that it can withstand the poor road quality around our district.

Thanks and hope you enjoy the task,

Richard Beggs
Nareeb Nareeb Merinos

Views on Sustainability

Richard believes that the product should be made as sustainable as possible and that it should be supporting local businesses, although he wouldn't like function to be sacrificed because of sustainability issues.



User Interview

What Materials And What Colouring Would You Like The Finished Product To Be?

Aluminium checker plate sheet/ flat alloy. Explore the options take into account the price strength and also the weight of the metals.

I would like the product to be either a white or the natural silver colours to suit the ute.

Where On The Tray Would You Like It To Sit?

I would like it to cover the whole tray so that it sits just inside the lip that goes around the side of the tray. That way I'm able to put the sides of my tray up and don't have to take the off. It also means that it is a lot more secured as it can't slide around.

Will It Need To Be Removable?

Yes, it will so that I can use the tray for work, it will be used for trips and when I go away but it isn't practical for use at home so I will need to be able to take it off.

Any Specific Ways That You Would Like It To Be Removable?

If possible I would like it to have 4 jacks, one on each corner so that I can back it into a shed and jack it up and drive out from underneath it. It also means that it is a one-man job to take it on and off. This method also means that I can leave items in the canopy and I don't have to worry about having to lift or slide it off by hand.

When And Where Will The Product Be Used?

The product will be used when I go away from home on a fishing trip or on a family holiday when we are driving. I don't go fishing or on a trip very often but I try get time of work a few times a year to have a break from work and everything else going on around me.

Why Has The Need For This Product Popped Into Your Head?

I've been thinking about a canopy for my ute for about a year now and I just think that for things like fishing where I am off walking away from my ute for extended periods of time having a canopy just means that no one can see and take anything that I have in the canopy.

Anything Else That You Would Like In The Design?

I would like it to be easy accessible from both sides meaning that it as 2 doors, one on each side, that way I can get my stuff out from either side of the ute.

What Sort Of Budget Were You Thinking?

I know it's a big project and realise that the metal costs are going to be fairly high. I want this to be done to the top standards so probably \$2000-\$3000 would be fair. If you can keep it under that please do but I don't want money to be a restriction over quality in the final product.





Outline Of Context

Design Brief

Page 3 And 4

Who will use it:

What will it be used for:

When will it be used:

Where will it be used:

My user **Richard Beggs** needs a canopy built for **the back of his Toyota Hilux**. It needs to be accessible so that the **items** in there can be accessed from both sides. He needs it to **carry around his gear** when he's **away**. He needs it to be strong and durable so that he can take it off road when he goes **down 4wd tracks looking for fishing and camping spots** and also needs to be light so that It doesn't affect is utes' suspension and the lighter the canopy is the more he can carry. It will need to be removable preferably with jacks so that it's easy for him to remove by himself and also allowing him to keep items in there and not have to lift it off. It needs to either follow the colour of his ute or be a silver metal colour with an industrial look. He would like it to be finished by the end of September because around that time is when he generally **goes away fishing**.

My user Richard Beggs needs a canopy built for the back of his Toyota Hilux. It needs to be **accessible** so that the items in there can be **accessed from both sides**. He needs it to **carry around his gear** when he's away. He needs it to be **strong and durable** so that he can take it off road when he goes down 4wd tracks looking for fishing and camping spots and also needs to be **light** so that It doesn't affect is utes' suspension and the lighter the canopy is the more he can carry. It will need to be **removable** preferably **with jacks** so that it's easy for him to **remove by himself** and also allowing him to keep items in there and not have to lift it off. It needs to either follow the **colour of his ute** or be a **silver metal colour** with an **industrial look**. He would like it to be finished by the end of September because around that time is when he generally goes away fishing.

Purpose, Function and Context:

Visual Tactile Aesthetics:

User Centred Design:

Materials:



Design Brief

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Constraints and Considerations

Purpose, Function and Context

- The canopy will be used by Richard for putting items in while away on fishing, hunting and camping trips so that its safe in an enclosed area.
- It needs to have anchor points inside on the floor of the canopy so that is can be fastened to the tray.
- It needs to have a way that makes it easy to put on and take off.
- It needs to be light so that it doesn't affect the ute too much.

User Centred Design

- Access must be achieved from both sides of the canopy.
- It needs to be able to be taken on and off easily.

Visual, Tactile and Aesthetic

- The client wants the canopy to be either the same colour as the ute (white) or the natural metal colour (silver) to give it an industrial look feeling.

Sustainability

- Locally sourced products to support local businesses.
- Little to no waste material.

Economics- Time and Cost

- Budget \$2000-3000.
- Needs to be finished by 20th of August.

Legal Responsibilities

- Have A Risk Assessment So That All Procedures Are Completed Safely.
- Must comply with all relevant regulations and standards.

Materials

- The canopy needs to be durable.
- The canopy needs to be dust proof and weather proof.
- The user wants it either made from either Aluminium checker plate sheet/ flat alloy/ sheet metal.
- Needs to be strong so it's not going to fall apart.

Technologies- Tools, Processes and Manufacturing Methods

- Using new and emerging technologies while designing and producing this product.
- Using appropriate technologies for each part of designing and production of the product.

Innovation and Creativity

- The product must be creative without sacrificing the intention of its function and use.

Product Quality

- The product must be completely dust and water proof.
- It needs to be durable and be able to last long periods of time in the Australian conditions.
- It needs to be made to the highest possible quality to ensure that its long lasting.

Quality Statement

Quality is important to consider throughout the whole design and build process. Quality can't be sacrifices over cost limitations with this project. I need to balance the cost VS quality so that it is of high quality but it is also for a reasonable cost. The product needs to be strong and durable to fulfil the intended use of carrying items and keeping them safe. Overall quality will be measured throughout the build process with things called quality checks and measures. These 2 things mean that if done correctly the product will be made with high quality tool in top condition and also mean that the project will be strong enough to last many years. I will personally do these quality checks throughout the process to ensure that the product is built to the highest quality possible.

Design Option Criteria

<u>PDF</u>	<u>Questions</u>	<u>Score</u> <u>/5</u>	<u>User Feedback</u>
<u>Visual, Tactile and Aesthetics</u>	Does the colouring suit the ute's colour or maintain the silver metal colour?		
	Is there a good balance between colour shape that will match the ute's colour and shape?		
<u>Purpose, Function and Context</u>	Is the product suitable for storage of his tools, fishing equipment and other 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?		
<u>Materials</u>	Does the product have some sort of water and dust prevention method?		
<u>User Centred Design</u>	Does it have a specific way that makes it easy to take off and put on?		
	Does the User have access from both sides of the ute?		
<u>Overall User Feedback:</u>			

<u>PDF</u>	<u>Questions</u>	<u>Justification</u>	<u>Method To Achieve The Criteria</u>	<u>Checking method on finished product</u>
<u>Purpose, Function and Context</u>	Does it have anchor points inside on the floor of the canopy so that it can be fastened to the tray?	It needs to be able to be anchored to the tray.	Find out different ways that it can be anchored to the ute and work out the best one that's practical.	Make sure that the canopy is secure yet still practical and functional.
	Is it easy to put on and take off?	The user wants it to be a one man job.	Find ways that make items such as this easy to put on and take off and put them into practice and find the best way that fits with the product.	Actually test to see if it's easy to put on and off.
	Is the product suitable for storage?	This is one of the primary functions of the canopy requested by the user.	Make sure that the canopy is big enough to fit all the required items by measuring the items to check dimensions.	Fill the canopy up with all the items what will go in it and see what happens how it fits etc.
	Is it light so that it doesn't affect the ute too much?	The user doesn't want to sacrifice ute safety for a canopy that's too heavy on the suspension or too top heavy and risk flipping.	Use materials that are light yet strong to make sure it's not affecting the ute.	Drive the ute around and see if it is effected in any way.
<u>User centred design</u>	Is there easy access from both sides of the canopy?	The user wants easy access from both sides.	Look at existing products and see what works the best.	Walk around the product and see if it is easily accessible. Use it, test it.
<u>Innovation and creativity</u>	Is the product creative without sacrificing its function and intended use?	The user wants it to be somewhat creative while yet still being practical.	Use existing products to add on anything else the user may need.	Users opinion, look at the product.
<u>Visual tactile and aesthetic</u>	Is it either the same colour as the ute (white) or the natural metal colour (silver) giving it an industrial feel ?	The user wanted either off these colours to be the final one.	Either powder coat the final product or use the silver metal.	Users opinion, look at the product.

<u>Sustainability</u>	Was it made from locally sourced products to support local businesses?	The user wants local businesses to be supported throughout the production of the product.	Buy materials and items required when on exeat in Geelong or at home in Hamilton.	Keep a log of where you got the items from.
<u>Economics- time and cost</u>	Was it made within the Budget?	There was a budget set by the user.	Try follow the budget as best as I can. Research materials and prices	compare the total spent and the budget.
	Was it finished within the time frame?	There was a time frame set by the user and it needed to be achieved.	Follow a production plan.	Look at the date.
<u>Legal responsibilities</u>	Does it comply with all legal requirements?	The user wants to be able to use it on public roads without getting booked by the police for something that should have been previously addressed.	Research all legal requirements of something like it and build the product so it complies with all of them.	Take it to Vic roads to get checked over, RWC.
<u>Materials</u>	Is the canopy strong?	The user wanted it to be strong so that it doesn't fall apart when he hits a bump on the roads.	Use strong materials.	Drive around and see if it falls apart and do strength checks throughout the building process.
	Is the canopy water and dust proof?	The user wants the canopy to be water and dust proof so that the items that are in it don't get wet and so that dust doesn't get in and get everything dusty.	Look at different ways of dust and waterproofing a canopy and implement one of these ways.	Go for a drive on a dirt road, put the hose on the roof of it and see if water gets into it.
<u>Technologies</u>	Where new and emerging technologies used while designing and producing this product?	The product needs to be up to date with society because it needs to fit in.	Use tools and other things that are new to society and that I haven't used before.	Take photographs throughout the building process of these technologies.