Arkwright
SCHOLARSHIPS

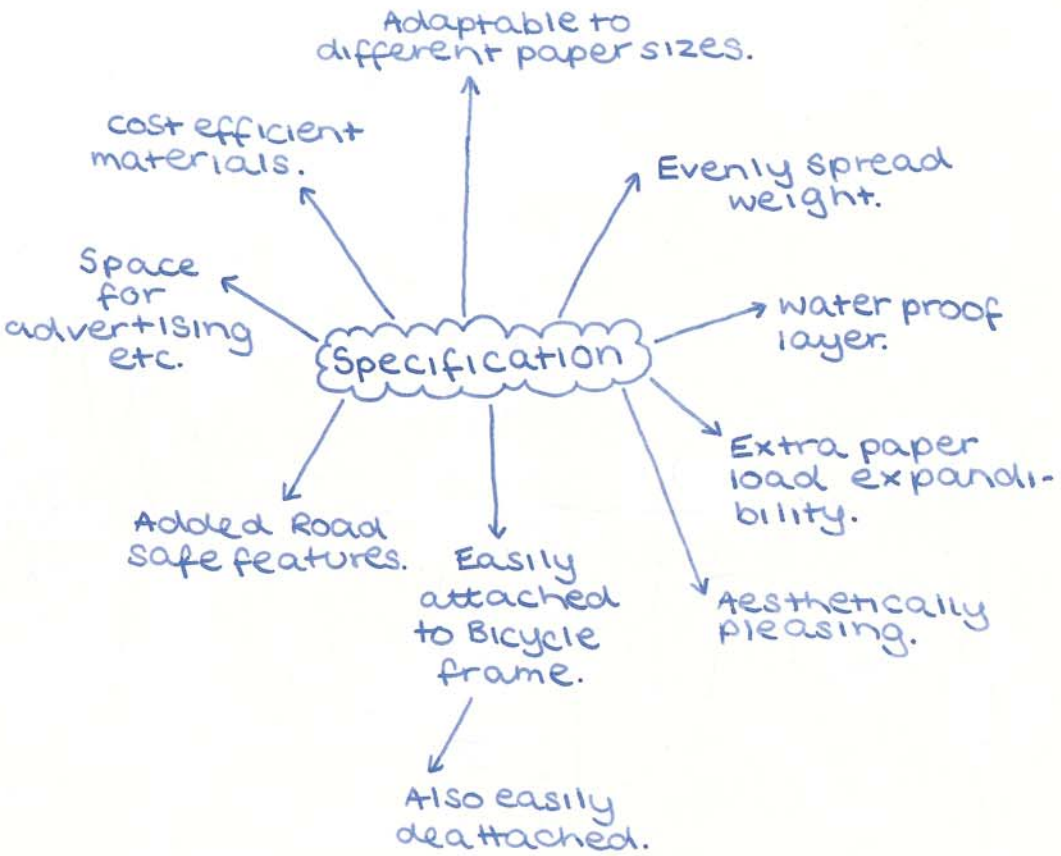
2007 Arkwright Aptitude Paper

Exemplar Material relating to Question 3

Question 3

Specification

Brainstorm



Specification

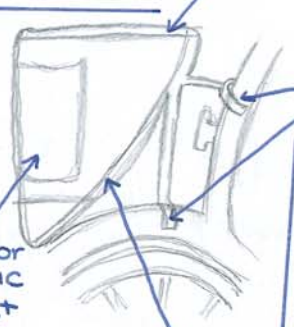
1. The product must be designed so that the weight of the paper load does not cause the rider any instability when riding. Thus getting papers to customers with little risk caused on the rider.
2. The product must have a water proof layer. To prevent the paper becoming wet in rainfall.
3. The product must expand in order to accomodate extra papers if needs be.
4. The product must be easily attached and deattached to existing bicycles, in order to prevent bike suitability for this product.
5. The product must have added road safety features, in order to prevent danger to the rider whence delivering.
6. The product must have a space for where the sponsor add can go, to promote the sponsor.
7. The product must be adaptable to different paper sizes, so that a wider range of papers can fit into this product.
8. The product must be cost effective in terms of the product that makes it. so this product can be made in batch for a minimum price.
9. This product must be aesthetically pleasing. To promote the product and place it above other products in the market.

Question 3

Initial Ideas

This idea is an idea that requires a lot of work to to develop, design and create with its awkward shape. And with it being in a difficult position the product would have to be very wide using problems the bicycle when manouvreing the bicycle.

(1)



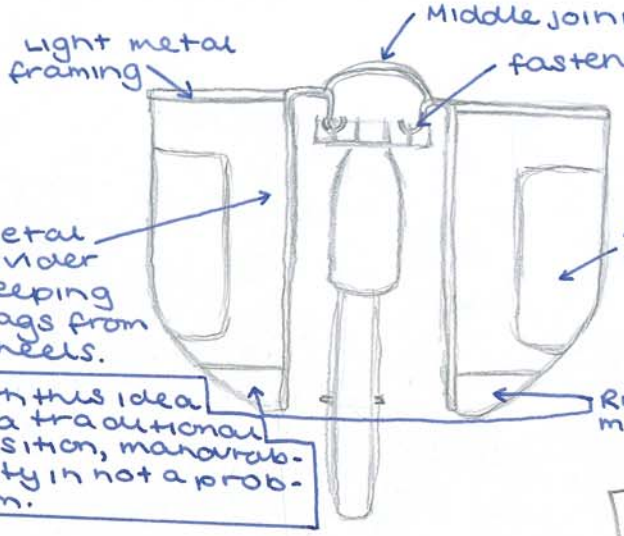
manovrability

problems → needs very strong support

problems → would need to be very wide.

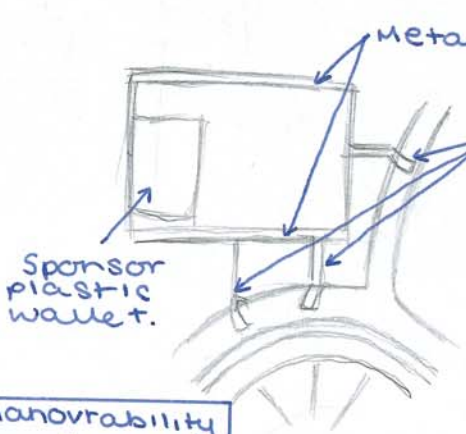
problems → shape

(3)



With this idea in a traditional position, manovrability is not a problem.

(2)



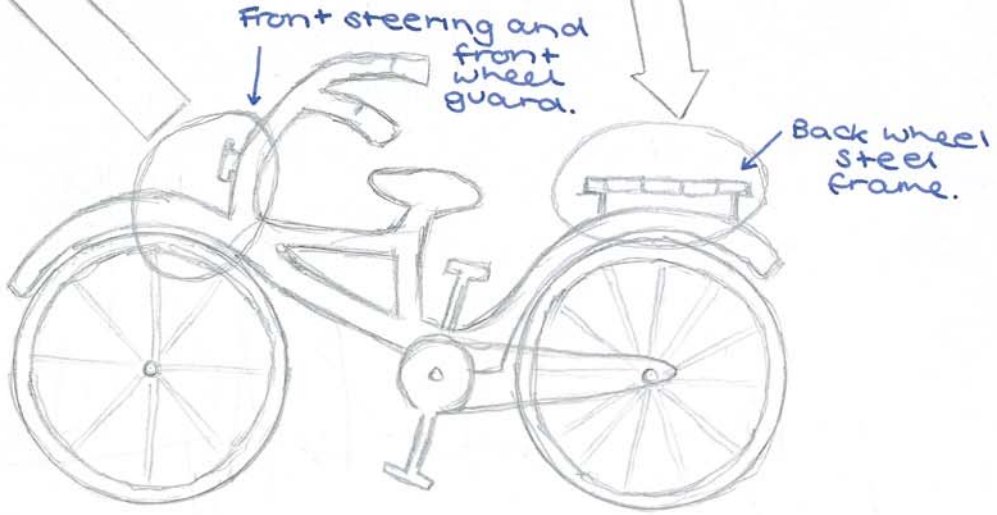
manovrability

problems → would need to be very wide.

problems → too simple not very aesthetically pleasing.

problems → too much weight too support of paper.

This idea, however simple, i.e. box shaped. Requires maximum support from the front wheel and handle bar. This idea is not placed in the most traditional section of the bicycle. The bicycle may be hard to steer with a not so manouvreable load on its front



Bicycle.

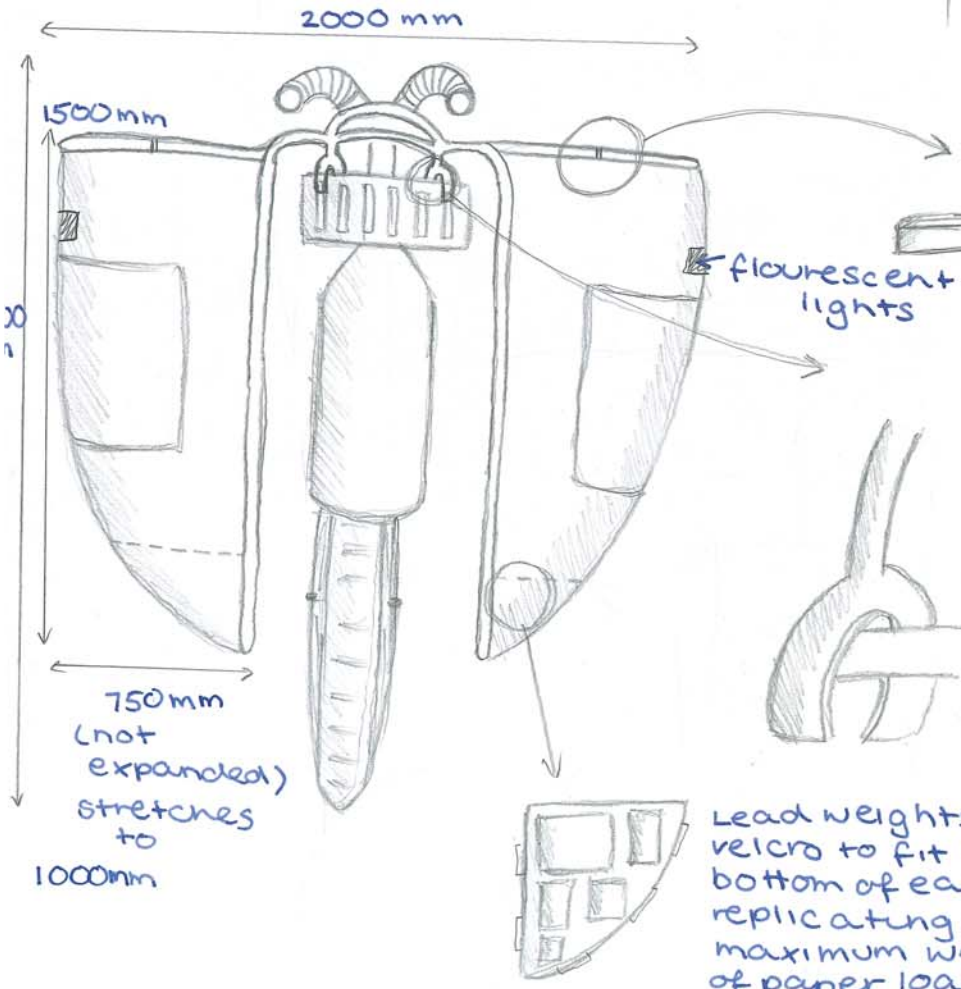
Question 3

Final Idea

decided to choose my third initial dea as I felt, compared to all my ther initial ideas, it had the east problems with manouvrability nd support. And altogether look- d more appealing as a product o develop.

Added handle so can be carried when deattached

latex stitched over pole.



flourescent lights

Top metal rim is designed to spring out and expand with extra load.

Tight plastic fasteners to lock onto bicycle poles.

Lead weights with velcro to fit in the bottom of each bag replicating the maximum weight of paper load.

Materials

- For this product a number of basic cost effective materials are to be used. Simple acrylic plastic are used for the fastener heads. Mild steel rods are used for the main frame. Aluminium is used for the expandable metal rim. Lead weights, velcro and linen make up the removable weights And finally flourescent lights and latex material make up the main body of the bag.

Construction

- The fastener heads can be line bent into shape.
- The Mild steel frame and the aluminium rim can be battered into shape and brazed together.
- velcro attaches the lead weights.
- Latex fabric is stitched to attach.