

7. design		
6. testing process		
5. organised		
4. blind		
1. mission and vision	2. open design	3. JULIA

index

blindly organised  
sophie helene dirven



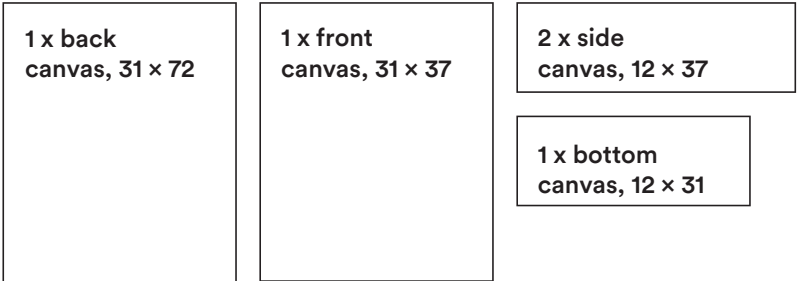
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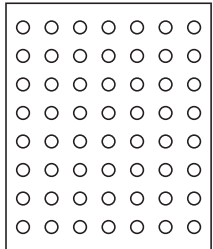
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preparation

① bag, 1:10



② panels



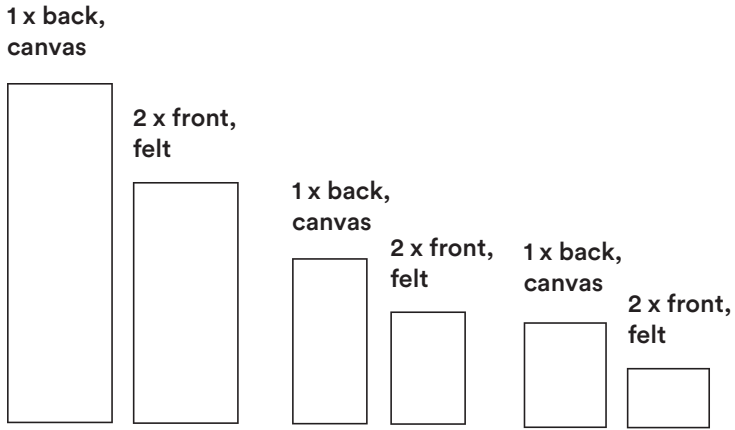
5 x panels, felt, 27 x 33

③ 3D fastening studs



2/3 for every compartment, rubber, 1 x 1

① compartments, 1:10

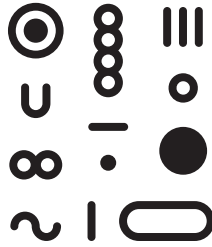


**white cane**  
back 14 x 45  
front 14 x 32

**phone**  
back 10 x 22  
front 14 x 32

**travel card**  
back 11 x 14  
front 11 x 8

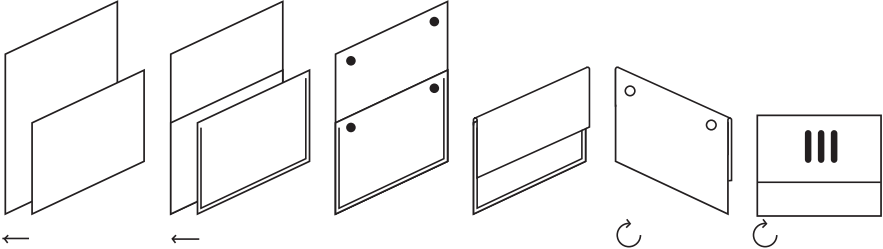
④ tactile shapes



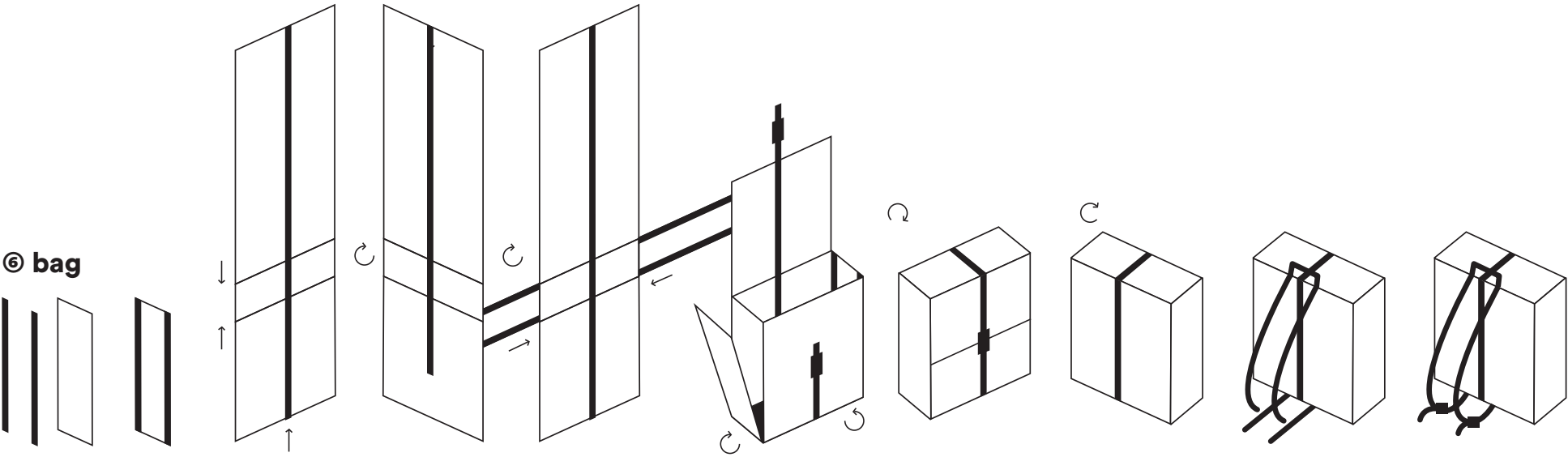
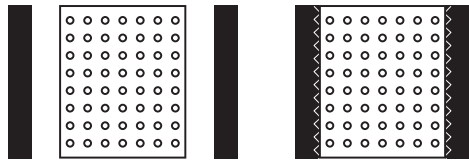
1 for every compartment, felt, variable

sewing

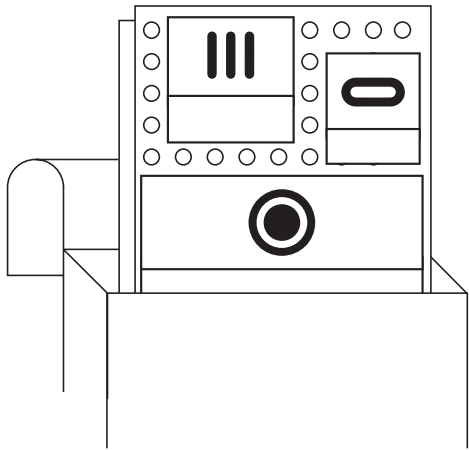
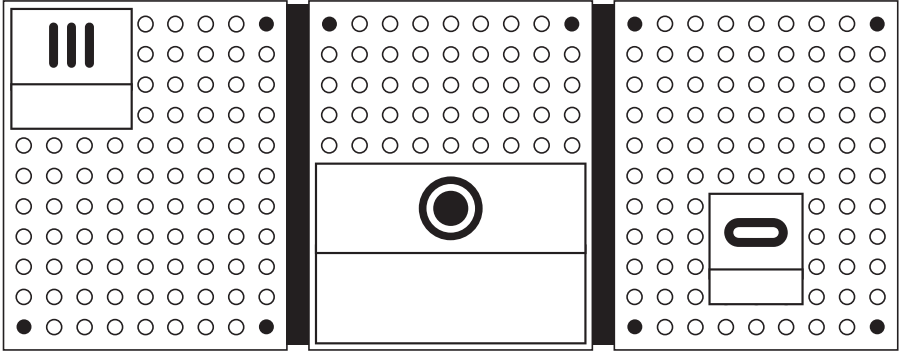
⑤ compartments



⑦ panels



⑧ fastening



Step 1 – The ingredients

Shopping list of fabrics and sewing items

- Felt, at least 5 mm thick, or some other material of the same thickness such as leather
- Canvas, or some other material contrasting in texture and colour with the felt
- Velcro, 5 cm wide and 33 cm long
- 2x strap sliders, 3x4 cm, for the straps of the backpack
- Straps for carrying and fastening, 3 cm wide and total 500 cm long
- 1x fastening clasp for the bag, 4x6 cm, suitable to the width of the strap
- Pins
- Velcro circles, 1.5 cm
- Erasable pen
- Fabric scissors
- Fabric glue
- Seam ripper
- Needle and thread
- Sewing threads in black and the other colours of the small bags
- Interfacing

Machines in the fab lab

- Industrial sewing machine
- 3D printer
- Laser cutter
- Cutting plotter

Step 2 – The preparation

① Cutting out the fabrics

- Draw the desired measurements of the small bags with the erasable pen on the felt and the canvas, as specified in the list.
- Make sure that there is sufficient contrast in the colours of the felt and the canvas for each small bag; place these side-by-side for comparison.
- Trace the shape of the bag on the canvas with the erasable pen.
- Cut out the components using fabric scissors.

② Making the panels using the laser cutter (in the fab lab)

- Place the piece of felt for the panels in the laser cutter. The blueprint can be downloaded

from the website (scan the QR code).

- Load the blueprint for the panels and press start; ask a fab lab staff member for assistance.
- Remove the little circles from the panel.

③ Making the 3D fastening studs for the compartments using the 3D printer (in the fab lab)

- The blueprint can be downloaded from the website (scan the QR code).
- Load the blueprint in the 3D printer and use rubber as your printing material.
- Print two studs for each small compartment, and three studs for each compartment measuring more than 20 cm.

④ Making the tactile shapes using the cutting plotter (in the fab lab)

- Download the tactile shapes (the blueprint can be downloaded from the website; scan the QR code).
- Plot these shapes on flannel that can be ironed onto the fabric, or pressed onto the fabric using the pressing machine in the fab lab.

Step 3 – Sewing

⑤ Compartments

- Glue the canvas to the piece of felt on the back side.
- Pin the back side to the front side of the compartments.
- Sew the bottom and the sides of the small bags shut using an industrial sewing machine.
- Fasten the studs with needle and thread to the back side of the compartments. Align the position of the studs with the holes in the panels that were previously made in the fab lab. Keep one centimetre free at the top.
- Iron the tactile shapes to the front side of the flap. Centre the shape in the middle of the compartments. Iron under a sheet of baking paper, at the highest and driest setting.
- Glue two little circles of velcro to the inside of the flap, and two others to the bag so that the compartment can be closed.

⑥ Bag

- Sew the carrying straps to the piece of fabric

constructing

- on the back side of the bag.
- Sew the velcro strips to the outer edges of the side of the bag.
- Take the canvas from the back side of the bag, and sew this to the canvas from the bottom of the bag. The seam is on the outside.
- Sew the front side of the bag to the bottom of the bag.
- The bag will have straps on both the inside and the outside. Position the seams you have just made facing downwards. Start by sewing the strap in the middle, at the bottom of the front side. Then continue all the way to the top. Turn everything around so that the seams are again on top. Continue sewing the strap on this side. Stop sewing 8 cm from the bottom.
- Then sew the two sides to the bottom of the bag.
- Finally, sew together all the sides.
- Hang the strap sliders to the bag's carrying straps, then fold and sew the ends of these straps.
- Place the fastening clasp on the fastening strap on the front side of the bag.

⑦ Panels

- Place the velcro strips on both sides of the panels. There is no overlap; sew the velcro with a zigzag stitch to the whole length of the panel.

Step 4

⑧ Fastening

- Fasten the panels inside the bag.
- Fasten the compartments inside the bag.

Congratulations, you now have a real JULIA!