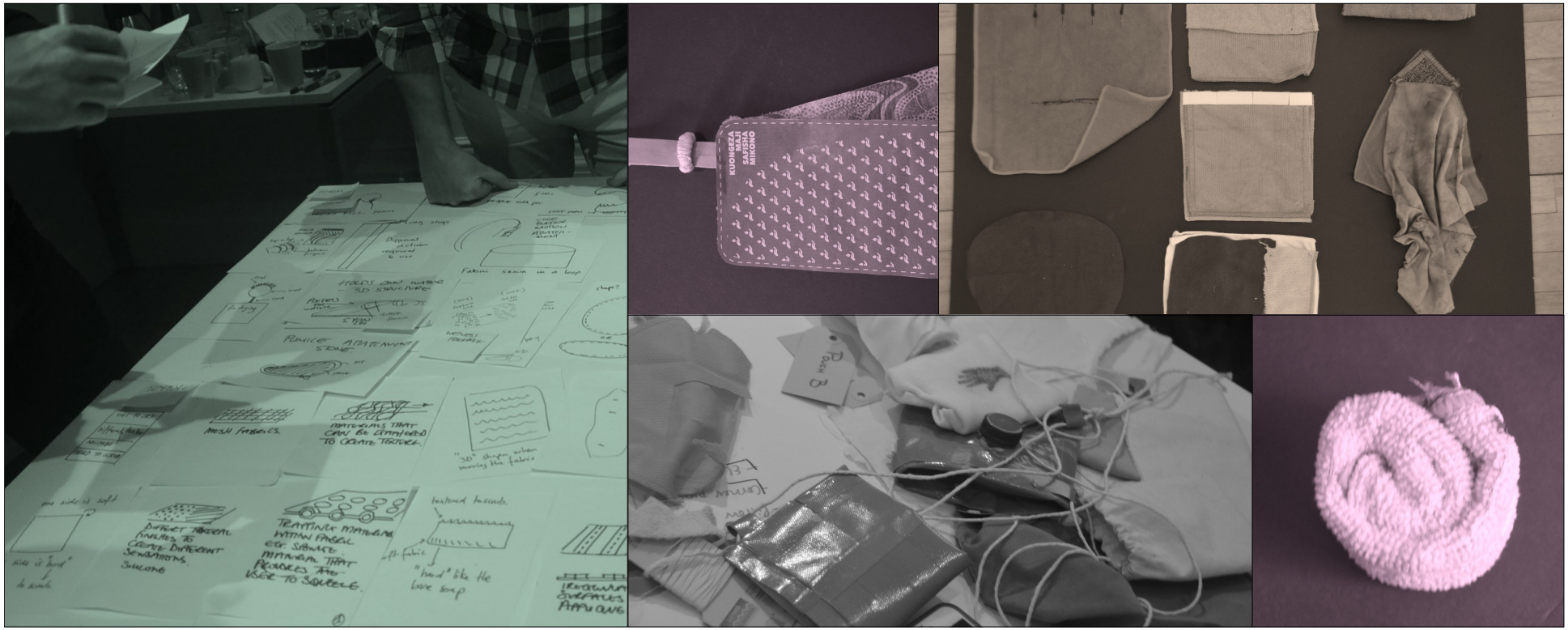


Magic Towel Design Workshop

Prepared for: Torben Holm Larsen, Technical Director, Real Relief
Prepared by: Dr John Stevens, Made Design Ltd | Royal College of Art
12 March 2018

SUMMARY

Objective

This report outlines the process and outcomes of a two day workshop undertaken in London to explore design possibilities for the Magic Towel™ technology. The overarching purpose of the workshop was to provide Real Relief with a range of creative ideas that might be further refined and developed, to improve the application of Magic Towel™ technology for hand cleansing, in a humanitarian context.

Goals

1 - exploring variations of form, especially colour, materials, and finish (CMF) to make Magic Towel self-explanatory as to why and how to use it.
2 - improving physical efficacy of bacteria removal from the hands.

Outcomes

On further breakdown and exploration of these goals, these were refined and focused onto three key objectives. A range of ideas were generated, refined and combined, resulting in a selection of outcomes in all three:
How might we use structure and Color, Materials, Finish (CMF) to communicate, “for hands only, use with water”?
How might we ensure “always with me, always wet”?
How might we use form and texture to improve abrasion and tactile feedback?

PROCESS

Workshop participants

The workshop was conducted with a group of 9 postgraduate design students over two days, in February 2018.

- Textiles MA: Celine Ducret, Marika Grasso, Yusra Makhdoomi, Domenica Landin Burbano, Phoebe Corker-Marin
- Global Innovation Design MSc /MA: Alex Davies, Fernanda Dopal
- Innovation Design Engineering MSc /MA: Michael Andrea
- Service Design MA: Isabelle Ohlson

The event was led and facilitated by Dr John Stevens and Vicki Fong, two teaching / research staff from the Royal College of Art, London, and also attended by Torben Holm Larsen, Technical Director, Real Relief, and Sian White, Research Fellow at London School of Hygiene and Tropical Medicine.

Process Outline

Day One

- Technical background of Magic Towel™ – Torben Holm Larsen (THL), Real Relief
- Humanitarian Water, Sanitation and Hygiene (WASH) context – Sian White (SW), LSHTM
- Process overview – John Stevens, Made Design Ltd / Royal College of Art
- Context discussion – challenge setting, identifying 3 key challenge themes:
- Facilitated Idea Generation - 3 groups brainstorming then sharing with whole group. Each group focused on one of the three themes.
- Groups discuss and sort ideas into themes and directions of promise, incorporating feedback from expert advisers THL and SW.

Day Two

- Groups explore selected ideas through making rough sketch models with fabric samples and various other materials.
- Further feedback given from experts THL and SW.
- Final refinement and collation of concepts, photographed with notes.
- Close

OUTCOMES

1. How might we use structure and CMF to communicate, “for hands only, use with water”?
2. How might we ensure “always with me, always wet”?
3. How might we use form and texture to improve abrasion and tactile feedback?

The following sections show the sketch models produced in response to each challenge area.

How might we use form and texture to improve Abrasion and tactile feedback.

Challenge team 1

Materials Sample Exploration & Testing

Current Magic Towel form: Satin weave is slippery when wet, making it hard to scrub. Alternative weave & fibre structures were considered for in increase in friction.

The shape and colour of the cloth might also be reconsidered, being very similar to other cloths used for other purposes.


Sample 1
Sample 5
Soil test sample
Sample 4
Sample 2
Sample 6
Sample 3
Form variants
(see next page)

Form variants

Sample 1

Microfibre was chosen for it's effective cleaning properties. Having finer fibres than conventional weaves, it increases the contact area and removes more bacteria.

Attempting to increase wash time through different features, holes or slits were cut for fingers and wrists. However, when tested, these holes inhibited the cleaning process and were soon ignored.

Sample 2

A variation in shape would make the Magic Towel distinct from other cloths and everyday rags, communicating its special purpose. The simple round version shown here would increase waste during production, but a tessellating shape such as a hexagon might be considered.

Sample 3

This explores the idea of keeping the towel wet through a woven sponge construction that could hold water for longer and be squeezed to dampen the cloth.

Samples 4 & 5

These versions have two different textures in the cloth, one rougher to increase friction and one smoother for a contrasting experience. The rougher was not only to make the cleaning more effective but also so that the user experienced a change before and after cleaning through exfoliation.

Having two different surfaces might encourage two stages to the process, increasing the length of time cleaning. There is also a nail strip for deeper finger nail cleaning.

Sample 4 has one entire side rough and the reverse is smooth. However is was observed that once one hand had been cleaned, the rough side might be visibly dirty and less appealing for use on the other hand. Sample 5 therefore has half rough, half smooth on each side, so one side might be dedicated for each hand. However, a quick test showed this was also impractical (see next page).

Sample 6

This sample evolved after the holes in sample 1 were unsuccessful. We wanted to keep the hands in contact with the cloth for longer, whilst still including the element of process as in samples 4 & 5. Therefore we created a pocket-mitten with three different surfaces (rough, smooth, nail strip).

However the mitten was difficult to use with dirty hands, harder to construct, and also may be limited by a 'one size fits all' approach as there is such a wide range of hand sizes between adults and children.

How might we communicate Always with me. Always wet.

Challenge team 2

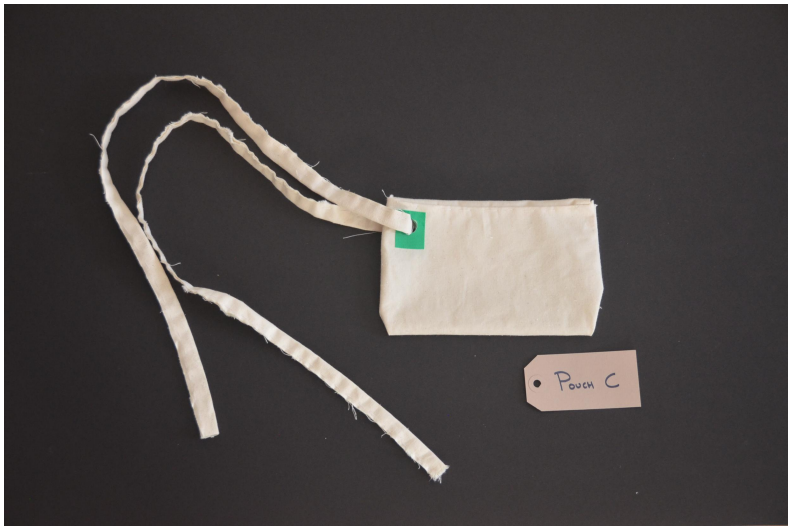
Version 1

Roll in magic towel & pouch with nylon section for outside.

Can be folded to become more compact.

Version 2

Envelope pouch with magic towel inside, include multi-purpose cord (tied around waist, neck, shoulder) through a reinforced loop. Button fastening.



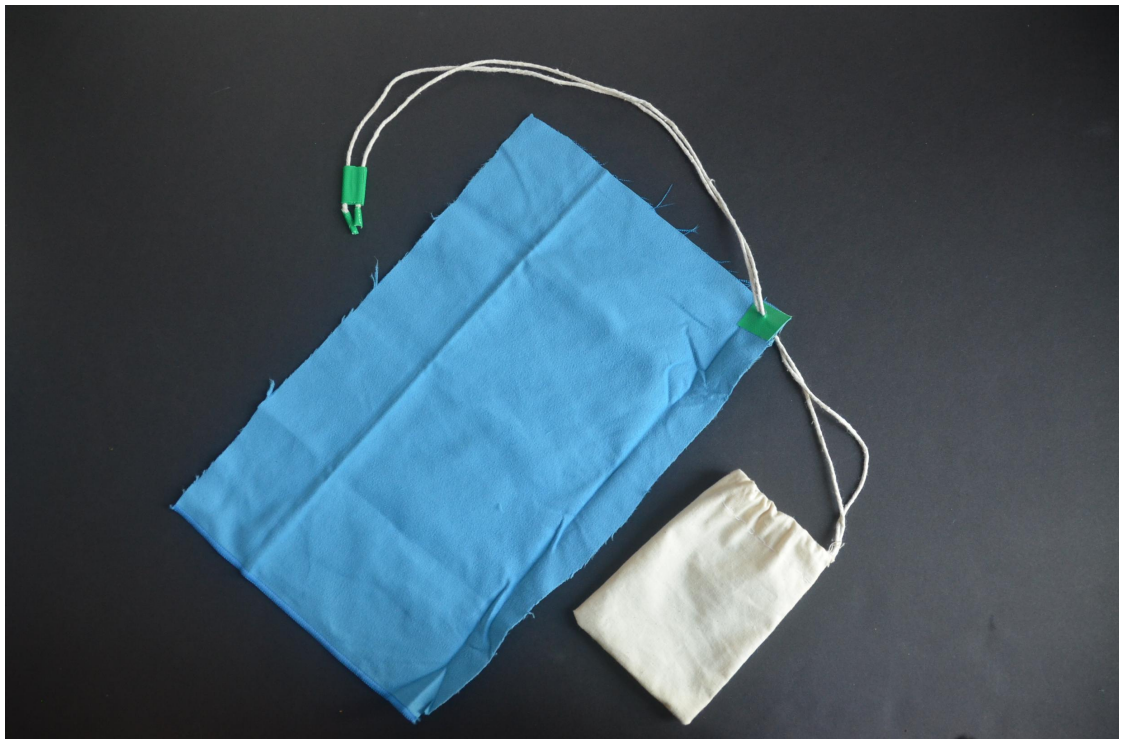
Version 3a

Small pull-string pouch with magic towel inside.
Could be made out of waterproof material.

Version 3b

Small pull string pouch with magic towel attached to cord. Could be made out of waterproof material.

Towel has reinforced hole that can be slid up and down string during use and storage.



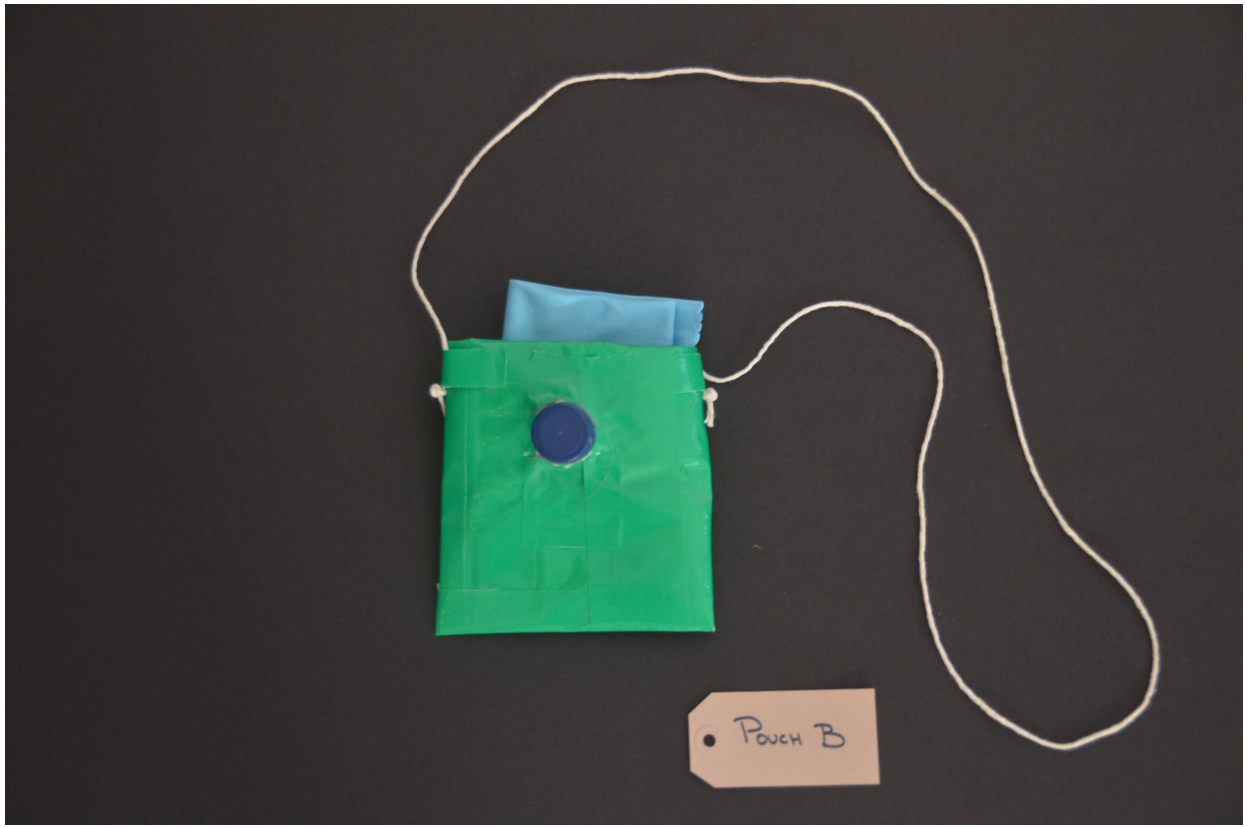
Version 4

Plastic pouch with zip lock fastening and adjustable cord. Clip attachment at the back.

Version 5

Pouch with sealed water compartment and separate slot for magic towel.

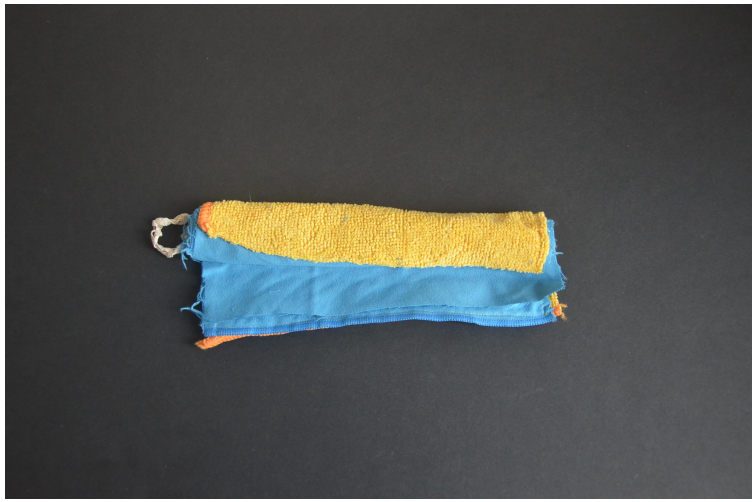
Can be used to carry small quantity of water to use magic towel on the go.



Version 6

Magic towel with elastic loop and exfoliating strip. Strip could be made from water resistant material so its more protective when not in use/ rolled up.

Elastic can be used to roll it up as well as to hang.

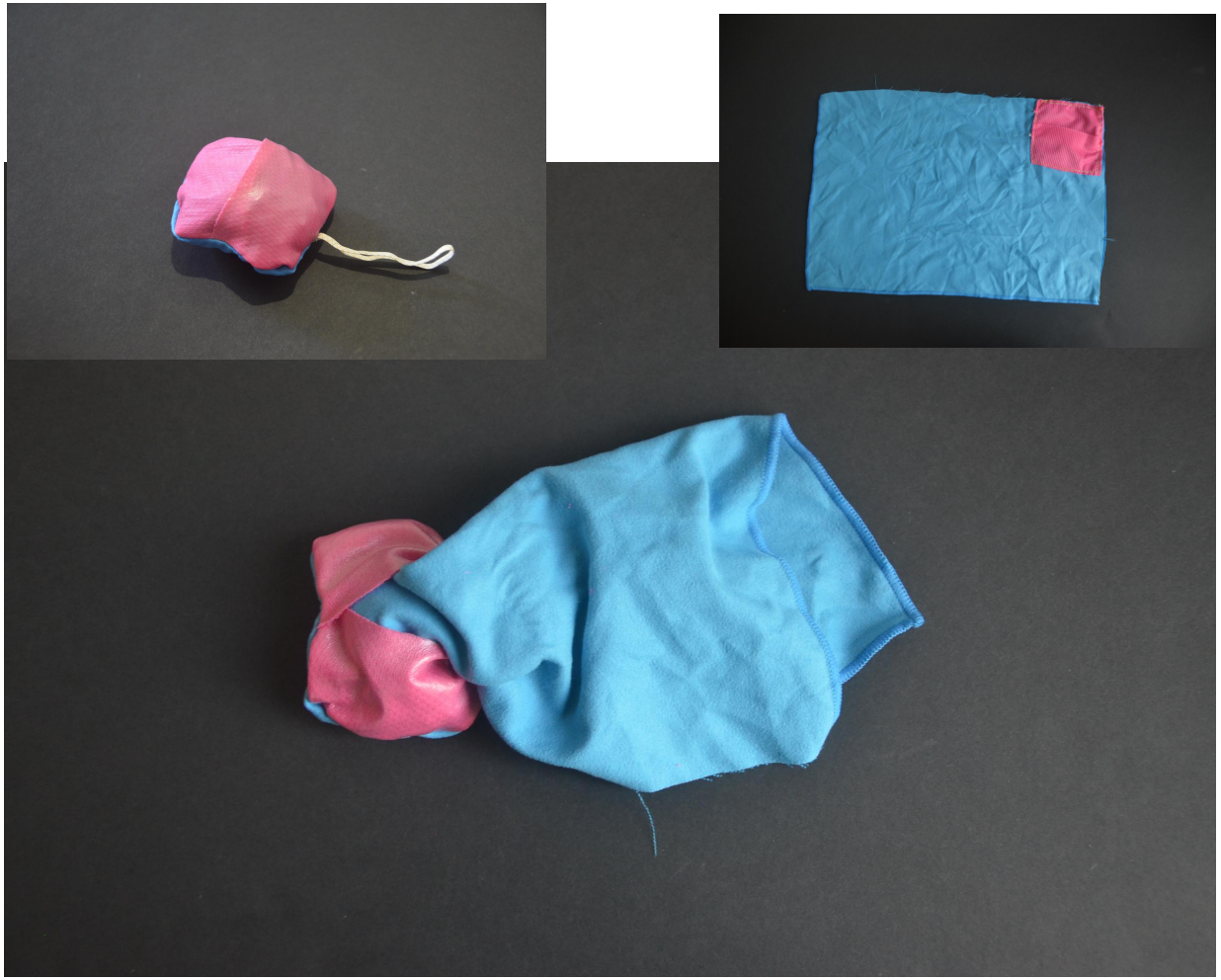


Version 7

Magic Towel with sewn in corner pocket, for compact storage. Sewn in elastic loop for fastening as well as hanging.

Pink fabric can be made from polyurethane or nylon so it is water resistance.

Potential to customise colours to be playful.

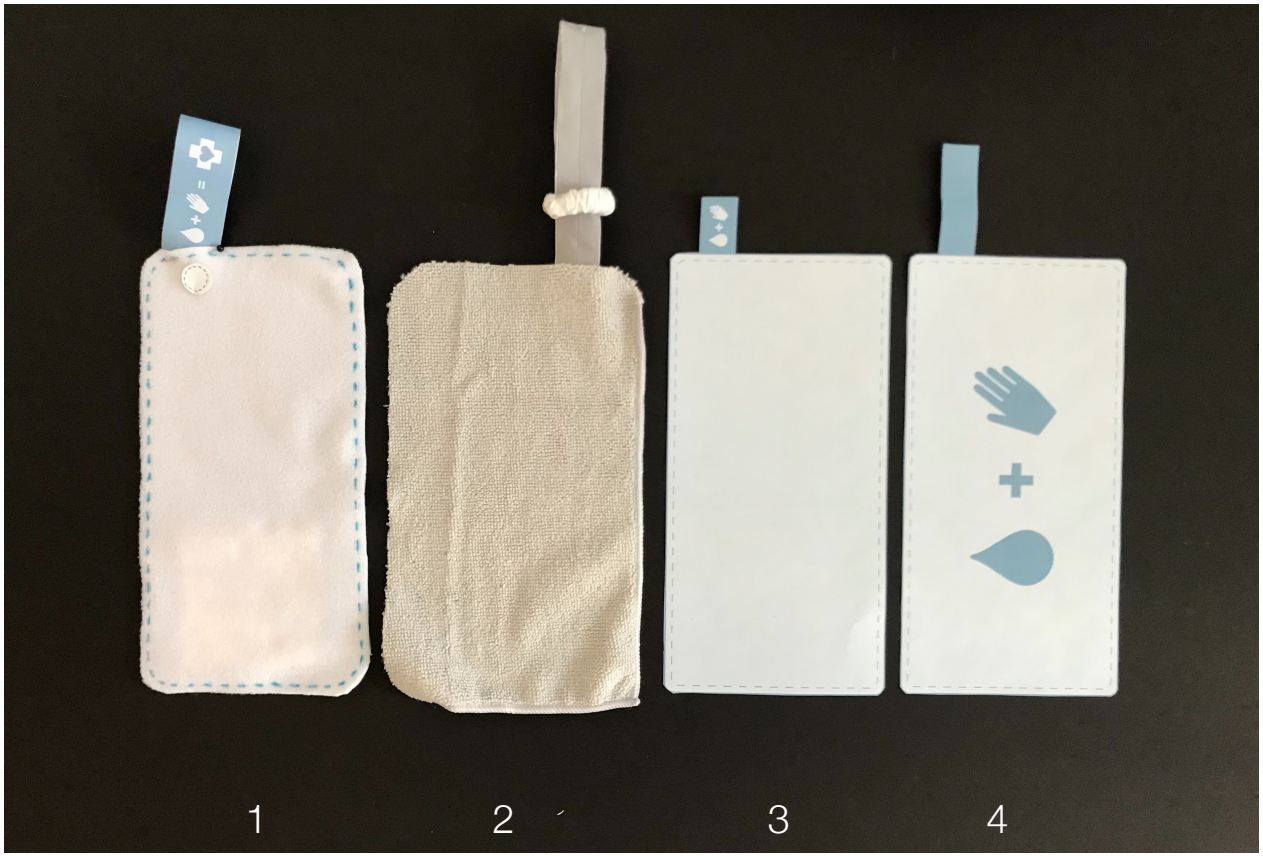


Form exploration

Could it be more three-dimensional? Soft, and around the size of a large soap bar.

How might we use form and decoration to communicate For hands only. Use with water.

Challenge team 3: Celine Ducret, Domenica Landin, Alexander Davies

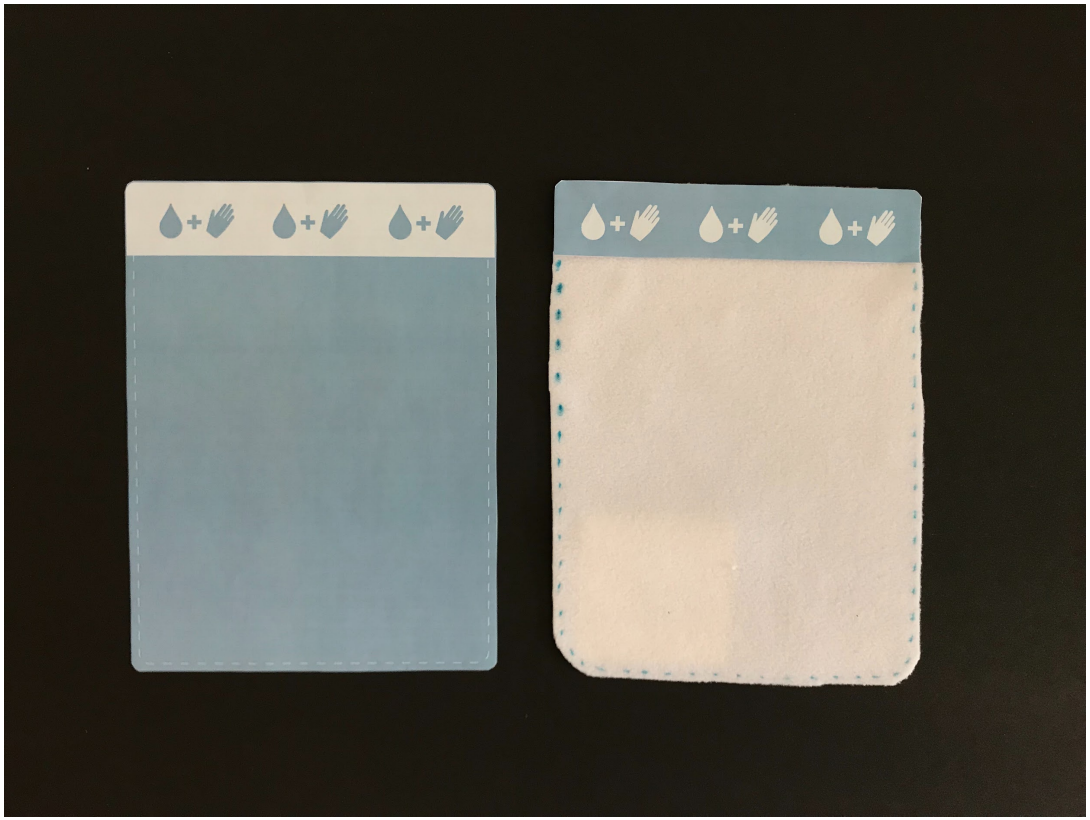


1:Single part exploration

Size: 14 x 24 cm

Loop handle with infographic indicating use

1. Top stitch details on edges. Button detail.
2. Loop handle includes sliding toggle to adjust loop size. Material of loop and / or toggle could have a rough texture for cleaning under fingernails.
3. Variant of (1)
4. Variant of (1)), with oversized infographic to communicate use of product across language or literacy barriers, with jacquard weaving detail.



2: Two-piece

Size: 18 x 24 cm

Magic Towel woven with jacquard.

Two colours indicate the two woven structures.

Satin weave for infographic strip.
Plain weave for rest of towel.

Light colours show dirt which could discourage use of product. Recommend using dark colours and patterns.

3: Banded version

Size: 18 x 18 cm

Elastic band with woven or printed infographics, attached to sides allowing hands to slide through.

Infographic language references healthcare in order to suggest use of product.

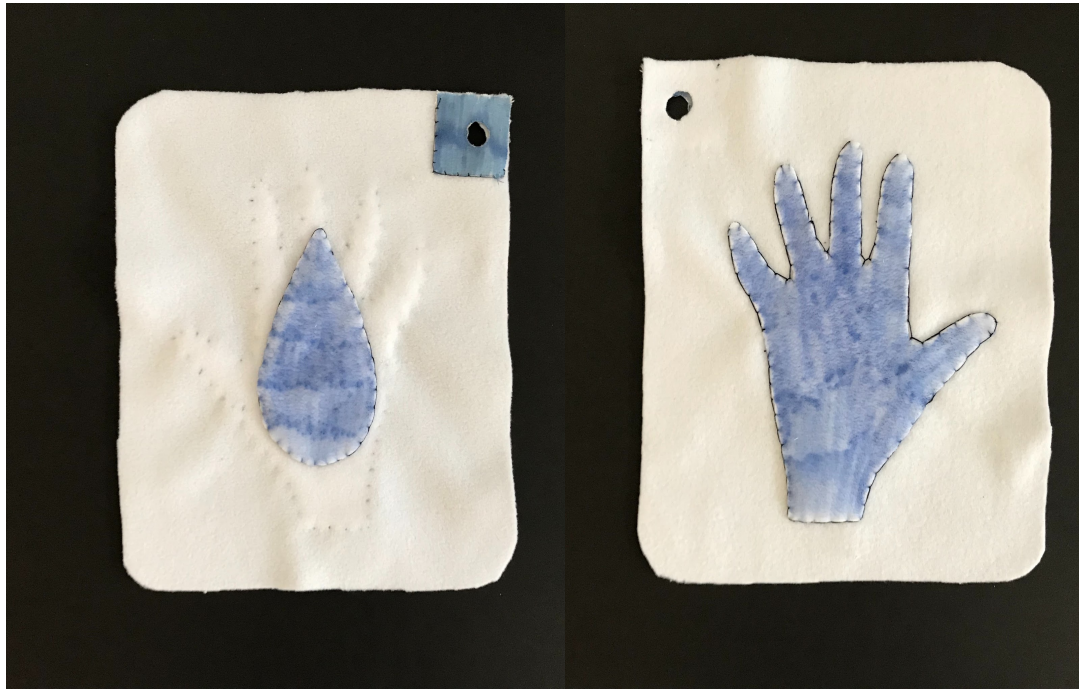
Light colours show dirt which could discourage use of product, but also indicates when cloth needs washing.

4: Fillable pouch

Size: 24 x 18 cm

Magic Towel pouch with cap to fill in appropriate amount of water.

Two colours and fabrics to indicate when fabric is wet.

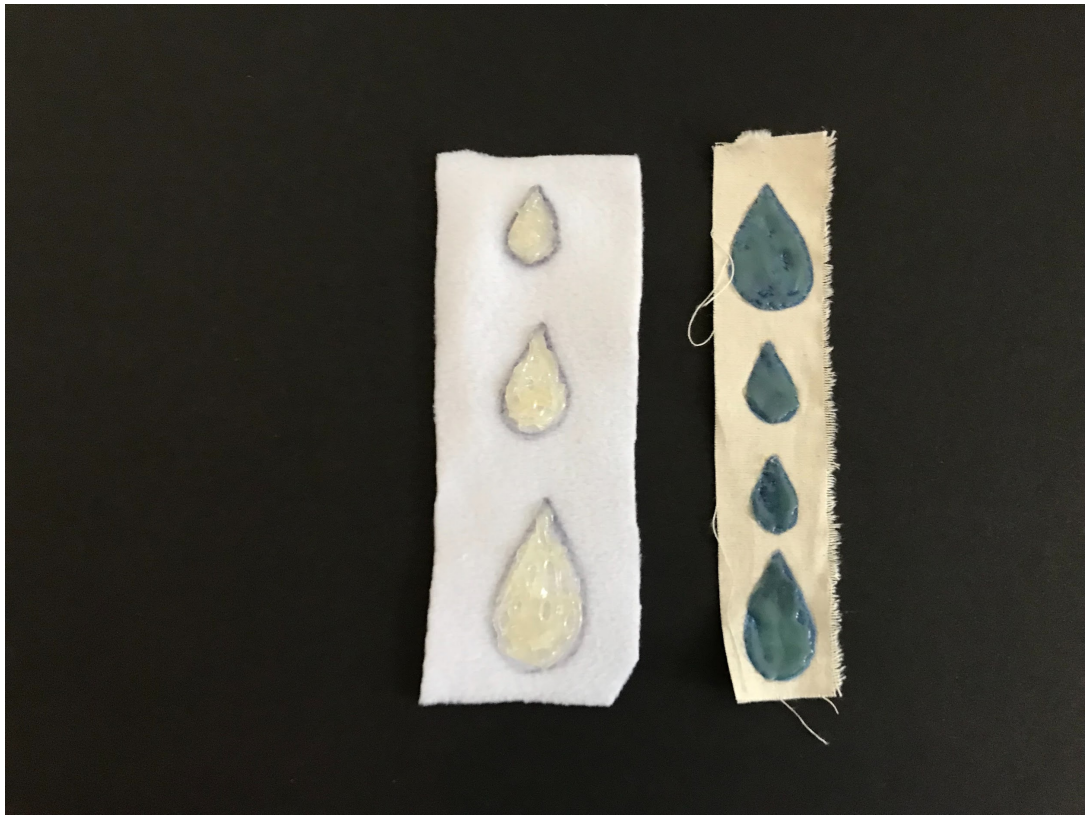


5: Appliqué graphics

Size: 22 x 26 cm

Padded textile appliqué with water drop graphic on one side and hand graphic on the other.

Padded sponge could be potential material for appliqué to add more tactility to product.

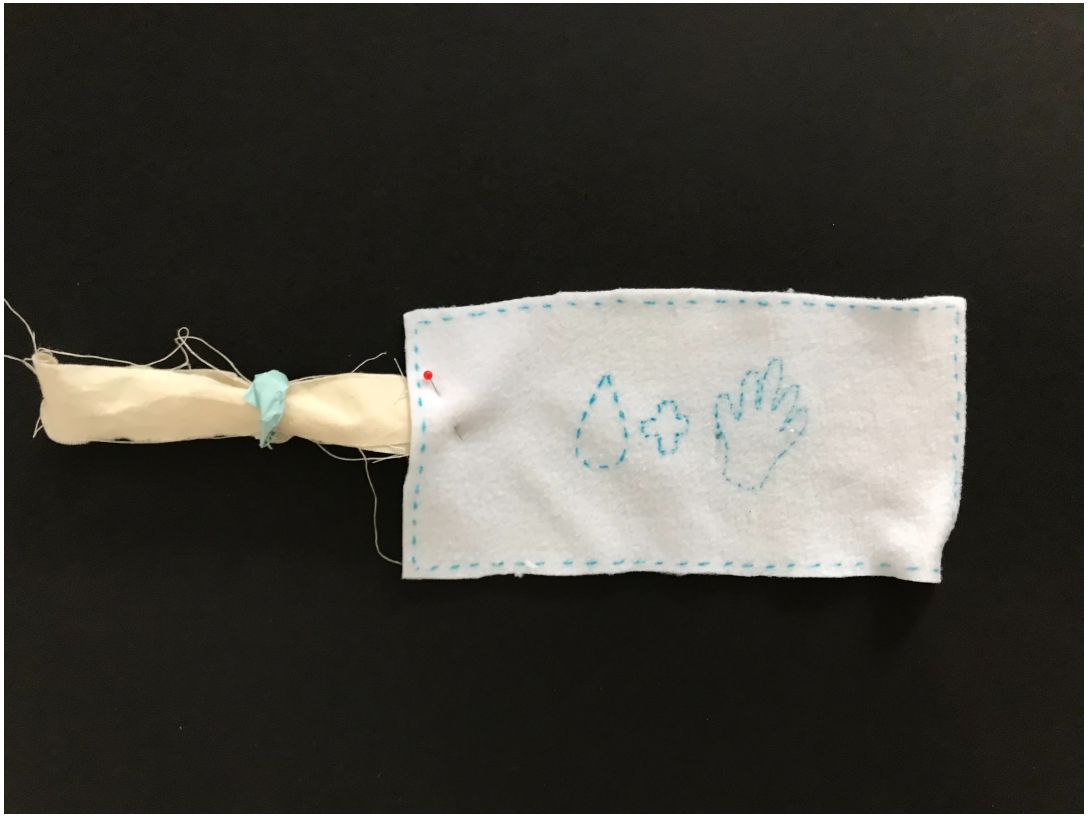


6b: Silicone print

Studies on printing techniques such as heat resistant silicone rubber that can be printed onto Magic Towel.

Magic Towel with a layer of PVC vinyl material creating pattern with infographics.

Embossed silicone details.



7: Stitched icons

Size: 24 x 14 cm

Long loop strap with toggle. Potential to be worn on wrist or used to secure product when bundled.

Stitch details of bright colour indicating infographics.

8a: Text, icon & decorative backing

Size: 14 x 24 cm

Two sided fabric. One side includes detailed pattern with explanatory infographics and text (Swahili shown here). Reverse shows screen printed pattern inspired by local culture. Pattern hides dirt after use, inspired by London underground train seats, and adds personalisation above pure functionality. Infographic screen printed or silicone rubber print for texture.

Loop handle includes sliding toggle to adjust loop size. Material of loop and / or toggle could have a rough texture for cleaning under fingernails. Loop could be worn on wrist, to hang while drying or stored, or used to secure product when bundled.

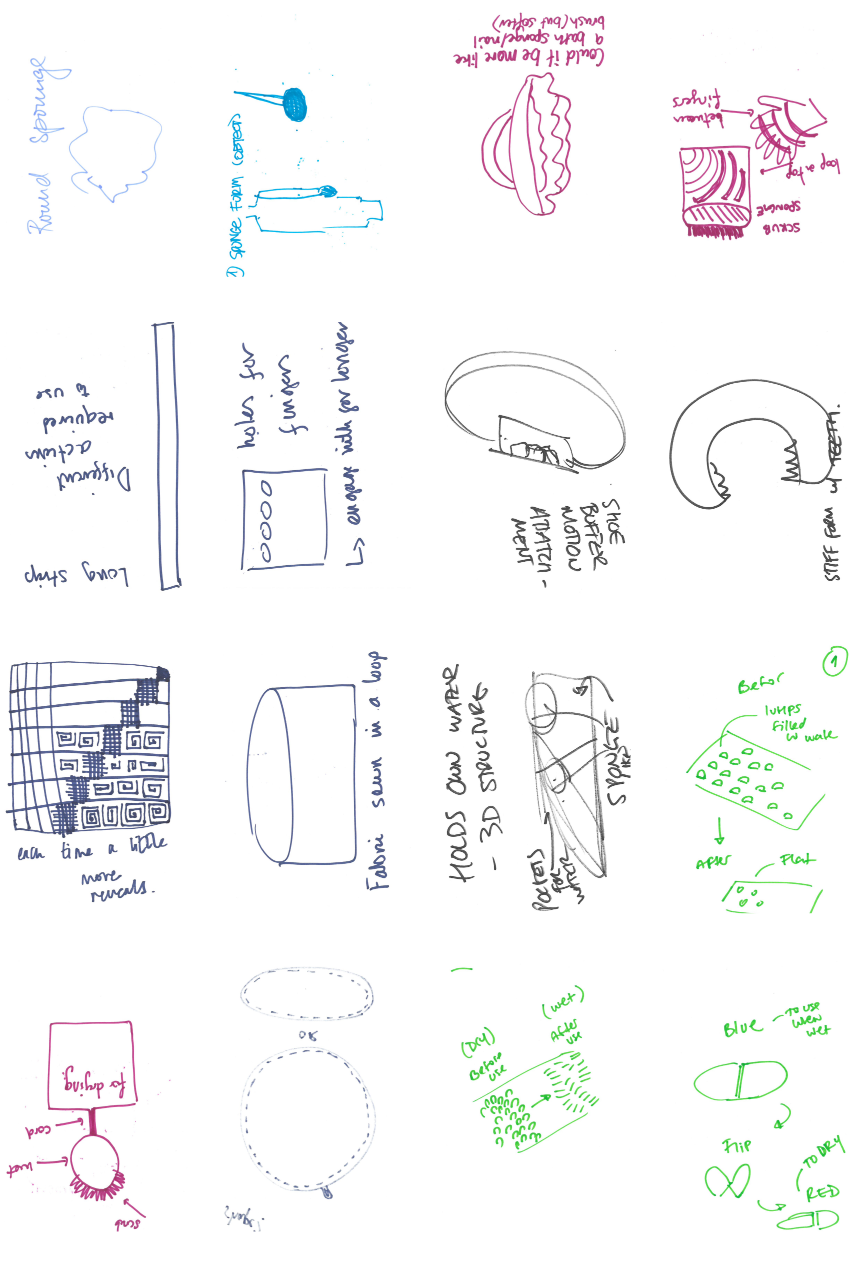
Size suggests it is for hand use only.

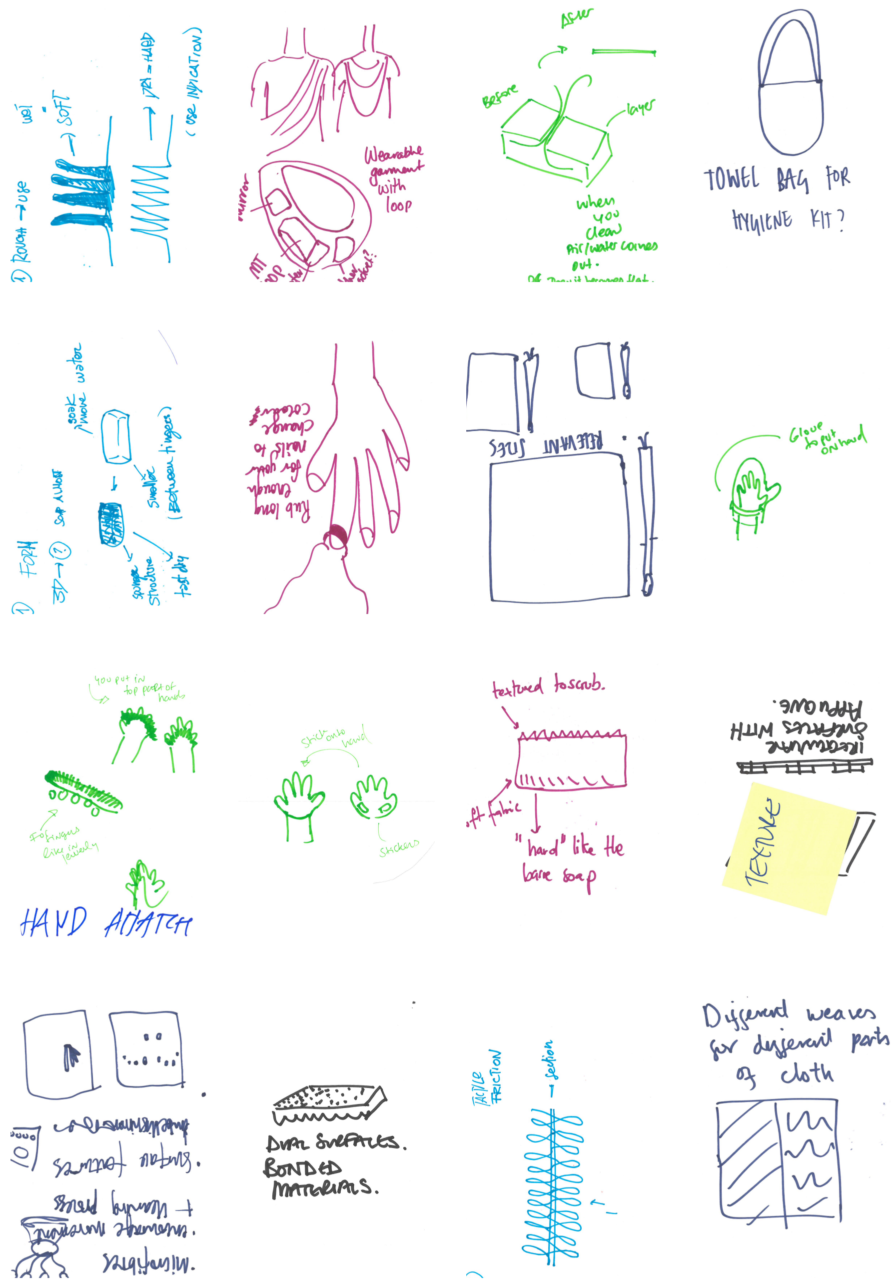
8b: Text, icon & decorative variants

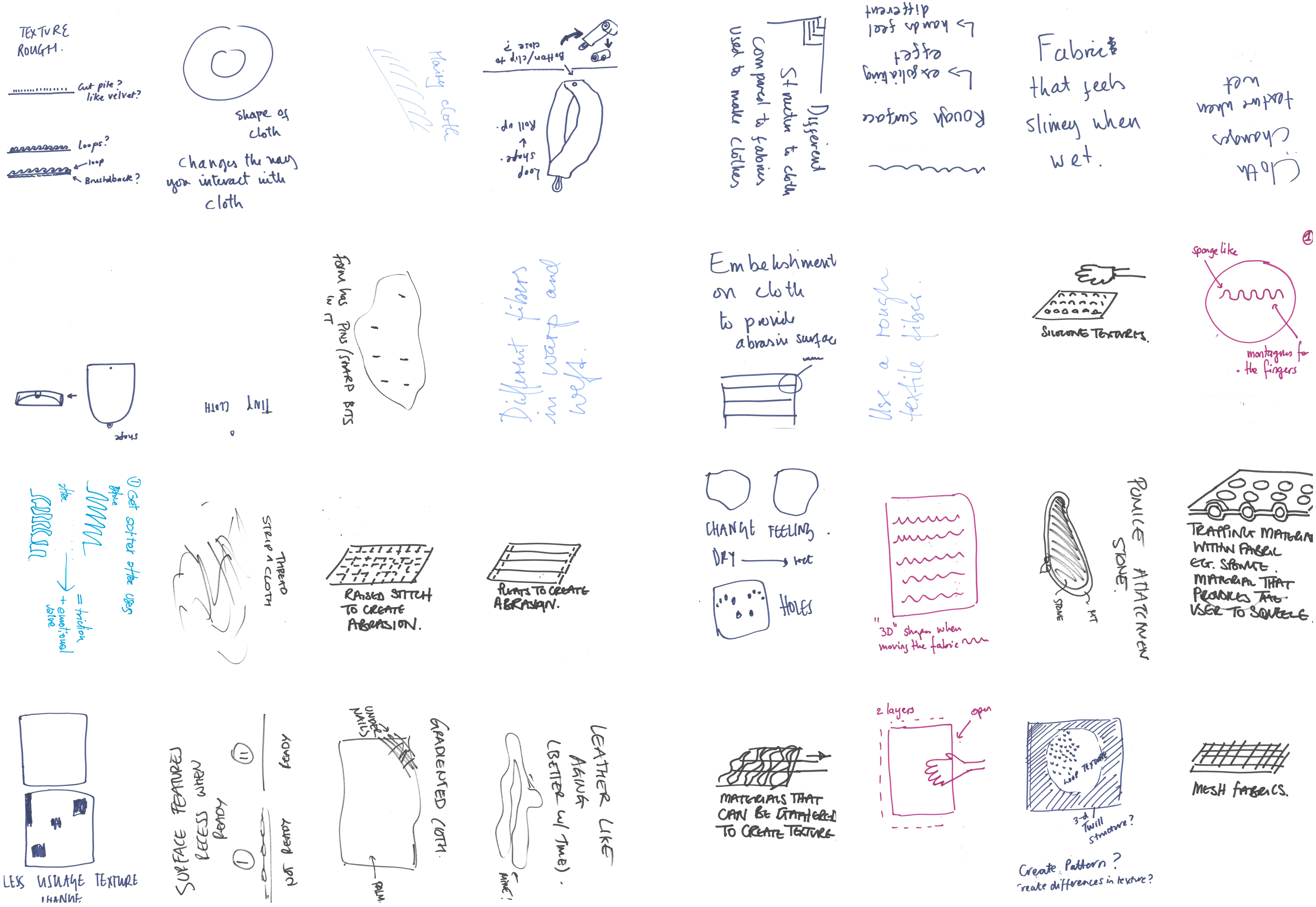
Graphic, text and pattern variants based on location and culture. English, Arabic and Swahili shown.

APPENDIX A: IDEATION SKETCHES

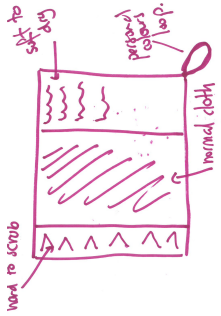
1. How might we use structure and CMF to communicate, “for hands only, use with water”?

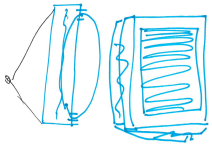


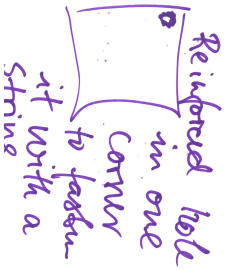



TEXTURE ROUGH.
Cut pile? like velvet?
Loops?
loop
Brushedback?
Shape of cloth
Changes the way you interact with cloth
Hairy cloth
Different Structure to cloth Compared to fabrics Used to make clothes
Rough surface
exfoliating effect
rough feel different
Fabrics that feels slimey when wet.
Embelishment on cloth to provide abrasive surface
Use a rough textile fiber
SILICONE TEXTURES.
sponge like
TINY CLOTH
Different fibers in warp and weft.
THREAD STRIP A CLOTH
RAISED STITCH TO CREATE ABRASION.
PLEATS TO CREATE ABRASION.
CHANGE FEELING.
DRY
wet
HOLES
"3D" shapes when moving the fabric
PUMICE STONE ATTACHMENT
TRAPPING MATERIAL WITHIN FABRIC EG. SPONGE. MATERIAL THAT PROVIDES THE USER TO SQUEEZE.
LESS USAGE TEXTURE CHANGE
SURFACE FEATURES RECESS WHEN READY
READY
NOT READY
GRADIENTED CLOTH.
LEATHER LIKE AGING (BETTER W/ TIME).
MATERIALS THAT CAN BE GATHERED TO CREATE TEXTURE
2 layers
open
Create Pattern?
Create differences in texture?
MESH FABRICS.

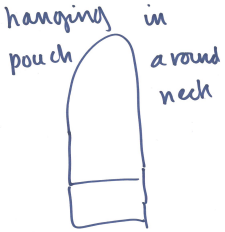
→ NET BAG (FOR DRY + WET)
+ WRIST / BELT
- COLLECT WATER → WET TOWEL
+ WATER CASE / WATER BALLONS
+ WATER CONTAINER
+ SCARF BIT
+ MAKE IT (PERSONALISE)



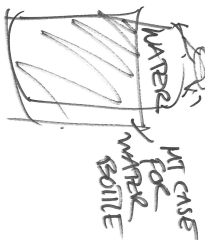




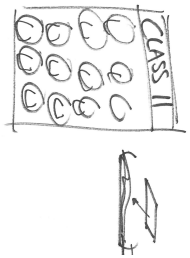
Scarf shaped cloth - wear around waist -



CARIBENA FOR DRYING

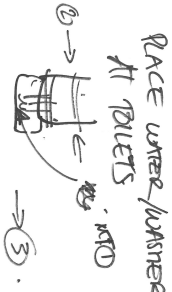


SCHOOL MT "LOCKERS"

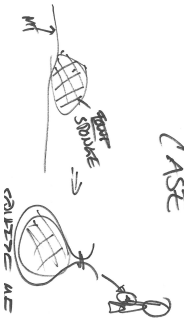


WATER BALLOONS SOAK IN. USABLE.

PLACE WATER/WASHER AT TOILETS

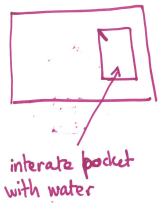


SPONGE + CASE



Wrapped around a wet sponge

②



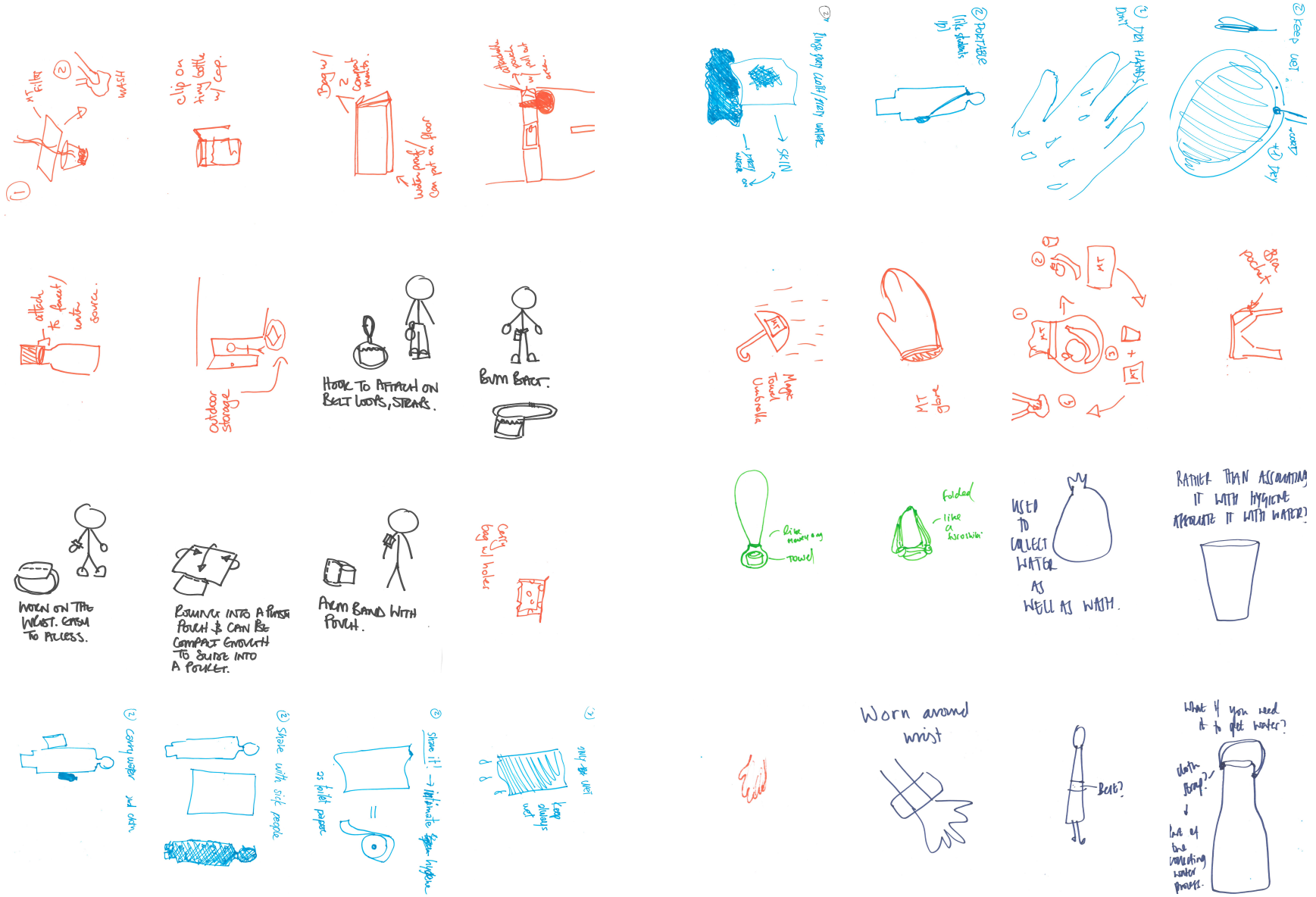
Container with water and many MT at Toilets (Schools, Homes)

Water bottle with MT inside

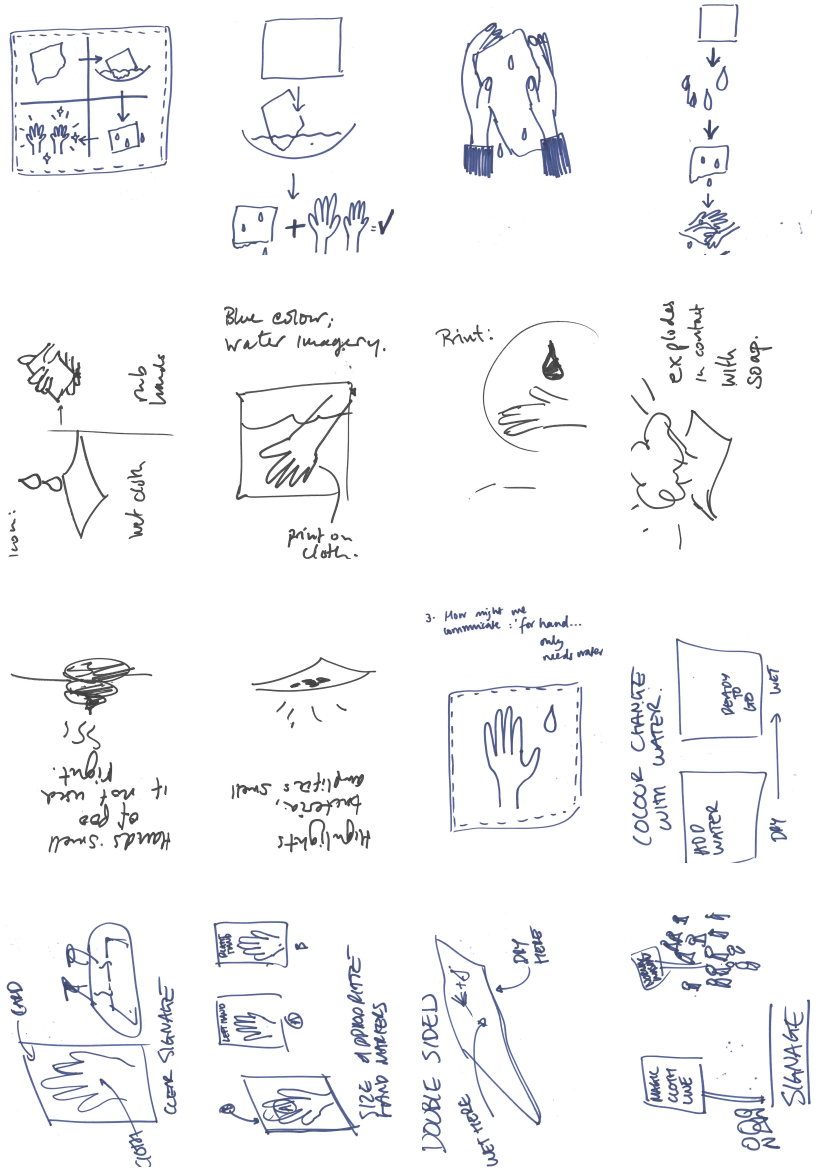
Water proof carrying bag

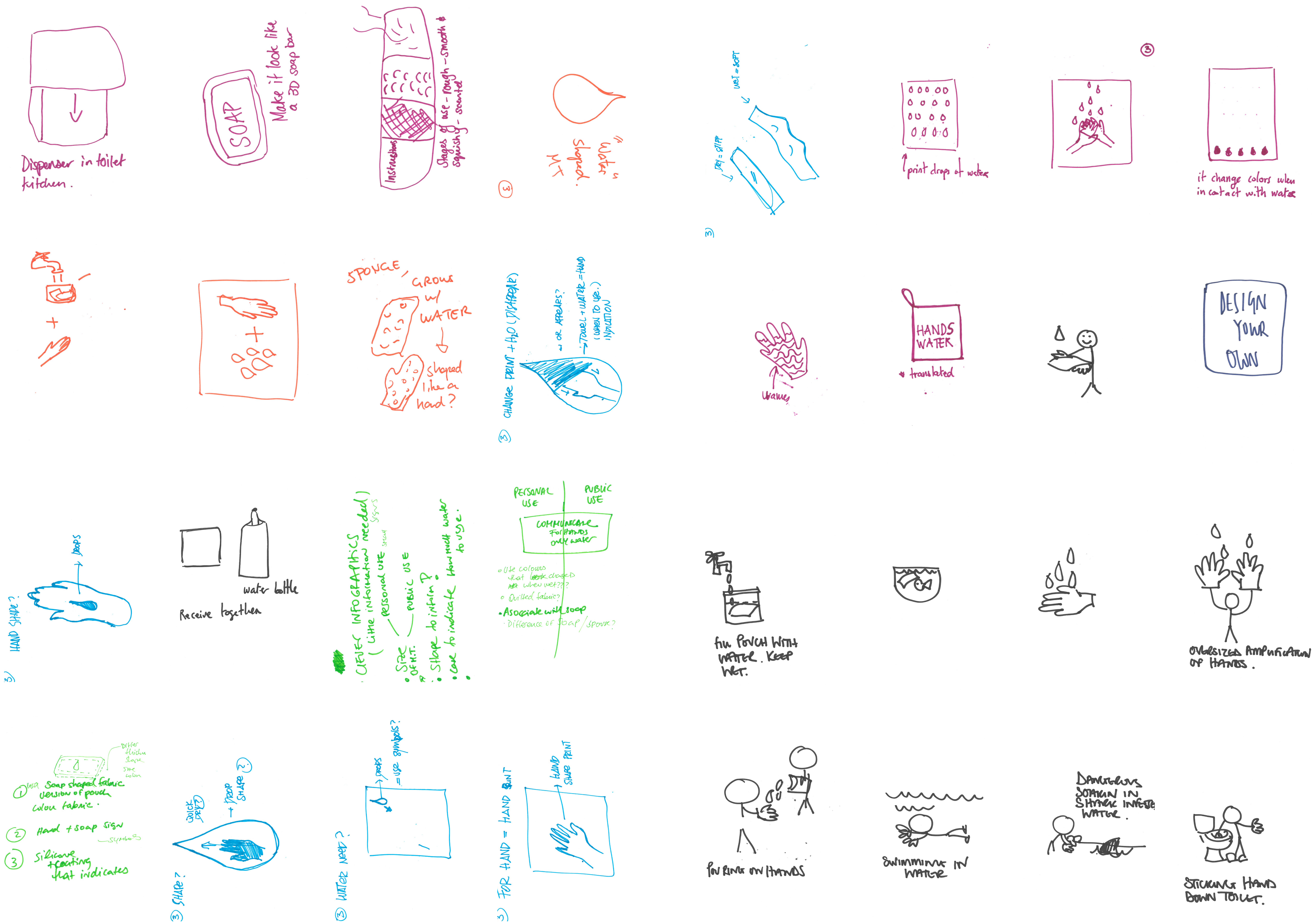
Water container distribution in camp for wetting cloth

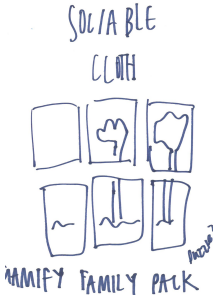
2. How might we ensure “always with me, always wet”?



3. How might we use form and texture to improve abrasion and tactile feedback?




Dispenser in toilet kitchen.
SOAP
Make it look like a 3D soap bar
Instructions
Shapes of use - rough - smooth & squishy - scented
"Water" shaped M-T
print drops of water
it change colors when in contact with water
SPONGE, GROWS w/ WATER
shaped like a hand?
CHANGE PRINT + H2O (DISAPPEAR)
HANDS WATER
translated
DESIGN YOUR OWN
HAND SHAPE?
DROPS
water bottle
Receive together
CLEVER INFOGRAPHICS (like information needed)
PERSONAL USE
PUBLIC USE
COMMUNICATE FOR HANDS ONLY WATER
Fill POUCH WITH WATER. KEEP WET.
OVERSIZED AMPLIFICATION OF HANDS.
Soap shaped fabric
Hand + soap sign
Silicone + coating that indicates
SHAPE?
WATER NEED?
FOR HAND = HAND PRINT
POURING ON HANDS
SWIMMING IN WATER
DANGEROUS STICKING IN WATER
STICKING HAND DOWN TOILET.



Limit imagery to hands & water

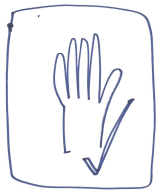
Symbols

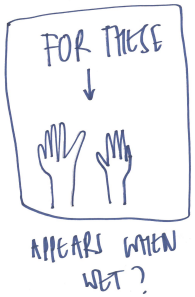
Universal "add water" symbol?

Fabric dry & hard before water added.

wash as normal.

↳ make it only useable when wet.





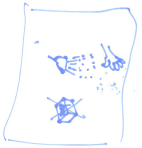
MT as a glove

very hand sized

Glove shaped cloth

Use terry towel fabric

No germ sign printed on towel



Wave based print

Instructions printed on cloth

Cloth is hand size (like a handkerchief)

APPENDIX B: WORKSHOP PHOTOS

(ALL PHOTOS BY SIAN WHITE/ JOHN STEVENS)


Make
Feedback
FRESH SALADS