Cléa Lautrey & Alysha Paiaro

PRELIMINARY RESEARCH

Empathy Study 1

3 Days with Rhuematoid Arthirtis

PURPOSE

To begin to understand and empathize with what it means and feels like to live with a mental or physical disability.

ACTIVITY

To simulate living with Rheumatoid Arthritis, I created a series of splints to wear on my hands. They fit and functioned to inhibit movement in the hand and different finger joints.

DIFFICULTIES

Throughout the course of the activity I didn't encounter any activity I simply could not do. However, almost **every activity that involved use of my hands became difficult, annoying and even embarrassing.**

INSIGHTS

- Living with a disability, such as arthritis, turns tasks that the majority of us view as trivial. Routine activities turn into chores that require care, concentration and energy.
- Visible and invisible disabilities leave you as a target for ridicule from impatient people and surroundings and vulnerable to situations where you can be easily hurt or distressed.
- Disability requires that your life becomes much more calculated and planned. You no longer possess the ability to simply speed up under pressure or adapt to certain unexpected situations.

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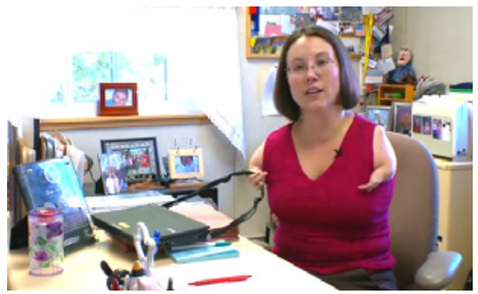
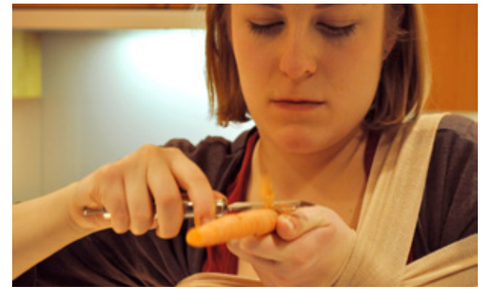
Empathy Study 1

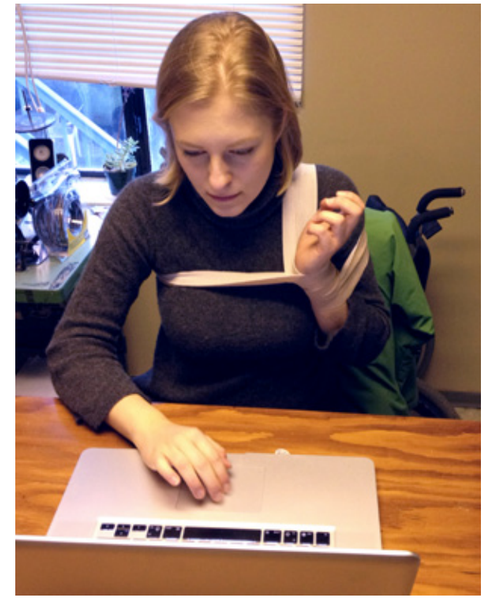
Simulating Phocomelia

> People at first may be a little apprehensive or curious, but it quickly goes away once they spend a little bit of time with me.
>
> - Stacia Ann



I was inspired to 'experience' phocomelia after watching an interview of Stacia Ann (top). She suffers from bilateral phocomelia of the upper extremities - a congenital malformation in which her hands are attached to abbreviated arms (bottom).





PHYSICAL CHALLENGES

- Writing
- Typing with one hand
- Cooking
- Heavy lifting
- Showering right side of body
- Daily swim (impossible)

Anything else was generally not too difficult, but took twice as long and got frustrating very quickly.

EMOTIONAL CHALLENGES

Having an invisible disability. My left hand was hidden under my coat when I was outside, making me feel very vulnerable because people did not show me any empathy - when I was slower at finding my bus pass in my bag, for instance; or when I knocked something over in a store because I lost balance.

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Empathy Study 2

Designing in the Dark: Safe Room Exploration

Derek had a focused demeanor and presented relaxed concentration. He was able to easily anticipate his moves.

Consistently held onto objects for stability. His hand knew how to respond to objects despite asking "What is it?"

Posture was hunched throughout the activity, movements small and controlled.

RESPONDING TO NON-VISUAL INFORMATION

touch provides:

- stability
- purpose

sound improves:

- orientation
- navigation

smell stimulates:

- memory
- disorientation

> "When I opened my eyes, the room shrunk around me. I then realized how small I felt while blind."

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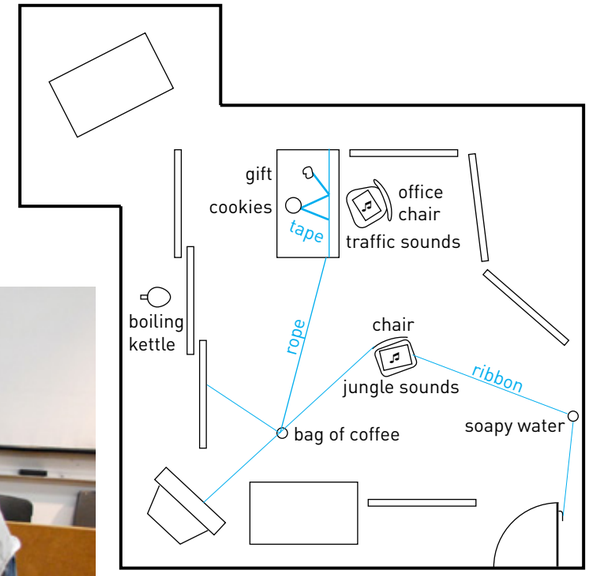
Empathy Study 2

Designing in the Dark - Safe Dark Place



> I was trying to listen intensely, but the smells in the room threw my concentration on where and what I was doing off a bit. It felt like Starbucks.

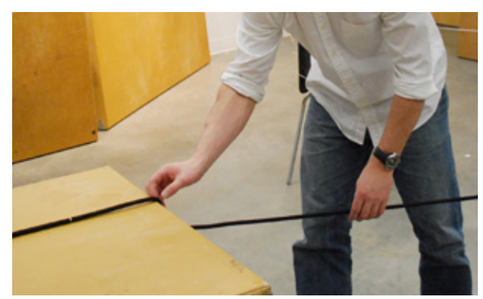
PLAYING WITH STIMULI

I knew that Theunis's love for music would bring attention make him sensitive to the slightest sound fluctuations in the room, and I also expected him to smell the coffee right as he entered, even though it was in the opposite corner. He often seemed to seek smells in the room - I later found out that he was distracted by the mix of smells, which I assume was caused by the air conditioning.

> The rope and the knowledge of cookies and a friendly person in the room felt familiar.

SURPRISES

One of the most surprising parts of the experience for Theunis was how he felt when he took the blindfold off - his vision was completely blurry and his eyes took a few minutes to adjust.



TACTILE RESPONSE

I used ribbon, rope and tape as connections between reference points, which served as tactile guides to help Theunis reach his intended destination. He responded to this system with ease, and later stated that it was very helpful. It was only at the intersection (above) that he got briefly disoriented.

CUES

Each reference point was defined by a different stimulus. The first was a cup filled with dish soap and water, the second a laptop playing jungles sounds wrapped in a woolly sweater, the third a fabric bag filled with ground coffee and finally, a plate of chocolate chip cookies and a little gift wrapped in my scarf.

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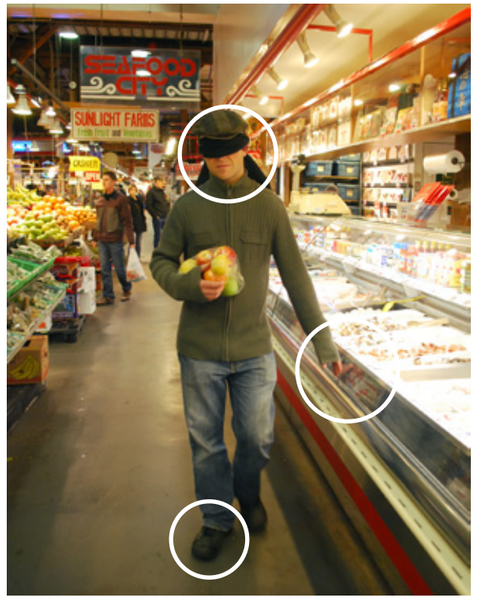
Empathy Study 2

Designing in the Dark - Safe Dark Place



PUBLIC SPACE

Theunis and I took the experiment a little further and decided to go buy some fruit at the public market and bring it back to school - blindfolded. This was somewhat scary because the location no longer felt entirely safe. It was interesting to see how Theunis reacted to the people around him, and vice versa.

Rails and continuous surfaces such as glass, wood and metal were key tactile references for finding your way around. Texture and temperature were very important, especially paired with smell. His mental map of the market helped him identify specific locations.

> "Okay, now I'm really lost."

REFERENCES & DISTRACTIONS

Navigating the market proved challenging for many reasons. Smells were all mingling together and many sounds blended into a background buzz. Also, because the market is constructed in little sections, Theunis felt disoriented whenever he found himself in an open space without anything to hold onto.

Surrounding people could only be identified through their footsteps and their voices. If someone was purchasing something at a kiosk, sometimes their presence was only evident through the voices of the salesperson speaking to them; that or the change in their hand.

visual memory
smell
sound
environmental response
continuity
alarming sounds
texture
voices
interaction
temperature
foot traffic

You would think that navigating through school would be easy for a student; however, due to the big, open space, Theunis had less reference points than he did at the market and got disoriented several times.

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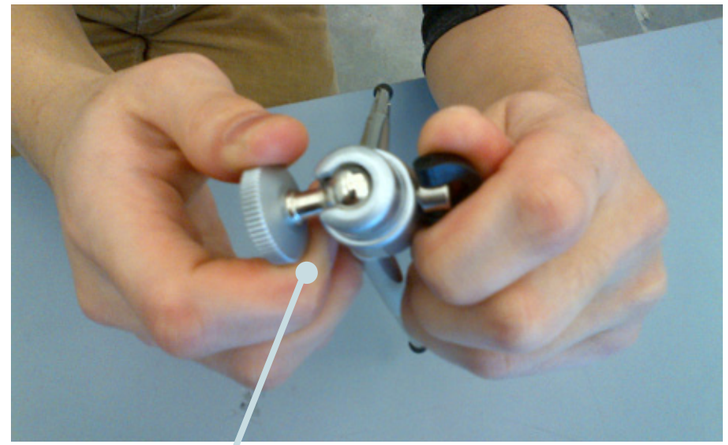
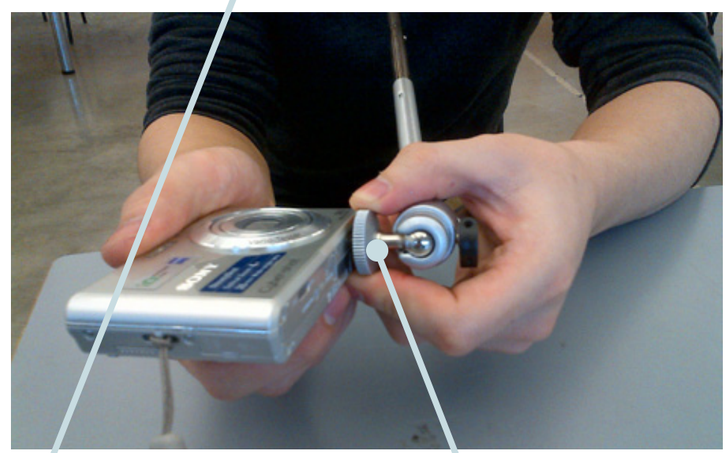
Empathy Study 2

Designing in the Dark - Learning Without Sight

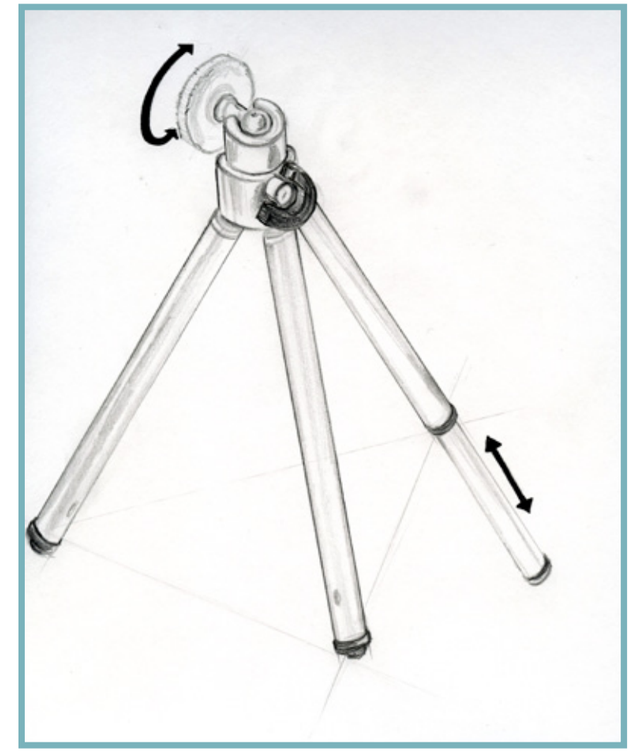




Tripod was a familiar object to Derek. Basic set-up gestures were intuitive. Object was handled with both hands the entire time.

Adjustment controls were intuitive for movement but not for function.

Handling became clumsy when two hands were needed for separate parts.



Pocket-Size Digital Camera Tripod

> "is it weird that right now I'm imagining it's a brownish purple metallic colour with a shiny finish?"

"I can feel an instruction here that suggests twisting"

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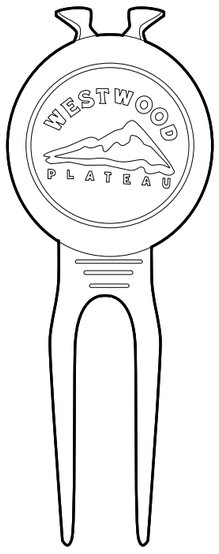
Empathy Study 2

Designing in the Dark - Non Visual Cues

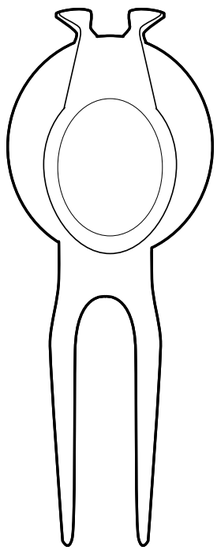
The complex object I chose for this exercise was a golf repair marker. Even through Theunis is not new to golf, he was puzzled by this form; mostly due to the quarter that I wedged in between the front and back of it (where there is a magnet), as a diversion - which worked, apparently!

After manipulating, smelling, licking, pressing, bending and tapping the object on the table, Theunis figured out its material - metal. One of the easiest clues was its cold temperature when he first held it, followed by it warming up from the heat of his fingers.

"I can feel a large inscription on the front, and a smaller one on the back."



FRONT VIEW



BACK VIEW

"Is this a precious object?"

"Can I move it around?"

The form itself was understood - the embossed logo, the roundness at the top, the 'legs'. What threw Theunis off is that no movement seemed possible, since this is a solid object. However, as soon as I gave Theunis the hint, "it's used for golf", he knew what it was.

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Precedent Research

Leveraged Freedom Chair

Amos Winter, Jack Childs, Jung Tak

Extensive user-testing world wide revealed this chair as superior to all other available aids in terms on rider efficiency and off-road performance

Design Features:

- mainstream aesthetic
- visibly sturdy & durable
- intuitive construction
- enables movement

The Leveraged Freedom Chair is an innovative wheelchair, designed for all terrain movement. Intended for use in developing countries around the world it is a great example of how to provide universal accessibility

With a focus on accessibility, this wheelchair brings joy through mobility to individuals in developing countries around the world.

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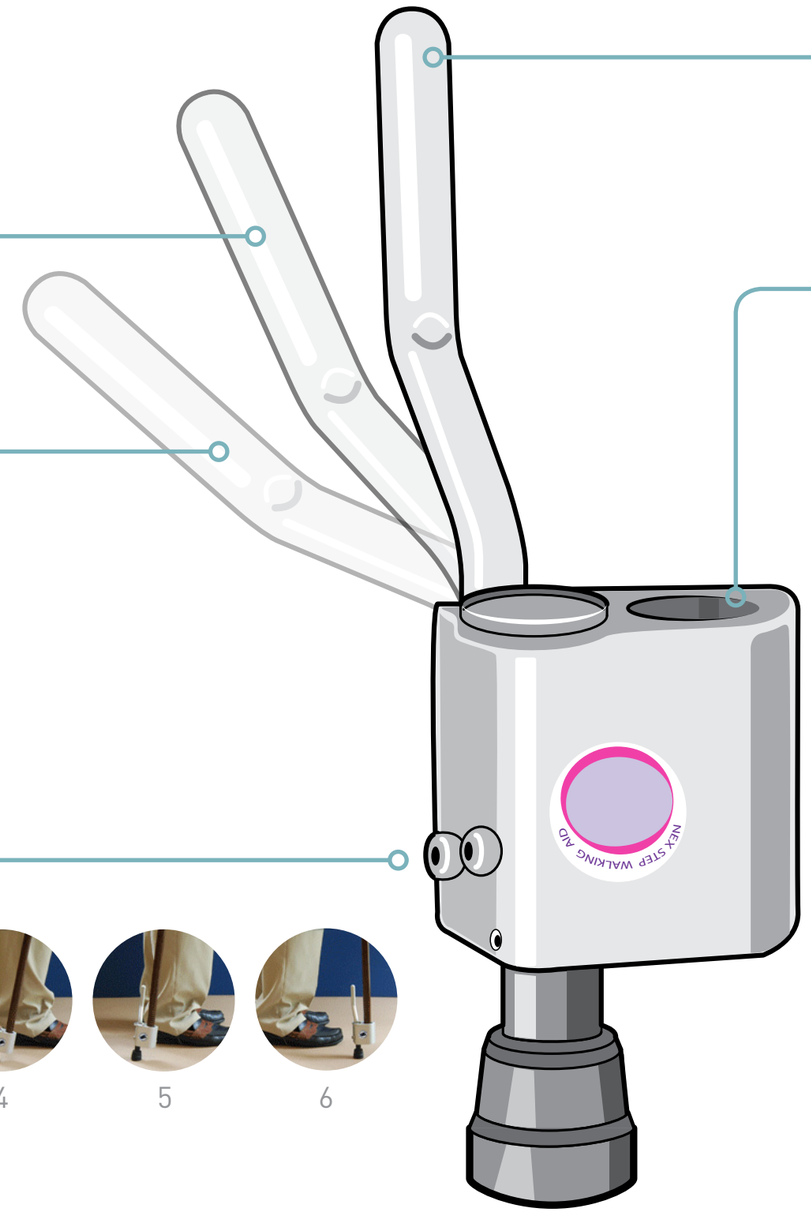
Precedent Research

Assistive Technology For Parkinson's Disease:

NextStep Walking Aid



SIMPLE DESIGN
Concept is simple yet innovative

INTUITIVENESS
Easy to use & understand

PRACTICALITY
Can be locked when not in use (turns to regular cane again)

DISCRETION
The rod is not very noticeable, especially when the person is walking

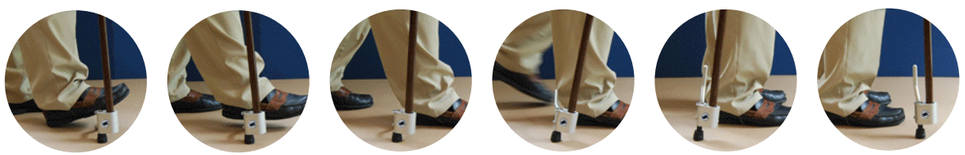
VERSATILITY
Can attach to any existing one-legged cane

DEVICE DESCRIPTION

NextStep is a walking aid designed for Parkinson's patients suffering from freezing, one of the common symptoms of the disease which occurs when the patient's medication wears off.

HOW IT WORKS

As the cane touches the ground, the rod lowers itself in front of the user's foot. Their brain perceives this as an obstacle, causing the foot to instinctively climb over it. The other leg follows, and the user can walk!



1 2 3 4 5 6

Vilayanur S. RAMACHANDRAN is a neuroscientist known for his work in the fields of behavioral neurology and visual psychophysics. He invented the mirror box as a cure to phantom limb. NextStep is based on the same principles as Ramachandran's discoveries.

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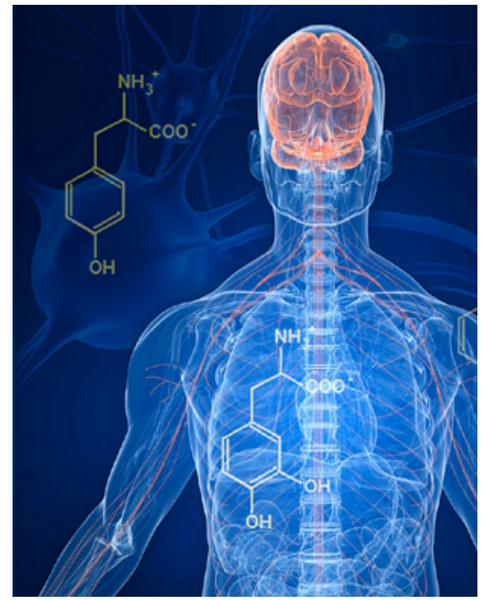
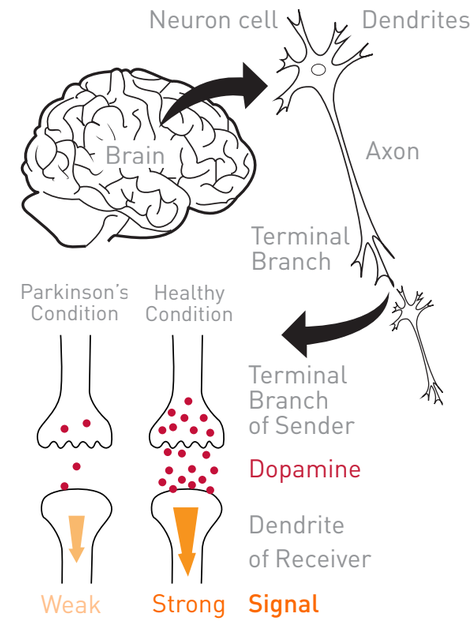
Parkinson's Disease

Medical Definition & Description

DEFINITION

Parkinson's disease is a chronic, degenerative neurological disorder of the central nervous system.
It affects 1/100 people over 60, though diagnosis can be as early as 18. It results from the loss of cells in various parts of the brain.





DOPAMINERGIC NEURONS

Dopamine is one of three main neurotransmitters called "catecholamines". The main concentration of dopaminergic neurons responsible for controlling muscle movement, emotional, motivational behavioral mechanisms is located in the upper brain stem (mid-brain), in an area called the substantia nigra. Parkinson's disease develops when over 60 percent of these dopamine-producing neurons have died.

HISTORY

Parkinson's was first described by English physician Dr. James Parkinson in *An Essay on the Shaking Palsy*, in 1817. Forty years later Dr. Jean-Martin Charcot reworked this research and named the syndrome Parkinson's Disease.

DIAGNOSIS

No definitive tests exist for Parkinson's disease, so it can be difficult to diagnose, especially in the early stages. Parkinsonism can be caused by many other types of problems, such as other neurological disorders, toxins, head trauma and even some medications.
A diagnosis of Parkinson's disease is based on your medical history and a neurological examination.

SYMPTOMS

Most common symptoms:

- Tremor
- Slowness and stiffness
- Impaired balance
- Rigidity of the muscles

Other symptoms:

- Gait
- Soft speech
- Fatigue
- Stooped posture
- Constipation
- Sleep disturbances

RESOURCES

Some useful websites to keep in mind for secondary research.

www.parkinson.ca
www.michaeljfox.org
www.thepi.org

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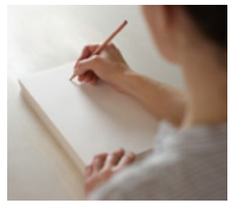
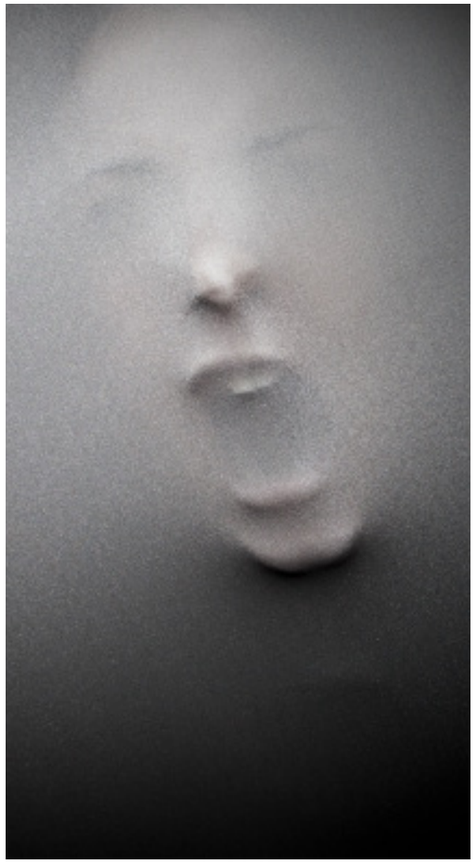
Nothing is second nature to me any more.
No task is too simple,
no activity so routine that I can do it without **forethought**

Everyday tasks become challenging. Everything from counting change to getting dressed. Writing, keeping up with conversation and even smiling can take constant concentration and focus. No simple act can be taken for granted.

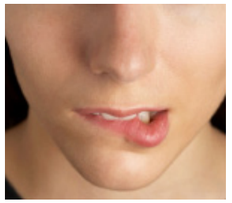




In the mornings when I wake, or when I stir from the midday nap that has become as essential to functioning as my medication, I lie

ENTOMBED

in my own body for ten or fifteen minutes. This **paralysis** of mind and body lasts until enough synapses can spring into action to allow me to *move*. One small accommodation to my Parkinson's is our master bedroom, located on the ground floor of our home. This is where I begin my day, staring at the ceiling. We're on the ground floor because navigating stairs can be **difficult** for me. Stairs often appear **fused** together, navigable only by feel and with one hand firmly on the railing.



People waiting, sir! are

Who wants to turn around and announce,

'I have Parkinson's disease.'

Joints lock and you lose control of your movements. It is described as being trapped in your own body. Many feel alone and isolated.

Living with Parkinson's

The Human Perspective

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CO-CREATION

Co-Creation Kit

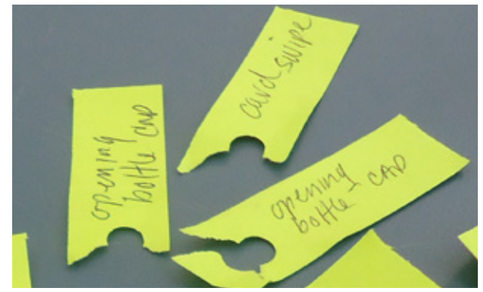
Primer Activity

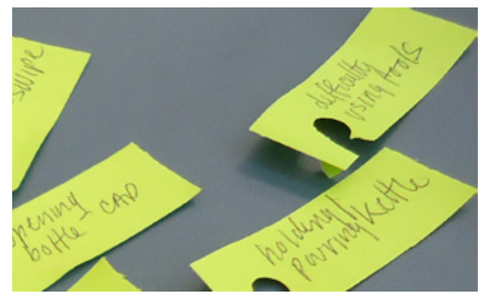
PURPOSE

In preparation for a completion of a co-creation kit with a user, a primer activity enables the user to begin thinking about key concepts for exploration without direct attention.

ACTIVITY

A key ring was designed to hold a small pad of post-it notes and an instruction card. It stated " Pull a post-it every time a task becomes difficult".





RESULTS

On each post-it, our user described each frustrating task as the post-its were pulled from the ring.
Our user went above and beyond the required participation and in doing so, a set of clear problem spaces were defined.

KEY FINDINGS

- **strength is a key inhibiting factor**
- **user never does two tasks at once**
- **sensory feedback is integral for completing tasks**
- **use of all tools requires deliberate movements and intentions**
- **small gestures are more difficult than large gestures**

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Co-Creator Profile

Deborah Shackleton

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Introductory Interview

Co-Creation Activity: Who are you?

PLANNING THE MEETING

We created a co-creation activity that would facilitate an understanding of who our co-creator is. We wanted to ask two questions:
"Who are you?"
"Who do you want to be?"

FORMAT

Deborah was given the following:

- two outlines of the human body (one for each question)
- a collection of pictures, both concrete and abstract
- a variety of words
- graphic symbols/dingbats
- coloured dot stickers
- markers, scissors, glue

As Deborah sat at the desk - where she felt more comfortable - we helped her place images and words of her choice on/next to different parts of the body to create different semantic values.

> "I'm a reader of books, teller of stories."

OBSERVATIONS

This first meeting with Deborah was very successful; providing us with a great deal of insight into Deborah's life, as a **person**, a **professional**, and as a **patient**.

- Importance of music
- Extremely positive attitude
- Meticulous mind
- Rigorous, constant self-management
- Patterns/routine are vital to coping with daily life
- A creative: musician/composer, photographer, writer, designer, storyteller
- Spiritual goals

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Co-Creator

Living with Parkinson's Disease

WHO IS SHE?

During our first meeting with Deborah we were provided with a great deal of insight into her life, as a **person**, a **professional**, and as a **patient**.

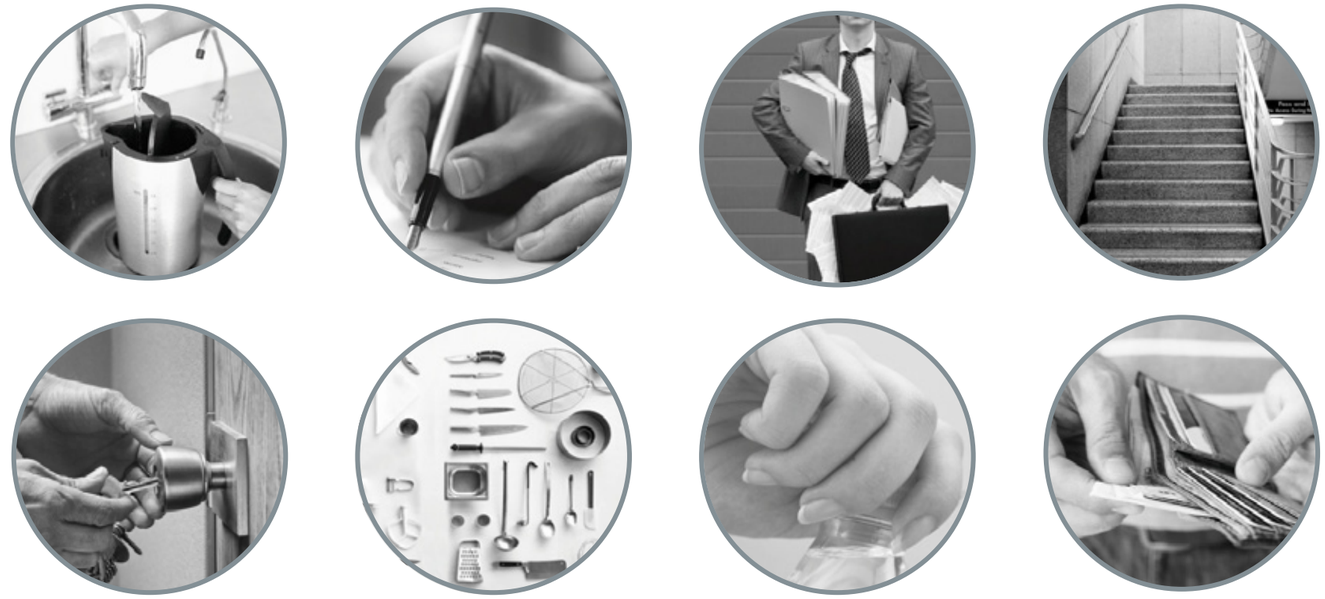
- Importance of music
- Extremely positive attitude
- Meticulous mind
- Rigorous, constant self-management
- Patterns/routine are vital to coping with daily life
- A creative: musician/ composer, photographer, writer, designer, storyteller
- Spiritual goals

HOW IS SHE AFFECTED?

Most commonly she experiences:

- Slowness of muscles and joints
- Impaired balance
- Rigidity of the muscles
- Fatigue
- Poor tactile sensitivity

PROBLEM SPACES



Activities are particularly difficult if they require:

- fine motor control
- strength
- micro-sensitivity
- balance
- multiple tasks at once

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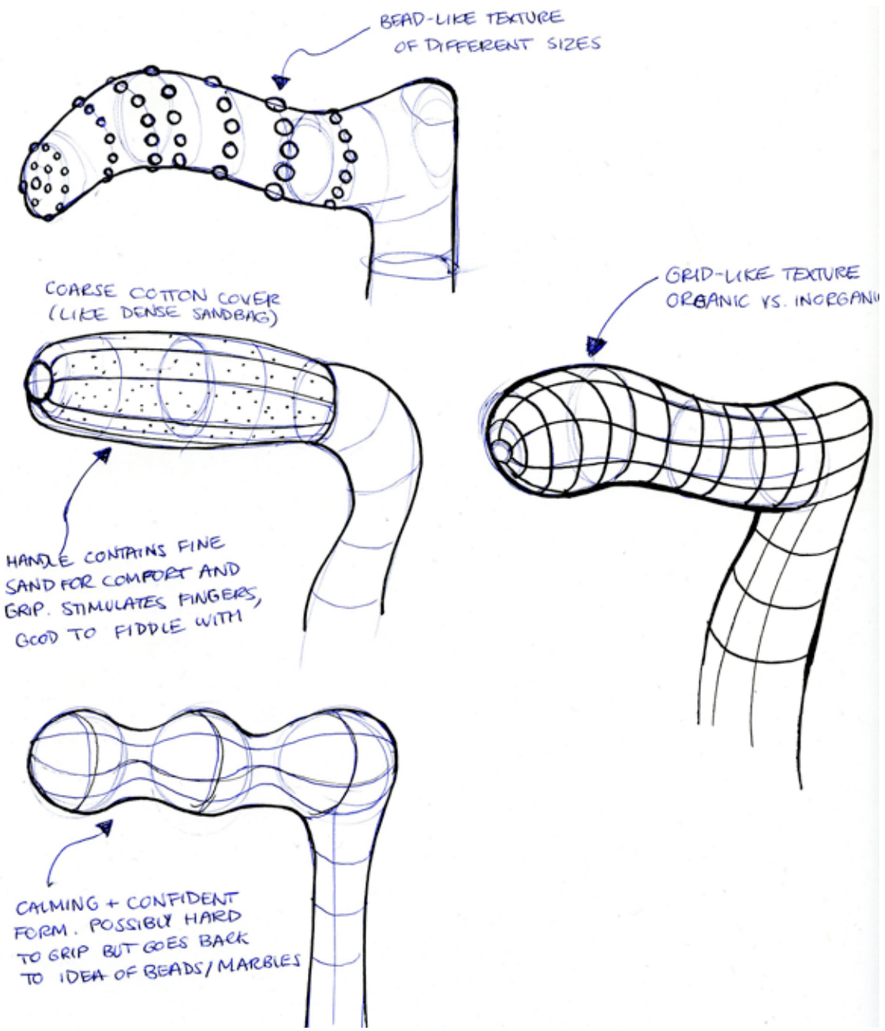
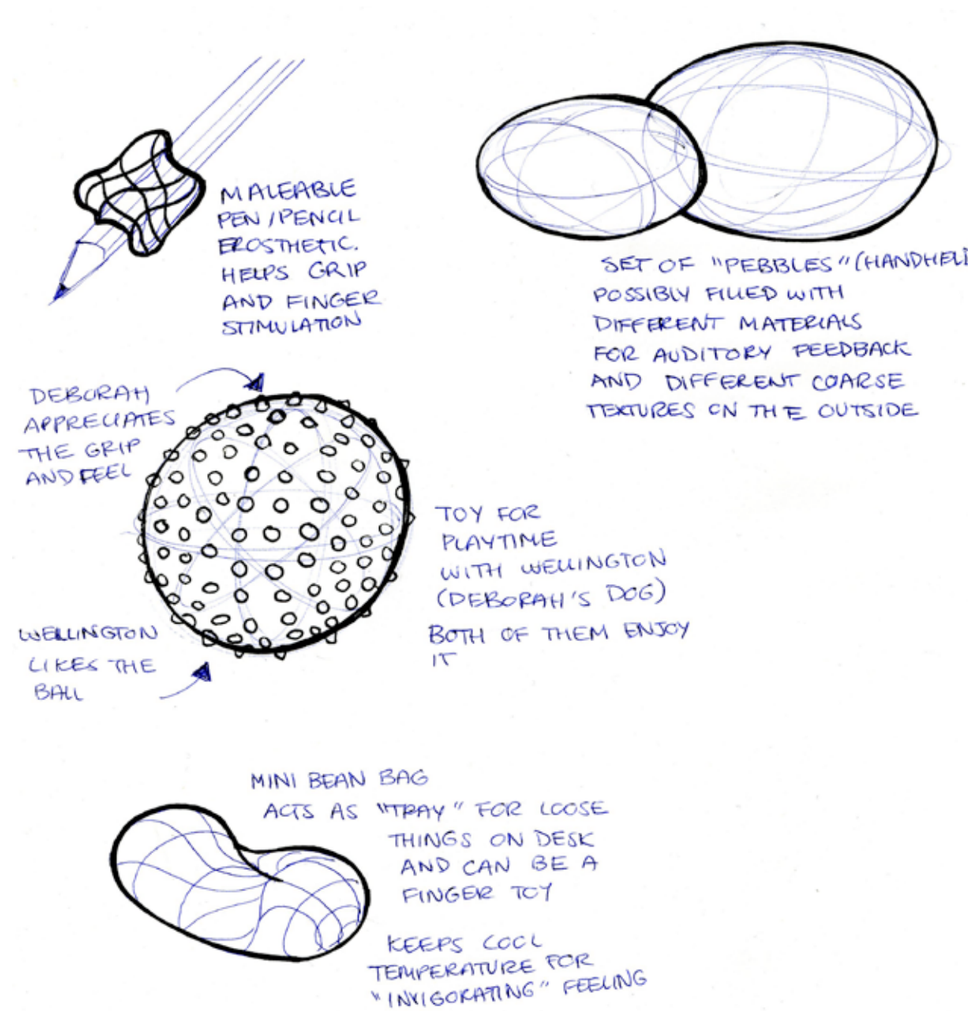
2D Sketches

Initial Concept Ideation

MOBILITY



STIMULATION



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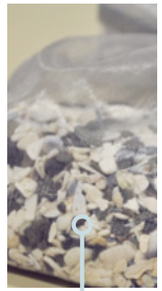
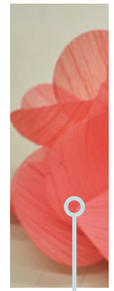
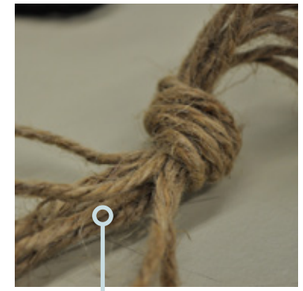
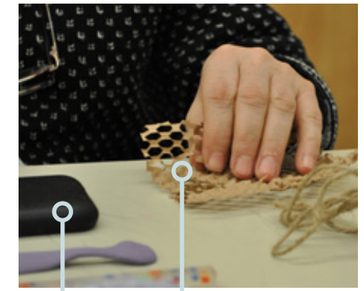
Second Interview

ACTIVITY 1: Sensory Stimulation









"This reminds me of my dog"

"Lots of feedback - visual, audio, weight, texture"

"Feels coarser than it should to me because it's delicate and feathery"

"Great audible feedback, but he smells funny"

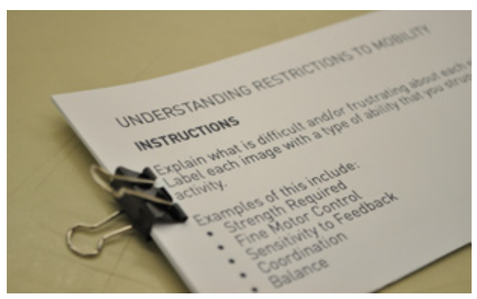
"High tactility, abstract meaning"

"Feels unnatural, I don't like this"

"This coarseness I can feel"

"Great audible feedback, but he smells funny"

ACTIVITY 2: Understanding Mobility & Accessibility



Writing - pen needs grip, must be certain weight and width. Quality of handwriting depends on energy levels.

Touch sensitive devices are difficult to handle due to lack of micro sensitivity.

Opening containers is generally a challenge. Size, grip and material are some key factors.

Based on the information that we gathered from our first meeting with Deborah, we planned two more activities.
For the first one, we provided her with a collection of objects to see how she would respond to them with different levels of sensitivity. This helped us define preliminary design criteria.
The second activity consisted of a set of images, each representing an activity. We asked Deborah to explain what she finds difficult and/or frustrating about each of them. This allowed us to define some key design opportunities.

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Synthesizing Observations

Making Sense of Our Co-Creation Results

BRAINSTORM

We held an open brainstorming session in order to gather all the information that we collected from our first two interviews with Deborah.

ORGANIZING THE FACTS

We gathered the results of our primary research with Deborah and organized them into six different categories:

- YOU
- The 'ITS'
- The 'KNOWS'
- The 'IFS'
- The 'WHYS'
- THEM

The diagram on the following page explains each of the themes we defined.

Based on these categories, we began brainstorming possible solutions that may address problems, considering the overlap in categories. For example, under 'ITS' and 'THEM' we put a picture of a wallet that would facilitate access to cash and cards in public - it considers both the user's interaction with the object (wallet) and their interaction with the people around them.

Understanding Disability

The Whole System

YOU

Who you are. Emotionally, physically, spiritually, and intellectually.

'WHYS'

The unexpected. How you deal with it and strategies to anticipate or minimize problematic situations.

'ITS'

The objects, services & systems available to accommodate different types of accessibility needs.

NETWORK OF PATIENCE
An Integrative System of Learning

'THEM'

The unexpected. How you deal with it and strategies to anticipate or minimize problematic situations.

'KNOWS'

The knowledge you carry. Your ability to recognize personal patterns of learning. The sources providing information.

'IFS'

The unexpected. How you deal with it and strategies to anticipate or minimize problematic situations.

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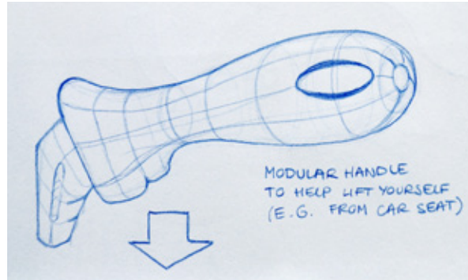
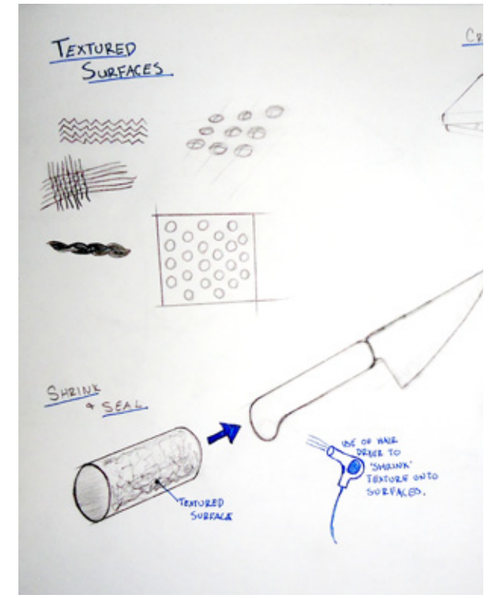
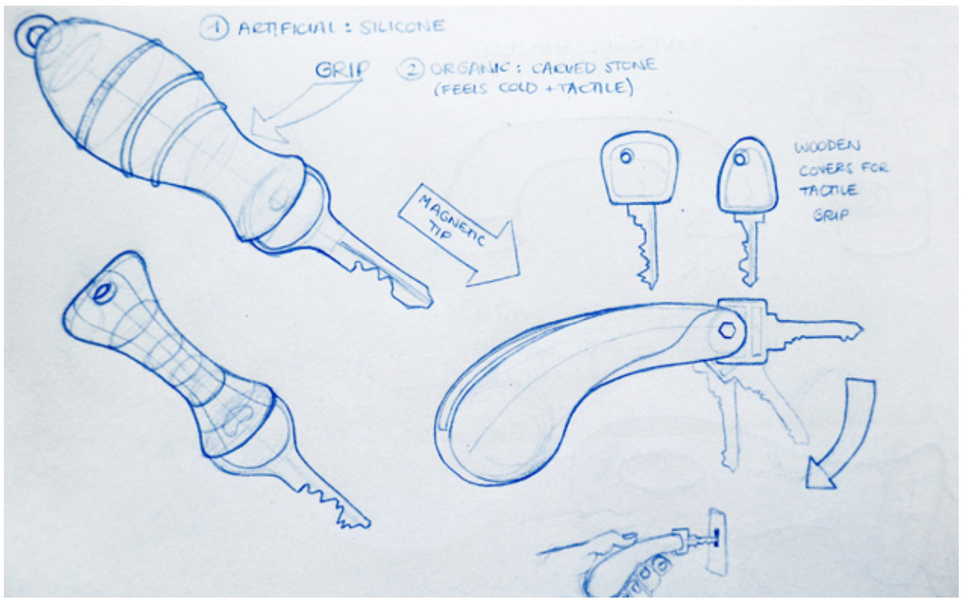
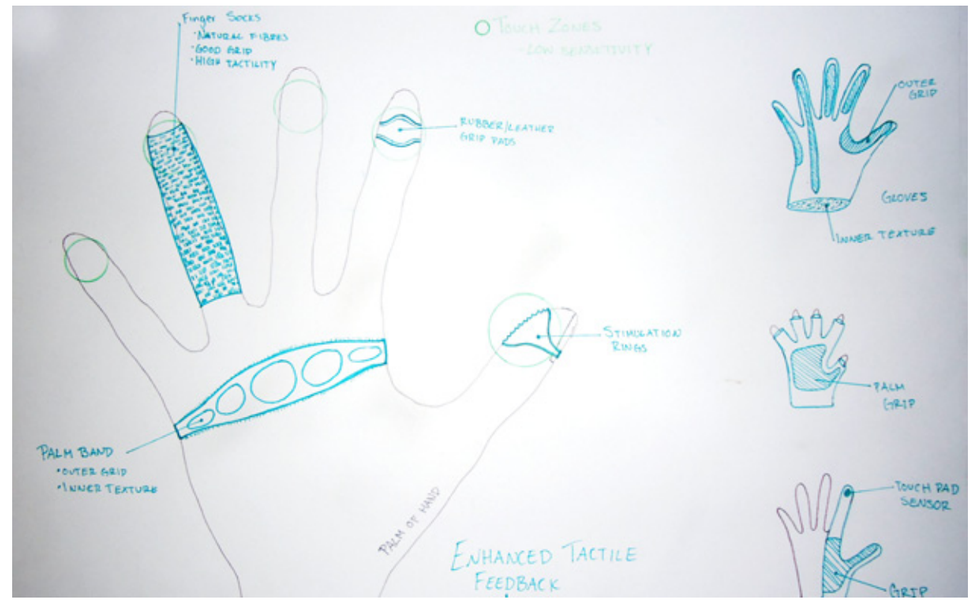
2D Sketches

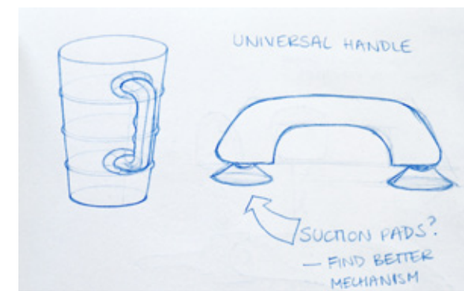
Initial Concept Ideation

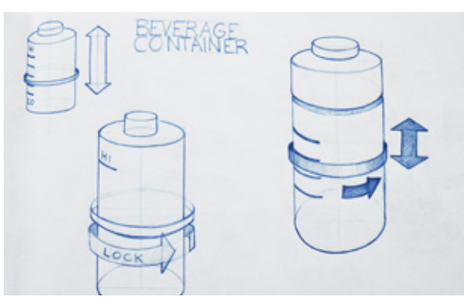


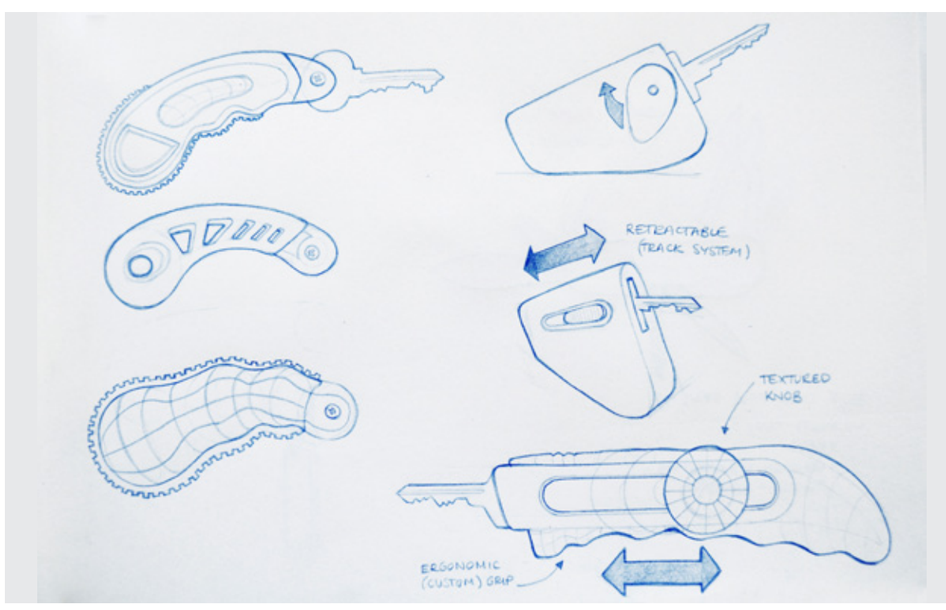


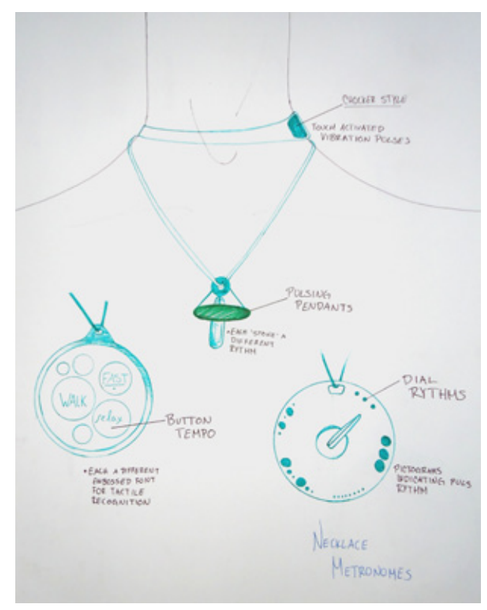












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Precedents

Metronomes

PRAYER BEADS

Used for counting during prayer

Relaxing

Sensory stimulation

SEIKO DM50 METRONOME

Used for fitness training

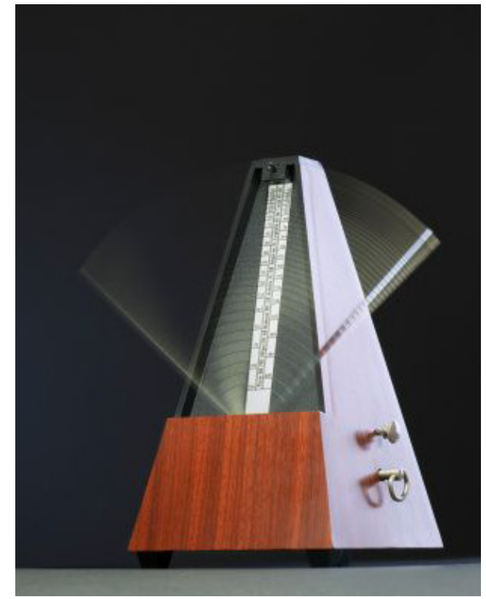
"I find the metronome to be the one thing that has helped me the most to progress in my running more than any one thing that I've done."
- S.K. Sherman

DEBORAH'S CANE

Helps her walk by providing a guiding rhythm

Kinetic feedback

"I call it my metronome."
- Deborah Shackleton



MUSICAL METRONOME

Used for counting during prayer

Relaxing

Sensory stimulation

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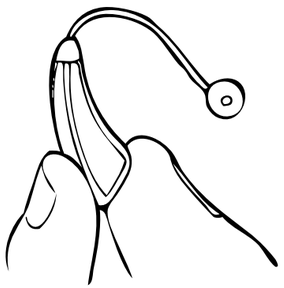
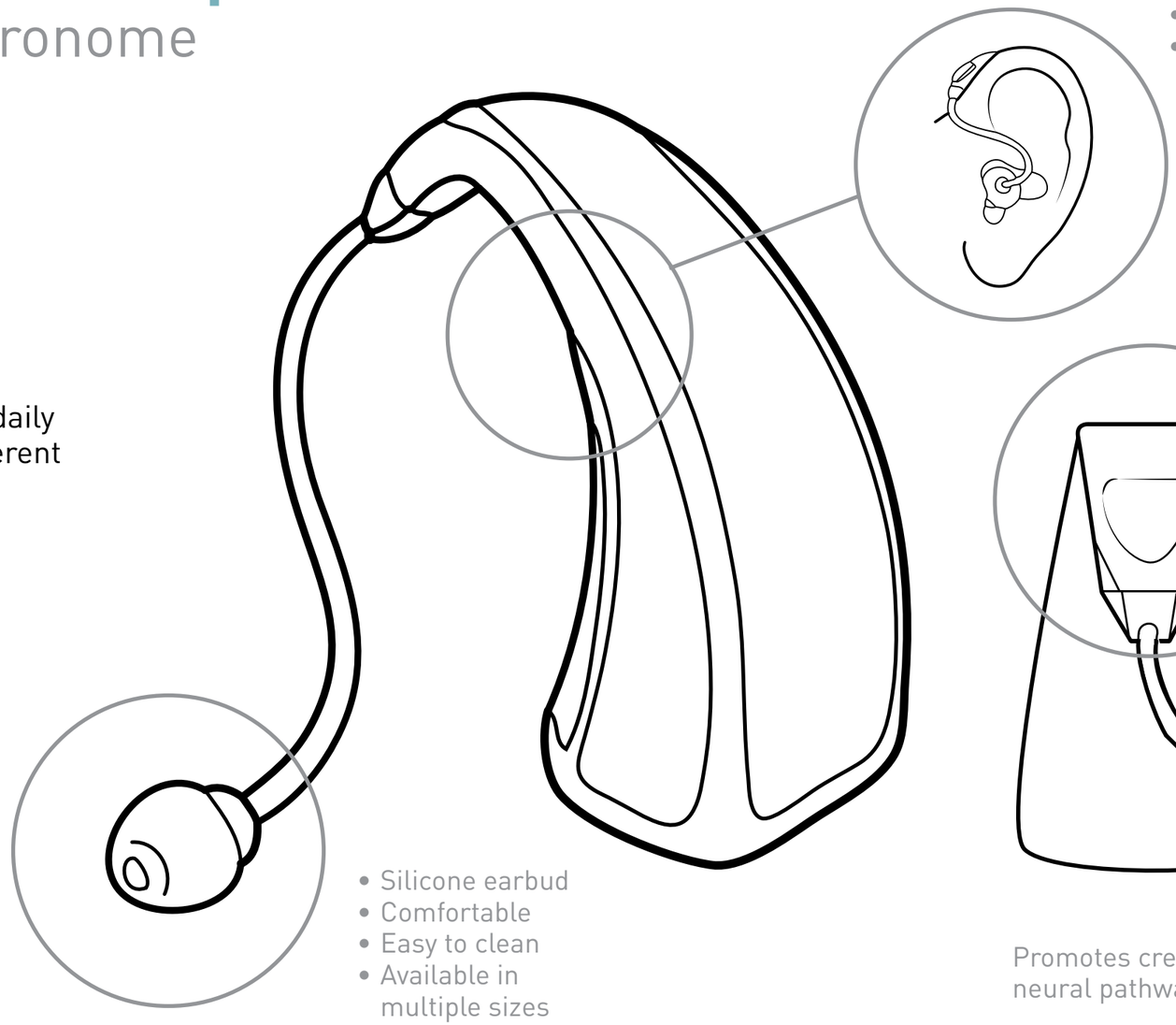
Concept Development

Wearable Metronome



Pattern-setting earpiece device designed to assist daily activities by providing different guiding rhythms.



- Ergonomic fit
- Discreet design
- User-friendly interaction

Possibility of device being mounted on glasses

- Silicone earbud
- Comfortable
- Easy to clean
- Available in multiple sizes

Promotes creation of new neural pathways

- Easily accessible button, controls different settings
  - 1 tap = slow rhythm
  - 2 tap = medium
  - 3 tap = fast
- Auditory feedback facilitates switching between settings

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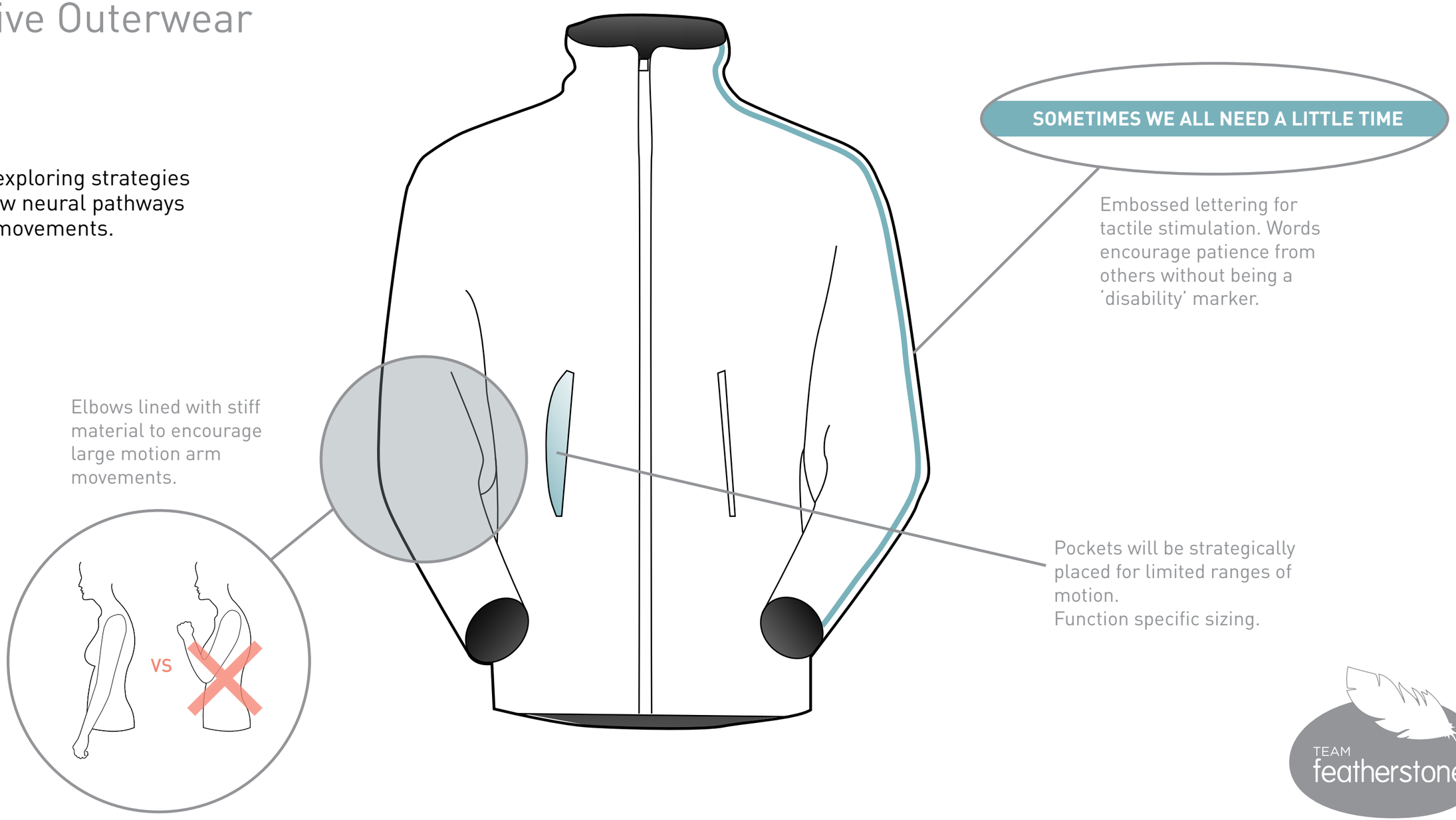
Concept Development

Assistive Outerwear

Outerwear exploring strategies to create new neural pathways for routine movements.



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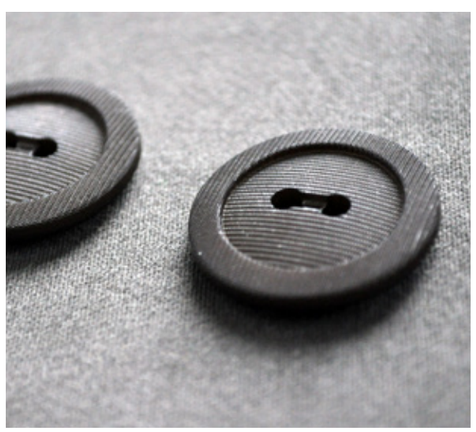
CONCEPT DEVELOPMENT

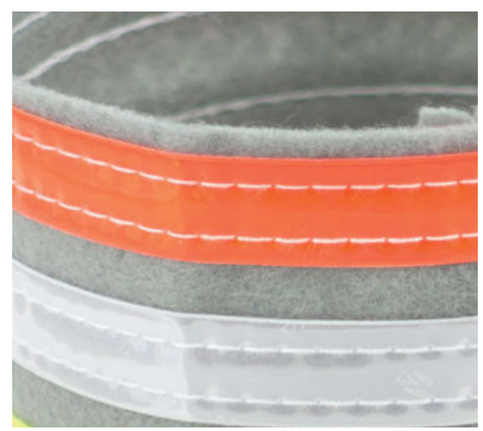
Visual Design Brief











OBJECTIVE

To explore possible wearable solutions that can promote the formation of new neural pathways for routine upper body movements.

CRITERIA

MUST HAVE:

Lightweight
Stimulating
Tactile
Considers Limited Mobility
Friendly
Made of Primarily Natural Materials
Sanitary

NICE TO HAVE:

Creates New neural pathways
Discreet
Versatile
Spiritual
Calming

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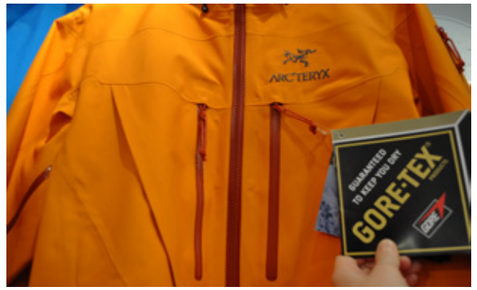
Precedents Research

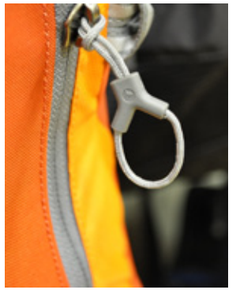
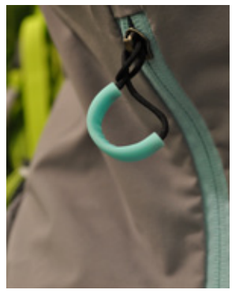
Fastening & Compartmentalization in Functional Wearables











ORGANIZATION

spacial arrangements
positioning
size
material

FORM

style
fit
positioning of fasteners
comfortable

TACTILITY

texture
form
motion (push/pull/etc)
temperature
sound

FUNCTIONALITY

positioning of features
fastening mechanisms
comfort
practicality
weight

DEFINITION

W functions & features
using colour
using textures
implicit vs. explicit

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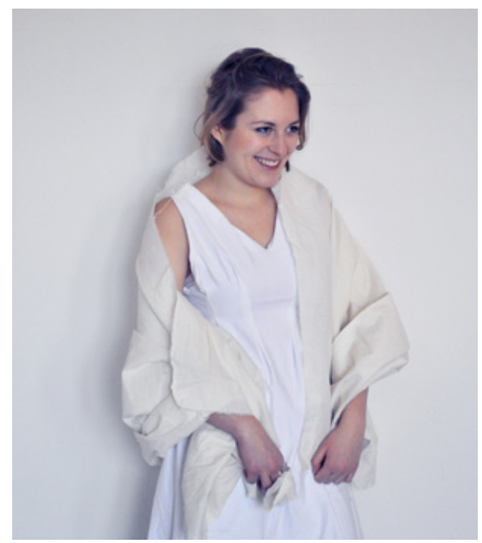
Emotion Study

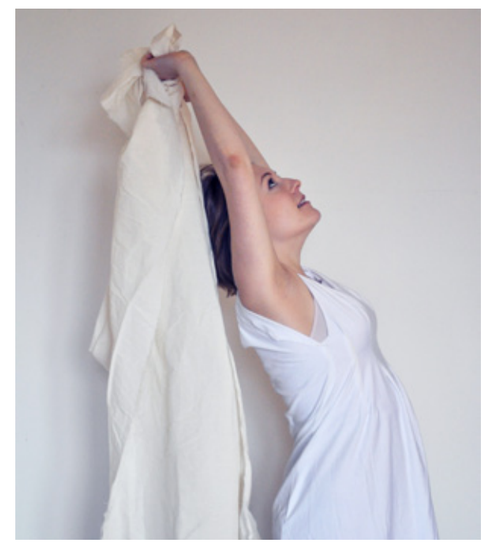
Body Language Brainstorm

DETERMINED

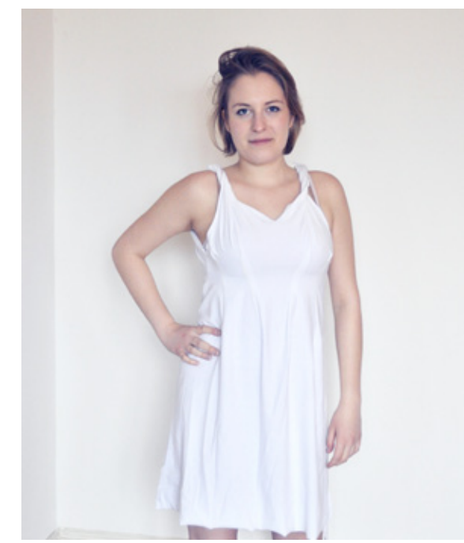
SHY



COMFORTABLE



SPIRITUAL

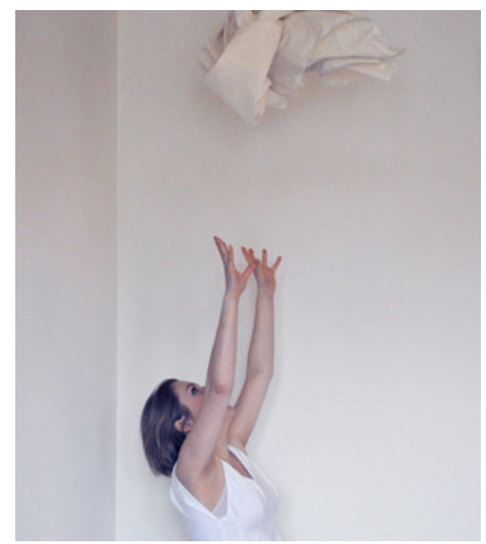


CONFIDENT

LOVED

SCARED

OPEN



TRUSTWORTHY

This activity was aimed at familiarizing ourselves with how the body reflects the mind. Cléa was dressed in white from head to toe to emphasize body expression.

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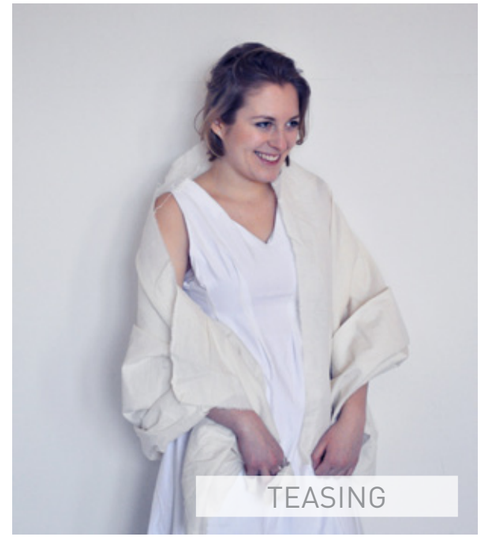
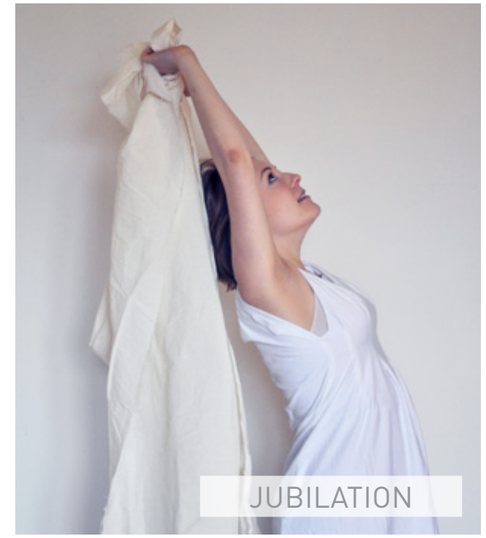
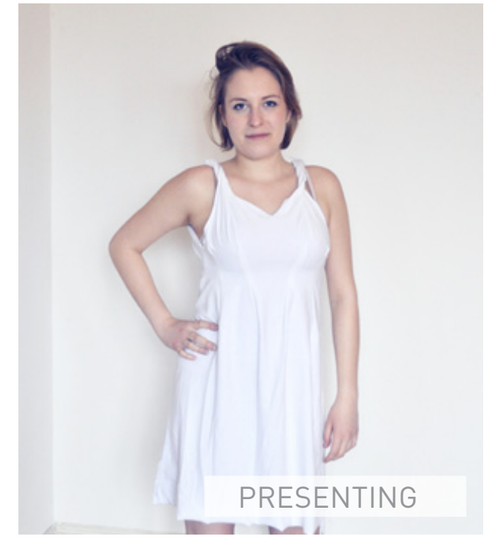
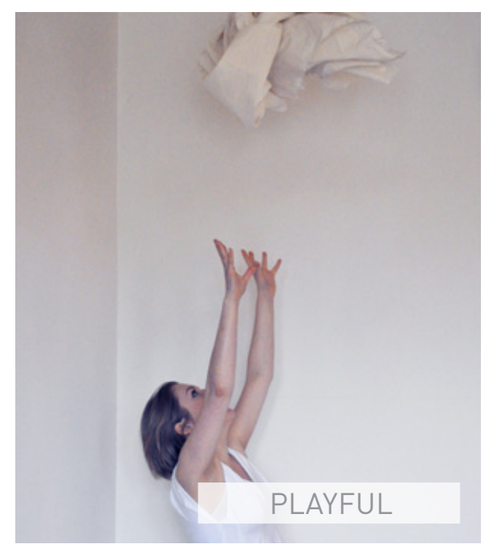
Emotion Study

What Message is Being Conveyed?









We asked our co-creator to ake a look at each image and think about the types of emotions or attitudes being displayed.

Displayed here are the responsed she gave.

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Precedents

Kinesiology Tape

WHAT IS IT?

A flexible adhesive tape is applied to the body to give support and stability to joints and muscles without affecting circulation or range of motion. It is also used for Preventive Maintenance, Edema, and to treat pain.

It is commonly used for:

- muscular facilitation or inhibition in pediatric patients
- carpal tunnel syndrome
- lower back strain/pain
- knee and shoulder conditions
- hamstring, groin injury
- rotator cuff injury
- whiplash
- plantar fasciitis
- patella tracking
- pre and post surgical edema
- ankle sprains
- athletic preventative injury method
- a support method

KINESIOTAPING in CANADA
http://www.kinesiotape.ca/whatitdoes.htm

KINESIO TAPE

The first Kinesio tape on the market. Originally designed by Dr. Kenzo Kase.

"In Western medicine the presumption had been that once a joint is in a certain shape that cannot be changed"

Dr. Kase

ROCK TAPE

Marketed for increasing athletic performance. The tape is able to improve muscle endurance through increased blood flow.

K-ACTIVE

This company provides more than just the tape - they provide a system of services that include patient and therapist education, national and international distribution centers, accessories and a range of tape from bulk rolls to pre-cut.

"Prompt pain relief and more mobility due to activation of body's own healing processes."

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Phase 1 Prototyping

Experimenting with Limited Motion

For the second part of the activity, Alysha dressed all in black and was taped in different places to simulate potential features in a wearable that would promote certain movements and inhibit others.

WHAT WORKS
- elbow "elastic"
- inner arm
- "V" structures in the back

WHAT DOESN'T WORK
- brace-like hand reinforcement
- wrist limitations need tweaking

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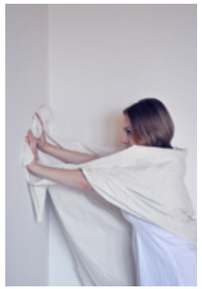
Midterm Presentation

Feedback from Maggie Breslin

Maggie Breslin pioneered the role of designer/researcher at the Mayo Clinic's Center for Innovation. She leads research, design and development efforts around topics as diverse as decision-making, risk communication, integrated practice models, remote care, care giving and minimally disruptive medicine.

http://www.ecuad.ca/about/events/202791



ALEXANDER MCQUEEN

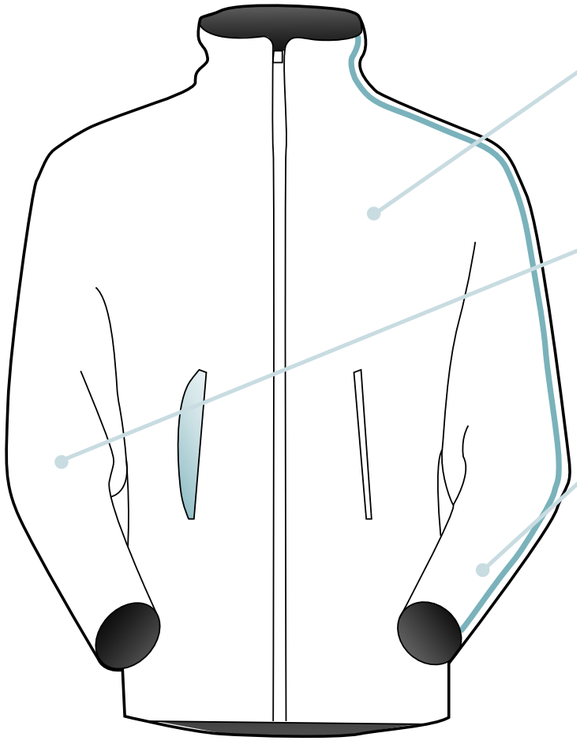
Our emotive fabric studies reminded her of the sculptural garments of Alexander McQueen. Recommended to open up precedent research to high couture fashion.

? ? ?

What kind of metrics can you design to test whether the design can achieve our desired goals? How does this work and what are the resultant effects?

Suggested examples:

- Give user partial prototypes for testing. Then ask:
  Does it help to make a 'swipe' motion in a particular way after one week? How the arm feel? Does it feel better?
- What limitations work? Which ones don't?
- Which new movements actually have value?



"Encourage users to see this as a training jacket."

People actively prototype DIY solutions, is there a way to provide the opportunity for this in a prototype?

Is there a possibility to include a way for the user to track progress?

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Phase 2 Prototyping

Prohibiting Elbow Movements

layers of tissue paper inside

We started experimenting with basic fabrics such as cotton and felt to explore various ways in which we can promote positive movements in the elbow by prohibiting the negative ones. To do this we prototyped based on different types of feedback.

VISUAL SIGNAL

We looked at how a stylistic element could be used as a visual cue to remind the user that their elbow is bent, by using a form that visibly distorts itself when the arm is bent.

PHYSICAL TENSION

Playing with elastic bands and more rigid fabrics, we looked at the effects on exerting tension on the elbow when it is bent, and what makes it more /less noticeable.

AUDITORY REMINDER

Using materials that make audible but discreet sounds under tension, we incorporated the latter into structures that allow the bending to be heard and therefore noticed through hearing.

foil from a helium balloon inside

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Third Interview

Project Proposal & Preliminary Prototype Testing

FORMAT

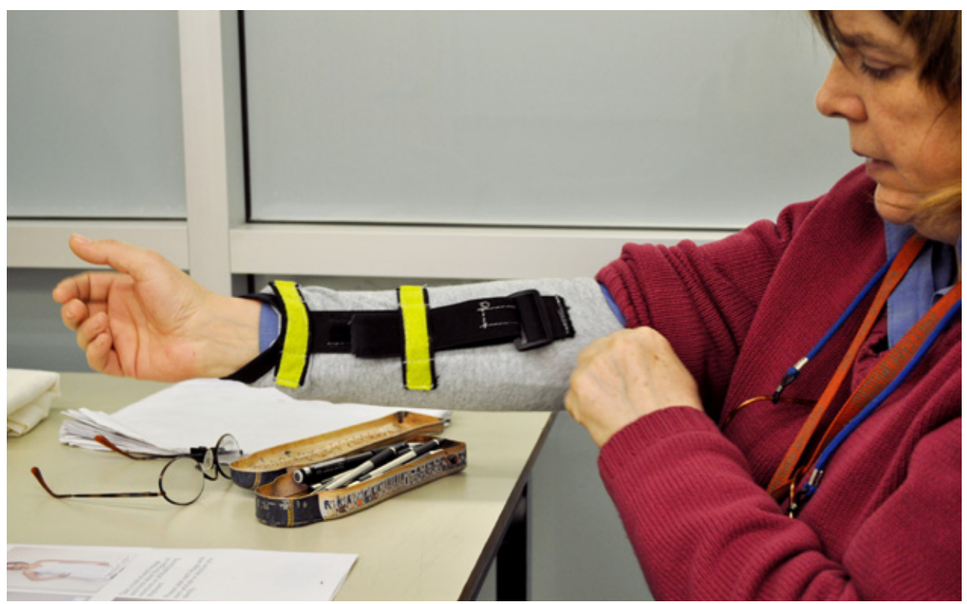
We presented Deborah with a series of prototyped designed to explore ways to restrict elbow movement. Each was constructed with different materials and used different combinations of feedback for her to respond to.

FINDINGS

- Tight fits do not work
- Soft, lightweight fabrics provided comfort and flexibility
- Athletic aesthetic is highly disliked **"I'm not an athlete, why would I wear athletic-wear?"**
- Options with both tactile and auditory feedback worked best
- Warmth and a comfortable fit provide a needed **sense of security & safety**

THE IDEAL COAT

A tailored, white lab coat was described with excitement as the best precedent to look at. The pocket designs and placement were key as they provided easy-access storage for supplies needed while teaching.



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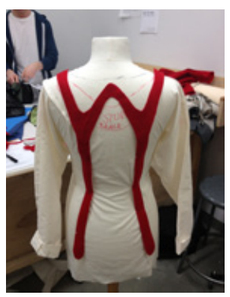
Phase 3 Prototyping

Prohibiting Specific Movements

AIM

To explore ways in which we can encourage good posture through the structure of a tailored jacket. We have begun exploring different structures for the back as well as shoulder caps to pull the shoulders back and remind the user not to slouch forward.



Different materials are being experimented with for types of lining to be used. Each explores a different type of user feedback: weight, sound, texture and rigidity/ flexibility.

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REFINING THE CONCEPT

GF Strong Visit

Feedback From Doug & Ian

GF Strong's Doug Gayton and Ian Denison came to visit Emily Carr on March 19th to view and evaluate our progress. They provided us with valuable feedback on our prototypes and design direction. Here are some key tips for improvement we were given.

PROPER STRUCTURING

Alternative placement and/or direction of tension on shoulders. Explain use of kinesio tape as precedent, and understand which positioning works and which does not.

POSITIVE FEEDBACK

Using positive reinforcement instead of just negative. For example, what kind of feedback occurs when the elbow is **not** bent?

VALIDATION

How can we test if these restrictions work. Can it be a passive feedback/reminder system?

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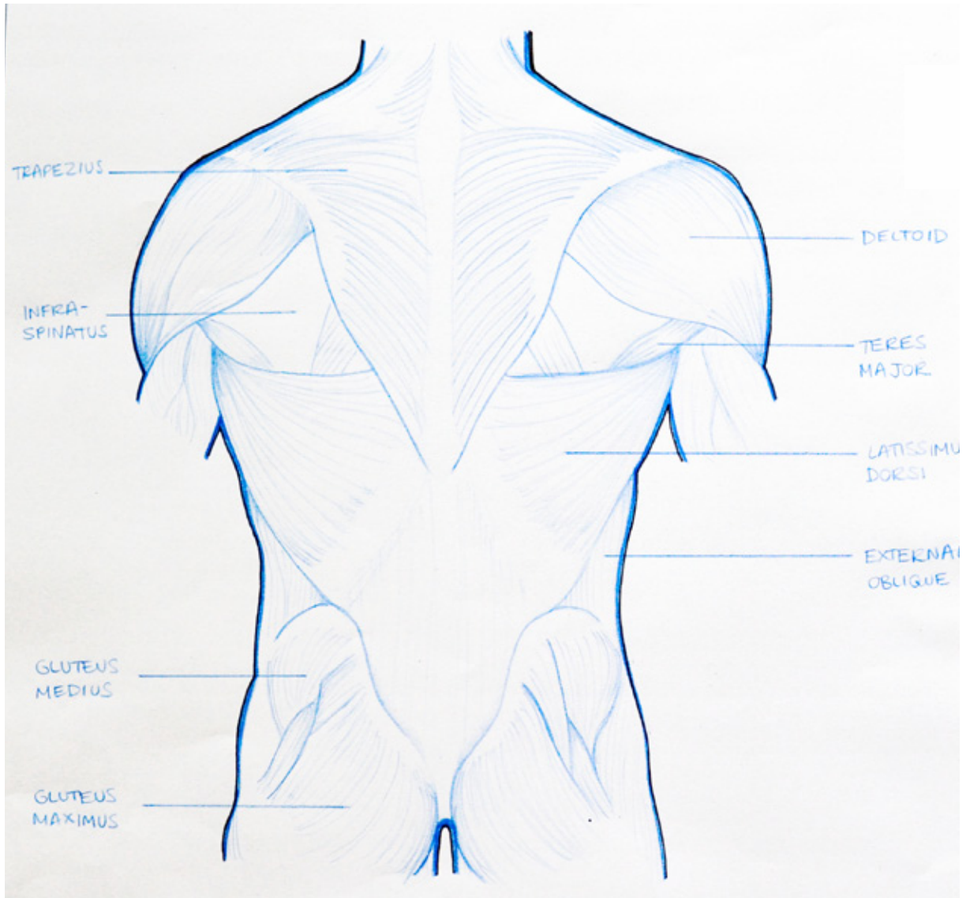
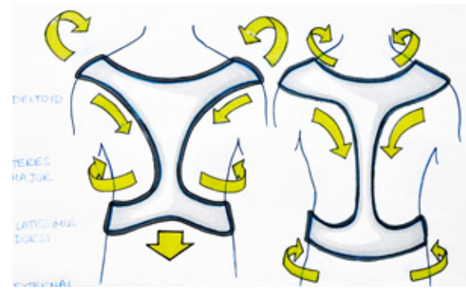
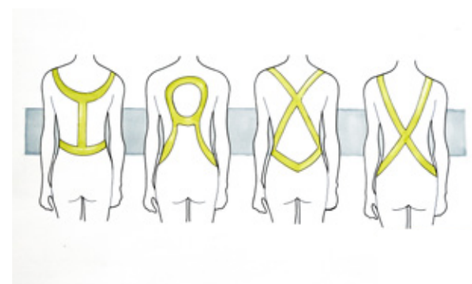
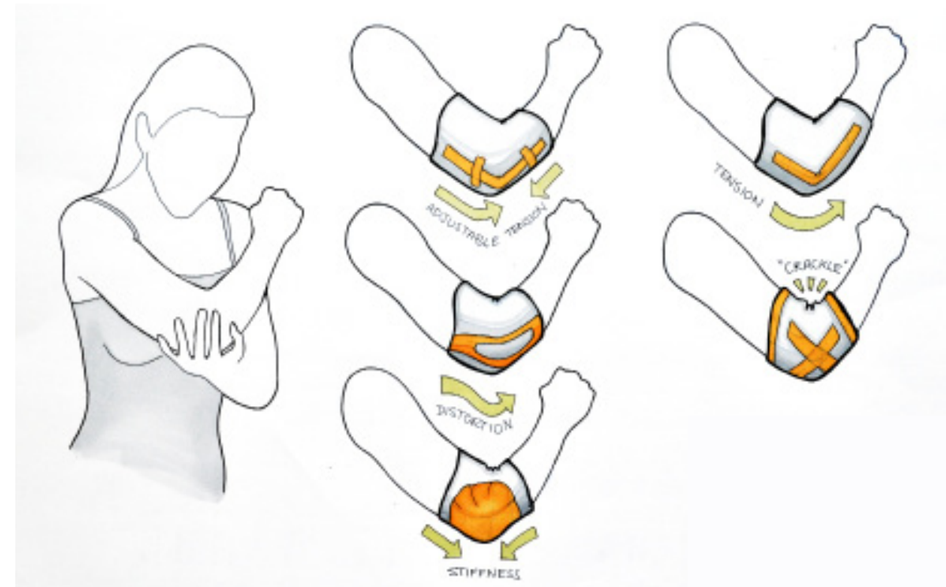
2D Sketching

Further Sketch Iterations









We moved back and forth between 2D and 3D to facilitate the materialization of our technical solutions. Sketching was particularly helpful in regards to understanding posture deterioration and the muscles of the back.

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Phase 4 Prototyping

Beginning to Build the Pattern

PROCESS

After carefully studying the anatomy of good posture, we began making a pattern for the tailored coat. Our goal was to re-structure the traditional blazer design, creating new lines of tension in the garment to promote positive posture.

FIT ASSESSMENT

- Body fit worked well through back but was too small around the bust
- Collar only sat well when worn up, pattern needs to be split to allow for it to be worn as a traditional folded collar
- Where back brace extends around the shoulders, it needs to be extende further to act as a 'cup' around the should to create an active pull.
- Overall length and hemline are appropriate.

Using tape, we refined the internal brace structure. Detailed attention was given to where fabric would be sewn in place (▨) versus where it would be free to move (////).

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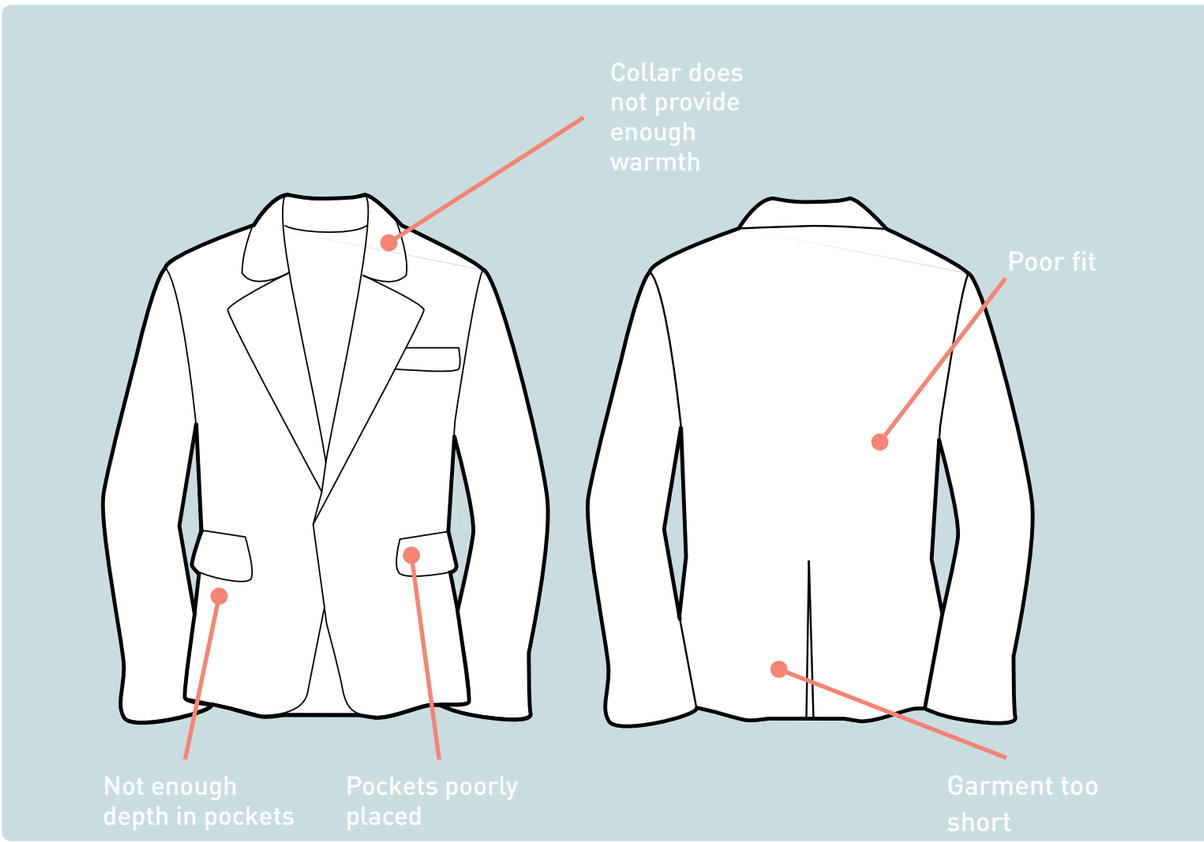
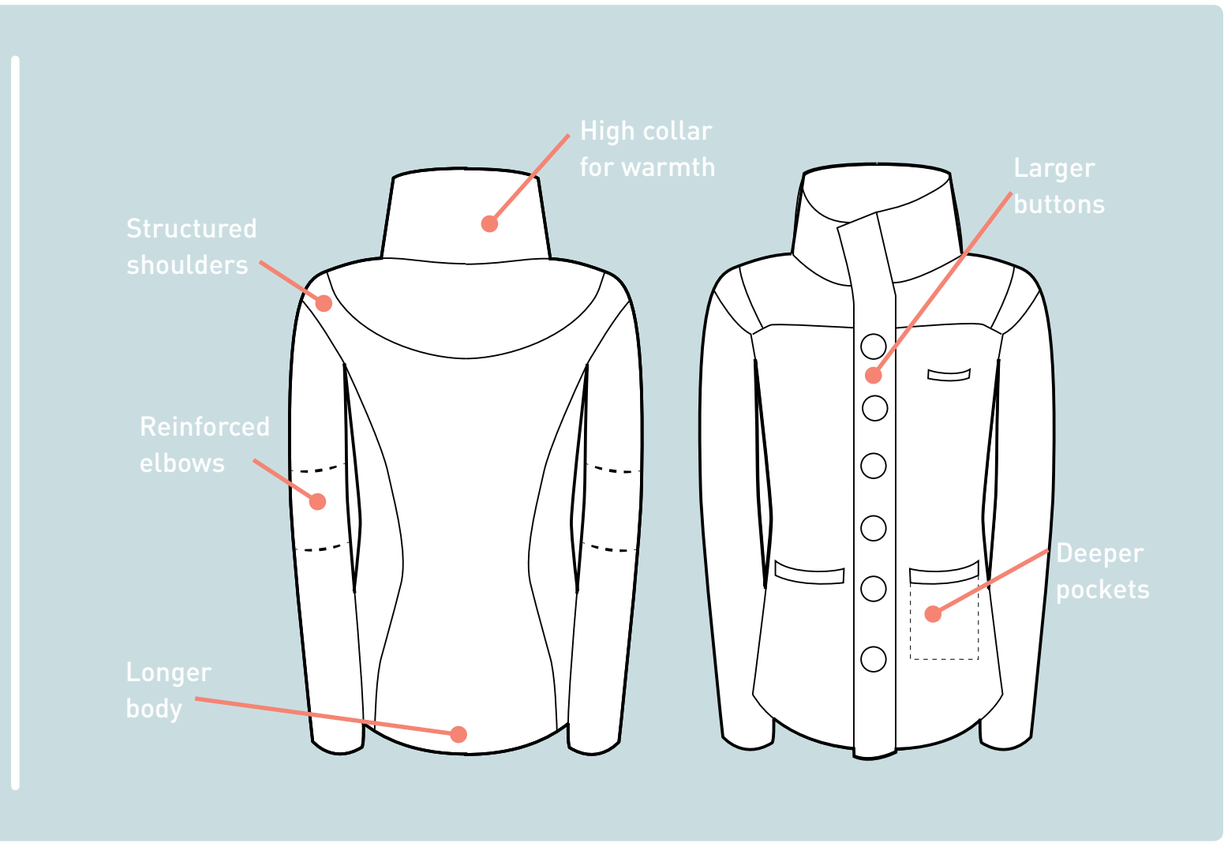
Re-Structuring the Traditional Design

Integrating Function and Fit



ISSUES WITH THE EXISTING DESIGN OF A STANDARD BLAZER



STRATEGIES TO IMPROVE THE DESIGN

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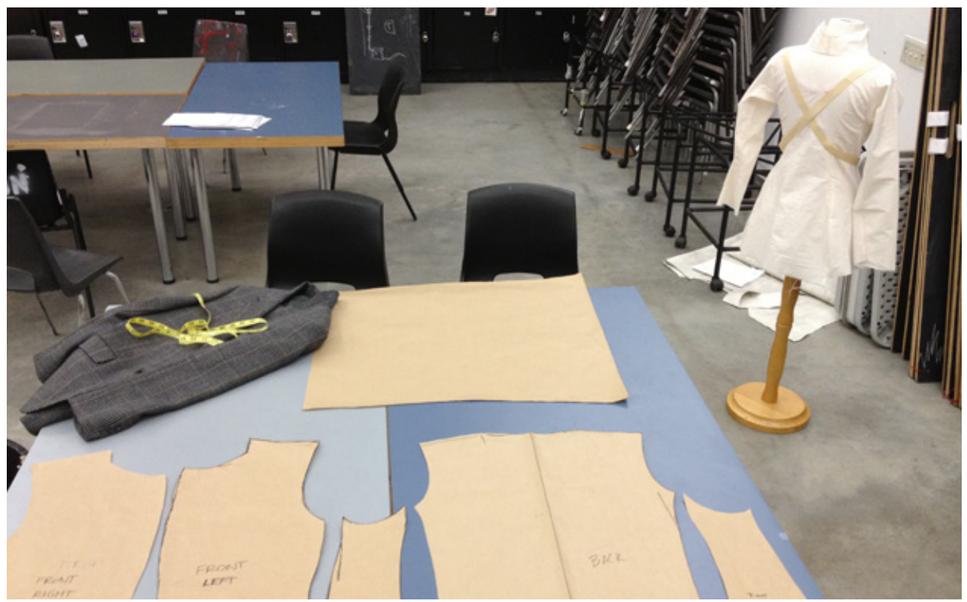
Phase 5 Prototyping

Beginning to Build the Pattern

PROCESS

As we were unable to connect with our co-creator while making the first muslin prototype, we decided to make it to our measurements in order to test the original pattern design. From here we returned to a paper and tape process to refine both the body detailing and the shoulder brace. This also allowed the pattern to be scaled to our co-creators dimensions



With the pattern the correct size, we were able to move on to detailing the collar and the internal posture brace.

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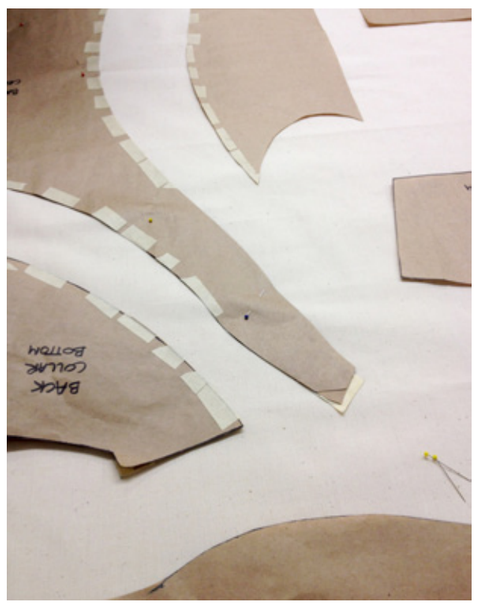
Phase 5 Prototyping

From Paper to Fabric

With the prototype realized in fabric, we were able to refine the style and fit of the collar, bodice and sleeves. Specifically looking at fit when worn up for warmth, or folded down for indoor use. It was also the first opportunity to examine the styling of the pockets and their placement on the garment.



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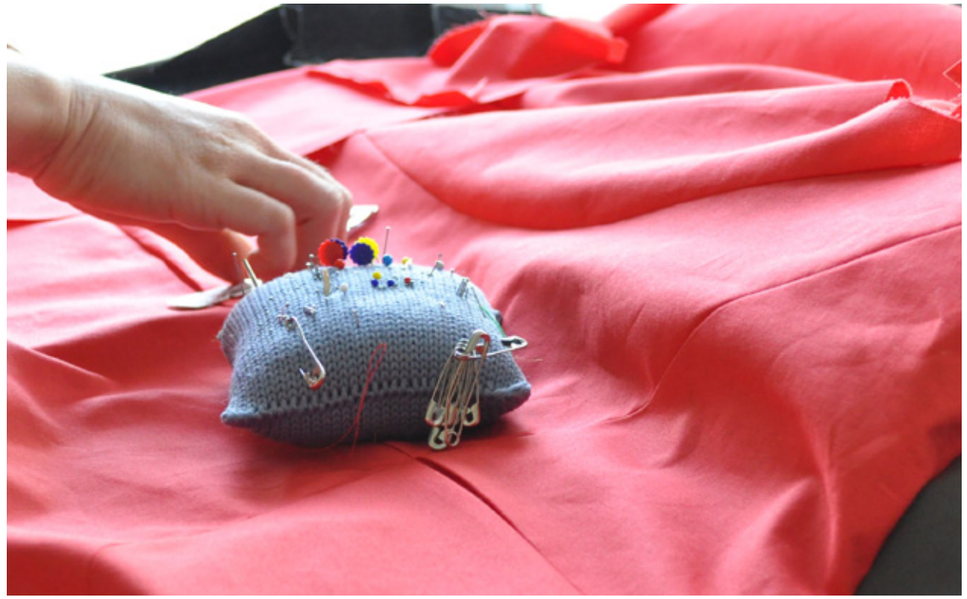
Phase 6 Prototyping

Making the Working Prototype



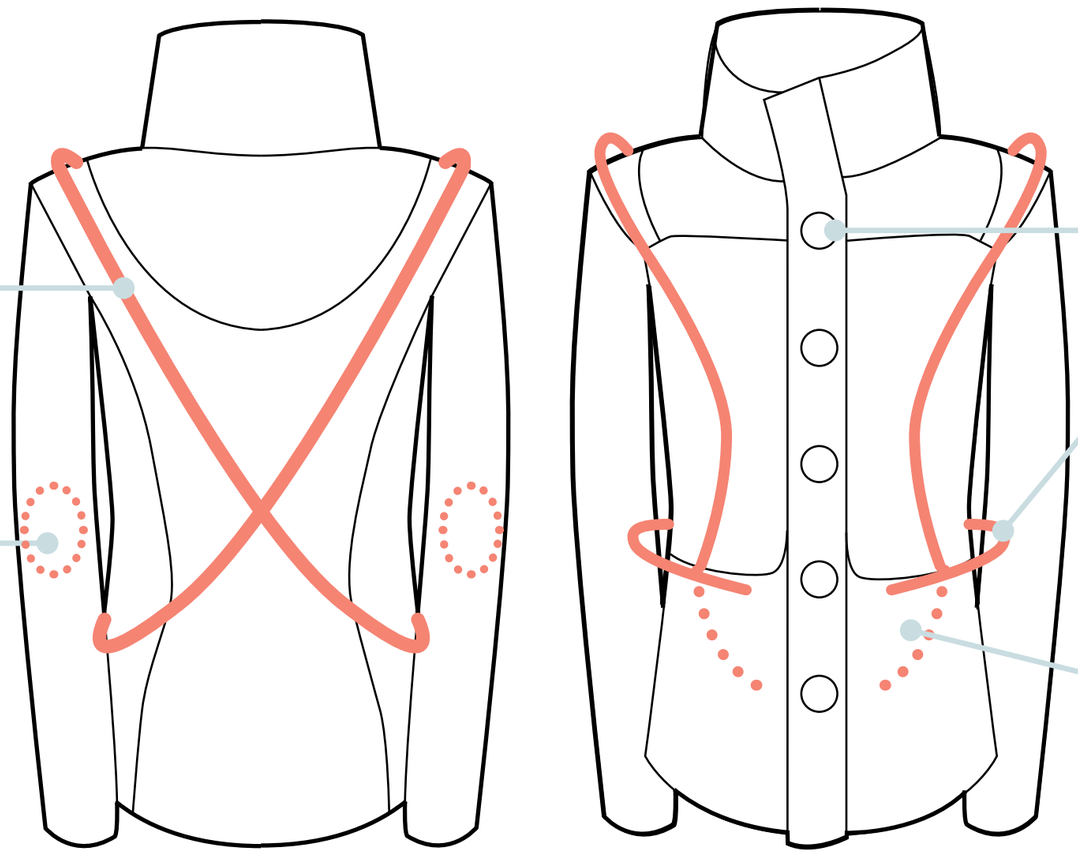
Before getting started on our final working prototype, we transferred the muslin pattern onto pattern paper to facilitate tracing on fabric.

Final Concept

Features & Benefits

Inside strap structure uses weight from the pockets to straighten posture by pulling on shoulders and back.

Tactile/auditory reminder not to bend your elbow



Big buttons for easy handling (buttons requested)

Belt inside garment sets the jacket in place and regulates shoulder pull

Long, wide pockets for maximum storage, without discomfort or garment distortion

Although AllSet is designed and custom tailored for a single individual with Parkinson's disease, it could also be tailored to fit able-bodied individuals who are interested in improving their posture.

TEAM featherstone

Cléa Lautrey & Alysha Paiaro

Final Design

The Details

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Features & Benefits

INNER BELT AND STRAP SYSTEM
Custom structured shoulder pads are connected to the pockets and waist by means of a belt system.

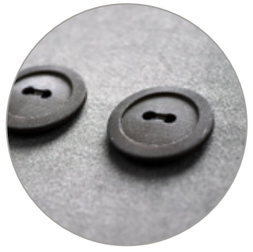
ENHANCED OUTER STRUCTURE
The entire coat pattern has been design with the purpose of promoting positive movements and proper posture. Every seam has a specific function. The most important structure is the curved back, which controls the overall tension in the coat.

SOFT POCKET LINING
Pockets are lined with a soft, cozy flannel cotton of a bold, fun colour. This not only adds a pleasant feeling when sliding one's hand inside the pocket, but also gives the garment that little element of surprise.

CUFFED UP SLEEVES
Wide cuffs hug the wrists for an added sense of security.

WIDE COLLAR
The collar is designed to be worn both up and folded over comfortably. Raising the collar can provide extra warmth and a sense of security for those rough days.

MOVEMENT RESTRICTION
Rigid shoulder and elbow pads act as a passive reminder of which movements should and shouldn't be made.



LARGE TEXTURED BUTTONS
The front is lined with large, wooden buttons for easy fastening and finger stimulation.

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Tech Specs

FIT
Hugs shoulders and waist

PROPERTIES
One-way stretch,
breathable, lightweight.

STYLE OPTIONS

FABRICS
100% Cotton

LENGTH
Above knee

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Final Design

The Finished Coat