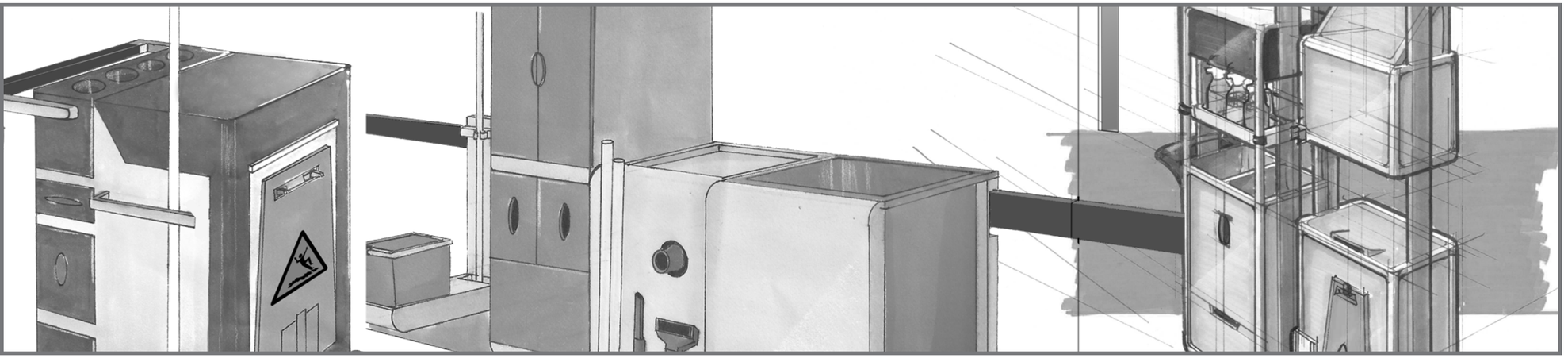
Brad Lugar

PORTFOLIO



SKY GLIDE

At the beginning of the my junior year spring semester, Emerson tasked us to research hospital cleaning systems. After extensive research involving hospital visits and interaction with hospital cleaning personnel we developed a revolutionary new system that revolutionized hospital sanitation.

SKY GLIDE

- Four Million square feet
- 450 Staff Members
- 20-35 Rooms per floor
- Change 15-1600 rooms per week
- Three inspectors check rooms

UAB

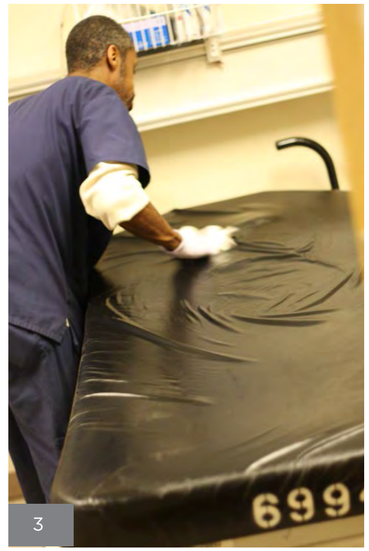
- 365 Beds
- 1.2 Million square feet
- 8 Cleaning staff
- 65 Patients discharged everyday
- 45 minutes allowed for discharged rooms to be cleaned

JACKSON HOSPITAL

- 354 Licensed rooms
- 190-200 rooms on average being used by patients
- 84 Full-time employees on staff with the department of environmental services
- Approximately 21 clean rooms

eamc
east alabama medical center

2



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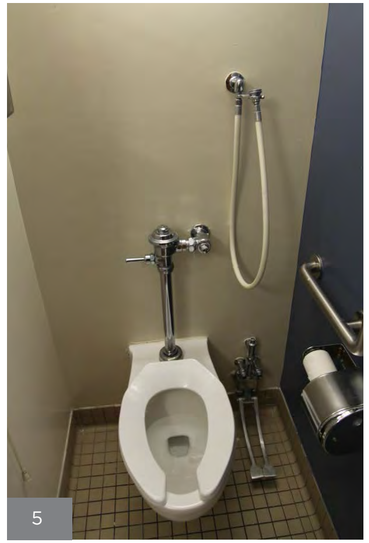

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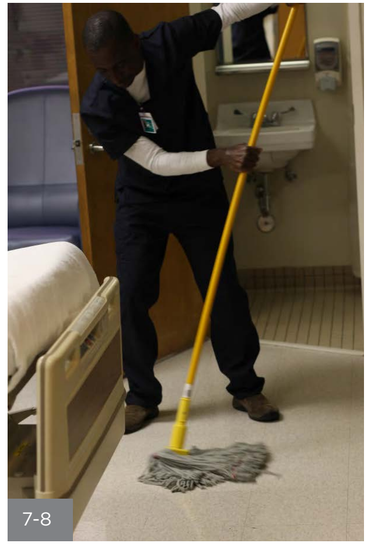


7-8

Discharge Cleaning Process

1. Access
2. High Dust
3. Sanitize
4. Spot clean
5. Bathroom Cleaning
6. Empty Trash
7. Dust mop
8. Wet mop
9. Check your work

SKY GLIDE

Cleaning carts get in the way of getting to the patients here in the trauma center and cause more trouble than they are worth.

I want a specific place for each item. A clean cart helps me do my job better.

STOCKING CHEMICALS AND CLEANING SUPPLIES

CALL IN AND STRIP BED

TO TRASH ROOM

BACK TO CART

SANITIZE BED

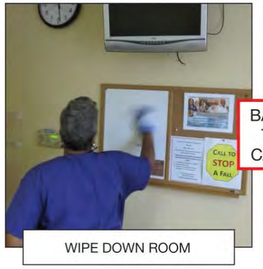
BACK TO CART

CHANGE DUST CLOTH

DUST ROOM

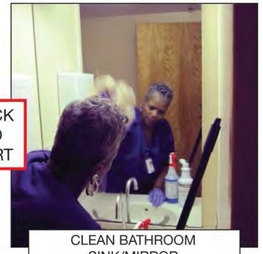
BACK TO CART

WIPE DOWN FURNITURE



WIPE DOWN ROOM

BACK TO CART

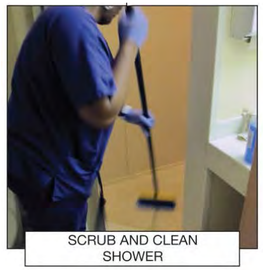


CLEAN BATHROOM SINK/MIRROR

Journey Mapping helped us layout the process of cleaning discharged rooms as well as in patient rooms. Later this helped us think about the work process and how we could improve it.

Being orderly from start to finish speeds up my job.

If I didn't have to leave the room to do my job each room would take less time.

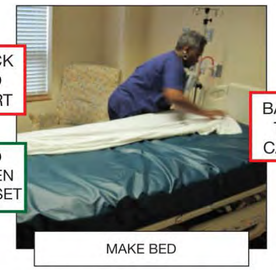


SCRUB AND CLEAN SHOWER

CLEAN TOILET

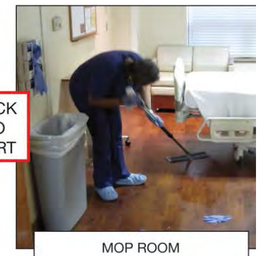
BACK TO CART

TO LINEN CLOSET



MAKE BED

BACK TO CART



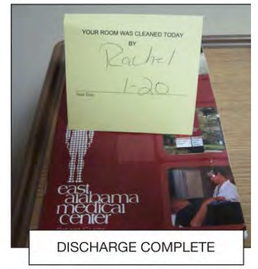
MOP ROOM

SWEEP UP TRASH

BACK TO CART

PROOF OF CLEANING

POST CLEANING NOTIFCATIONS



DISCHARGE COMPLETE

ACKNOWLEDGE & INTRODUCE

- Sanitize hands
- Smile/eye contact
- Recognize family/friends
- Use patient's name (Mr. or Mrs.)
- State your name
- State department and role

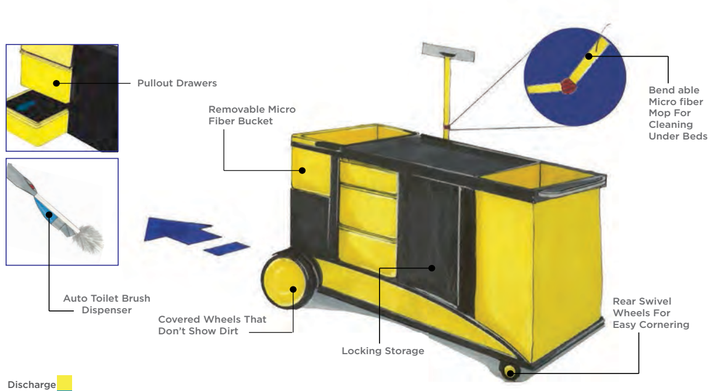
DURATION & EXPLICATION

- Tell the patient how long it will take
- Explain what you will be cleaning and why
- Communicate clearly

THANK YOU

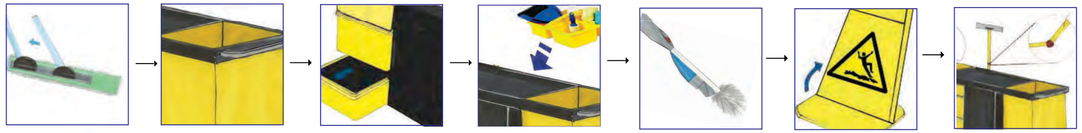
- Are you satisfied with your cleaning
- Do you have any other request
- Tell them when you will clean again
- Explain how to get assistance
- Thank them for choosing UAB

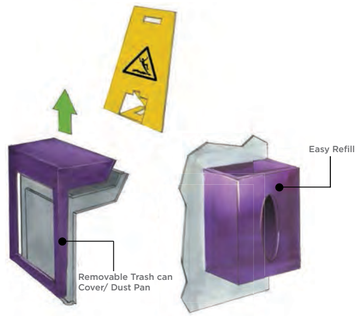
SKY GLIDE



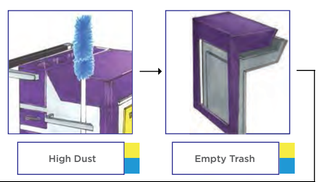
Concept 1 takes the standard cart and improves on its overall look as well as comfortably keeping a clean sleek look with covered wheels and giving the operator maximum control with rear swivel wheels.

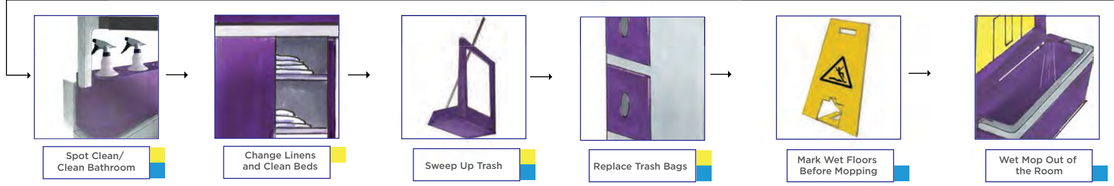
Discharge
In-Patient

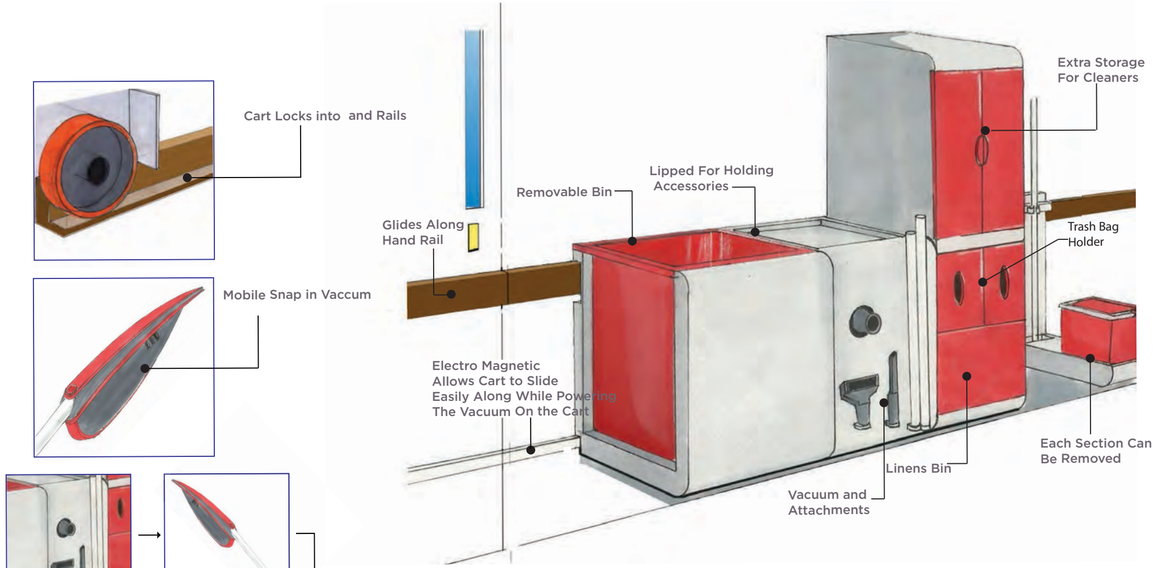




The goal with Concept 2 is to make all the parts fit together like a puzzle but at the same time be completely versatile as well as have an overall clean look.

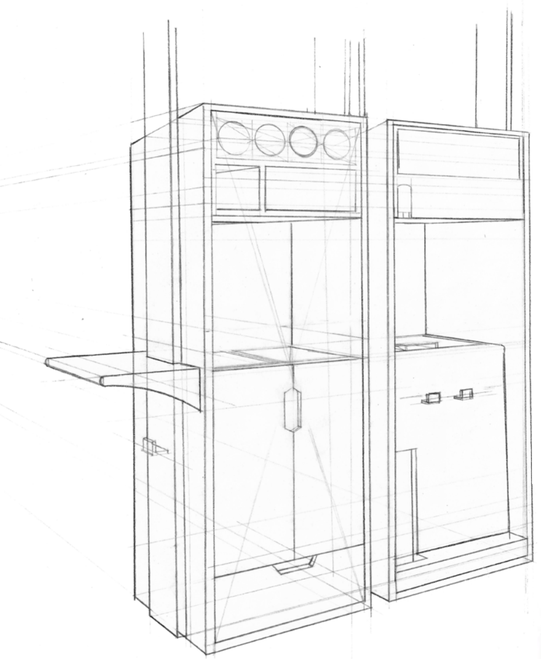


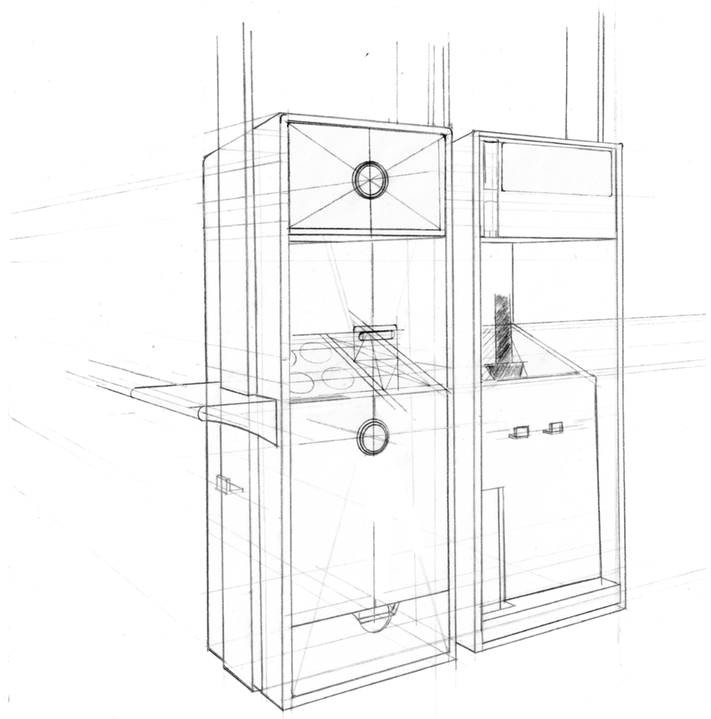


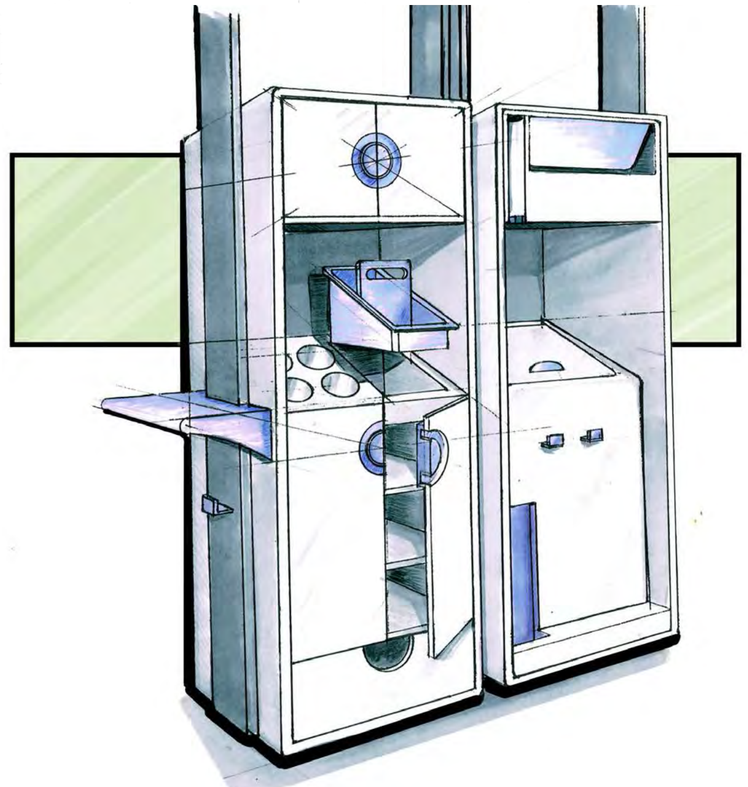


My final concept was the one that Emerson choose due to its unqe ability to float off the floor. This allowed it to not only keep the floor clean from wheel marks but also it kept the hall ways clear of rolling carts.

SKY GLIDE







Emerson chose similar designs and concepts that both David and I had created separately. Then they asked us to pair up to create a new ground breaking design.

Over 48,000 people die from hospital infections every year

The SkyGlide saves 7 seconds per step of the cleaning process, or **56 seconds per room**

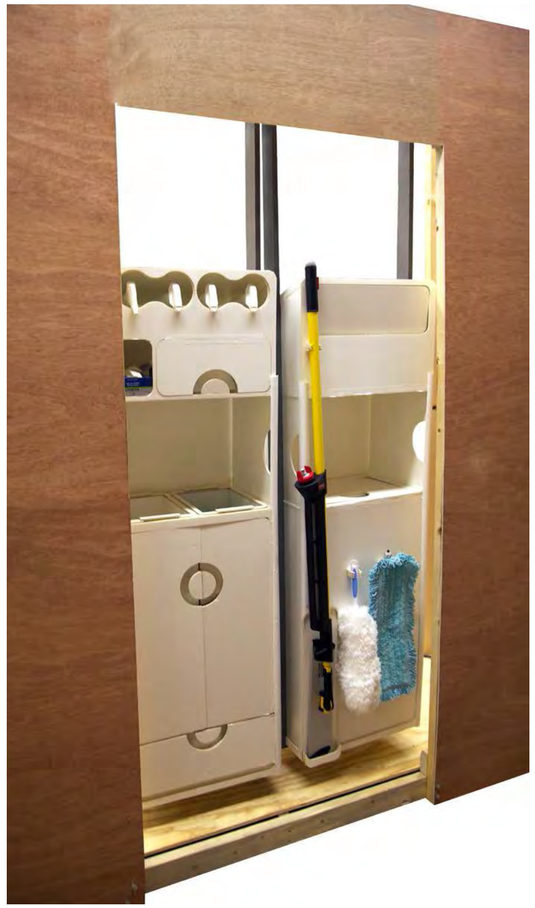
Stocking process reduced by **7 minutes each trip**

Each worker is saved **37.8 minutes each day**

SkyGlide outfitted hospitals can clean an additional **30 rooms per day**

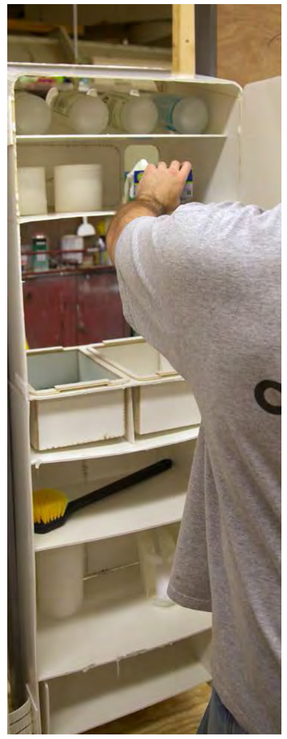
More clean rooms = A better hospital environment

SKY GLIDE



To make our product more user friendly we added a place for handles. This allowed the system to move from left to right inside the room.

Storage space needed to be maximized in order to fit larger objects.



Replenishing supplies on the cart has been made easier by giving access to the back of the system.

Placing the cleaning solution so high gave risk to spilling into eyes.

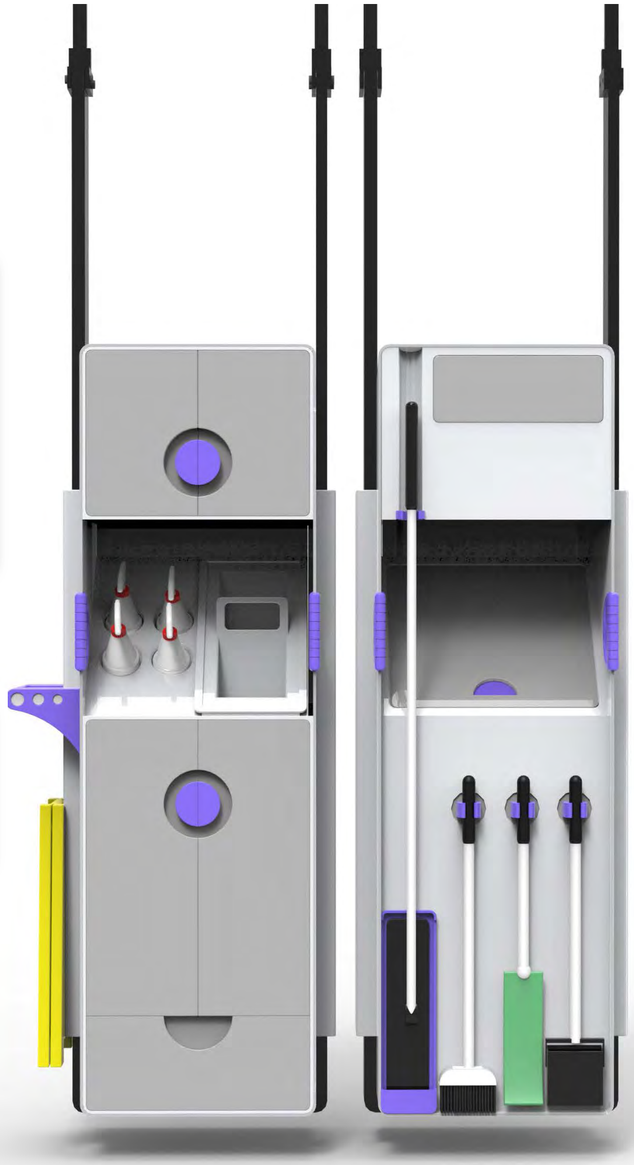
Key Features

- Clean look
- Fits in the door frame
- Holds all cleaning supplies
- Easy to restock
- Ergonomic height

SKY GLIDE

Tools like spray bottles are positioned in a comfortable position for cleaning staff.

To assist with data management, the push handle has room to hold a tablet.



Removable bin for both wet and dry micro fiber cloths.

Clamp location provides superior tool storage.

In order to simulate how the system would work, a door way and miniature hallway was constructed in order to help with the function of the overall design.

To simulate the rail system a barn door slider was installed to accurately mimic the movement of the system up and down a hallway.

Lastly, the Sky Glide was painted and put into place hanging from the wall that was previously built.

Sky Glide

System tracks along ceiling of hospital.

Cleaning equipment faces into patient room.

Stocks from rear.

Bottles and rags located on a removable caddy.

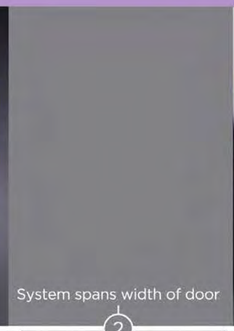
Inset push handle for tablet or notebook.

Handles located on each cart.

SKY GLIDE

1

Pull system to door

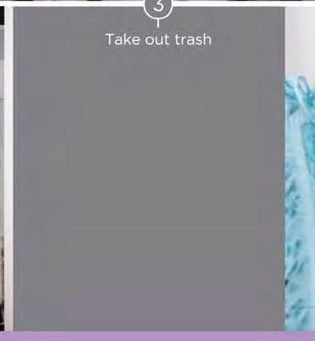


System spans width of door

2

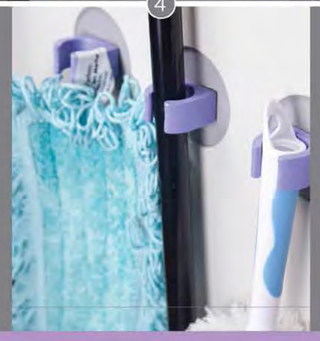
3

Take out trash



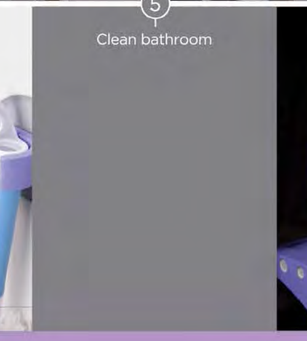
High dust

4



5

Clean bathroom



Spray and sanitize

6

7

Dispose of soiled rags

Mop room and bathroom

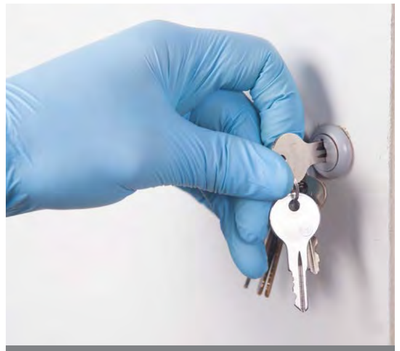
8

9

Dispose of soiled cover

Place wet floor sign

10



Unlock Storage

Remove Used Items

Empty Trash

Restock Items from the

Remove Cleaning Kit

Restock Cleaning Items

Maintaining security is crucial. With the rear locking and restocking system the user no longer has to worry about theft, but the user can easily gain access for restocking with the turn of a key.

SKYGLIDE

GIVING CLEAN **MORE** THAN JUST
A NEW LOOK

MAiA

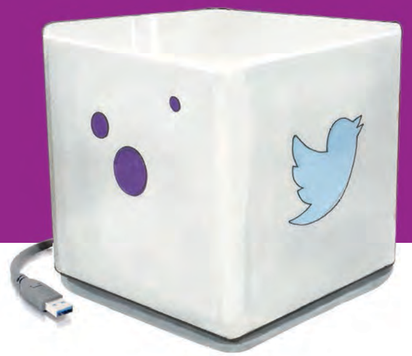
Have you ever needed a personal assistant to keep you organized?

MAiA is the next generation office assistant keeping up with daily schedules and tasks. MAIA uses its interface to notify the user about upcoming events in the world outside of the office.

Model Progression

How do I interact?

How can I display more?



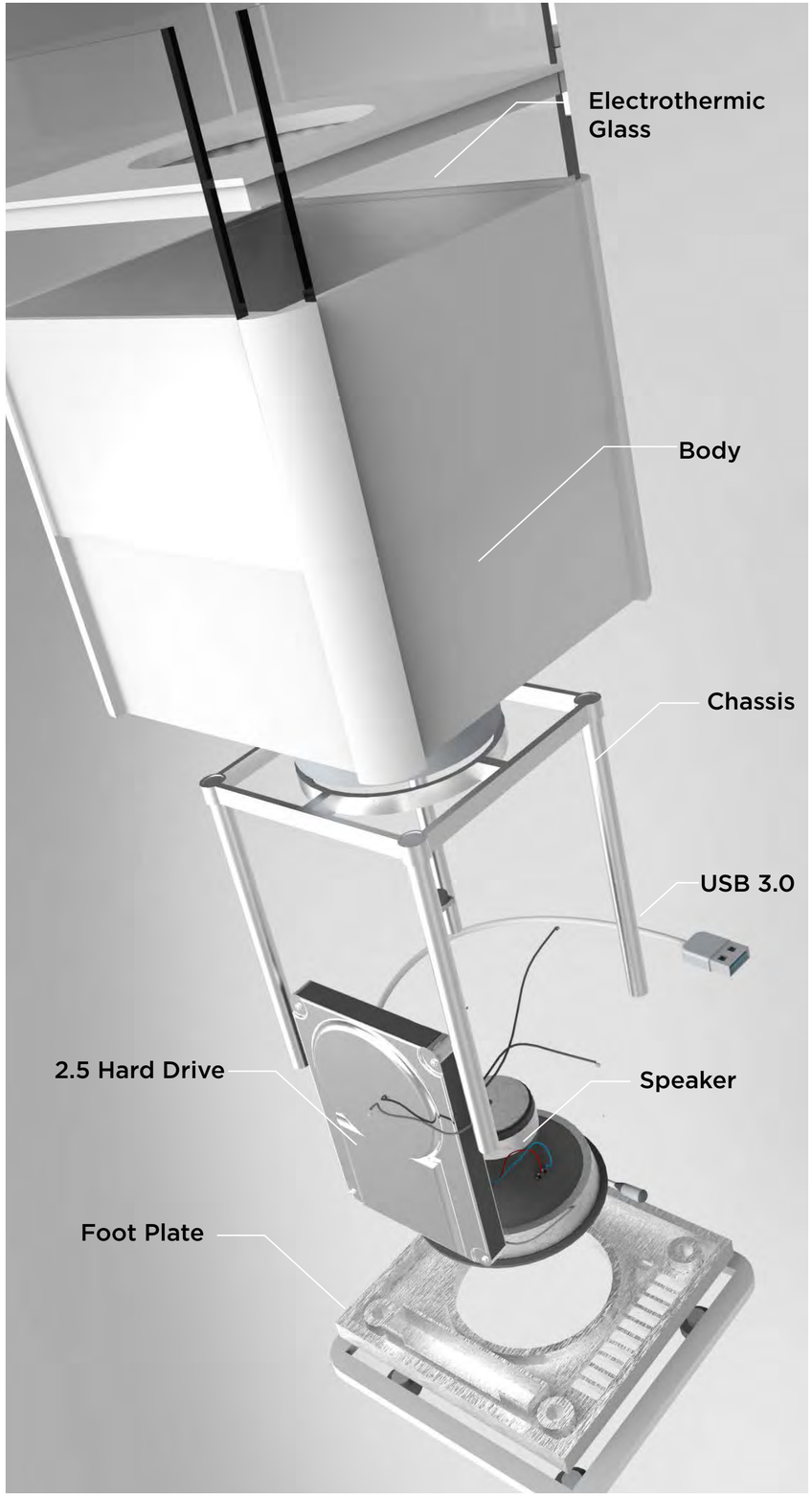
Can it be built?

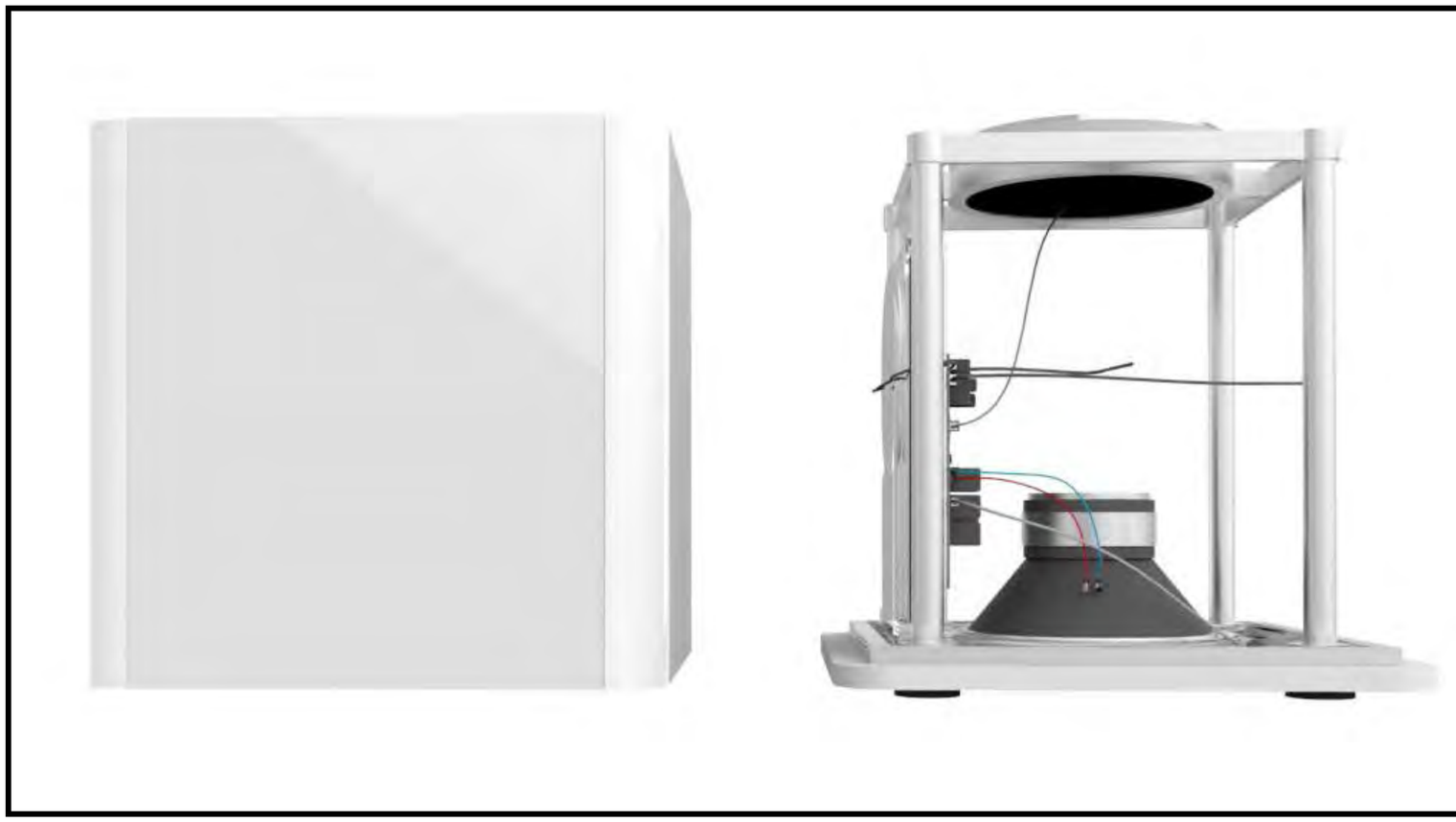
Does this communicate?

Where can it go from here?

In the first design stages, MAiA was made to work with the user by only giving push notifications, but the problem came about with how to control the actual device without using the mouse. Then, the talk button was introduced.

MAiA





MAiA connects over WiFi to keep the user connected to their events at remote locations.

MAiA uses push button voice recognition to take commands from the user in order to make changes and add reminders to its daily schedule.

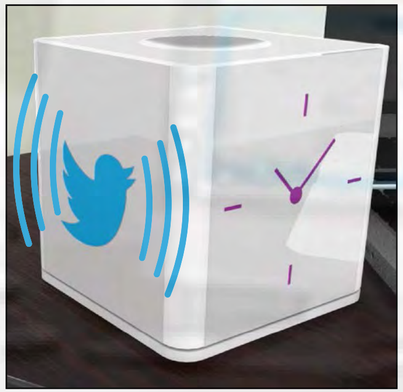
MAiA can connect to social media networks and sends subtle notifications to remind the user of important upcoming events.

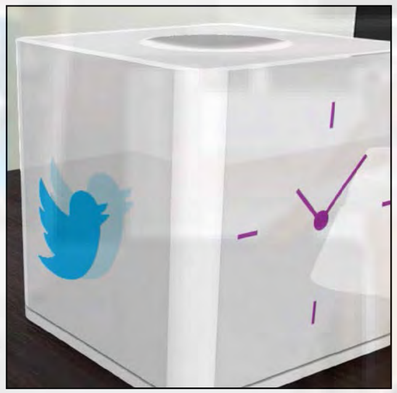
MAiA

To talk to MAiA, simply click the button and give a command. Set calender events, alarms, and get the latest news going on in the surrounding area with just one click.

Puts improved voice and visual interaction to electronic notifications on the desk top.

MAiA





When a notification from an application like twitter is received, the familiar bird tweet sounds and the picture appears. MAiA can also read the notification aloud when it displays the message.

Scheduling is a key feature of MAiA, keeping you on time and on schedule is what MAiA does best. When prompted, MAiA shows the daily schedule and can bring up more calendar events. When an event is approaching MAiA plays a chime and post the upcoming event to keep the user on track.

MAiA

When a storm is approaching the users local area, a small cloud appears with the sound of thunder notifying them that the storm is soon approaching. When the storm is overhead the cloud will be positioned directly over the clock to let the user know that the storm has arrived.

Keeping you in touch and helping with your daily workflow.

MAiA

Nintendo

Nintendo and AGI collaborated in designing a new point of purchase display. When AGI approached me for designing a new display they wanted me to make a more interactive display that not only looked better, but also allowed the user to gain more info about the product by interacting with the display in some way while maintaining security.

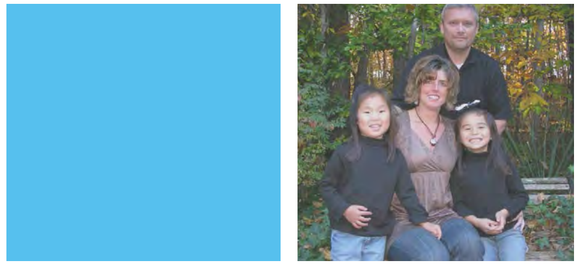
Wii™

AGI in Store

Research

Walmart was chosen for the retail footprint of the point of purchase display.

Focus groups helped with appealing to the masses and figuring out what people looked for when they came to buy a new game.



Personal Interviews gave insight to users with a family perspective.

Design strategy

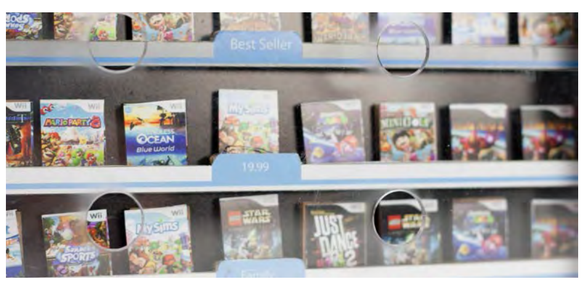
Theft Protection and durability Two fundamental features for POP displays in a retail environment.

Draw customers in by using brand imagining such as colors, logos and familiar characters.

Organize the games in an order that promotes, sells, and allows the user to easily find the games.

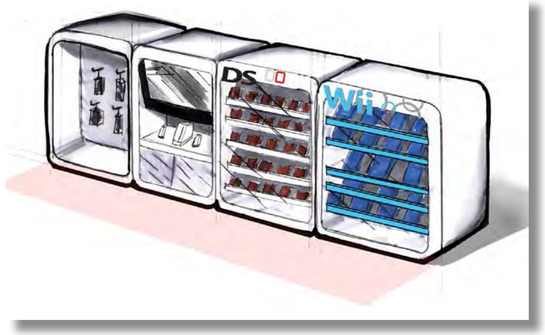
Development

Scale model



Holes in the glass allow user to view games without stealing them.

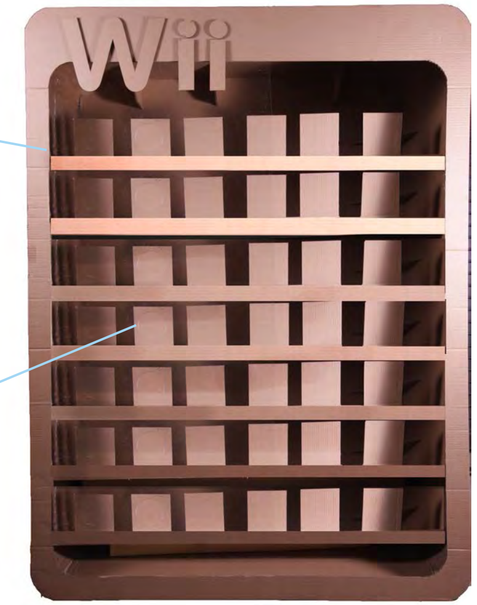
Large branding for easy recognition.

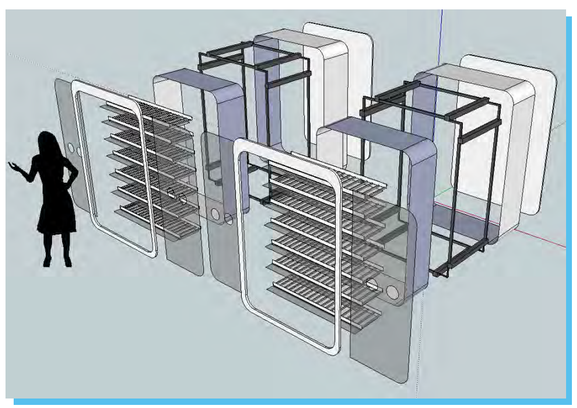


Chosen Rendering of Nintendo Display.

First shelf is at eye level to promote new release sells.

Access to the holes will be on every level





Exploded vies allow an opportunity to see how the final model was going to be built during the pre-prototype phase

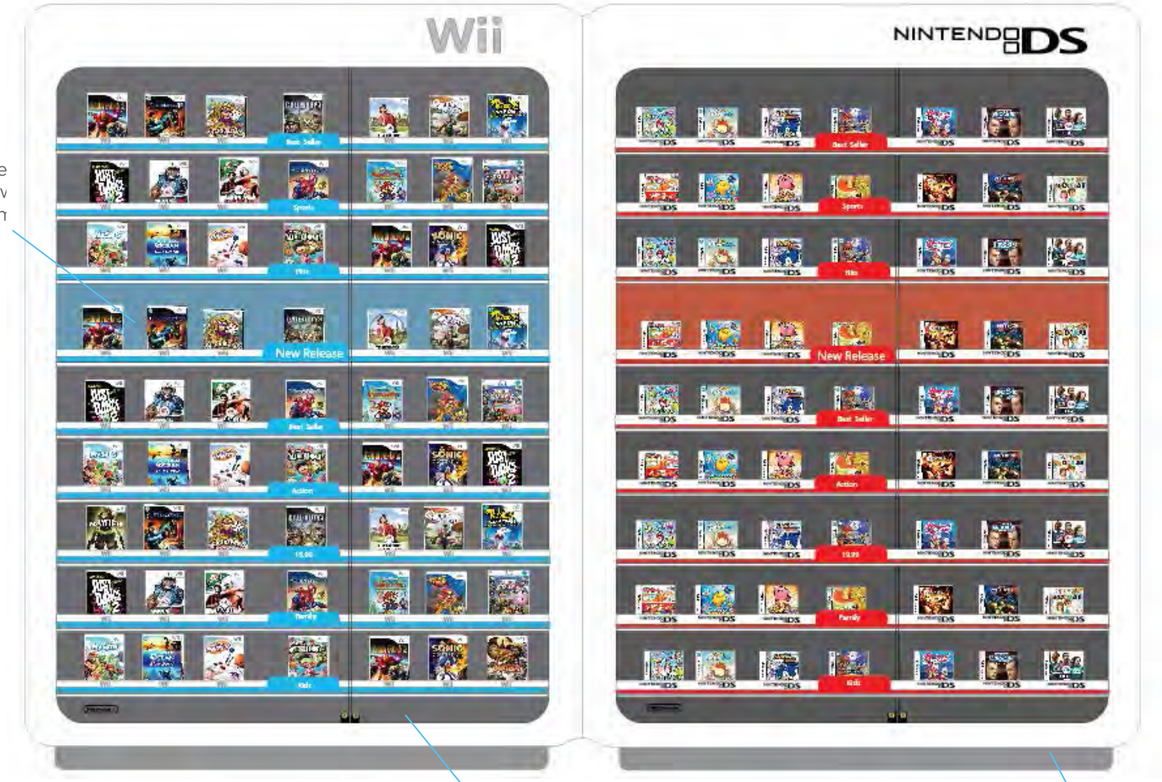
Final Model

Familiar branding and white space for advertising.

Three and a half inch holes prevent theft.

Blue lights draw attention to new releases.

Sliding glass doors for security and accessibility



Holes run along the ne release section to allov the buyer to view then

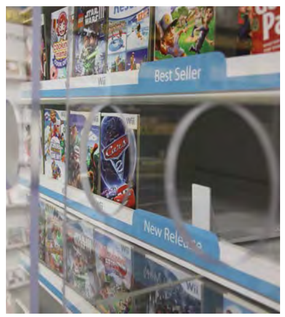
Locking sliding doors.

Three inch kick plate.

Key Features

- Keep merchandise secure while making it access able
- Draw attention to the new releases to maintain brand image.
- Highlight gainers of games and put children's games at eye level to draw interest.

Easily view games by reaching through the display glass.



Shelves keep games from falling to the bottom.

Open the glass by using the holes as grips

Shelves pull out for easily restocking.

Leica

Geosystems

Background

The Leica Disto line consists of measuring devices that use high frequency laser technology to measure distances.

The current product line features two models of Disto...a 3D and a 2D model priced in the range of $150- $8,000.

JOB SITE RESEARCH

Observations on the job site revealed problems when workers use a tape measure elevated on a scissor lift.

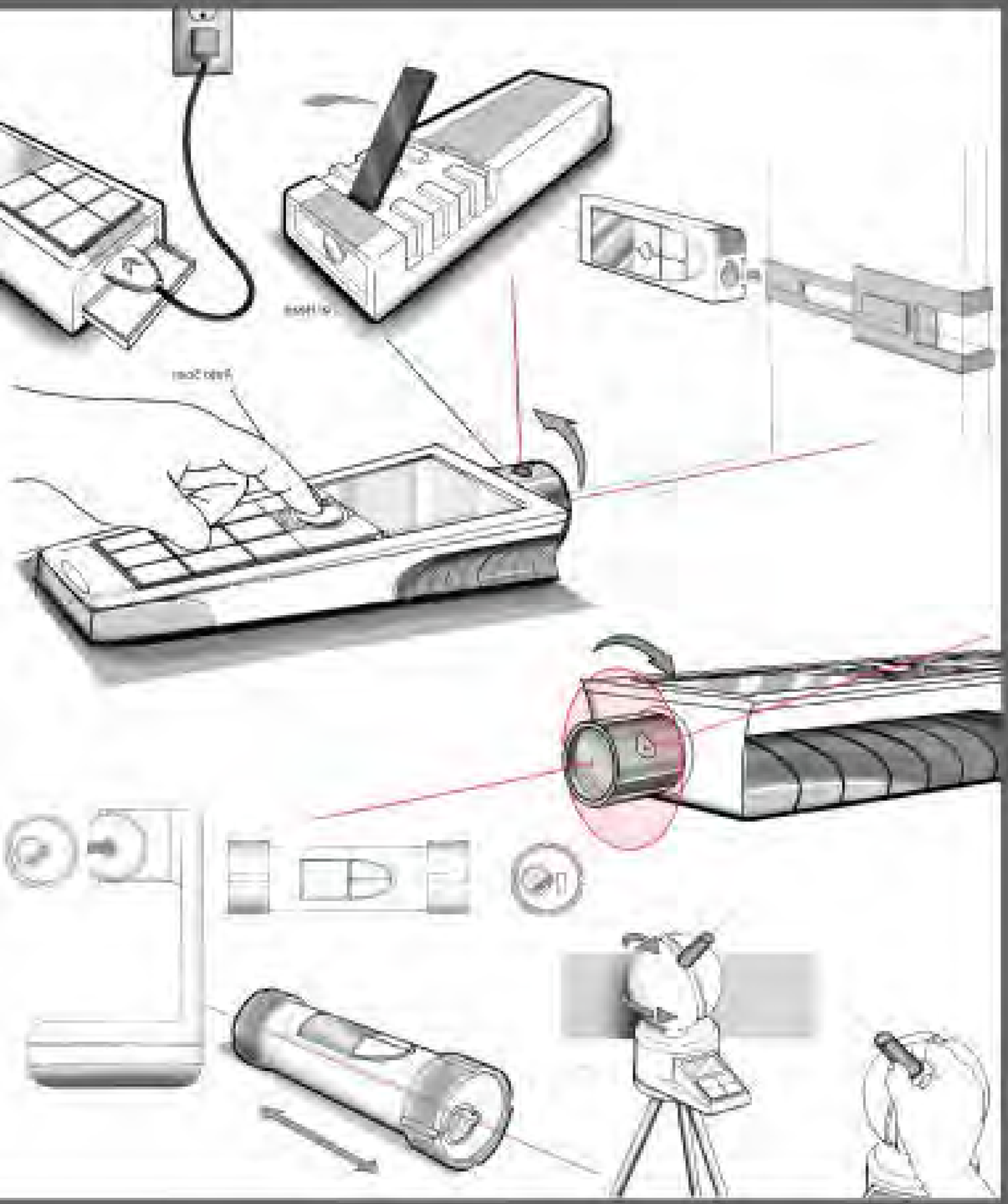
Miguel: “From a personal stand point I don’t like the scissor lifts because they are hazardous and tapes are frustrating to stretch out over long distances. Also we can’t always get scissor lifts on second floors of buildings.”

PROBLEM

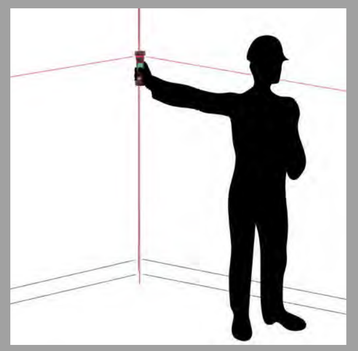
Currently the 3D Disto is too expensive for some users and requires a steep learning curve.

The 2D Disto also requires an edge or wall from which to base a measurement.

Generating CAD models from measurements is not well accommodated.




ON
SCAN
1
2
3
CLEAR
TIMER



1. Power on
2. Quickly measure distance
3. Quick inspect
4. 3d room scan
5. Upload as built CAD models

A mid-tier option in the next line of Disto measuring devices.

Dual lasers allow for faster measuring anywhere in the space.

Compact and affordable alternative to 3D measuring.

Scans the room for quick as-built drawings, and to generate CAD drawings.

Lightweight and compact for ease of use and transportation.

Leica Geosystems

OMNI-DIRECTIONAL DISTO

Leica Geosystems

OMNI-DIRECTIONAL DISTO

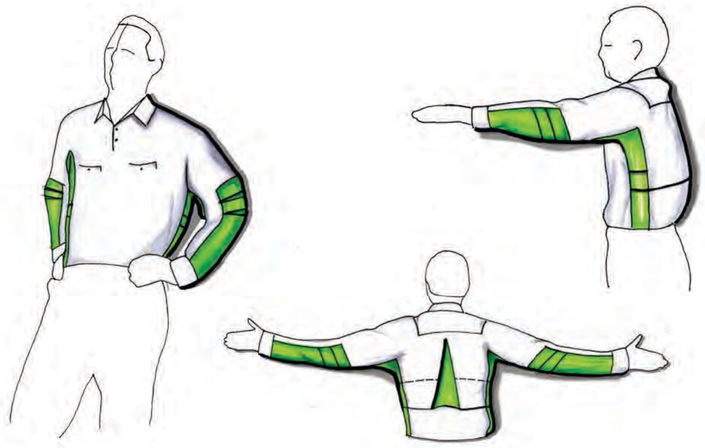
Precise measurement with minimal effort.

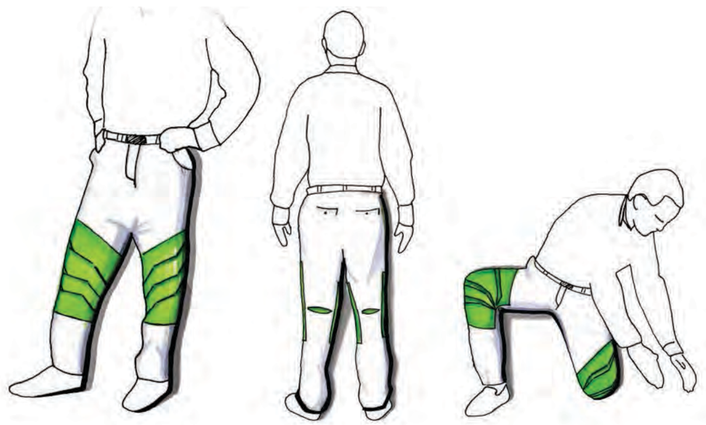
FLUX

My final semester at Auburn University. I worked with VF Corp. and Innovia to make a brand new industrial uniform that focused on articulation. A technology that has not been explored until now.

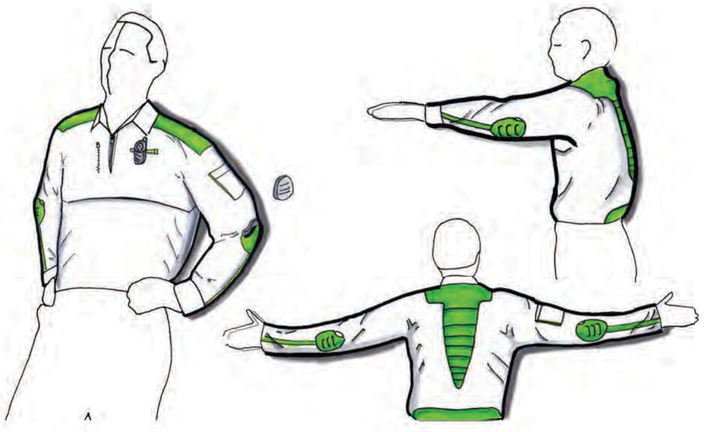
FLUX

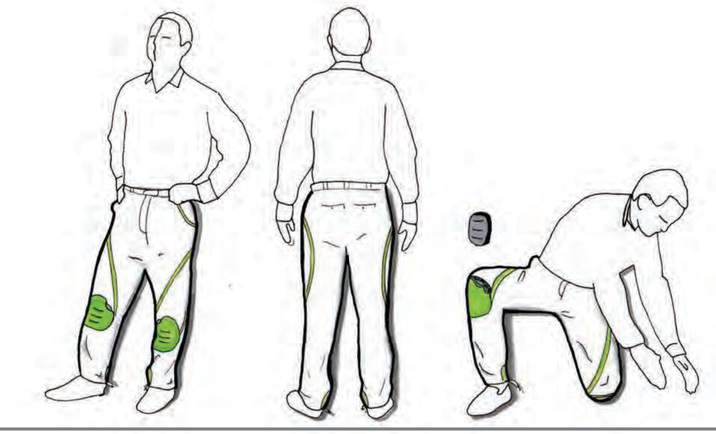
CONCEPT 1



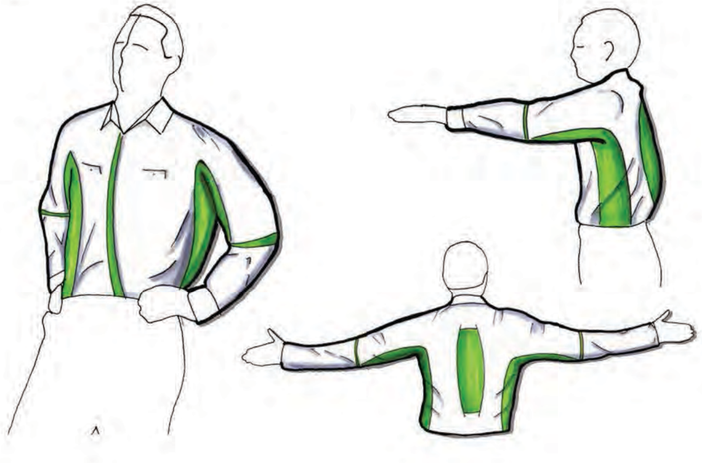


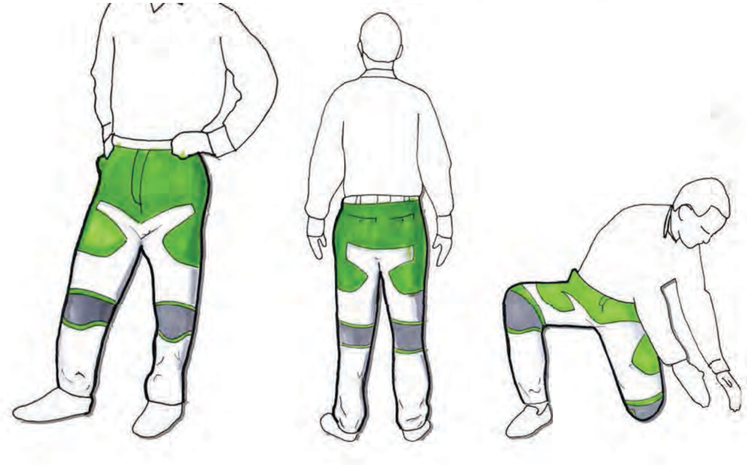
CONCEPT 2





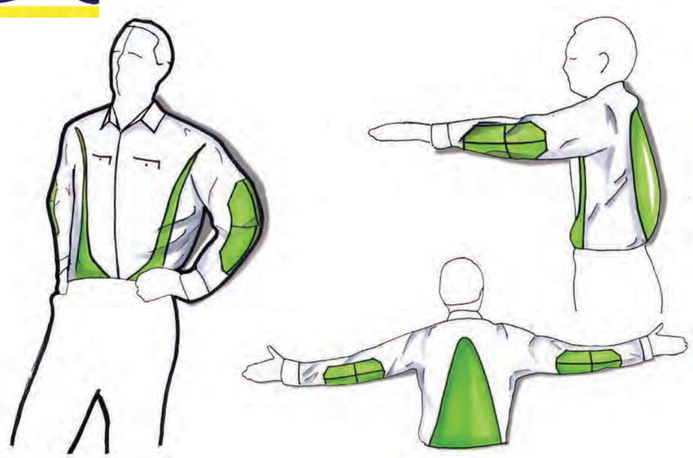
CONCEPT 3

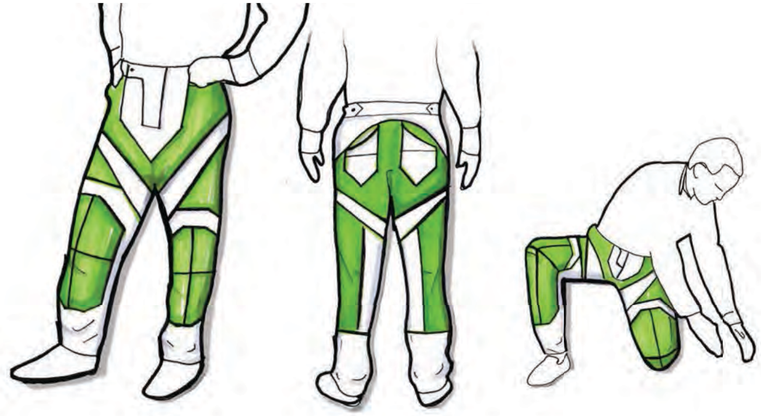




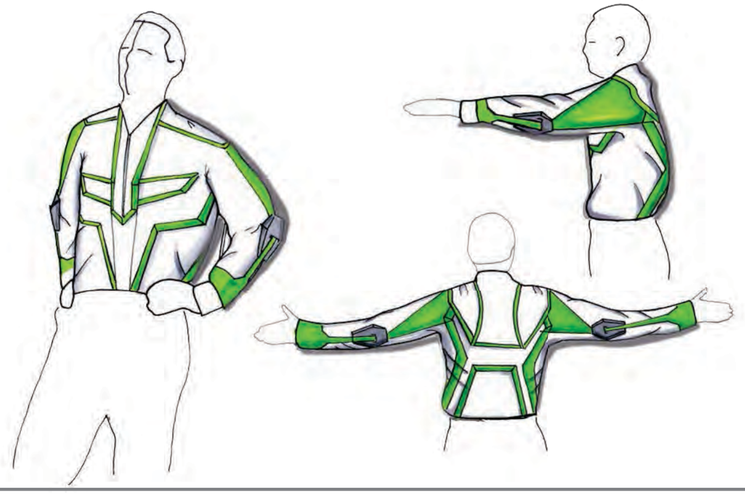
FLUX

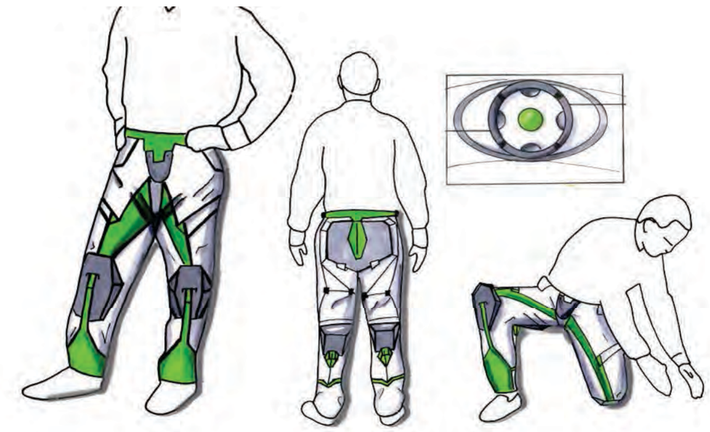
CONCEPT 4



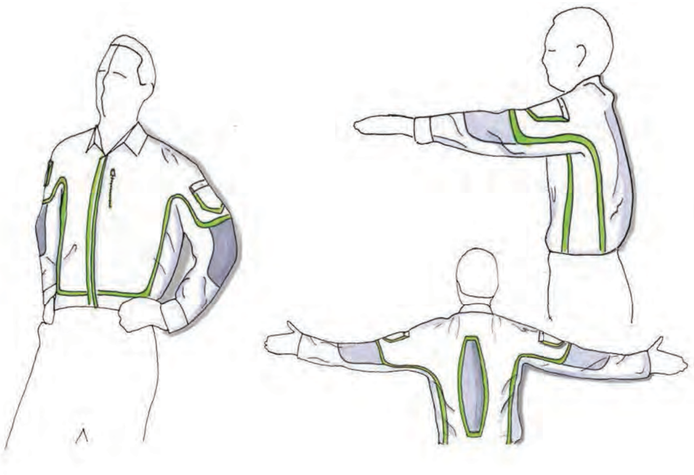


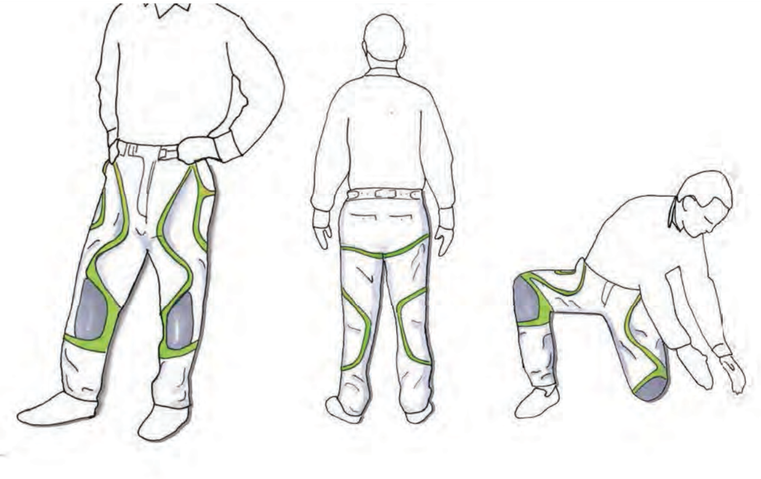
CONCEPT 5





CONCEPT 6



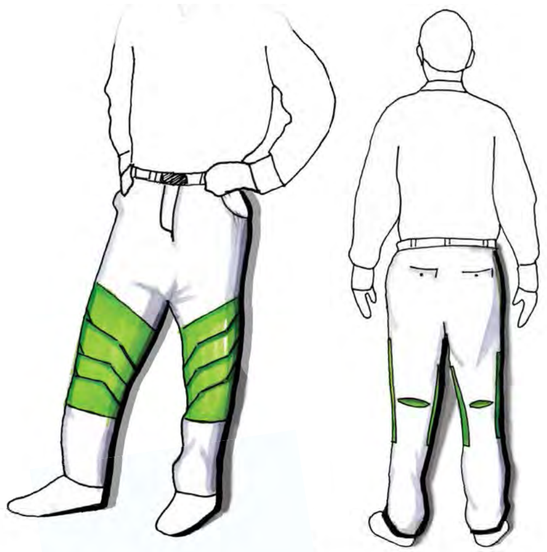


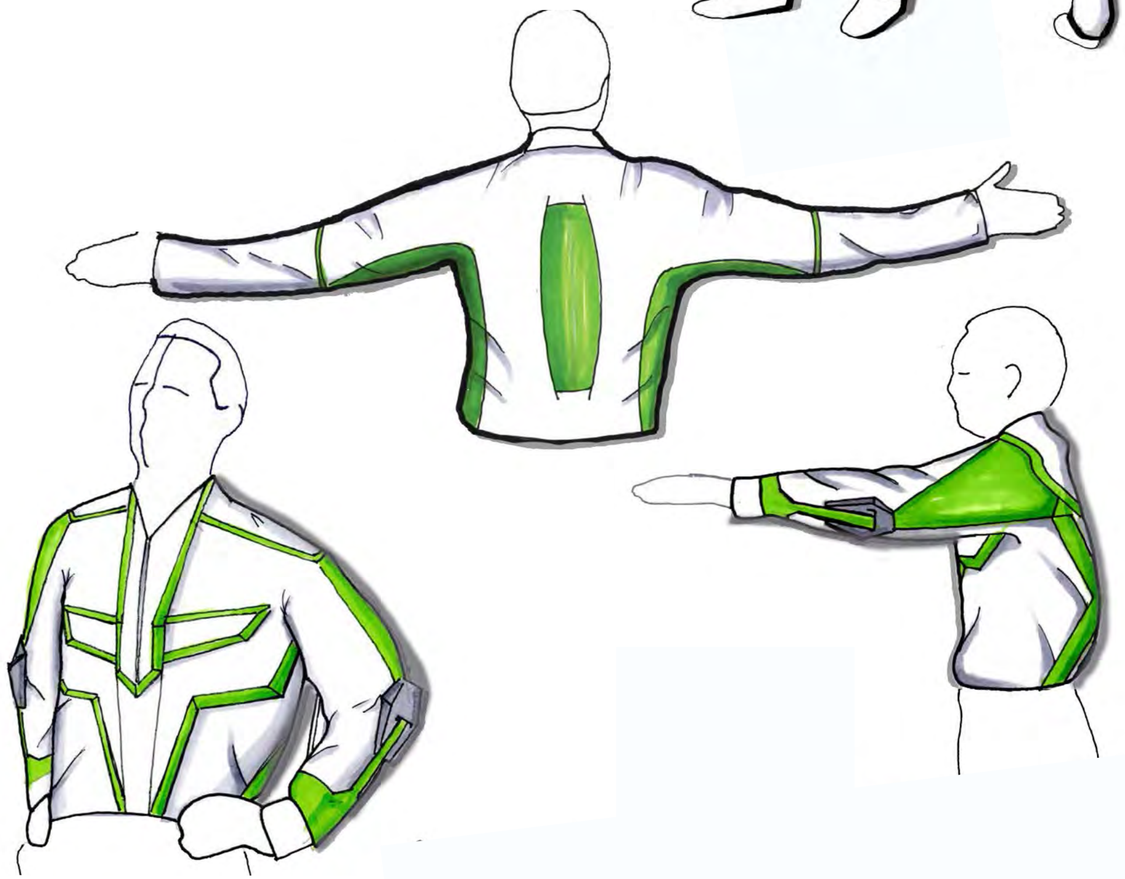
FLUX

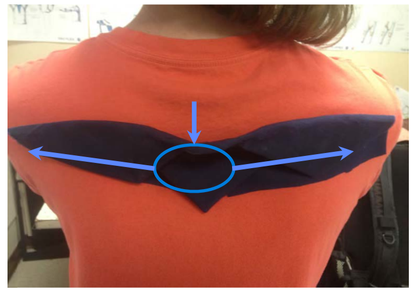
CHOSEN CONCEPTS

FURTHER DEVELOP AND EXPLORE ALL AREAS REFER TO MICROSITES.

INSTEAD OF REMOVING TENSION HOW CAN IT BE ADDED TO HELP WITH MOBILITY?



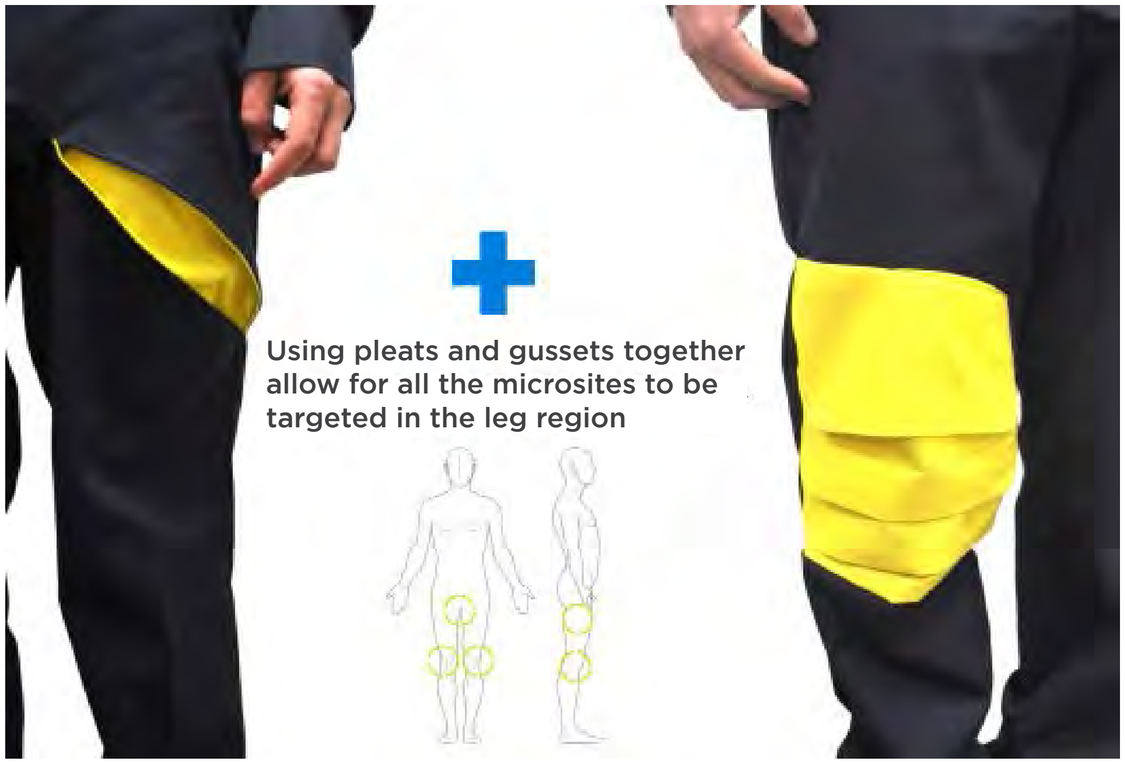




HOW DOES THE FABRIC STRETCH AND EXPAND AND HOW DOES IT WORK IN SEQUENCE?

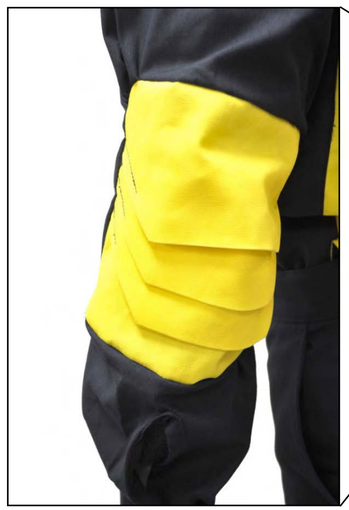
IN LEARNING HOW TO SEW I MADE A WALLET FOR MY FATHER. THIS TAUGHT ME HOW THE MACHINE WORKED AS WELL AS HOW TO WORK WITH FABRIC

FLUX



Using pleats and gussets together allow for all the microsites to be targeted in the leg region

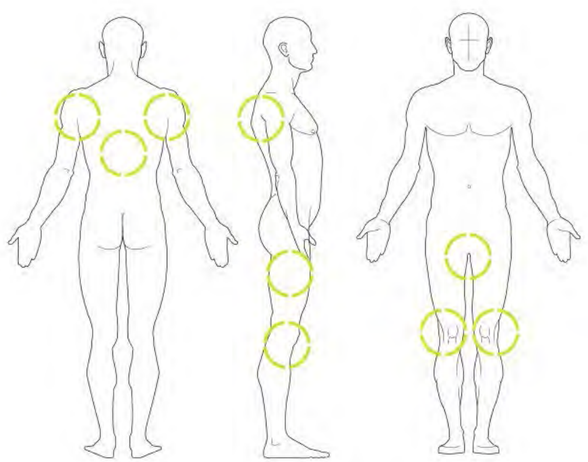
A major gusset on the back of the shirt helps, but had a hard time closing.



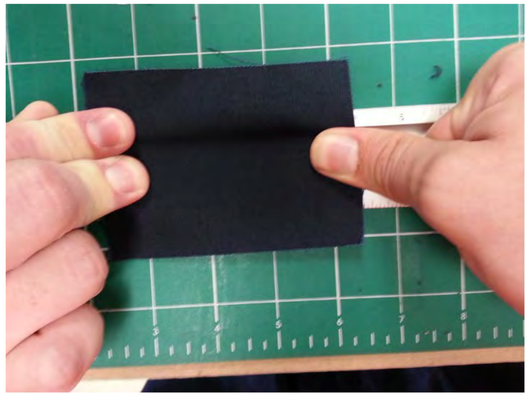
Pleats on the elbow and knee helped a lot, but had a hard time retracting.

FLUX

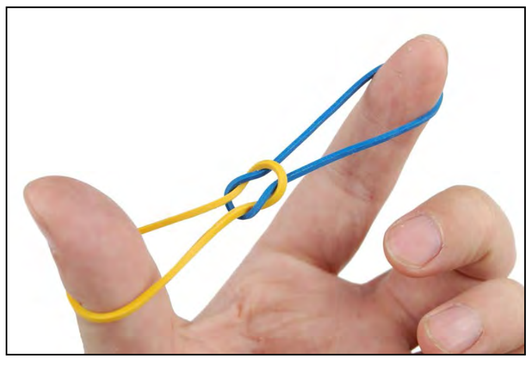
I drew a lot of my information and research during this stage from paintball. A lot of this technology has been explored on paintball pants, but not jerseys. So how can it be transferred across the board?



If bias cut martial is placed on the microsites we can solve the problem of having tension lines and bound areas on the uniform.

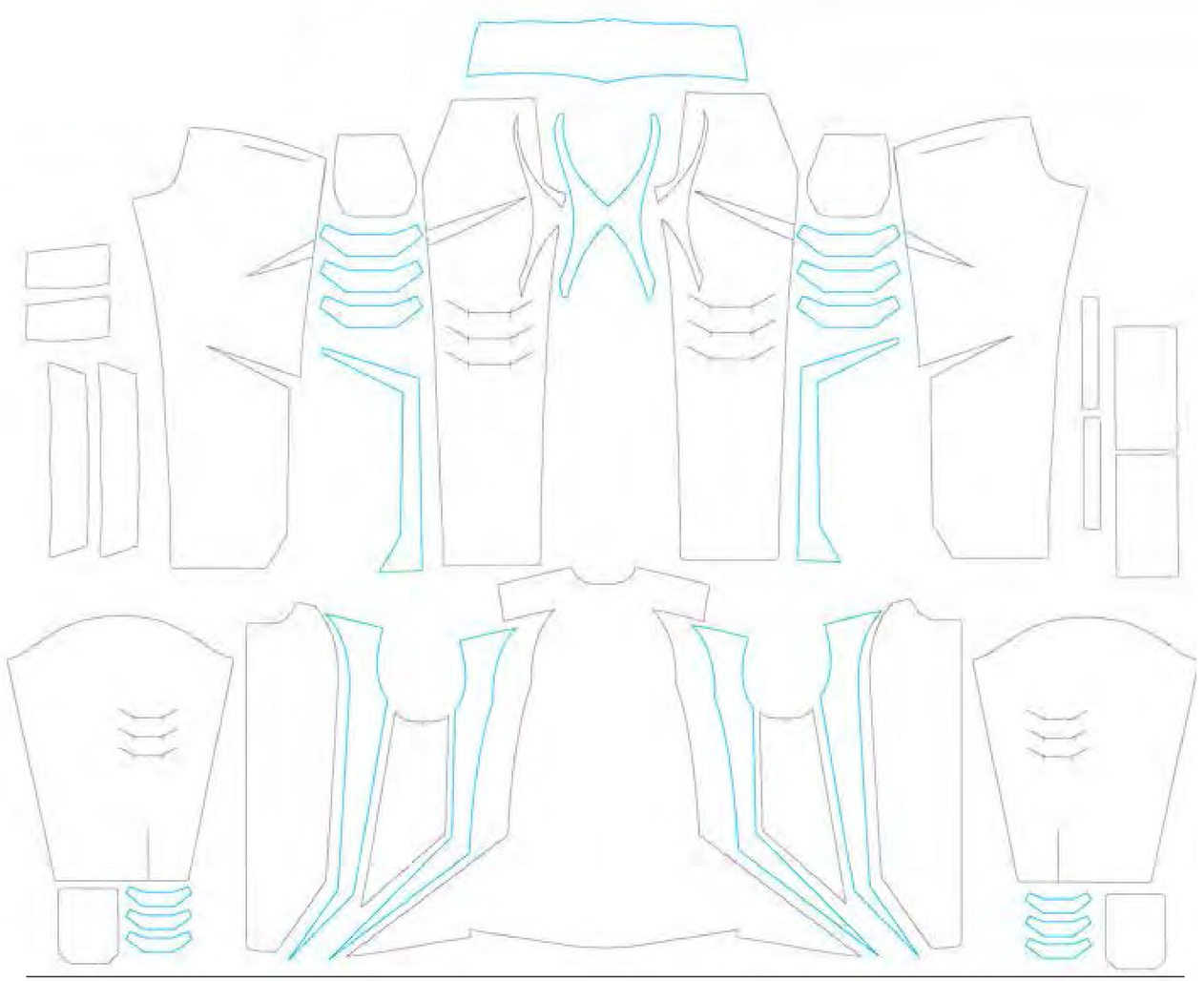


WHILE USING THE 65/35 MATERIAL AND CUTTING IT ON THE BIAS FABRIC THAT STARTS AT 4'' AND MOVES TO 4.10'' AND NORMAL CUT FABRIC THAT STARTS AT 4'' TO 4.75'' MEANS THE BIAS CUT GIVES AN INCREASE OF 15.85% INCREASE OVERALL.



Using bias cut material elasticity can be introduced into the product without compromising cost or adding a different material.

If the shapes are more organic where needed they can help with the overall flexibility of the entire outfit.

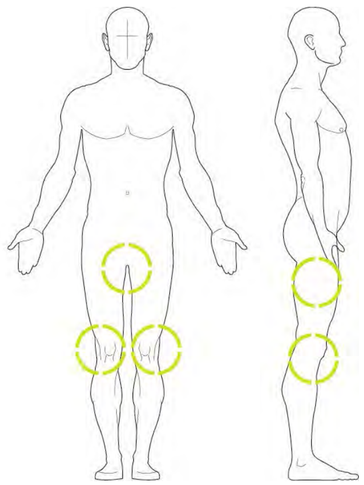


ALL BLUE MATERIAL IS BIAS CUT AND LOCATED IN SPECIFIC AREAS TO ADD THE MOST MOVEMENT IN A GIVEN AREA.

When rear and forward expansion joints work together they allow for maximum comfort while moving the arms.

Rear Shoulder Expansion

Elbow Expansion



Hind Expansion

Groin Expansion

Knee Expansion