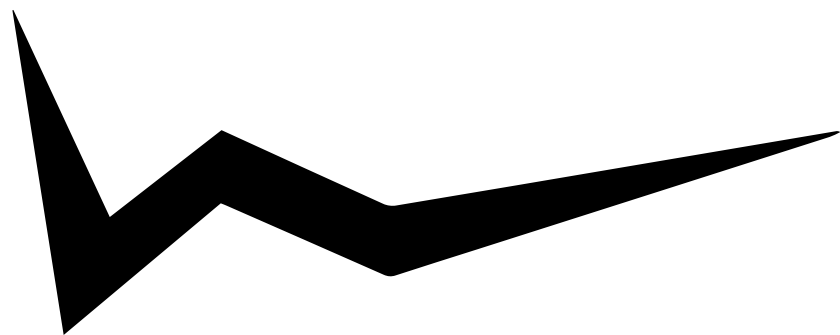




ben_webber
industrial design portfolio



ecoPRT Inc.

an autonomous vehicle project
in collaboration with NC State,
Research Triangle Park, and
the NCDOT



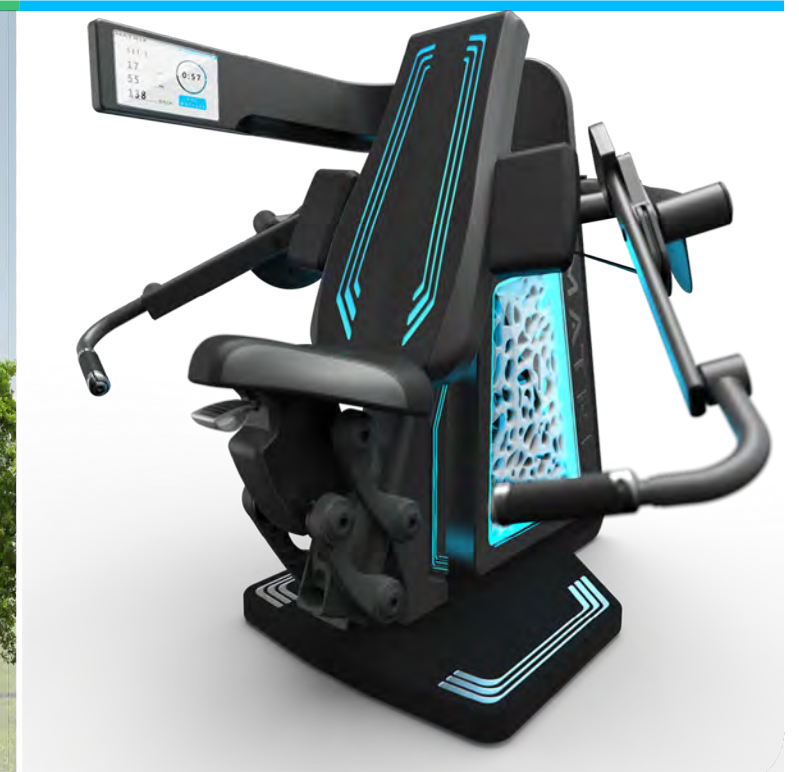
sněžka bag

backpack collaboration
with a Czech company



anthropocene park

collaboration with Mermet to
explore the crossroads of the
urban environment, nature,
and the human experience

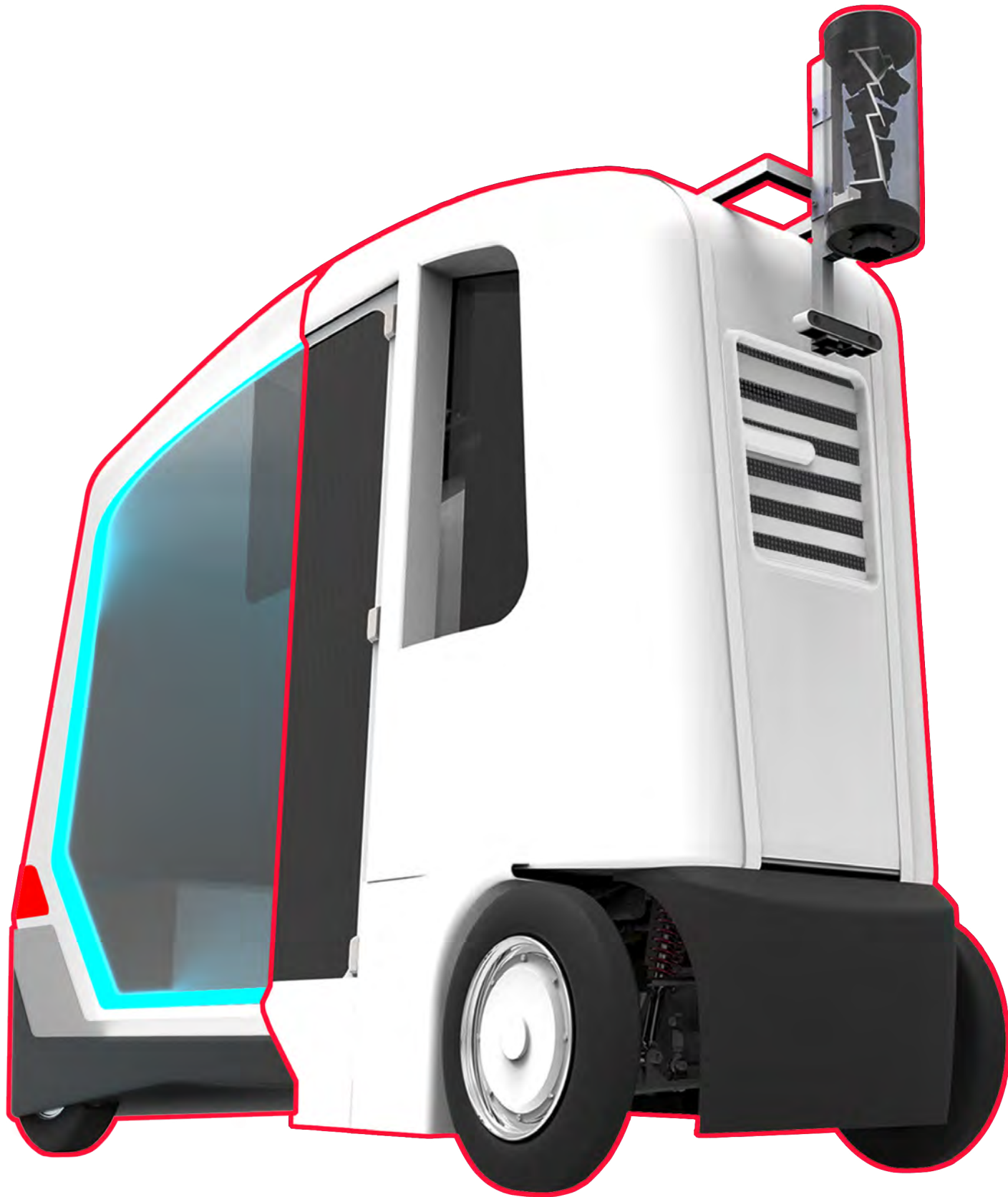


R.I.A \ \ \ \

fitness equipment concept in
collaboration with Johnson
Health Tech and Matrix

ecoPRT Inc.

autonomous vehicle
project in collaboration
with NC State, RTP, and
the NCDOT



visit my website to see more about this project,
along with videos and animations of the vehicle

<http://ben-webber.com/ecoprt-1>

- ecoPRT Inc. is a project aimed at developing a two-passenger, electric, autonomous vehicle system for public use in campus settings.

facts and figures

- cost: \$10K / vehicle
\$1M / mile of track
- weight: < 1000 lbs.
- max speed: 30 mph.
- rear electric hub motors
- 2 72v Li-ion batteries
- wireless charging
- lidar + stereo vision + gps
- air conditioning



my contributions



fabricating a-arms



in house "mohawk" mold



thermoformed bumpers



visiting thermoforming plant



informational posters to display at events



in house shirt printing



advertising our social media



transporting the vehicle



testing the vehicle



in house renders of projected goal



logo re-design

- These are some highlights of aspects of the project I have touched over six of my eight semesters in school.

- I decided to develop a concept that would provide potential solutions for problems I have become aware of after having worked on the project for six semesters

Current Vehicle

Gen 2.5

lidar

- Integrate into vehicle design
- Improve/add rear sight

stereo vision

- Increase functionality
- Cover lidar blindspots

condenser vent

- Reduce visual weight

interior

- Increase comfort
- Improve information feedback

door/windows

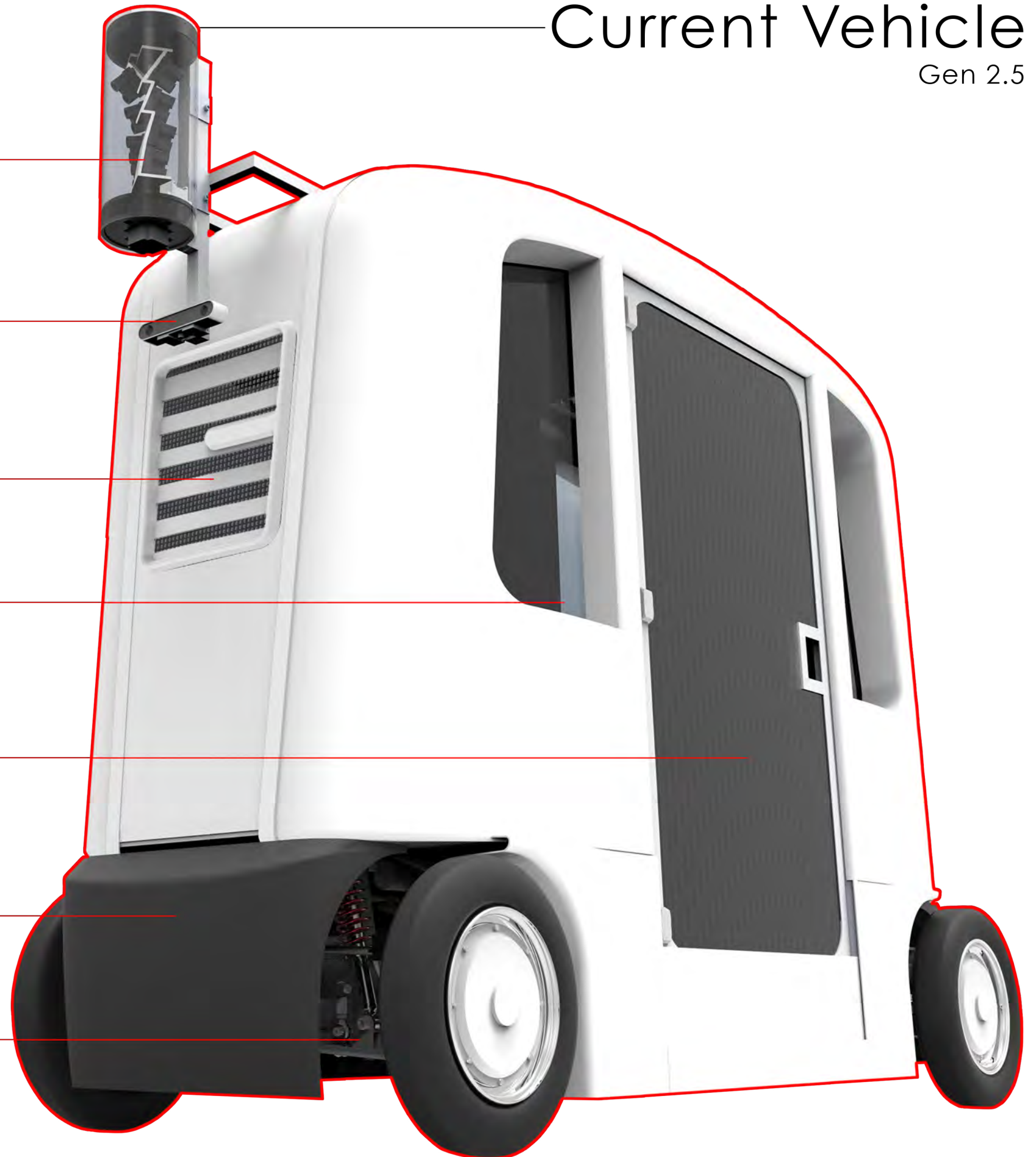
- Increase visibility
- Improve accessibility

bumper

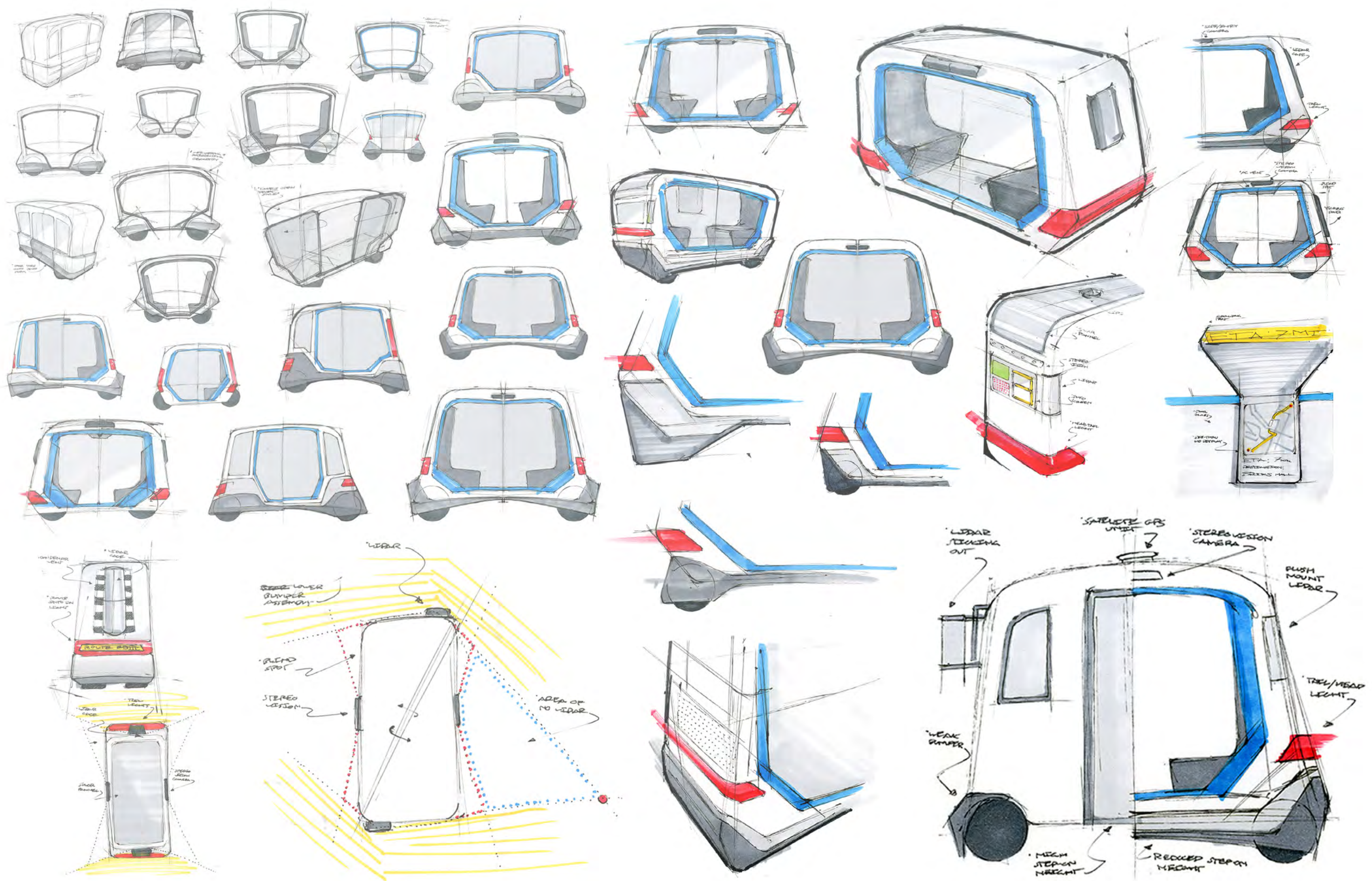
- Integrate into shell

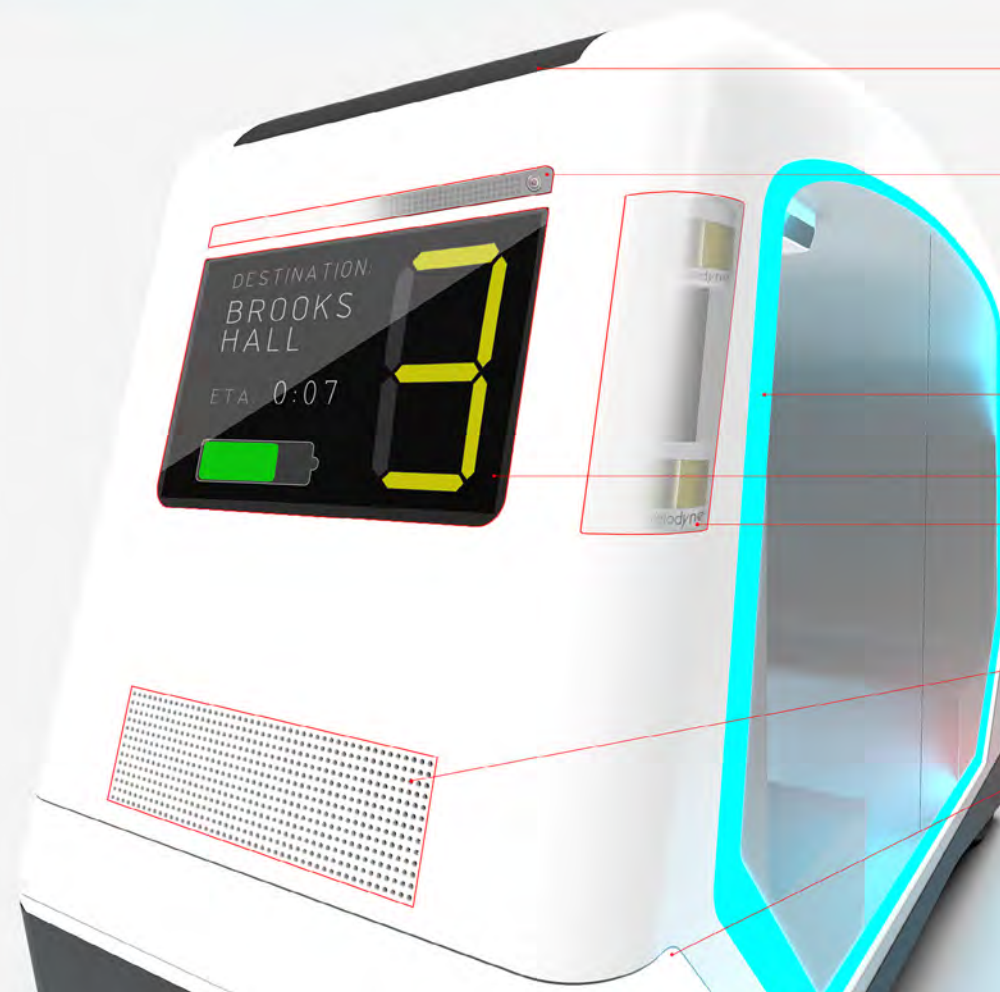
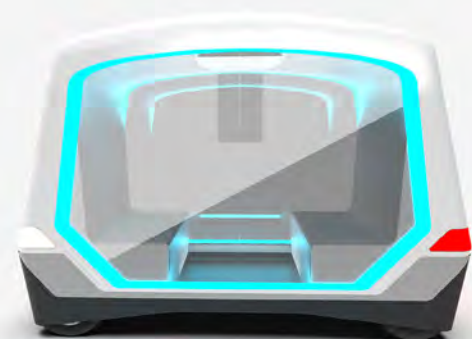
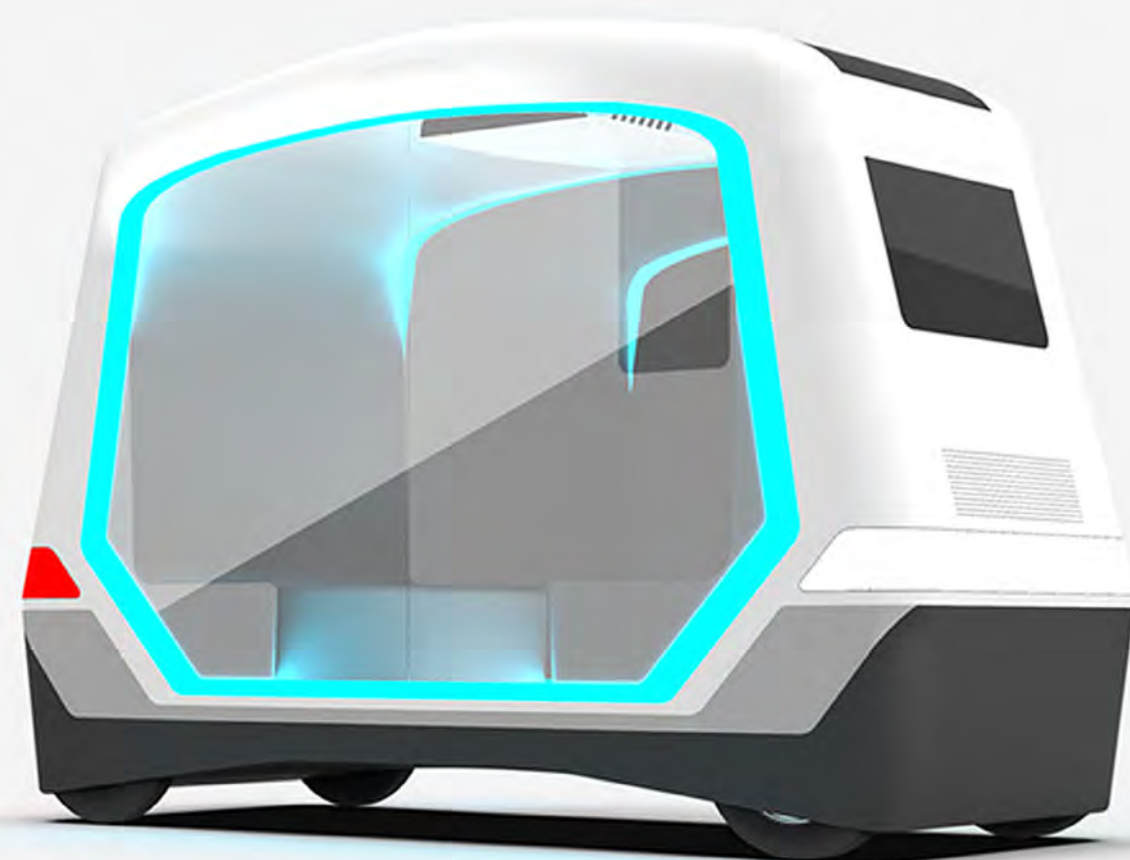
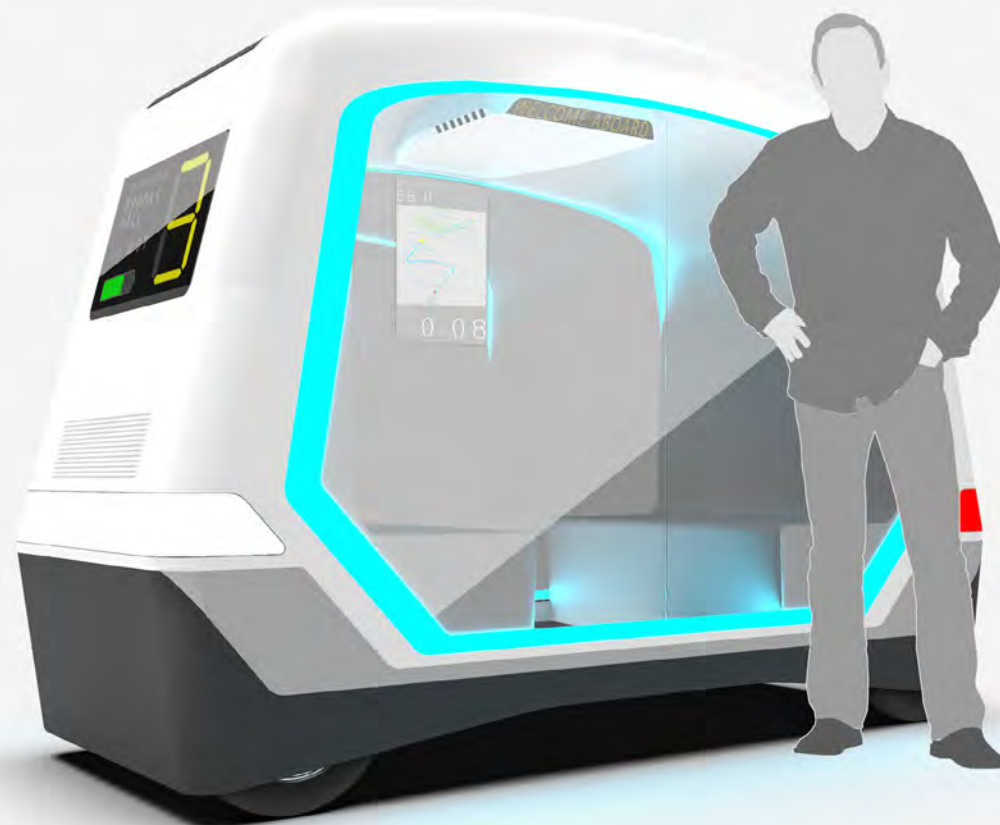
frame/drivetrain

- Use existing set up

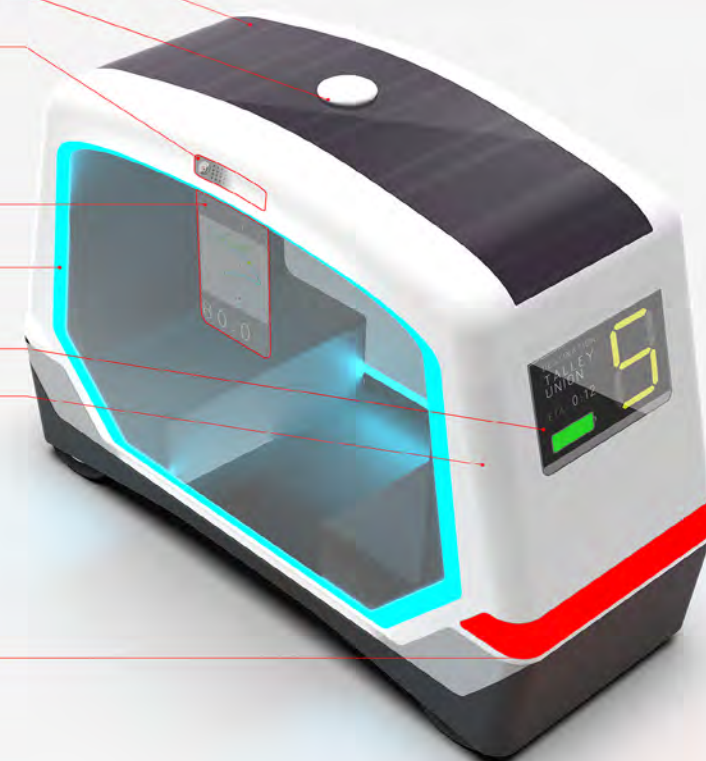


development





- SOLAR PANEL
- WISER SYSTEMS SATELITE GPS UNIT
- FLUSH MOUNTED STEREO LABS ZED STEREO VISION CAMERAS
- INTERIOR DISPLAY
- FULL RGB SPECTRUM DOOR LIGHTS
- OUTER DISPLAY SCREEN
- FLUSH MOUNTED VELODYNE VLP-16 LIDAR UNITS
- LOW PROFILE CONDENSER VENT
- FULL RGB SPECTRUM HEAD/TAIL LIGHTS

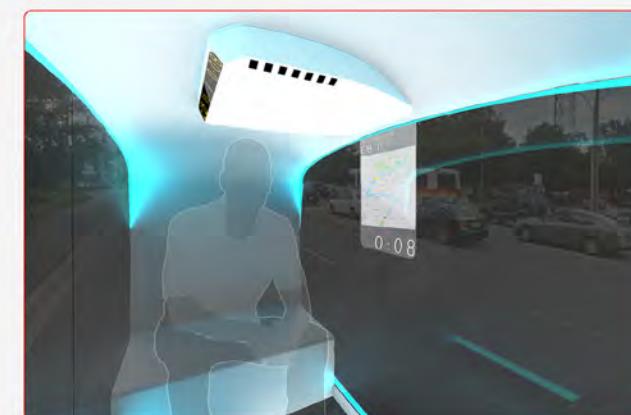


LIDAR
(YELLOW)

STEREO VISION
(PURPLE)

BLINDSPOTS
(RED)

HORIZONTAL
OPENING DOORS



- FULL SWITCHGLASS™ DOORS AND WINDOWS INCREASE INTERIOR VISIBILITY
- DOOR-TO-WINDOW LENGTH BENCH SEATS INCREASE COMFORT
- INTERIOR DISPLAY SCREEN INFORMS RIDERS OF ROUTE PROGRESS AND DETAILS

NEW SHELL DESIGN

CURRENT FRAME AND
DRIVETRAIN FOR 2.5
VEHICLE

LOWER BUMPER
ASSEMBLY



sněžka bag

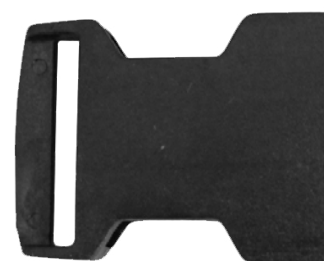
a bag developed in
collaboration with
Braasi, a Czech
backpack company



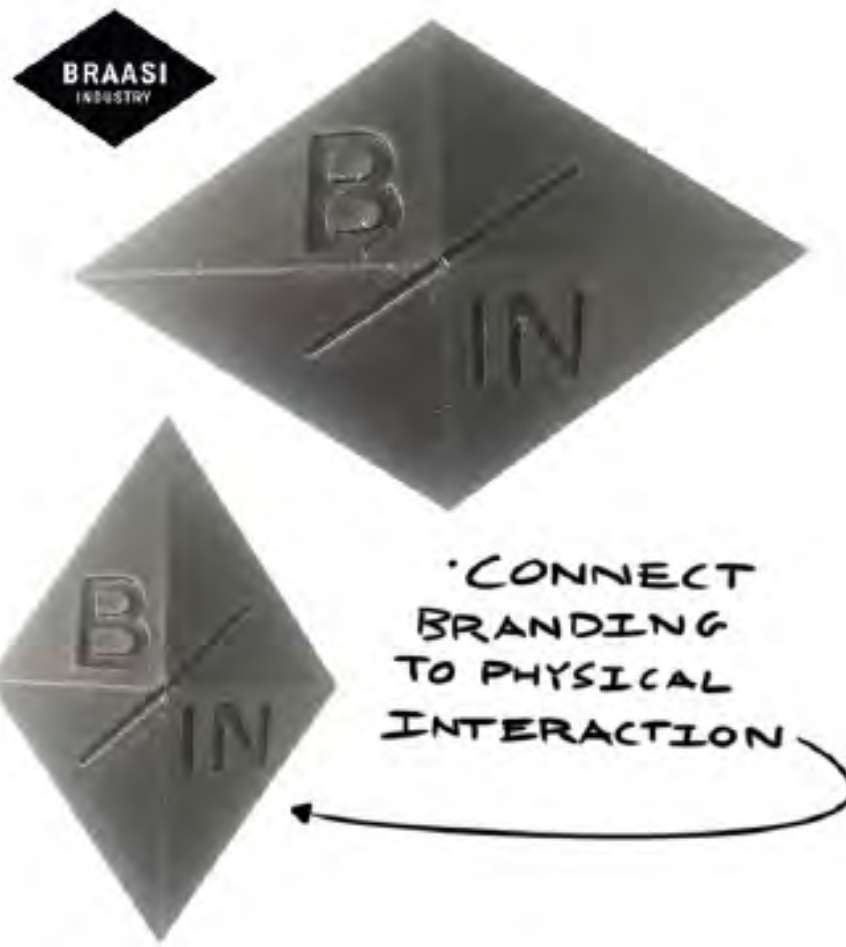
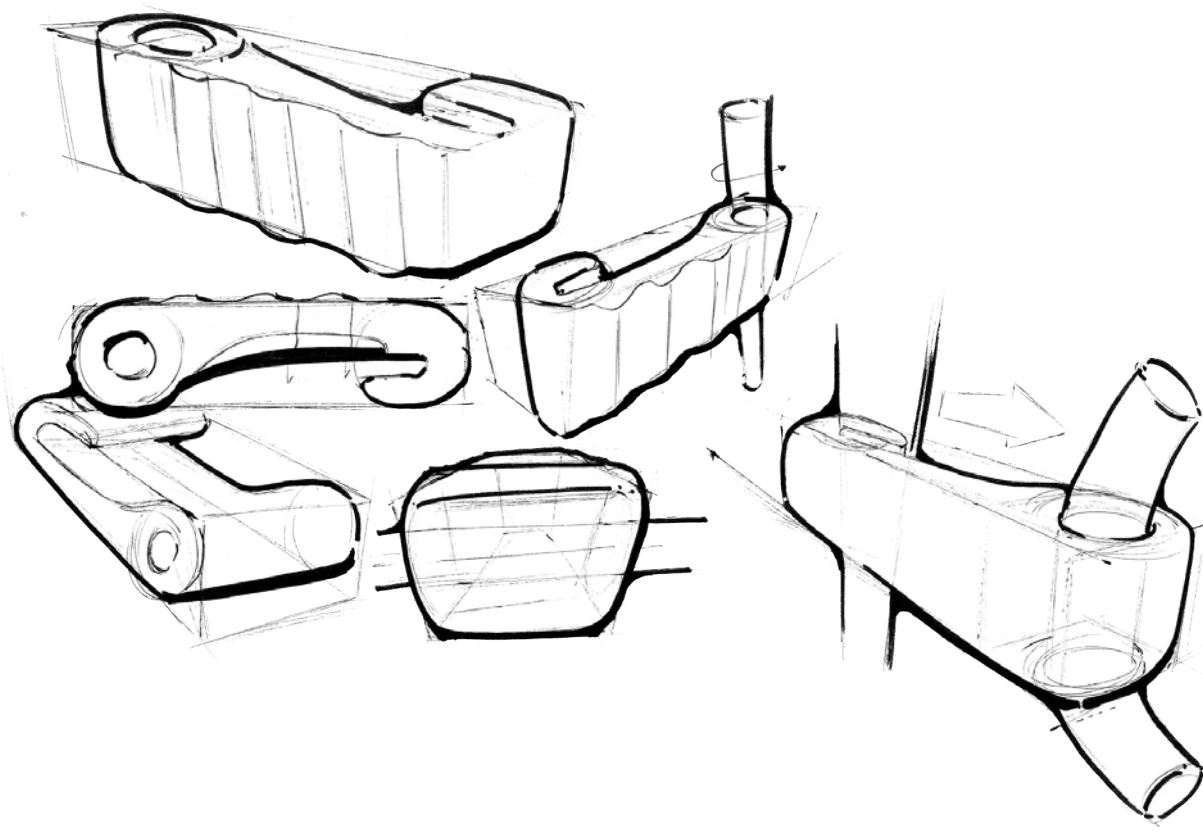
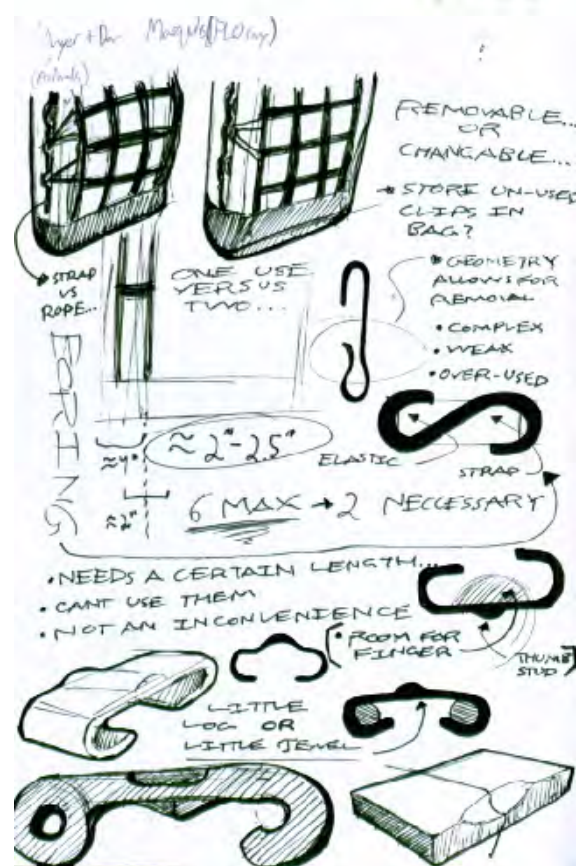
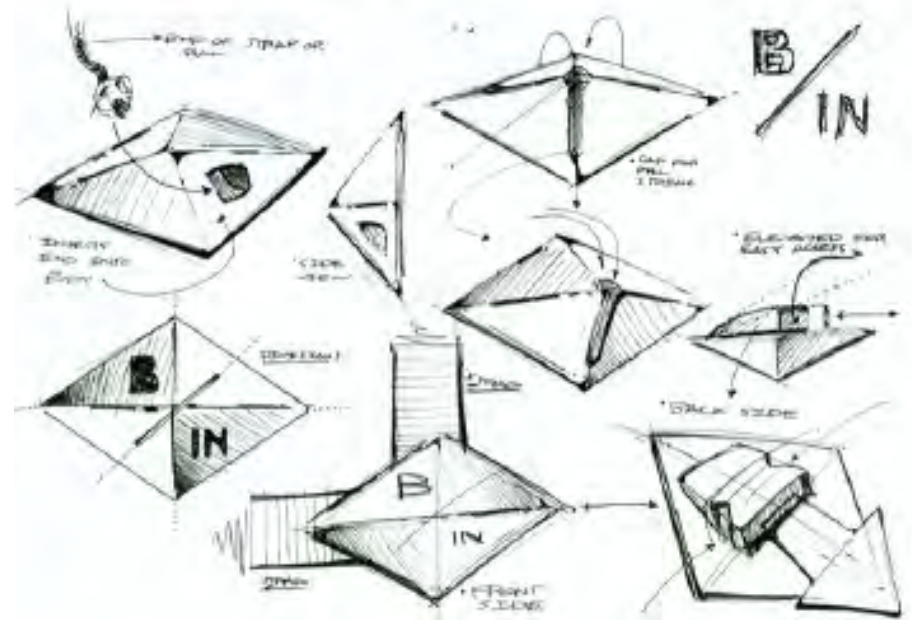
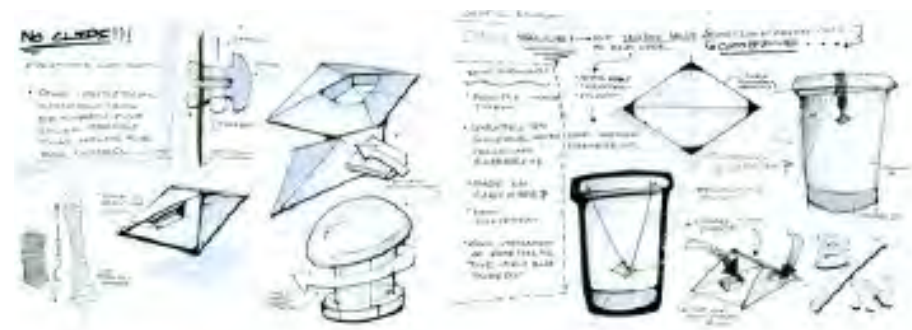


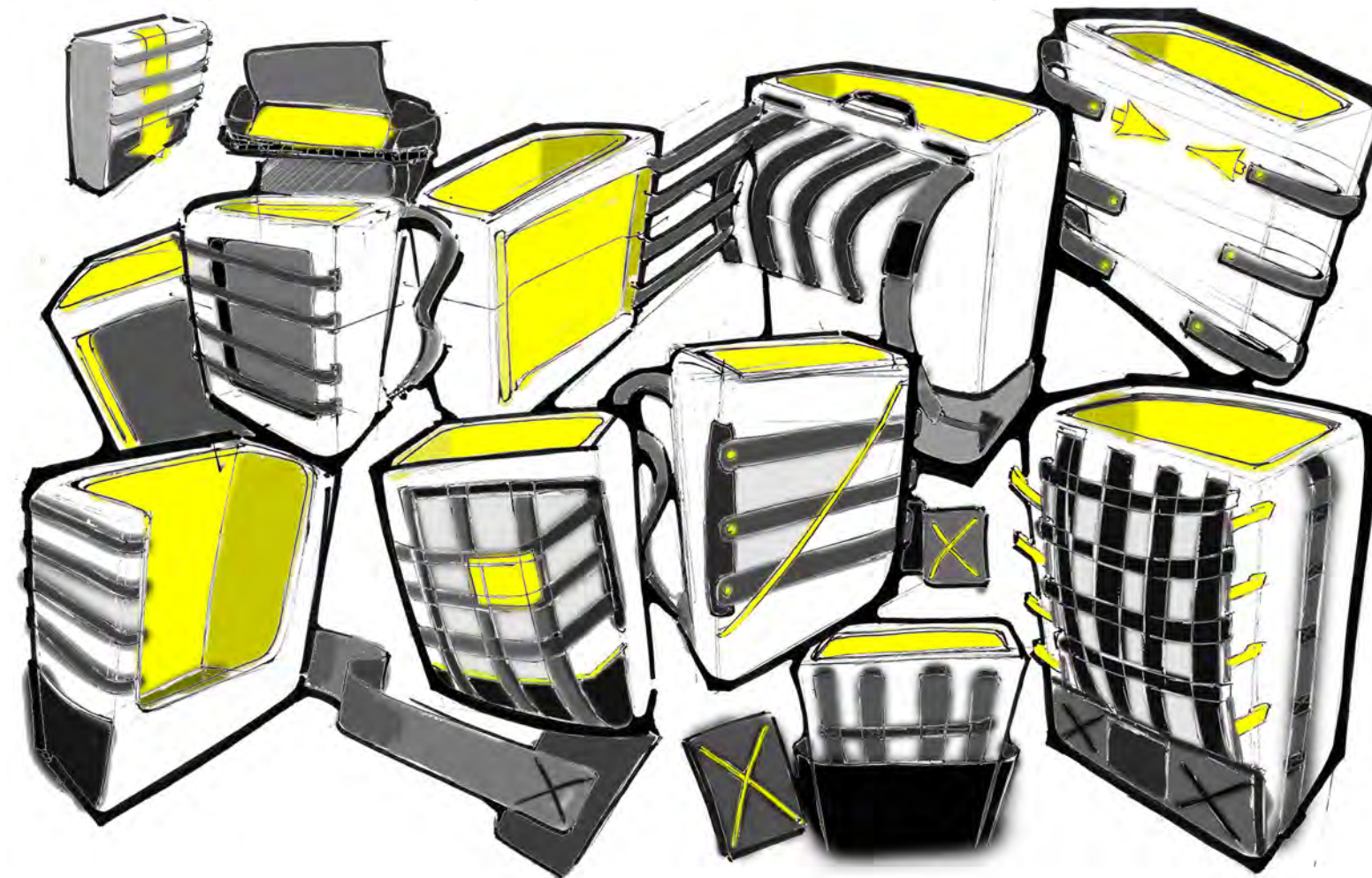
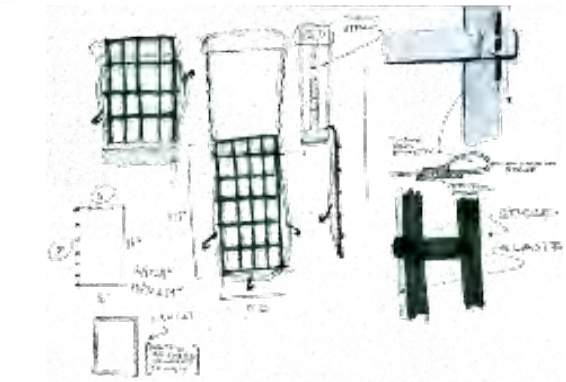
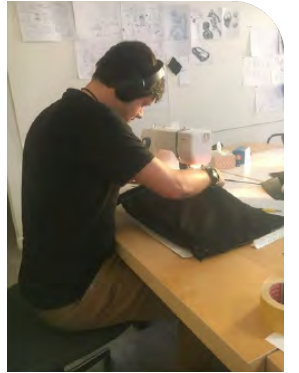
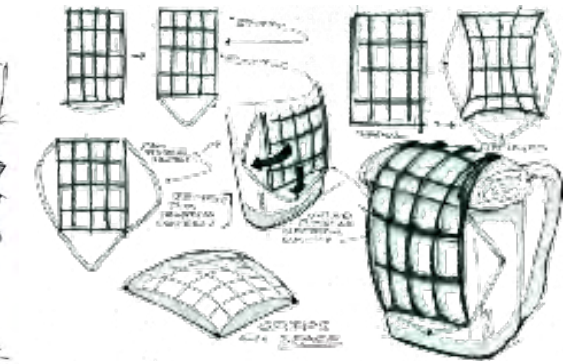
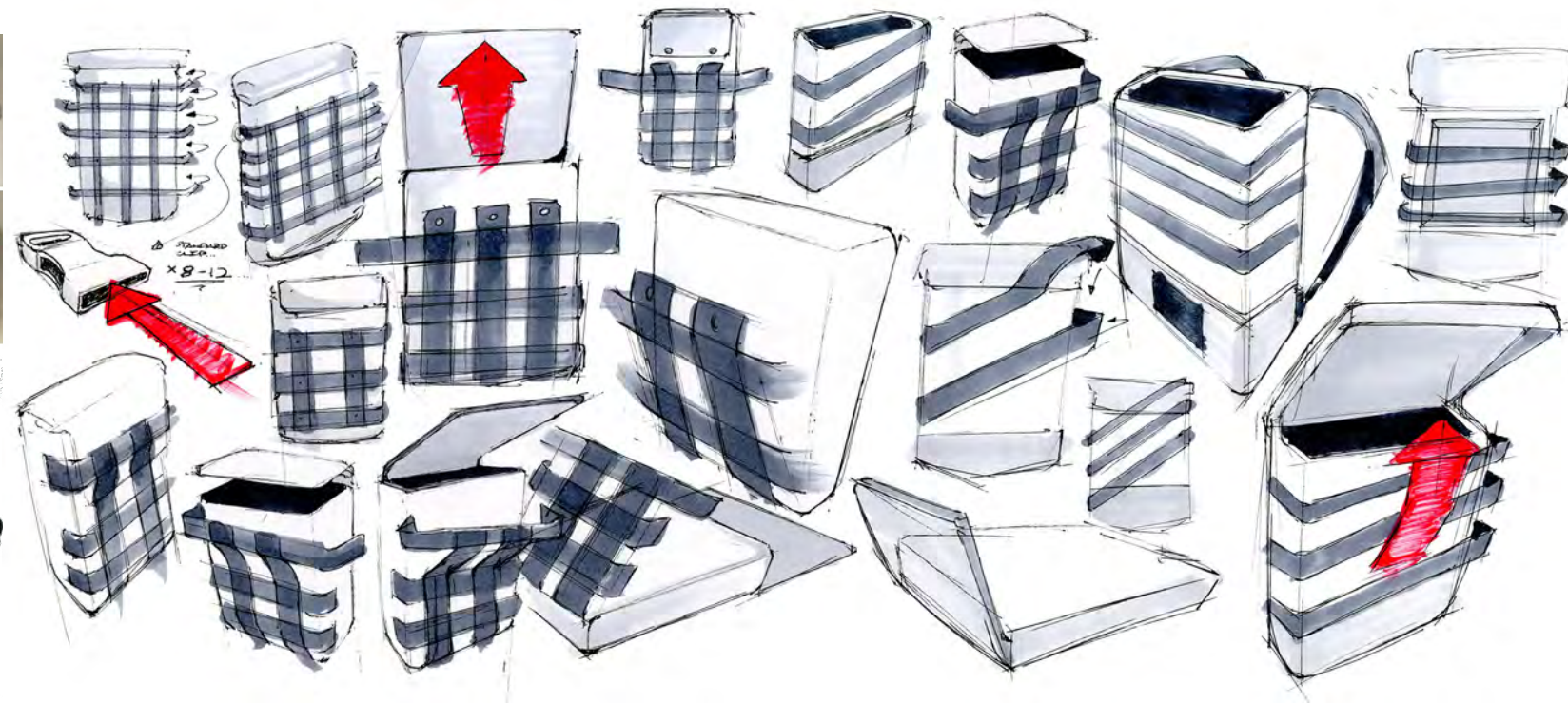
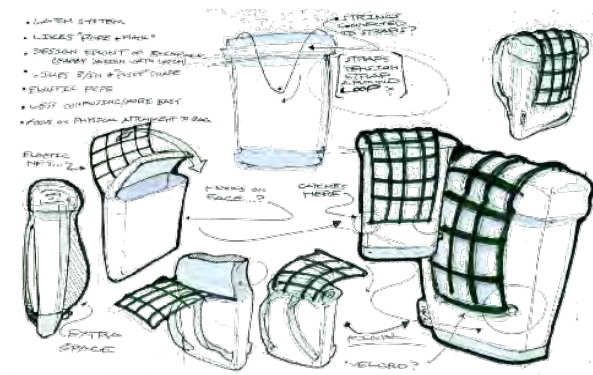
Braasi approached me with the challenge to design a new product for their company

- focus on hardware and interaction
- plastic clip/latch system
- flow with current branding
- explore netting system
- improve functionality



development







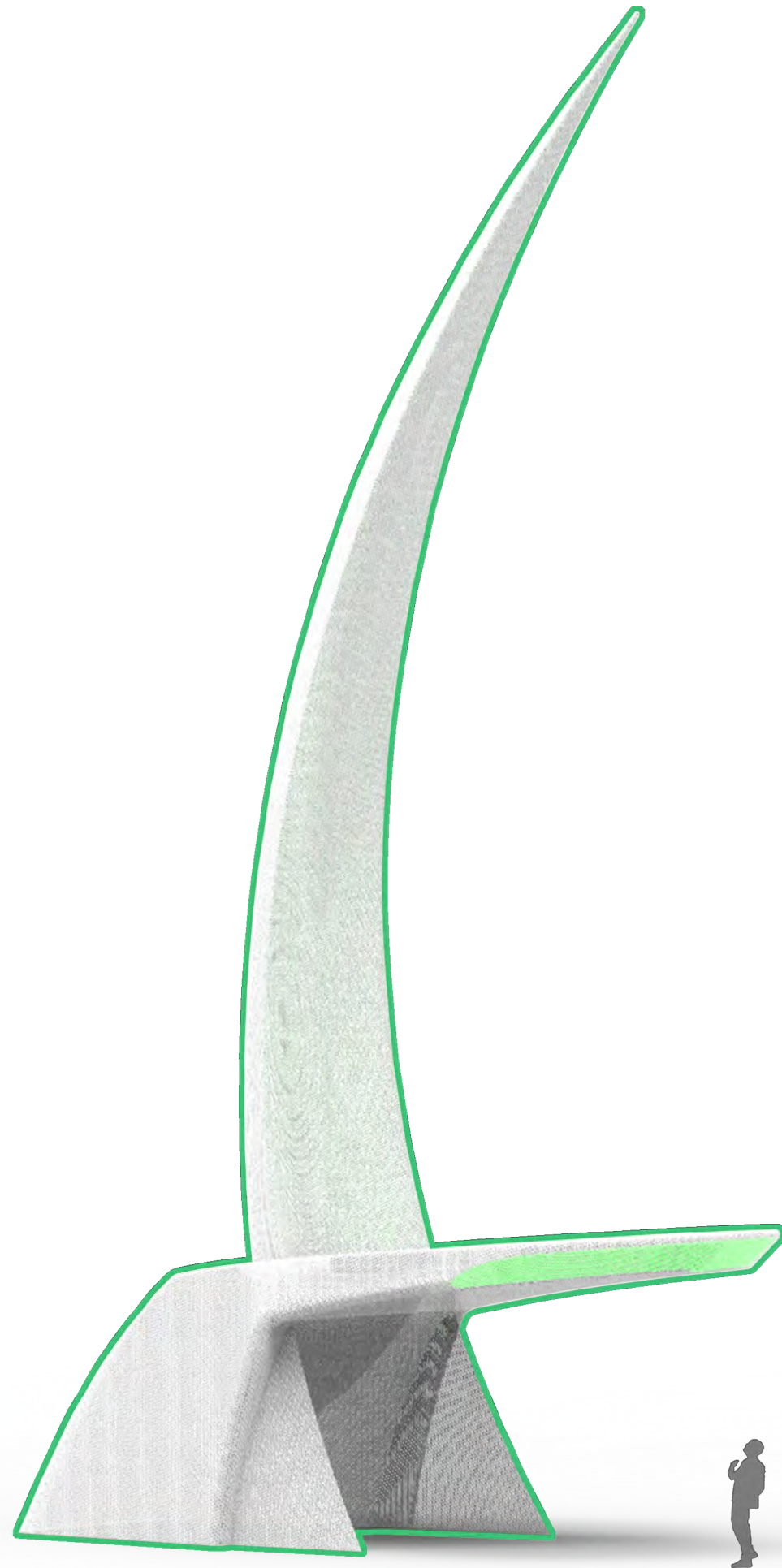
in use



g o o d e x p e r o e



thanks bobby



anthropocene structures

structures designed to
provide a space in the
urban environment for
reflection

visit my website to see more about this project,
along with videos and animations of the park
<https://ben-webber.com/anthropocene-park>

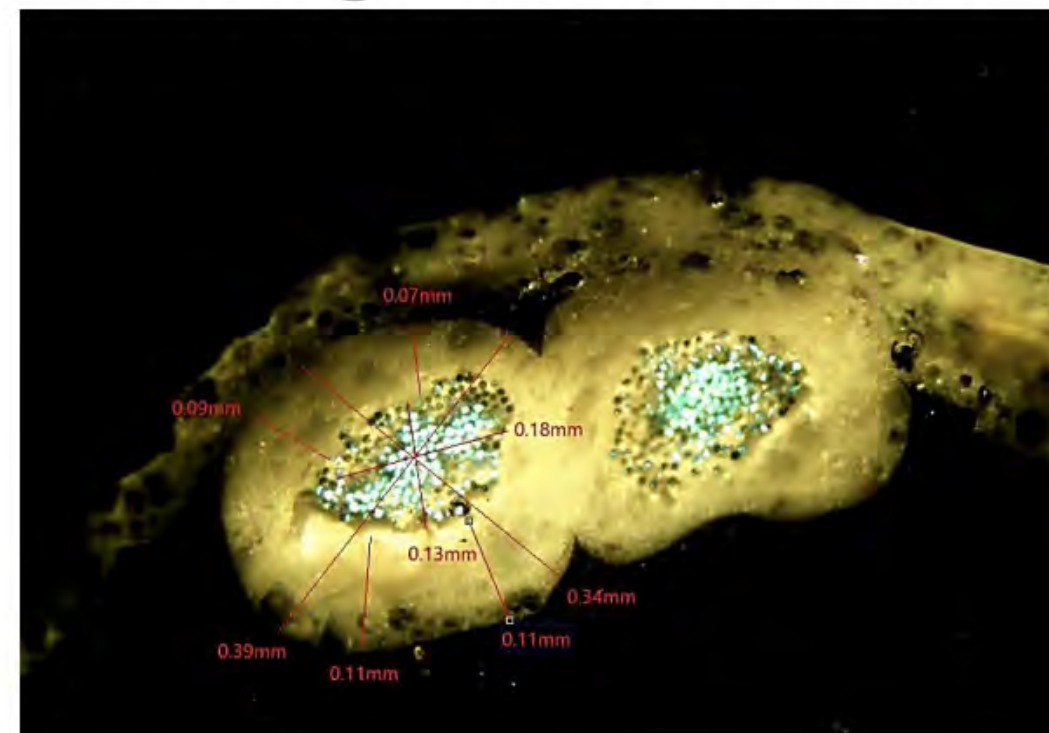


Mermet produces Sun Control Textiles which are highly engineered materials used in architectural applications to provide shade within buildings through windows, while still providing transparency

Mermet approached us with the question of “what else” could their material be...



Fiberglass Core Fabric



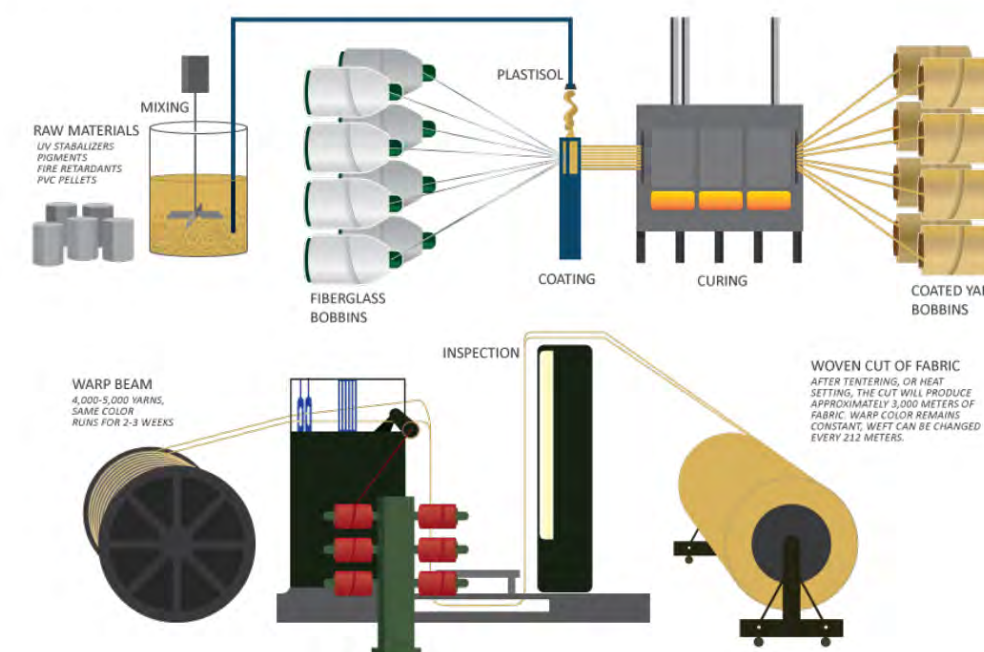
Composition:

36% fiberglass fiber core

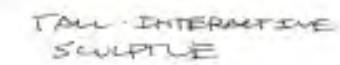
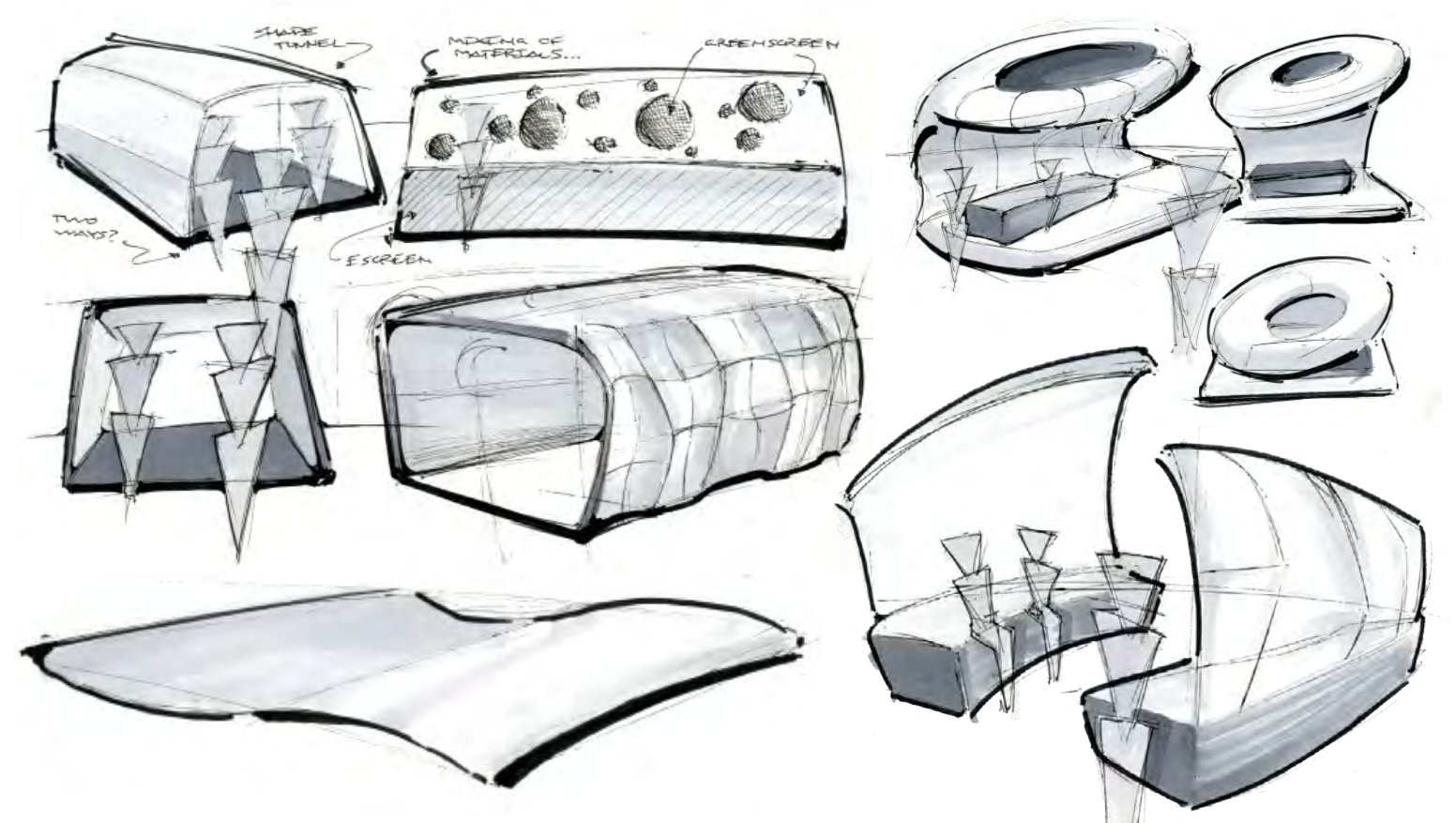
64% PVC coating

Yarn thickness: **0.372 mm (avg)**

Production Process



development



- MARMET CAN SHOW/SELL THEIR PRODUCT BY INVOISING THE PUBLIC

- [illegible]



Some

same

RECEIVED: 10/10/1967

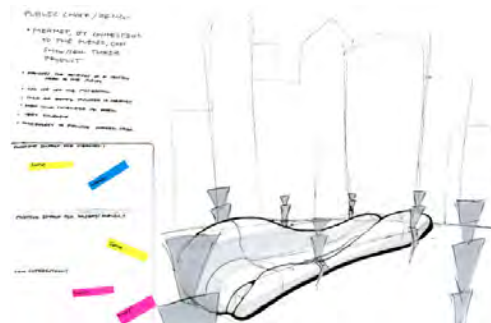
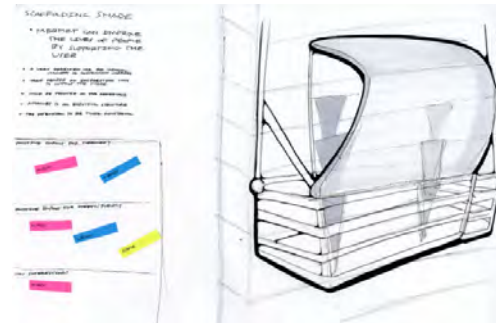
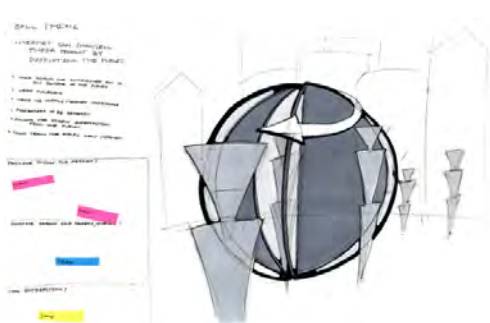
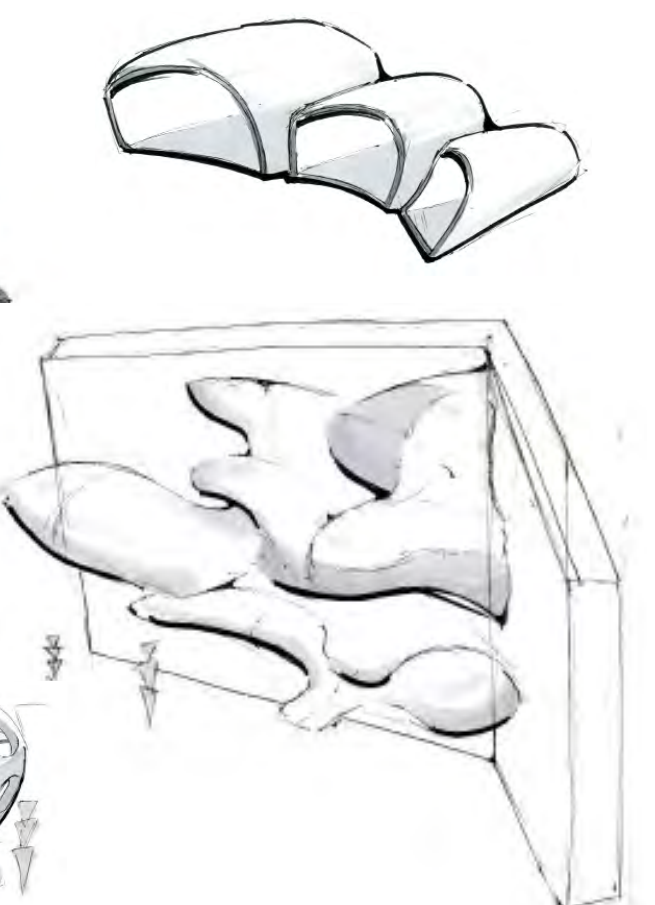
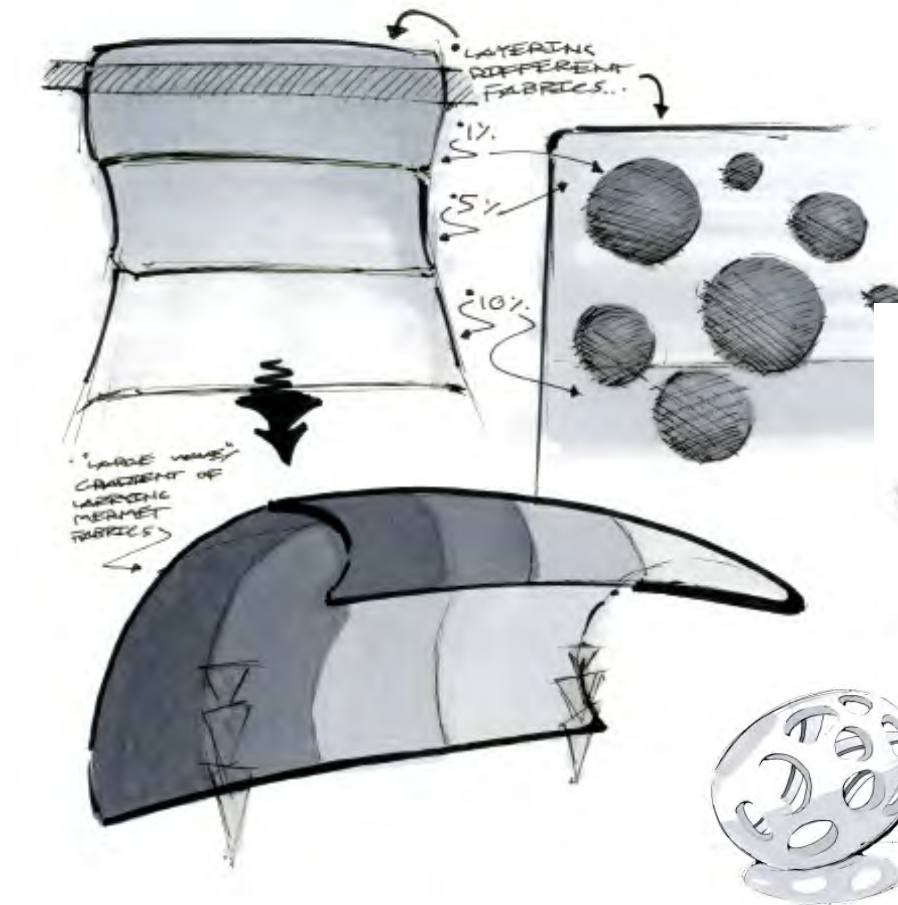
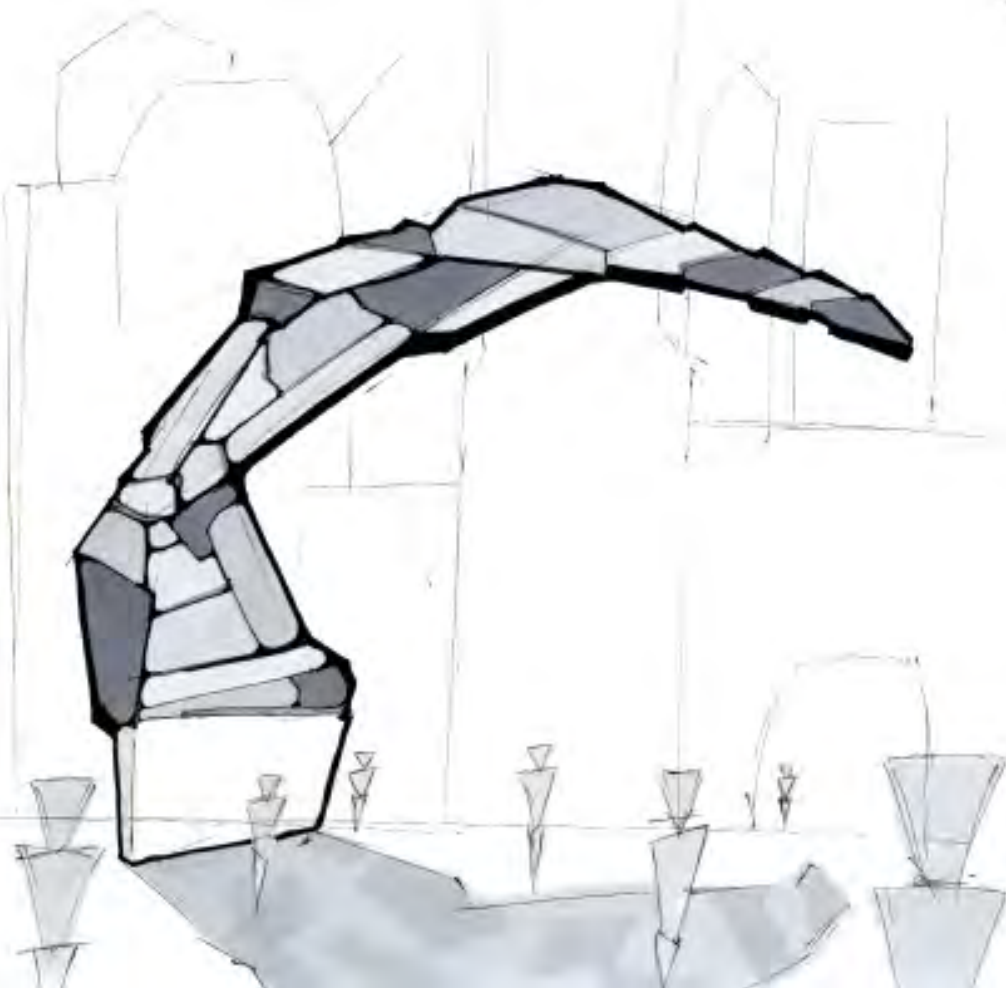
Life

Active

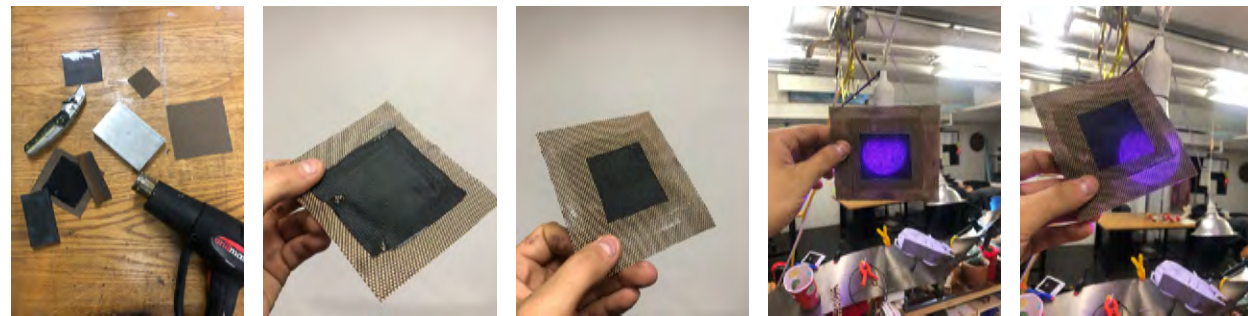
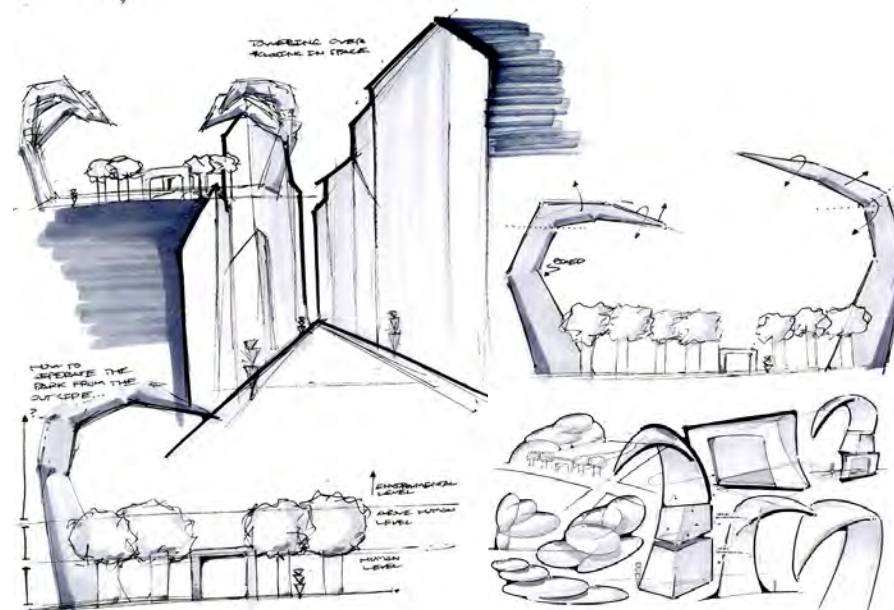
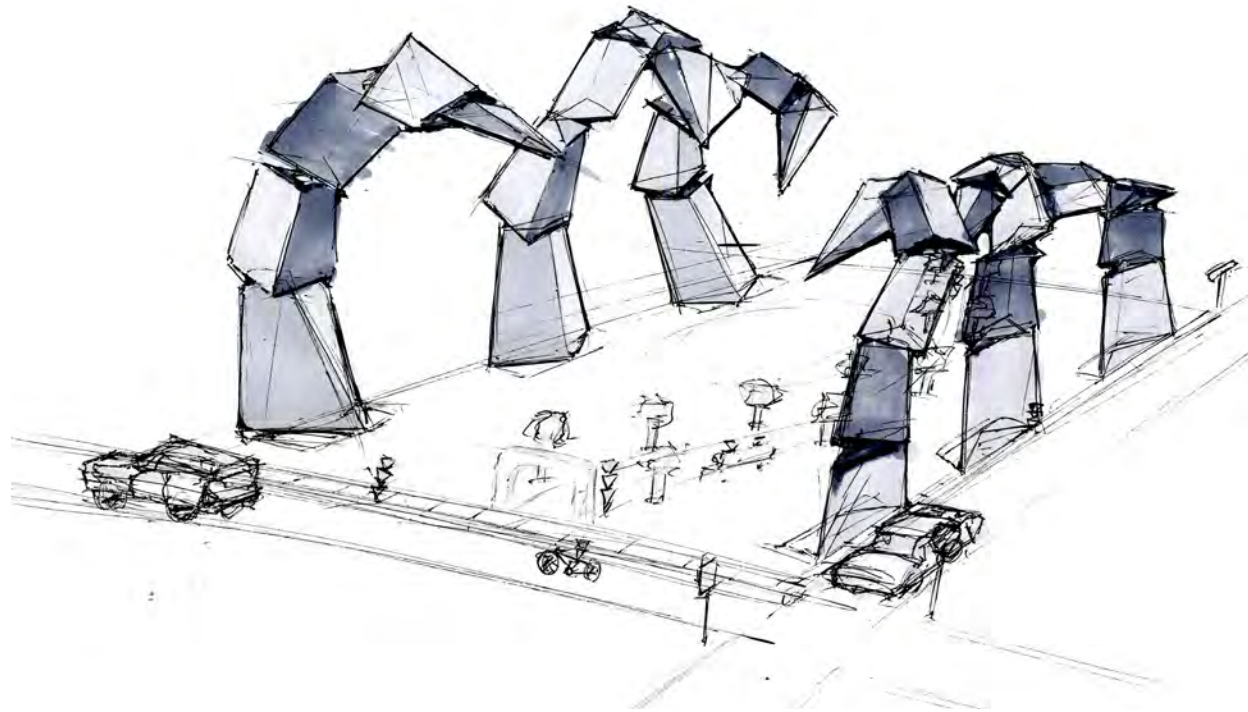
HOW INTERESTED?

joint

1994



refinement



GreenScreen Revive® (2501, 2505)

Openness Factor: 1%, 5%

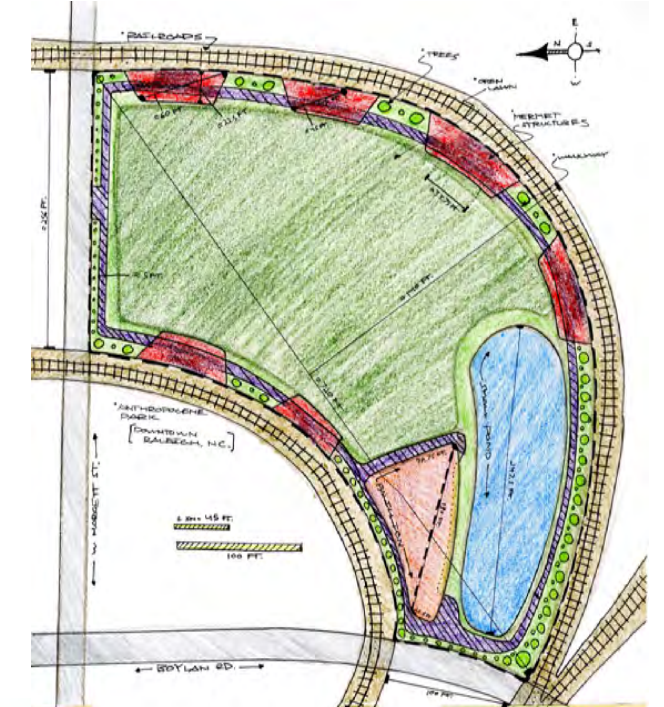
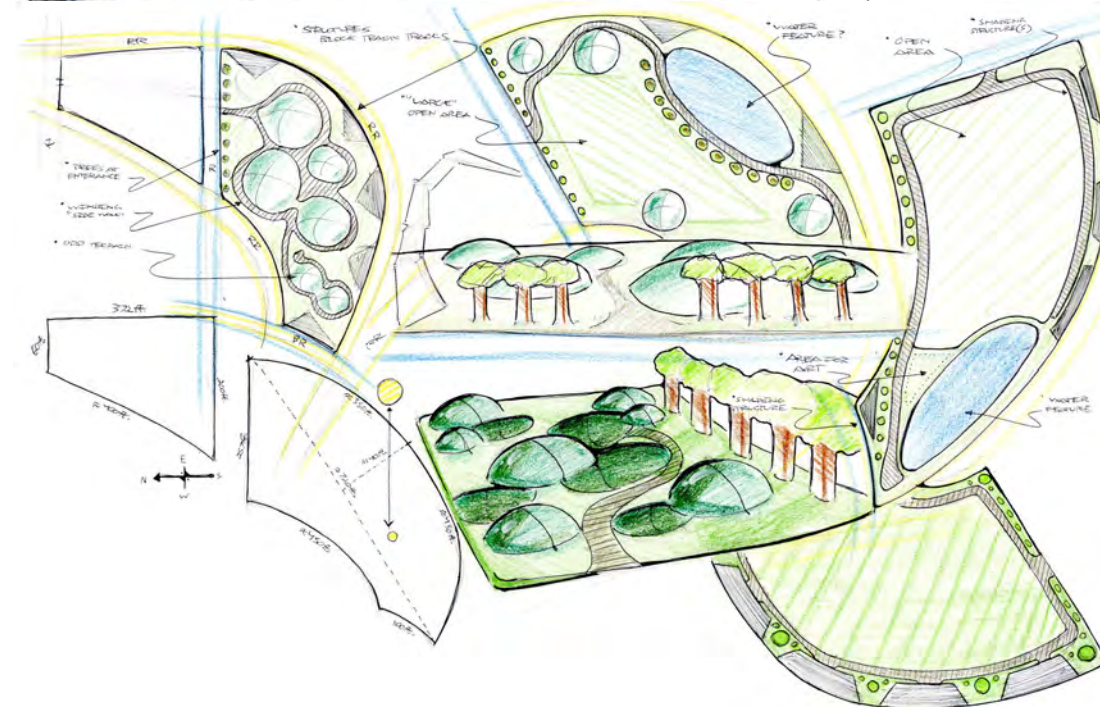
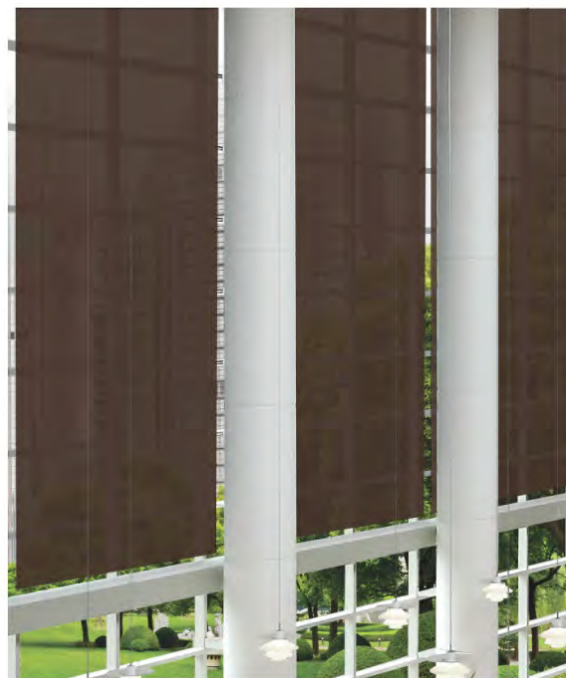
Width: 118"

Colors: 9

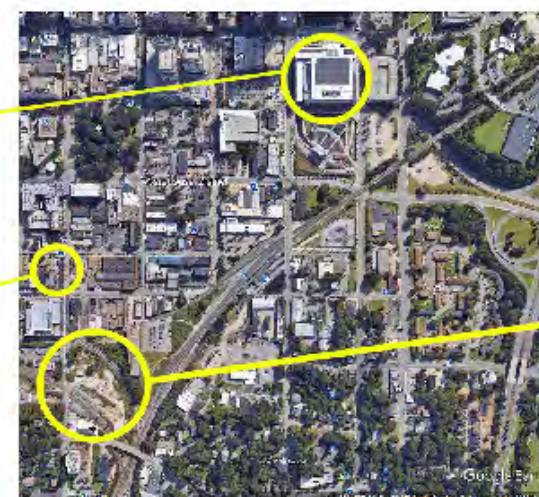
Description: 100% Polyester, of which 89% comes from recycled PET plastic water bottles.

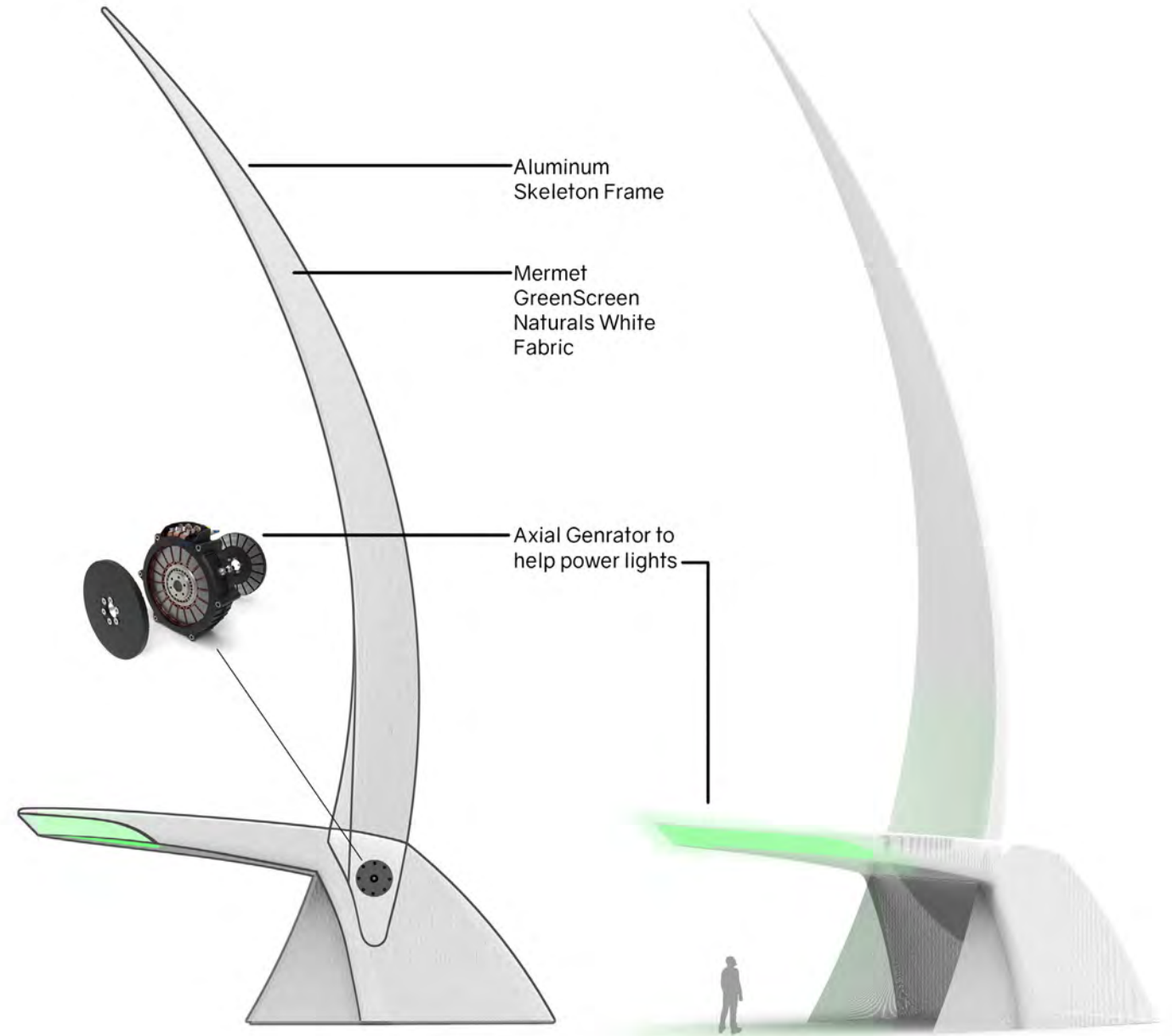
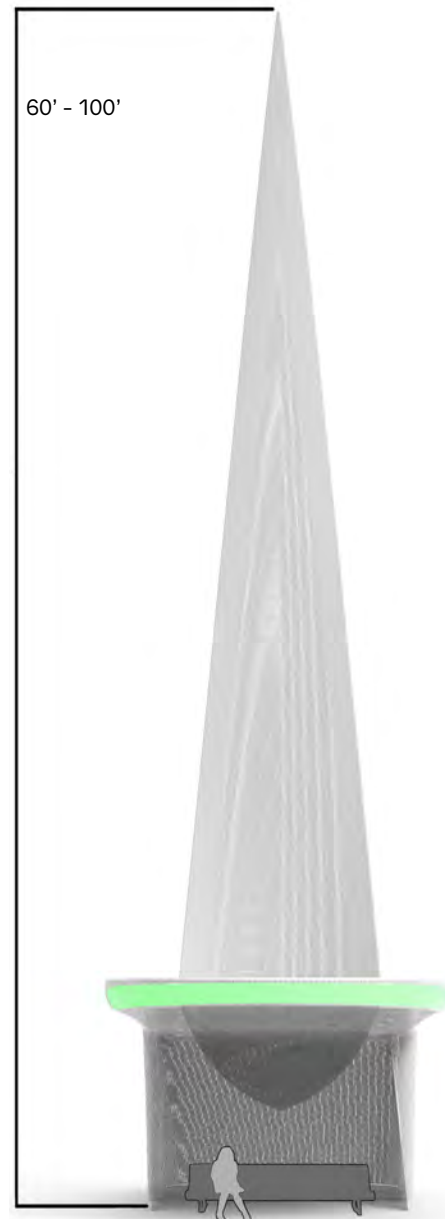
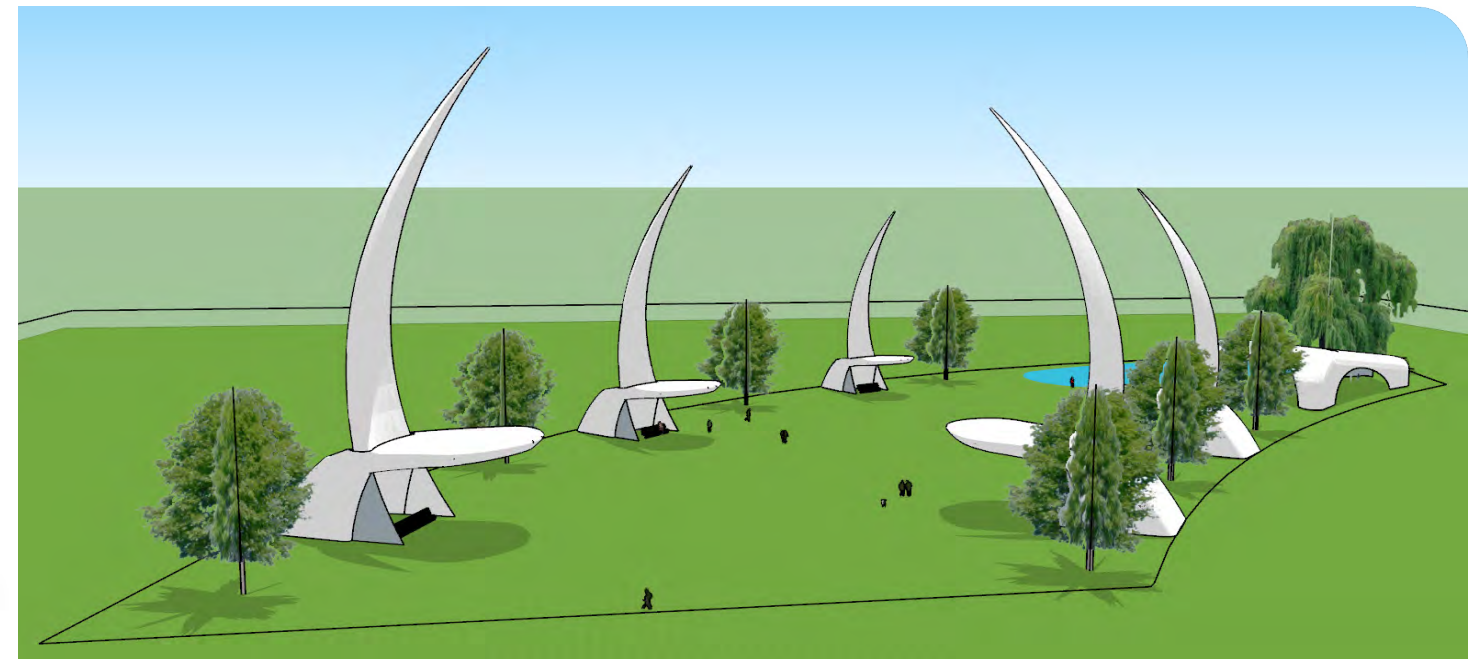
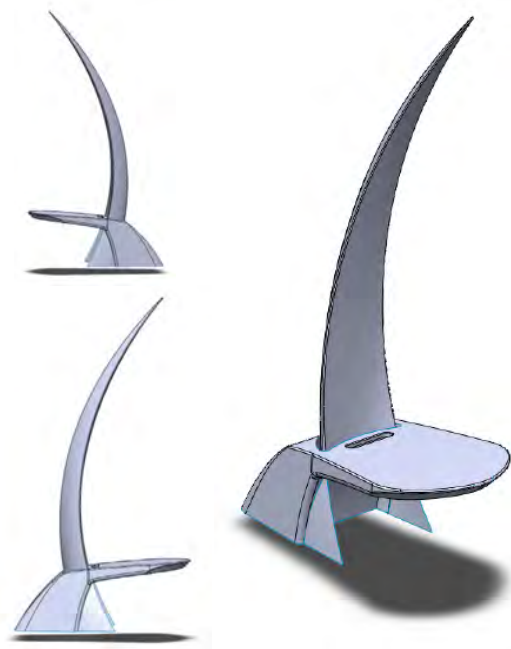
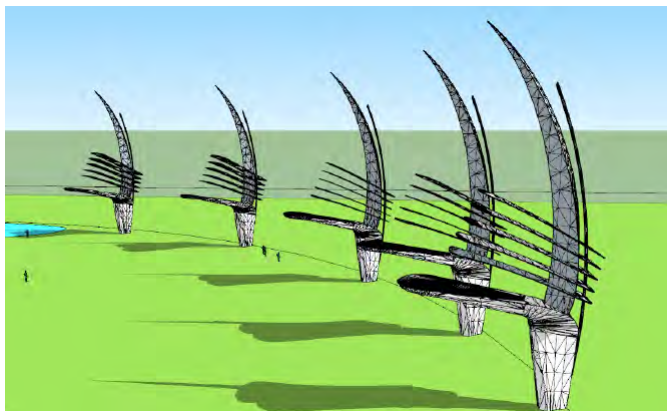
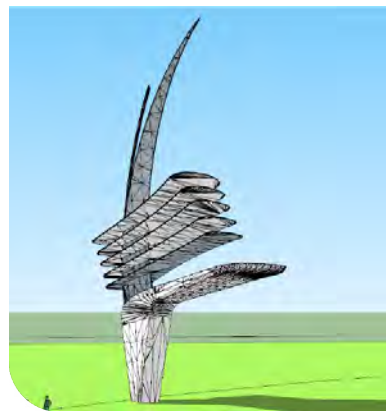
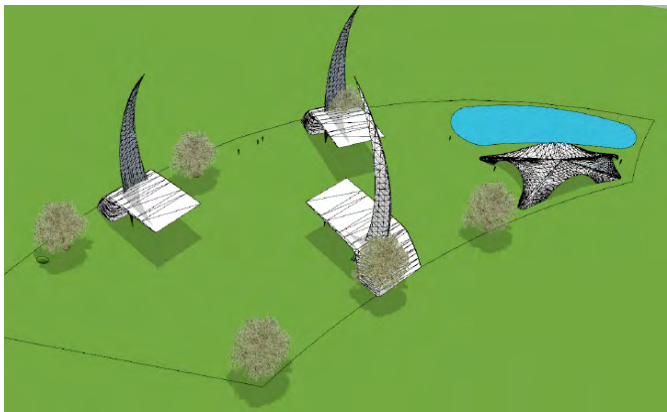
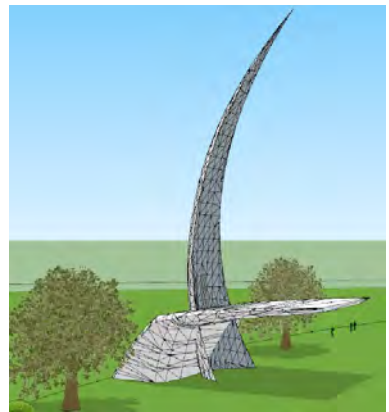
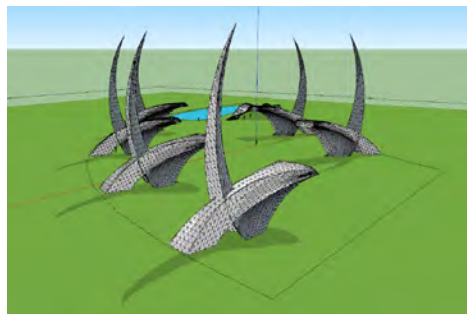
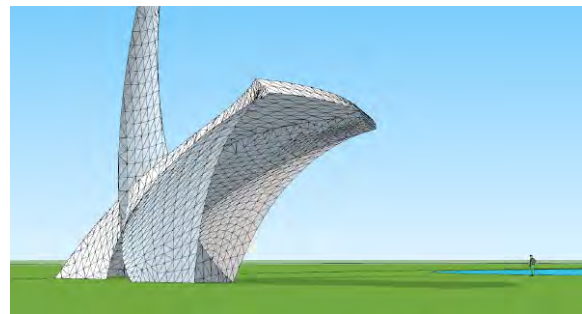
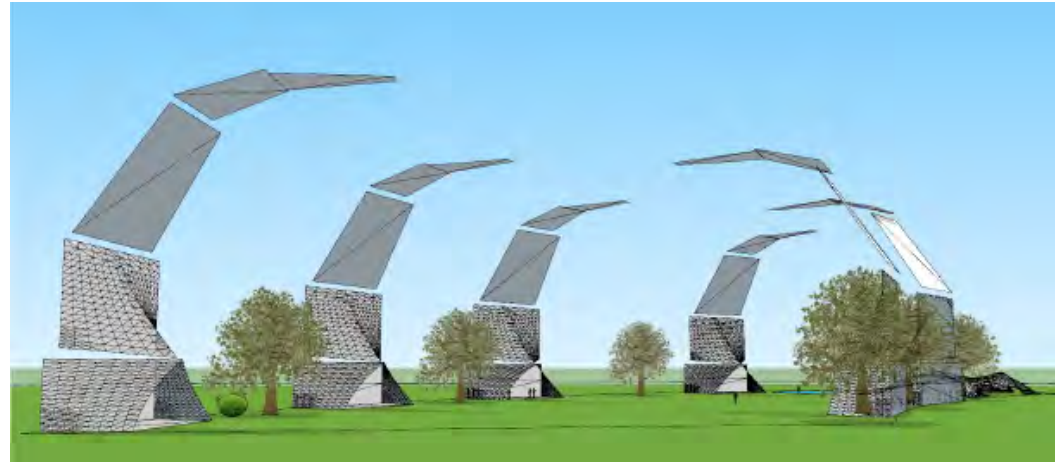
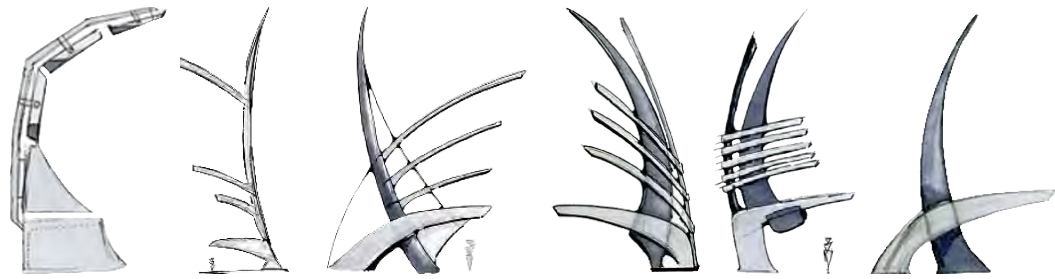
Cradle 2 Cradle Certified

Recycling program available for scrap fabric



Location Mapping







MERMET





R I A A A
CONCEPT BY **MATRIX**

fitness equipment
concept with JHTNA &
Matrix Fitness



visit my website to see more about this project,
along with videos and animations of the machine
<https://ben-webber.com/johnson-experience>

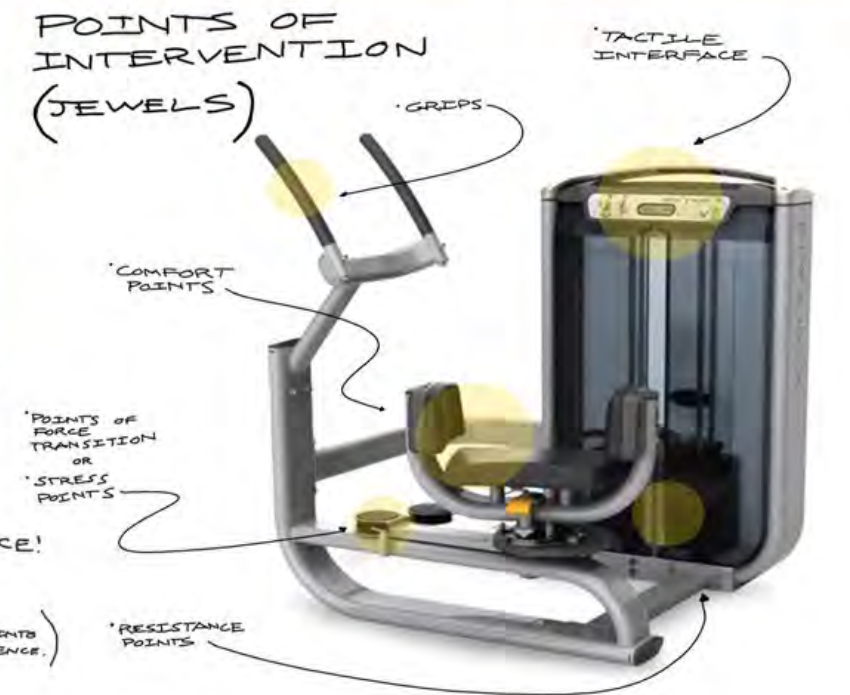
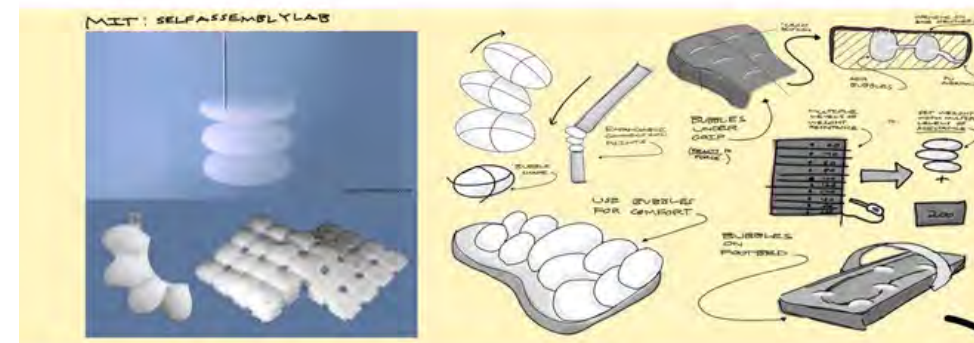
SELF ASSEMBLY LAB :
MIT LIQUID PRINTING

HUMAN CENTERED DESIGN
WITH HIGH TECHNOLOGY

NEW TACTILE
EXPERIENCE



R.I.A CONCEPT DEVELOPMENT



• STATIC → ENGAGING

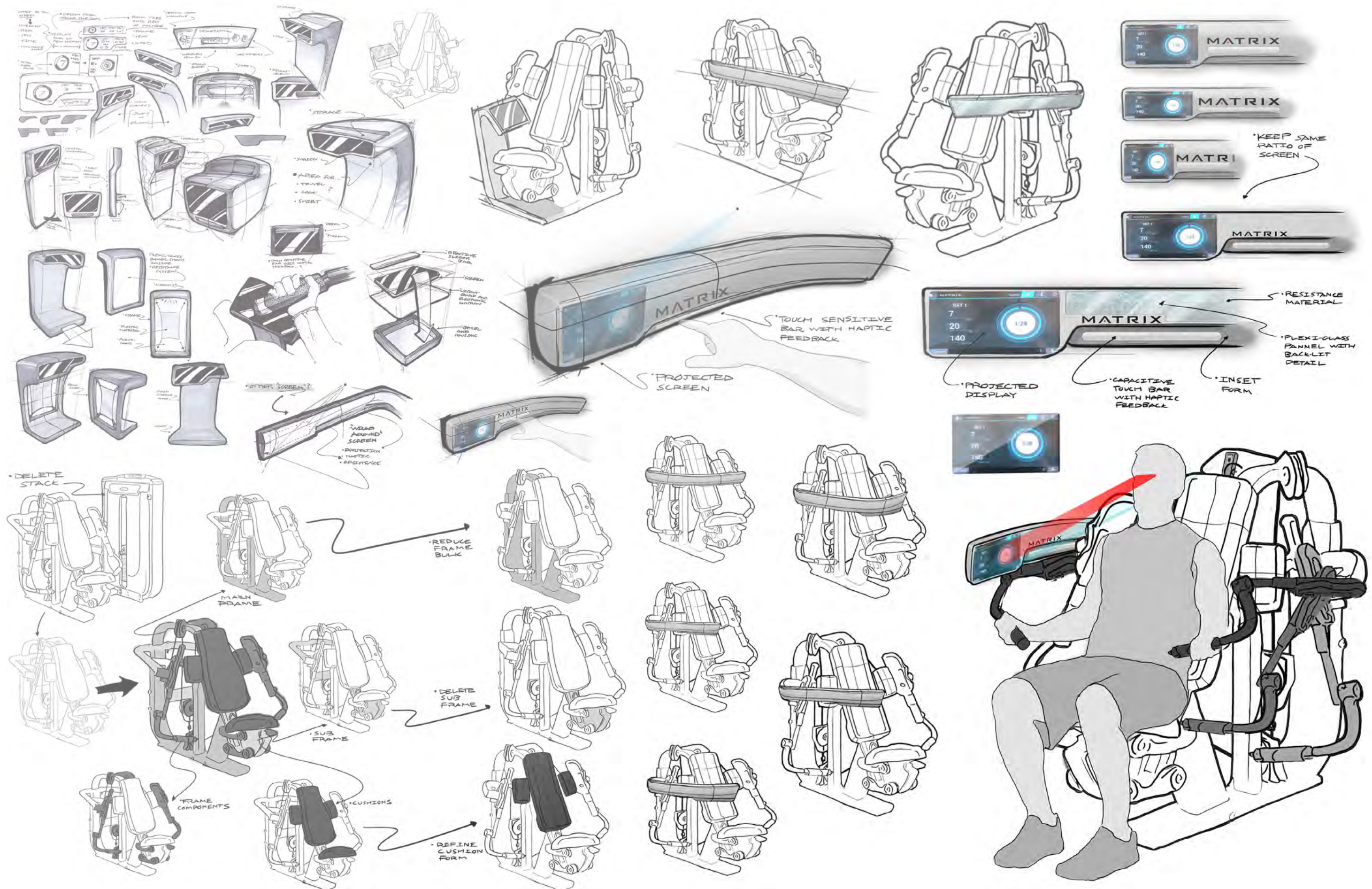
NOTES FROM REVIEW:
• LEARN ADOBE XD
• RENDERING + ANIMATION?
• TECH + WEIGHT RESISTANCE ✓
• INTERACTION WITH USER
• RESEARCH!
• ADAPT + MARRY TECH. WITH MACHINE

NEW EXPERIENCE!
• TACTILE
• PERSONABLE
• THEMED
(TURN THE MACHINE INTO AN EXPERIENCE.)

during my internship at Johnson Health Tech North America,
I was given the opportunity to work on a concept project

my brief was to design an exercise machine that
combined relevant technologies with a future
scope, through a heavy focus on user experience

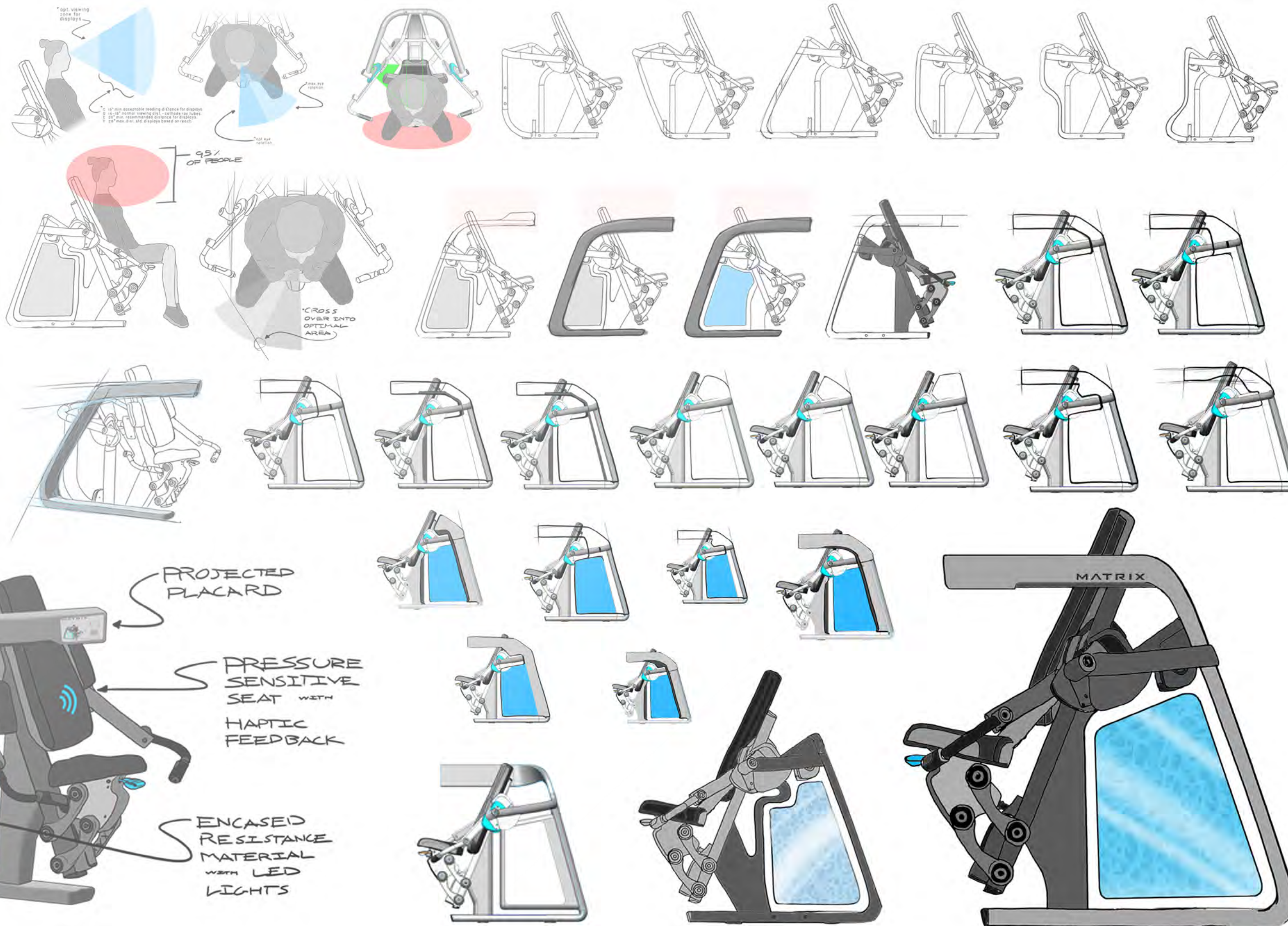
physical development



physical development

purple

- PATENTED "HYPER-ELASTIC POLYMER"
- SUPER DURABLE, RESISTANT TO STRESS, AND HOLDS UP OVER TIME
- UNFORTUNATELY NO IDEA HOW IT IS MADE



UI/UX development

UI/UX EXPLORATIONS



Minimal tactility
creates a more open and
informational interface

Simplicity reduces
confusion and
increases beauty

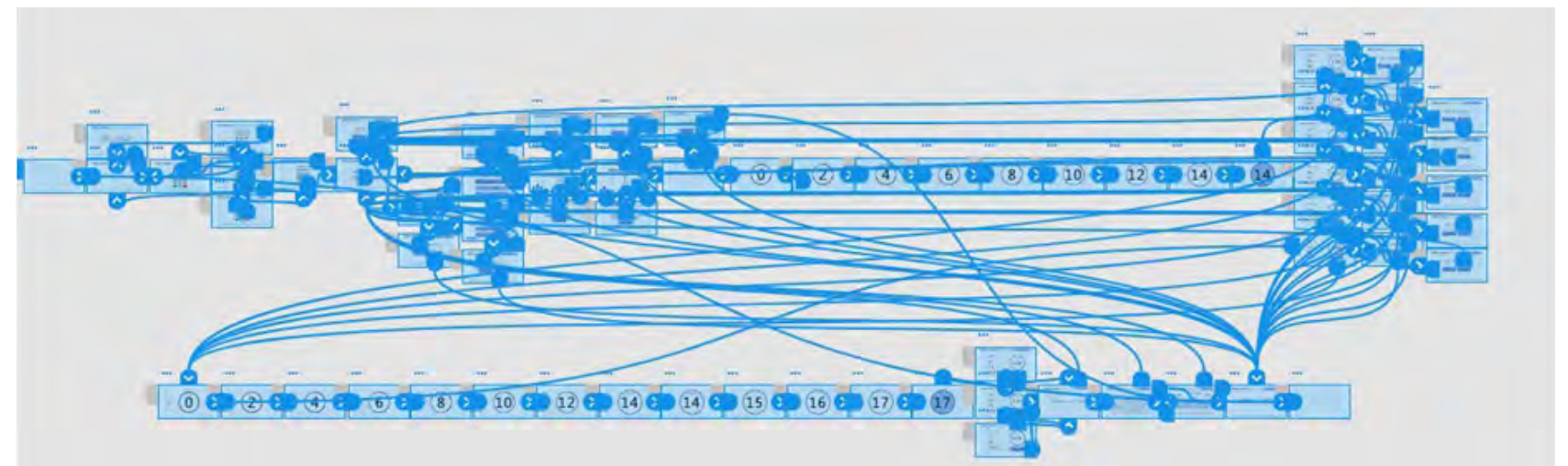
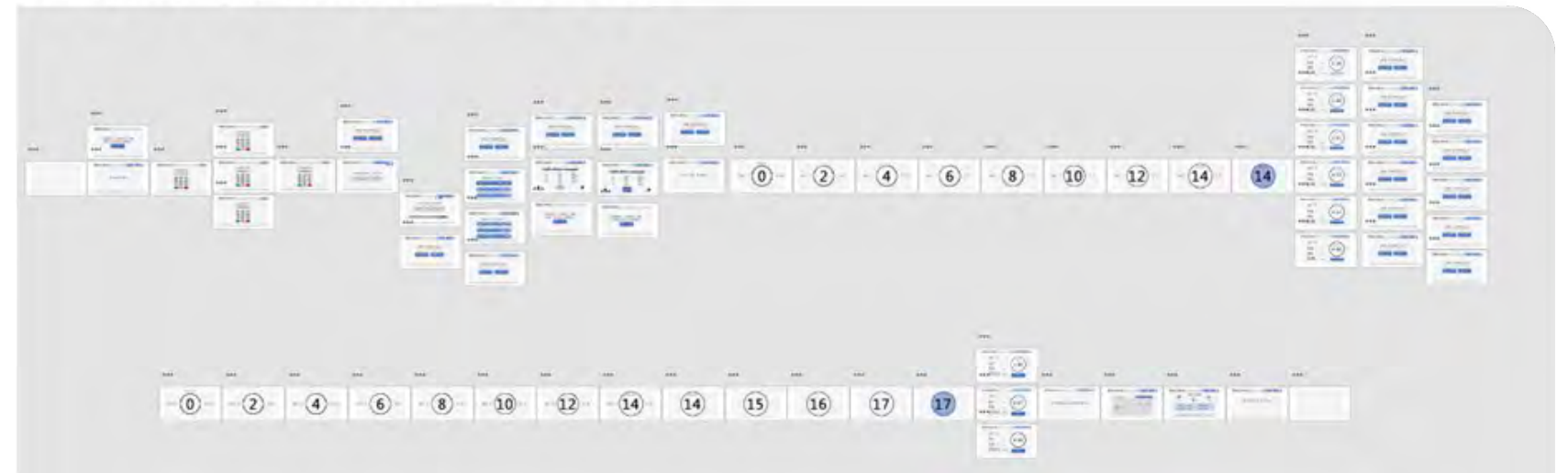
Integrate the interface
into form for a
seamless interaction

MOCK UP FOR CONCEPT JUSTIFICATION

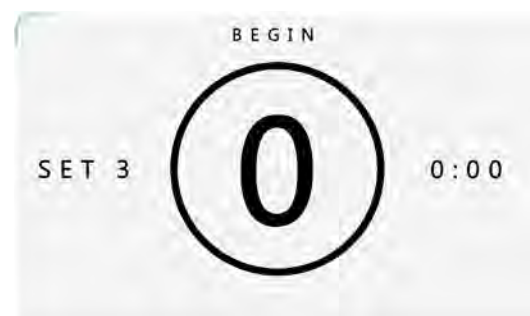
- CREATED A
QUICK MOCK UP
OF THE FORM IN
QUESTION TO
TEST THE
CONCEPTS
FEASIBILITY AND
DIMMENSIONS



DEMO LAYOUT IN Xd



link for xd demo: <https://adobe.ly/2xhNYZp>



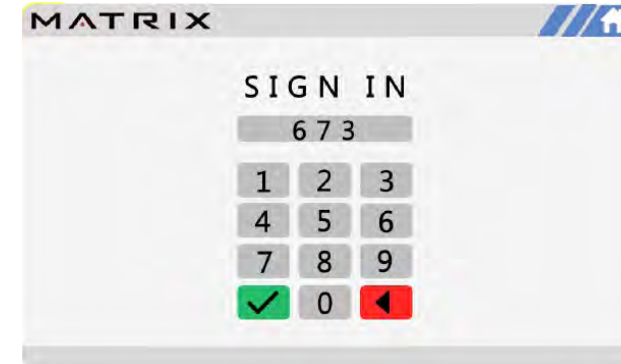
SET	REPETITIONS	WEIGHT
1	14	45 kgs.
2	12	50 kgs.
3	14	55 kgs.



UI/UX development

MACHINE
ADJUSTING

NEXT SET



P C : Nina

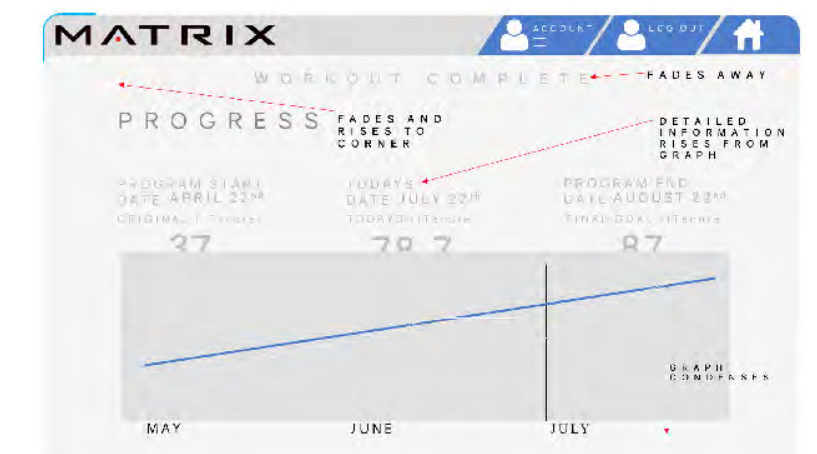
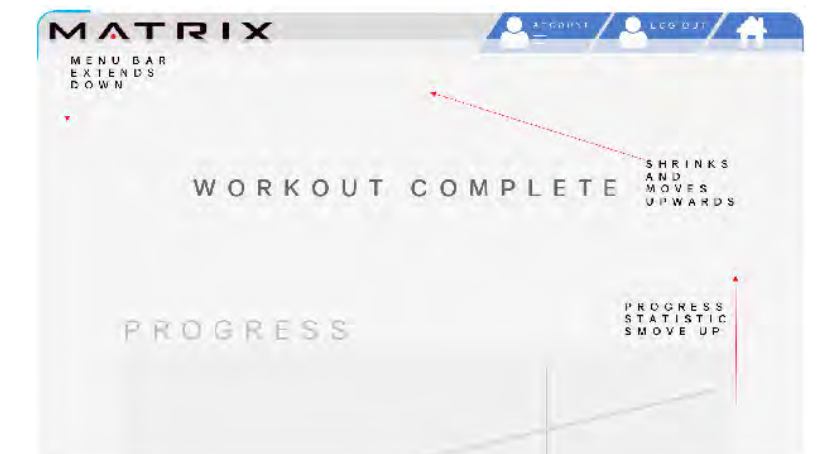
INITIAL TESTING FOR INTERFACE

Jen

- Revisit top bar **menu buttons**
- **Refine info** on workout plan page
- Total weight – total calories
- Inquired about options for adjusting weight or exercise prescription during workout
- Found **fitpoints** confusing
- Info button pop up on graph page
- Would generally walk away from machine and **not log out**
- Possible explanation on **timeout feature**

Olivia

- Would like to see a page that **notifies user the machine is adjusting**
- LARGE focus on "saving data" or progress
- Would like to increase workout difficulty during workout
- Possible **"pause button" on workout** to avoid the machine automatically resetting
- Liked the idea of the **pressure sensitive seat**.
- fitpoint concept was confusing
- Would like to see the MORE DETAILS page **represented with graphics**
- Would **not hit the log out** button



RIAA

CONCEPT BY **MATRIX**



cpu and electronics

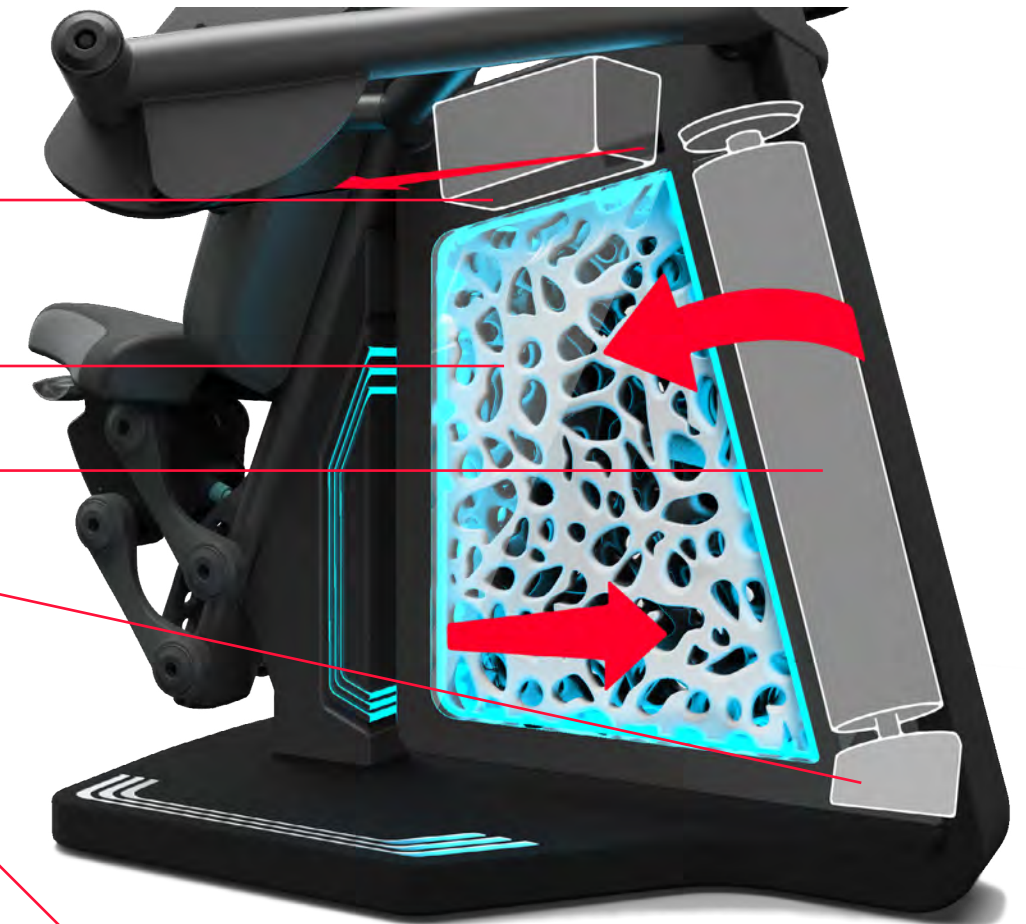
hyper-elastic polymer™

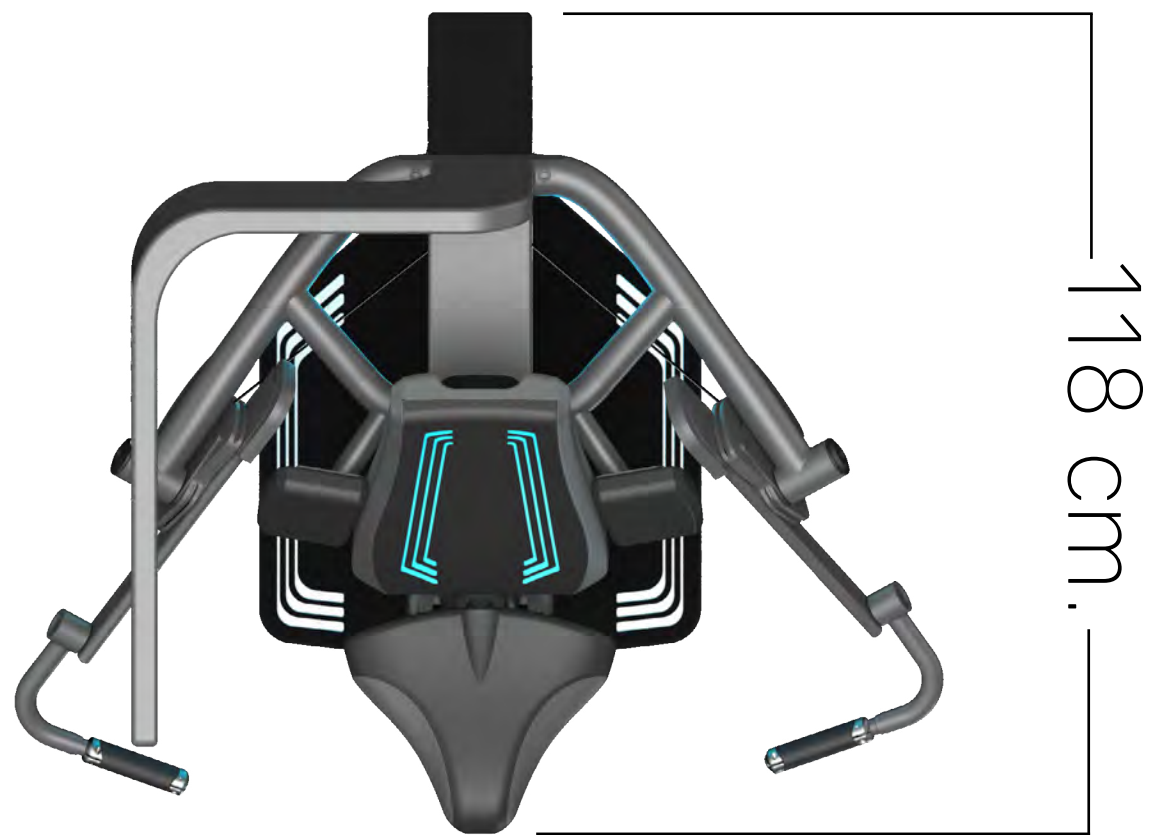
rotator shaft

motor

seat with user detection and haptic feedback

touch sensitive display





164 cm x 129 cm x 128 cm
2.7 m³ @ 266 kg

VS

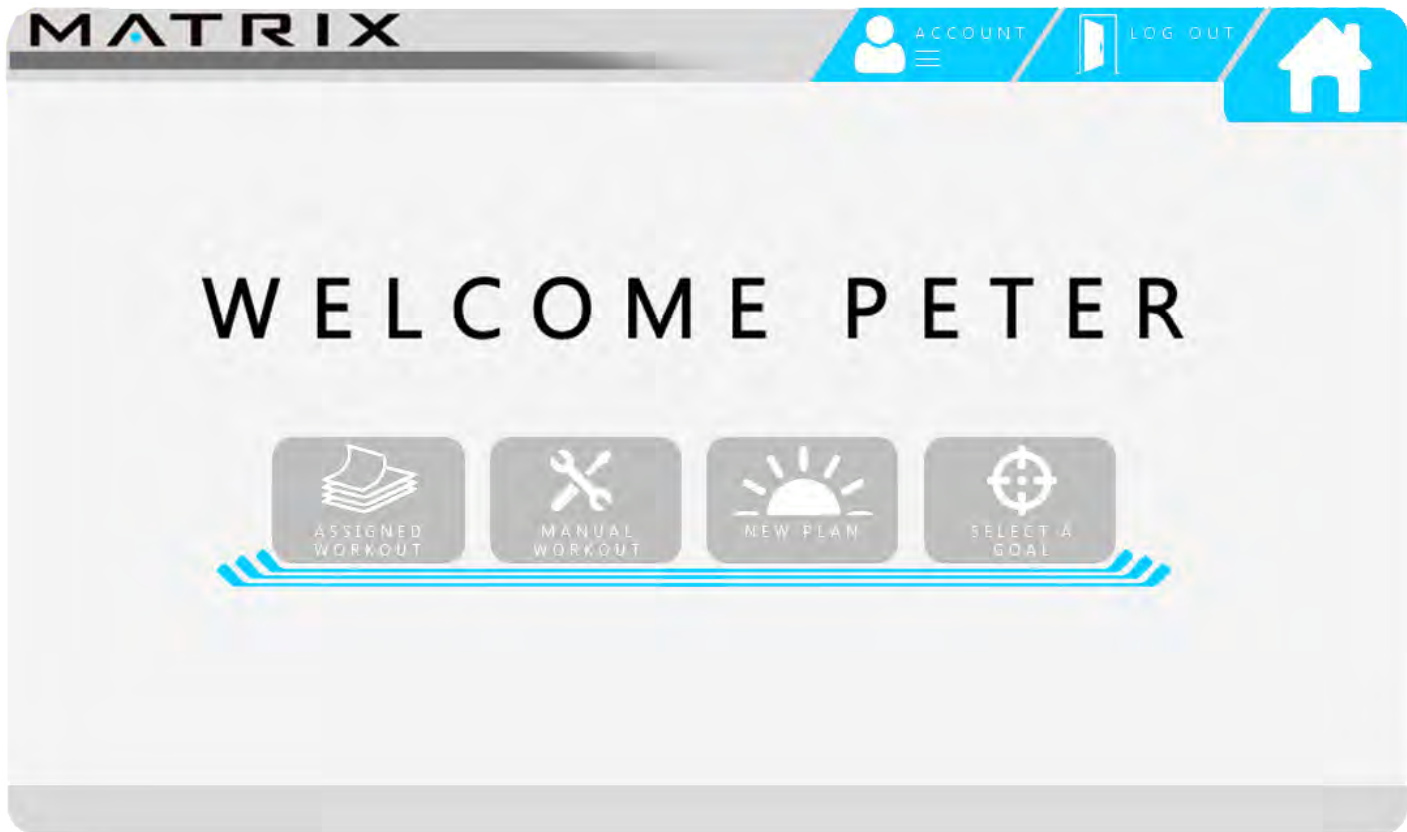


122 cm x 110 cm x 118 cm
1.6 m³ @ 250 kg



the reduced
spatial volume
and weight of
the R.I.A concept
allows for a
**reduction in
material and
shipping costs**

final interface design



home page / welcome screen



during workout rest screen

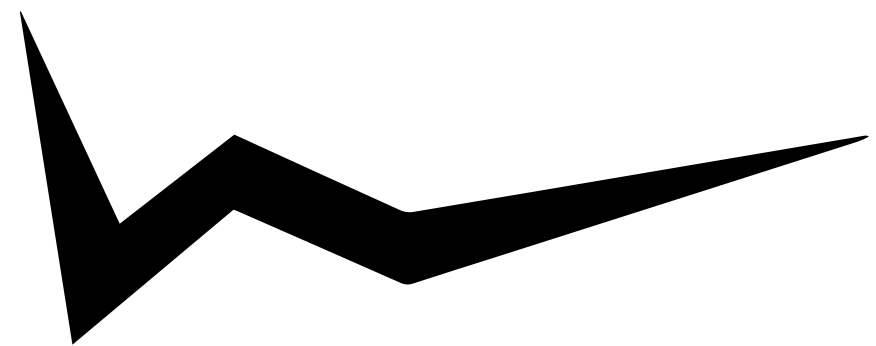


detailed review page

the refined interface works with the physical form and details of the machine to benefit the user by providing a refreshing and supportive workout experience



visit this link to see animations and videos of the final concept : <http://ben-webber.com/johnson-experience>



ben_webber



ben-webber.com

design@ben-webber.com

