TRICIA SADA

Industrial Designer

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***password: triciasada

I am an industrial designer with a strong passion for helping people through design. I find great fascination in envisioning the future and I aspire to play a role in shaping it.

EDUCATION

B.S. in Product Design, Anticipated 4/2020
Designmatters Minor in Social Innovation
ArtCenter College of Design, Pasadena CA

WORK EXPERIENCE

P&G Gillette, Boston, MA
Product Design Co-Op| 5/2018- 8/2018

— Led spontaneous intern initiative to present insights & ideas about winning with Gen-Z & Millennials to head management
— Visualized new Venus female razor design, accessories and packaging. Worked on whole design process: on storytelling new brand, POME consumer market analysis, trend forecasting, mood boards, industrial sketching, material exploration, form development, to Solidworks modeling and surface refinement.
— Developed understanding of trends in younger generations and visualized applicable designs that enhance upcoming razor initiatives ability to create authentic ties with demographic. Created both high-level concepts along with detailed explorations on 2D/3D grip pattern visualizations based on these finds for Gillette and Venus.

ArtCenter, Pasadena, CA
Teacher Assistant Product III & Sewing Lab| 1/2018- 5/2018

— Assist with critique of student product design work
— Teach basic sewing skills and test students on ability
— Help students with their own sewing projects and troubleshoot problems

SKILLS

Digital
Solidworks. Keyshot. Adobe Photoshop. Adobe Illustrator. Adobe Indesign. Adobe Aftereffects. Microsoft Suite. Graphic Design. Unreal Engine. VR

Analog
Research & Design. Creative Solutions. Communication. Presentation. Sketching. Modeling. Rendering. Packaging Design.

RELEVANT EXPERIENCE

UCLA Innovating Medical Devices: | 1/2018- Present
— Collaborate with a team of engineers to create a smart mouthguard startup to treat nighttime bruxism, to pitch to Venture Capitalists
— Join Knapp Venture Competition from UCLA School of Management

UCLA Venturewell Sponsored Project: | 9/2017- 12/2017
— Collaborated with UCLA doctor, graphic designer, interaction designer and product designer on a wireless EEG brain scanner
— Solved physical hardware problems of full adjustability to design hardware
— Designed software platform and brand for this brain research tool

Happier Camper Business Strategy: Entrepreneurial Spirit: | 9/2017- 12/2017
— Led multidisciplinary team of 7 designers to formulate potential business strategy and design concepts for Happier Camper's board of directors

OpenIDEO: Rethinking Plastics Hackathon | 7/2017
— Innovated a sustainable bottle rental system with a team of 2 designers and an engineer for an IDEO competition

ACHIEVEMENTS

Wayfare Award
— Awarded for LIFTD startup from Biola Startup Competition | 10/2016-4/2017
Art Center Department Scholarship | 1/2017-12/2017

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LEADERSHIP

Orientation Leader | 9/2017- 12/2017
— Led student panel discussion on getting assimilated to school
Co-Leader of Art Center Christian Fellowship Leadership Team | 1/2016 - Present
— Co-Lead Bible studies and coordinate vision and leadership roles
Vice President of Indonesian Creative Community Los Angeles | 5/2016-8/2016
— Assist with planning creative opportunities for Indonesian creative professionals

PROJECTS

DESIGNING A MIND READER

Scope is the first EEG brain scanner capable of high-density field research that increases the amount of information available to neuroscientists.

+ Real Constraints
+ Patent Pending

UCLA VENTUREWELL idea to impact

FUTURE OF PREGNANCY

NiCare is a communication system for parents to stay connected to their premature child in the NICU (Neonatal Intensive Care Unit)

+ Future Casting
+ Trend Research

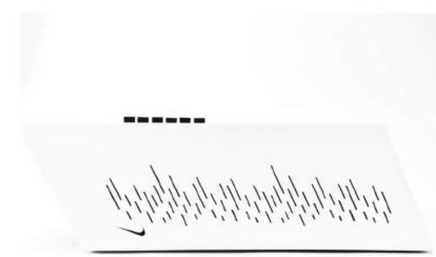
VIRTUAL REALITY

Augmented Reality will become the new smartphone as it becomes more ubiquitous and invisible.

+ Solidworks Animation
+ Product Roadmap

SKILLS

+ Model Making
+ Keyshot & Solidworks
+ Sketching
+ Mood Boards
+ Understanding Mechanics



Designing A Mind Reader

We worked with UCLA doctors to design the hardware, software and brand for this brain research tool.

My Role: My main focus was on problem solving hardware design problems for the EEG brain scanner.

Skill focus: Hand & Digital Ideation & Rendering, Building User Scenarios, Rapid Prototyping, Collaborative Problem-Solving

Tricia Sada: Product Designer
Noel Ekker Product Designer
Pooja Nair: Interaction Designer
Diana Choung: Graphic Designer

SCOPE

Designing a Mind Reader

Scope is the first EEG brain scanner capable of high-density field research that increases the amount of information available to neuroscientists.

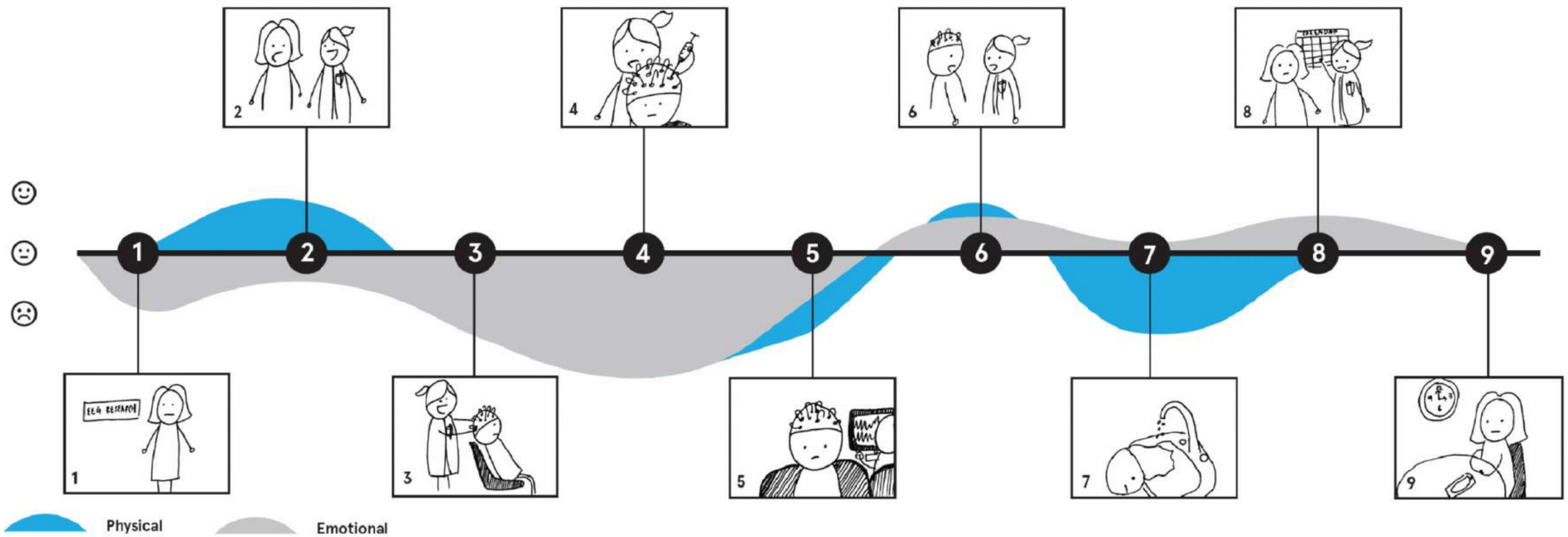
Patent Pending

- Understanding the Unknown
- Scalable Detail
- Modular
- Customizable
- Collaborative

VENTUREWELL™
idea to impact

UCLA

Journey Map: EEG Wearer



1 Angela enters the EEG research facility.

Hospital setting is cold and Angela intimidated by the process, deviation from normal schedule.

2 Angela and the technician have a conversation about the procedures that are about to take place.

She feel reassured and relieved from the doctors explanations but still stress about what the results will be, uncomfortable with unknown

3 Angela sits in the assigned seat and the chair reclines backwards and the EEG equipment is placed on her head.

She feels discomfort and feels awkward because of this strange device on her head.
The device tugs on her head, she feels minor uncomfortable adjustments, feels tensions in her neck.

4 The technician takes out needles filled with gel. This gel is squirted onto the parts of her scalp where the electrodes will make contact to facilitate conductivity.

She feels slight anxiety from needles with gel
Physically, it feels weird having the gel contact her scalp, she still remains a little tense.

5 The technician sits across from her, calibrating the equipment while monitoring the creen, which is facing away from her. Angela's only understanding of what is happening is based on what the researcher voluntarily explains to her, and his body language.

Patient feels isolated, worried and uneasy about what the researcher is doing however is curious about what this device is learning from her brain

6 After the research has been conducted, the tecnhnician voluntarily explains to her in layman terms what the results are.

She is fascinated by how the device on her head could show all this information and feels reassured in the validity of the technology for an accurate diagnosis

She is confused on the technicalities of what the researcher is saying, and embarrassment for asking the researcher to repeat or explain what they are saying

7 She then proceeds to take a shower to wash out the conductive gel in her hair

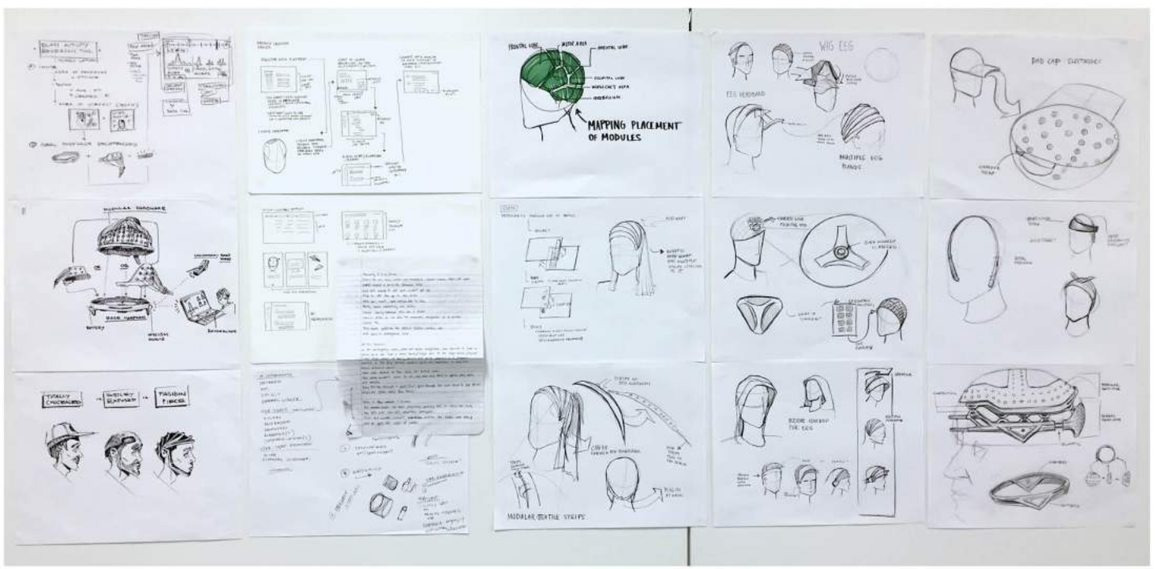
She is relieved that the process is over
She is uncomfortable having to bend hair and wash hair inside of a sink.

8 She gets ready to leave and consults with her doctor one more time on a follow-up date that will be listed with better results
She feels accomplished and relieved the process is over
She is however uneasy about what further information will arise from the research evaluations

9 She goes back to her place that she is staying (hospital or home), and waits and wonders when the results will come

HARDWARE PROBLEM: TOTAL HEAD ADJUSTABILITY & COMPRESSION

How do we get total head adjustability & compression for different size heads?



We created a skeleton framework but it had a lot of mechanical problems

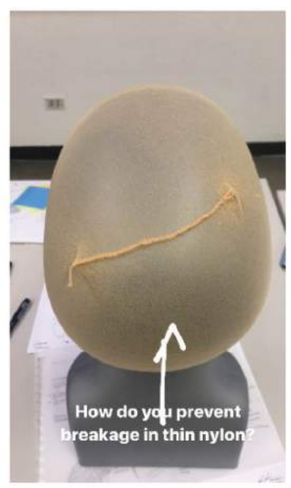
When we ideated, we seemed to be limiting ourselves to mechanical concepts — So I pushed for outrageous ideas

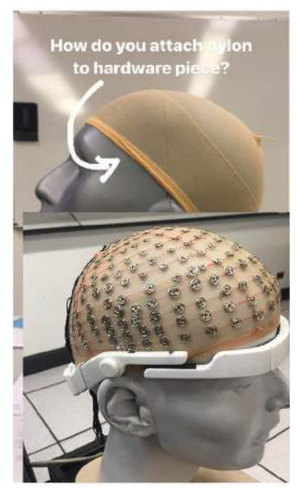
MOCKUPS: TESTING WIG CAPS FOR TOTAL HEAD COMPRESSION

Fishnet Wig Cap

Swim Cap Testing

Nylon Stocking





Twist On Adjustment

What if a brain scanner is made of a wig cap?
Ridiculous. But it worked.

PROBLEM SOLVING

Using the wig cap was a simple yet effective solution to provide a compression layer over the electrode cap.

Though seemingly outrageous at first, keeping an open mind about potential solutions led to effective results.

TECHNICAL DIAGRAM

Pioneering the future for brain exploration

The Future of Pregnancy

This project looks at the emerging technology of artificial wombs —

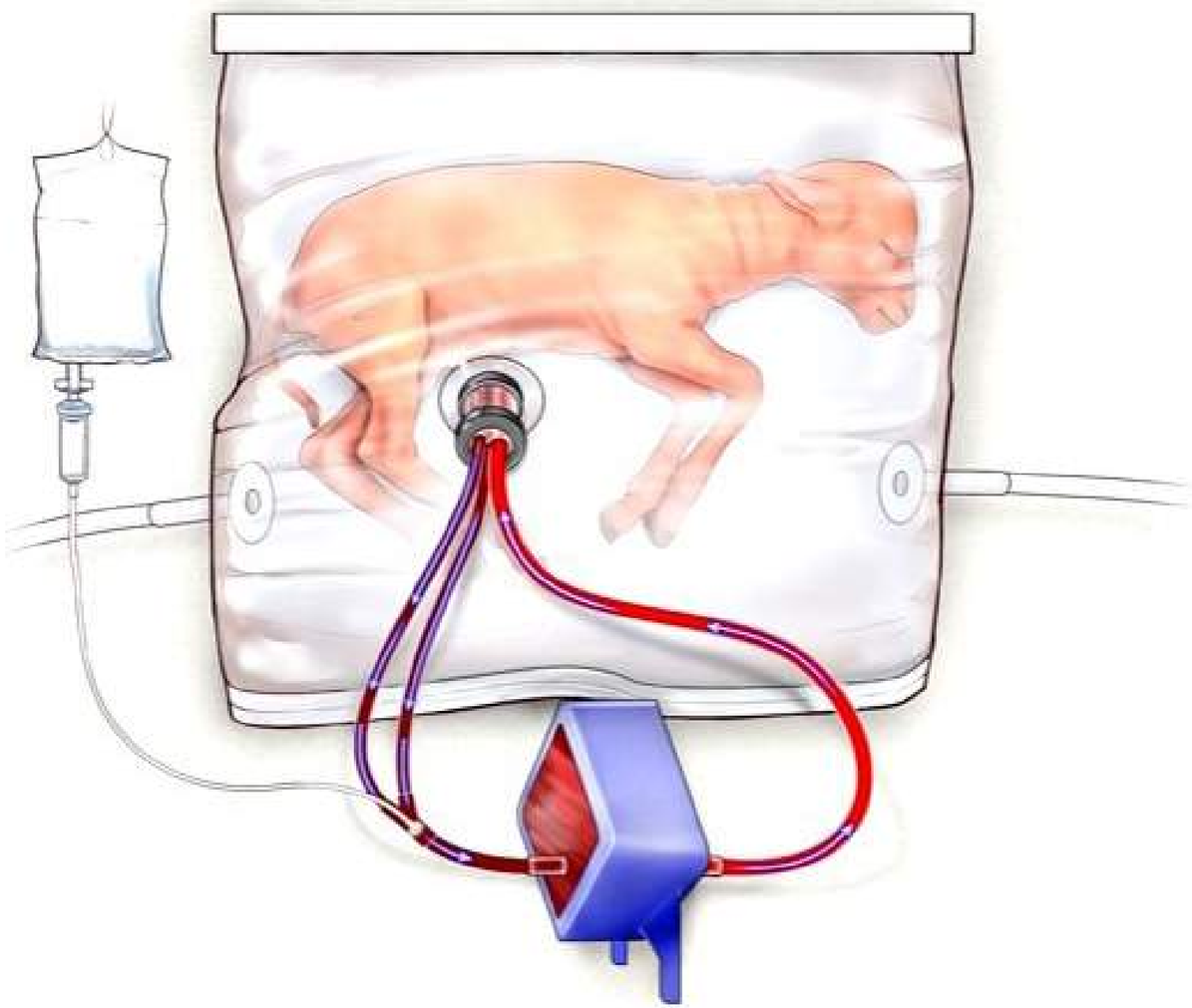
+ Future Casting
+ Trend Research
+ Synthesizing Future Solutions

future of pregnancy

emerging technology:

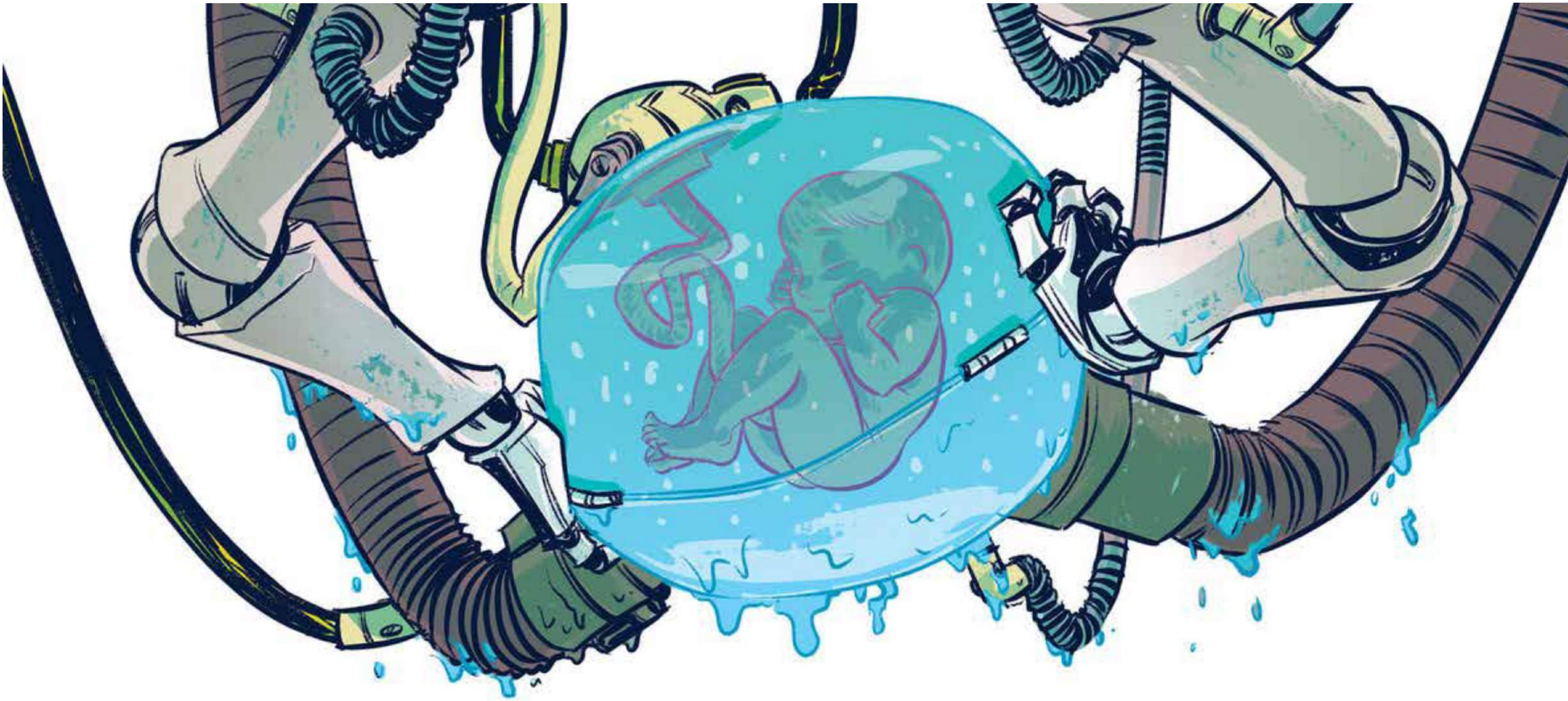
artificial womb

This is the Biobag, a recent development that allows premature fetuses develop inside an artificial womb



projection:

In 2050: most babies are born through artificial uteruses



trend roadmap

Macro Trend:

The trend of automation in the workforce will lead to growing demand for artificial maternity

Meso Trends:

Constant Job Shift

Automating intellectual processes will shift jobs to the workforce that is up to date with the latest technology.

Constant Reeducation

The workforce will need to constantly reeducate themselves in order to remain relevant, meaning busy couples.

Gender Equality = Equal Career Opportunities

Men and women are increasingly becoming equal in the workforce.

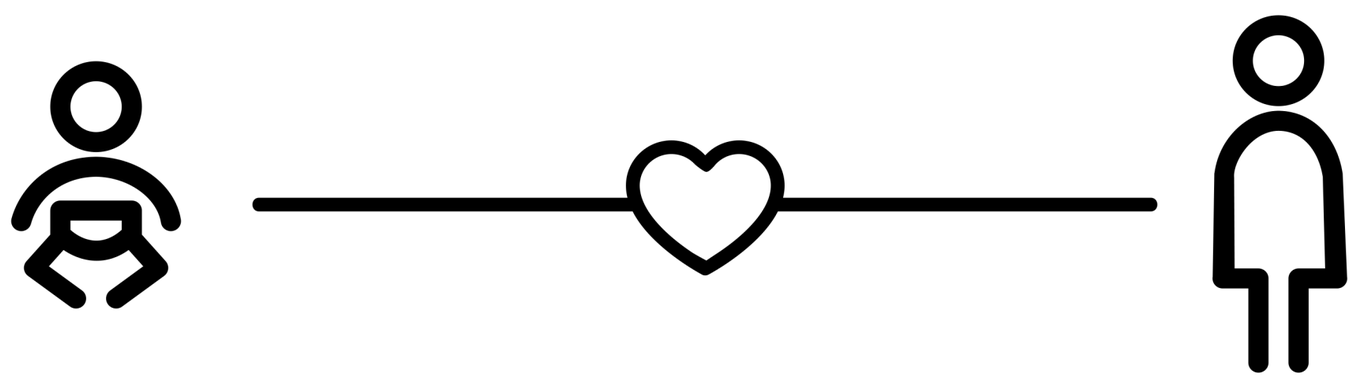
We see that as the future progresses and as the nature of work and automation changes, women may resort to automating the process of pregnancy. This comes with the onset of the use of artificial wombs. First this technology will be used for helping premature babies survivie and help mothers who cannot concieve to be able to have children of their own. However, as this technology normalizes men and women may choose to opt for having their children in artificial wombs as a safer and more optimum solution for having children as it does not interfere with career goals.

future problem:

When the mother is separated from the child there is a need to recreate the parent-child emotional & physical bond

future solution:

LUV is a communication system for parents to stay connected to their child



luv

parent system

watch

sends emergency alerts

handheld

keep baby close with this specialized device

patch

mimic rubbing belly & baby kicking

earring

feel heartbeat & hold to talk to baby

implant

regulate hormonal balance with baby

these all communicate with the artificial womb
to keep parents connected

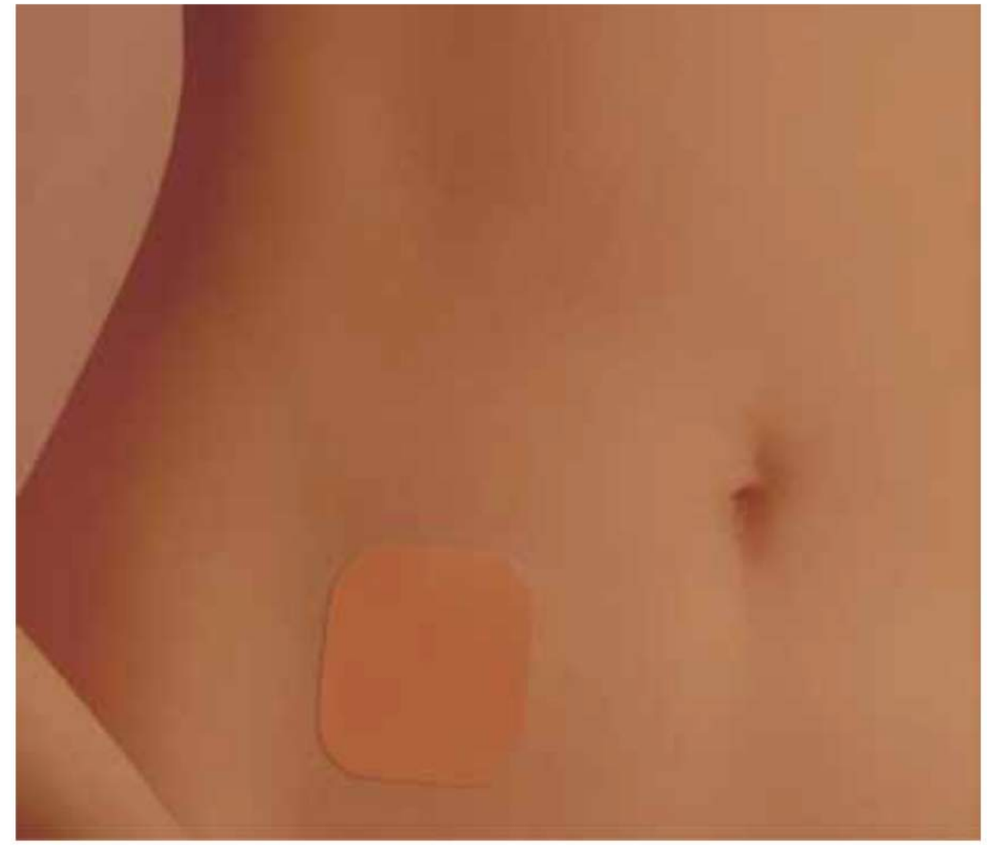
watch

receive emergency alerts

handheld

keep baby close with this specialized device

feel your baby's heartbeat



simulate baby kicking and rubbing belly

patch

Virtual Reality Experimentation

+ Unreal Engine
+ Innovating Narratives

What if we use feet as controllers?

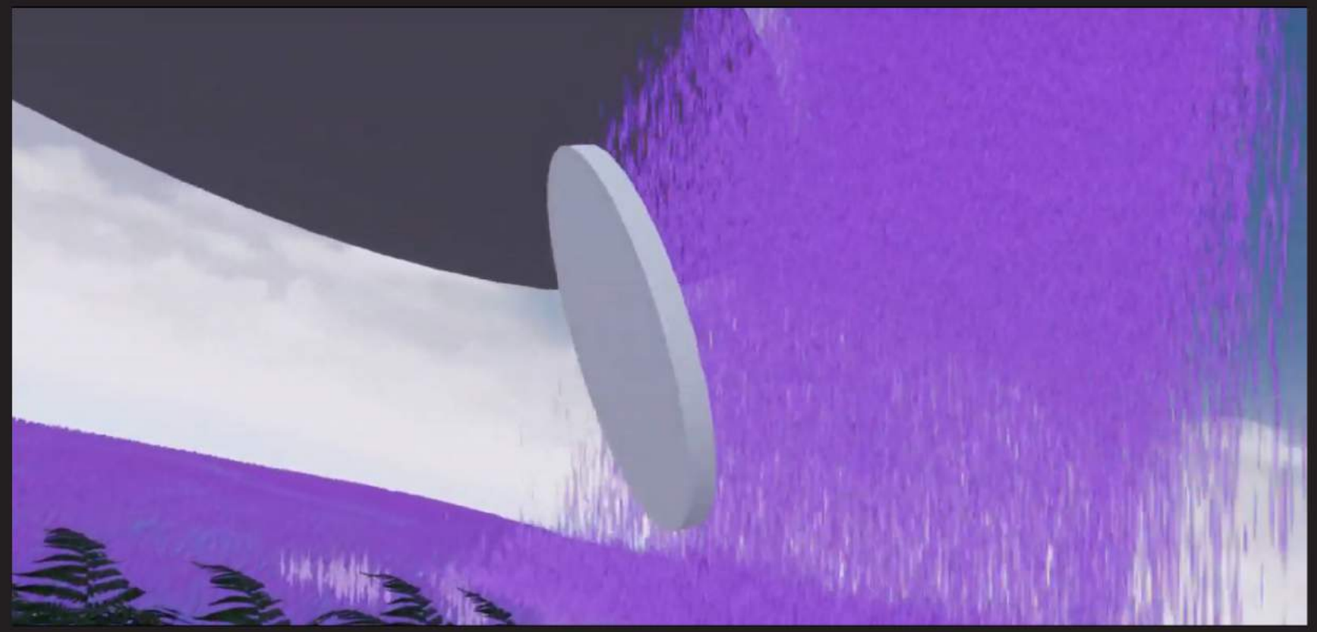
Feet controllers create a new way to interact with VR

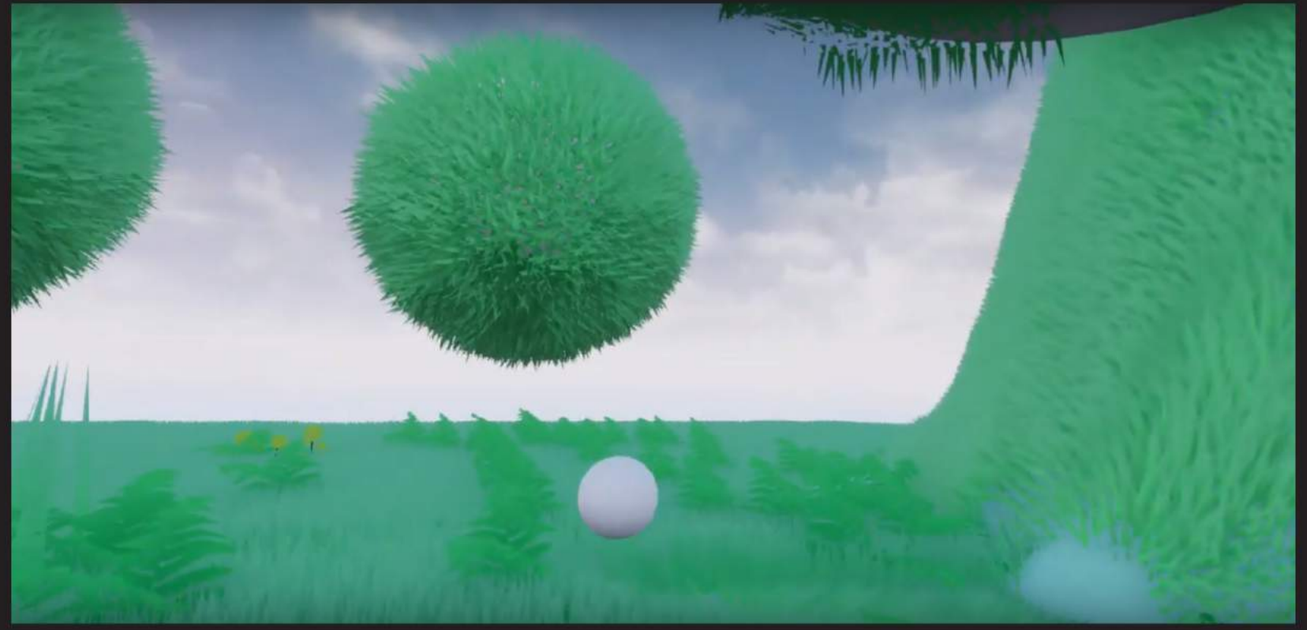
https://youtu.be/iXoZIONLjKw

Using environmental cues to understand spatial awareness.

How can we create spatial awareness when your body is invisible?

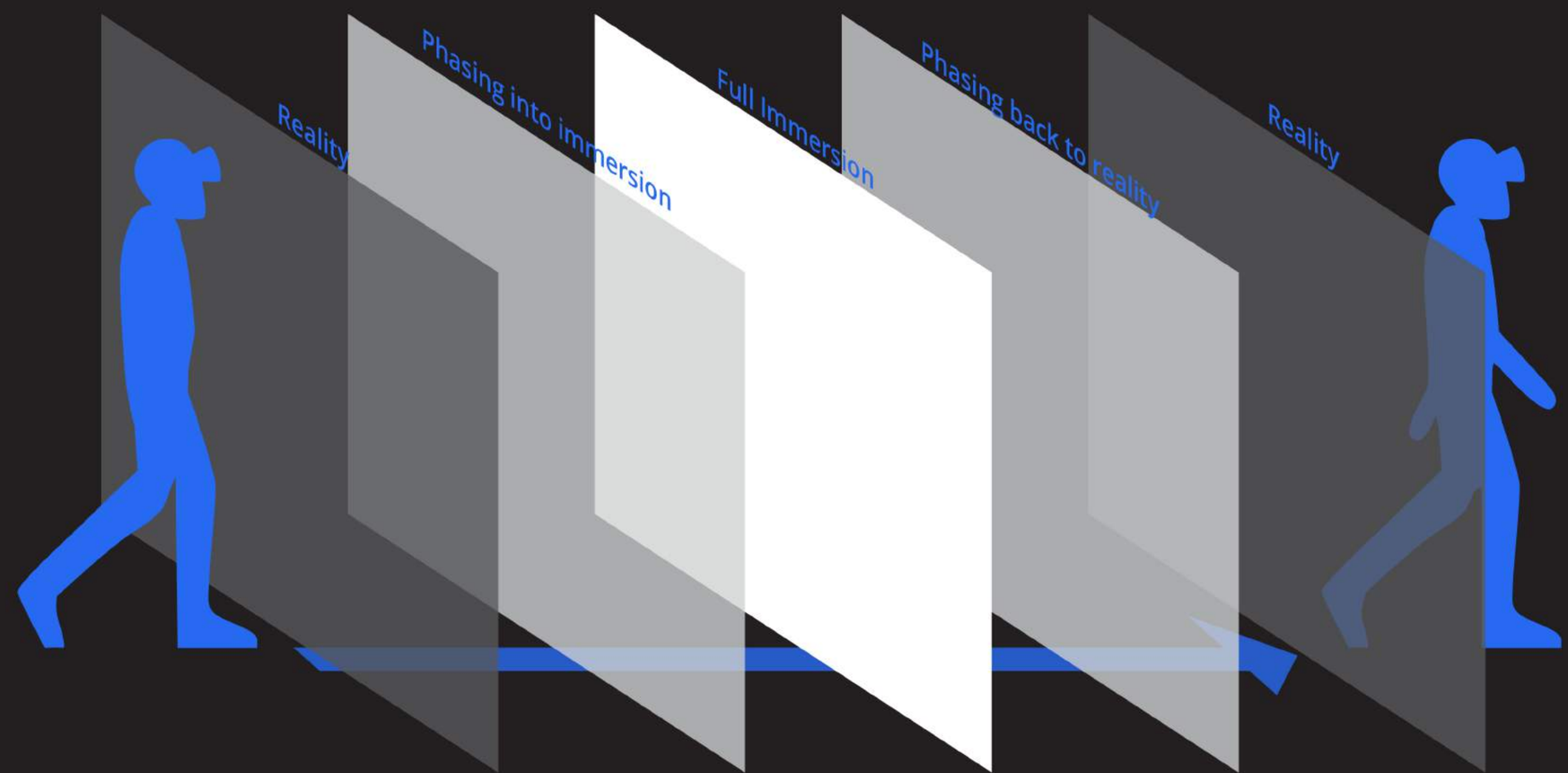
Through seeing the way your body reacts to the rain and the rustling of the grass you obtain spatial awareness of your surroundings.





What if we can create smooth transitions going in and out of VR?

Instead of wearing a device and moving straight to virtual reality, a smoother transition can occur through gradually phasing into full immersion and then phasing back out into reality.



Spatial awareness through virtual senses.

Reality

Object from real world into virtual reality

Environment

Body mapping on grass to understand your physicality

Sound

Echolocation to understand your body in your surroundings

Touch

Touching your physical body brings you back to reality.

Reality

Object from virtual world now in real world.

Future Roller Derby Skates

+ Problem Solving
+ Field Research
+ Innovating new design

Derby is an empowering women-dominated full-contact sport.

But the skates haven't been redesigned since the 50's

Insights from field research

NEOMI

Derby Dolls
Experienced Skater

Heel slips out of shoe and needs lock in

Slow motion videos identified how her heel slips out of her shoe, revealing ill-fitted skates

NEGATRON

Angel City
Experienced Skater

She showed me her skates and helped me really understand the complexities of them.

Plate breakage in metatarsal region

Players are constantly on their toes, moving from side to side, leading to breakage here.

Skate needs to fit like a second skin

Or else force gets wasted in exertion, reducing performance

Wear and Tear in toecap region

Foot drag and being constantly on toe stops leads to wear on laces and toe cap

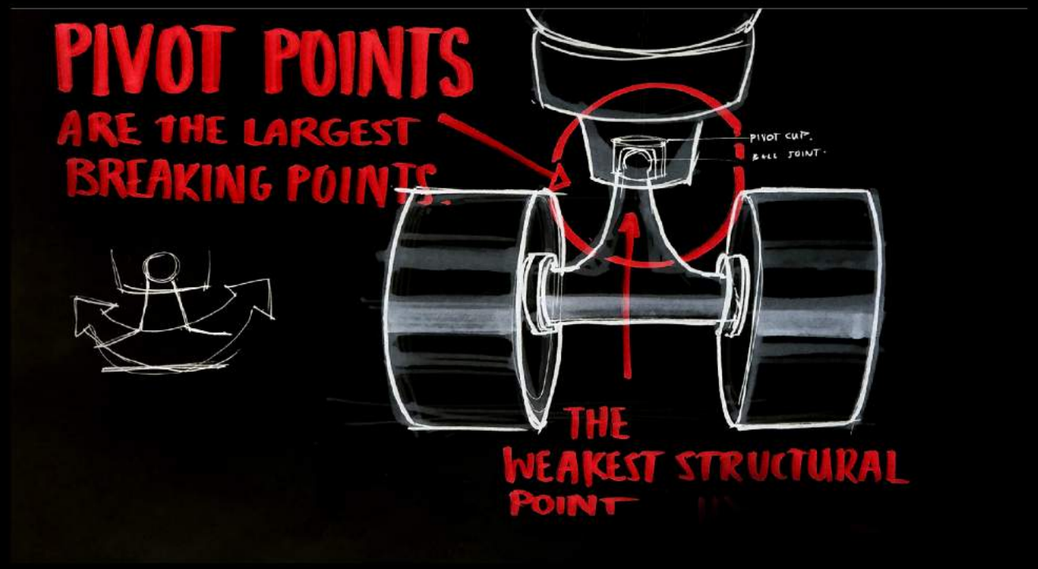
Doesn't reflect derby culture & aesthetic

The design of the skate is outdated and does not reflect the raw energy and legitimacy of this sport

Main Insight?

Plate breakage in metatarsal region

Players are constantly on their toes, moving from side to side, leading to breakage here.

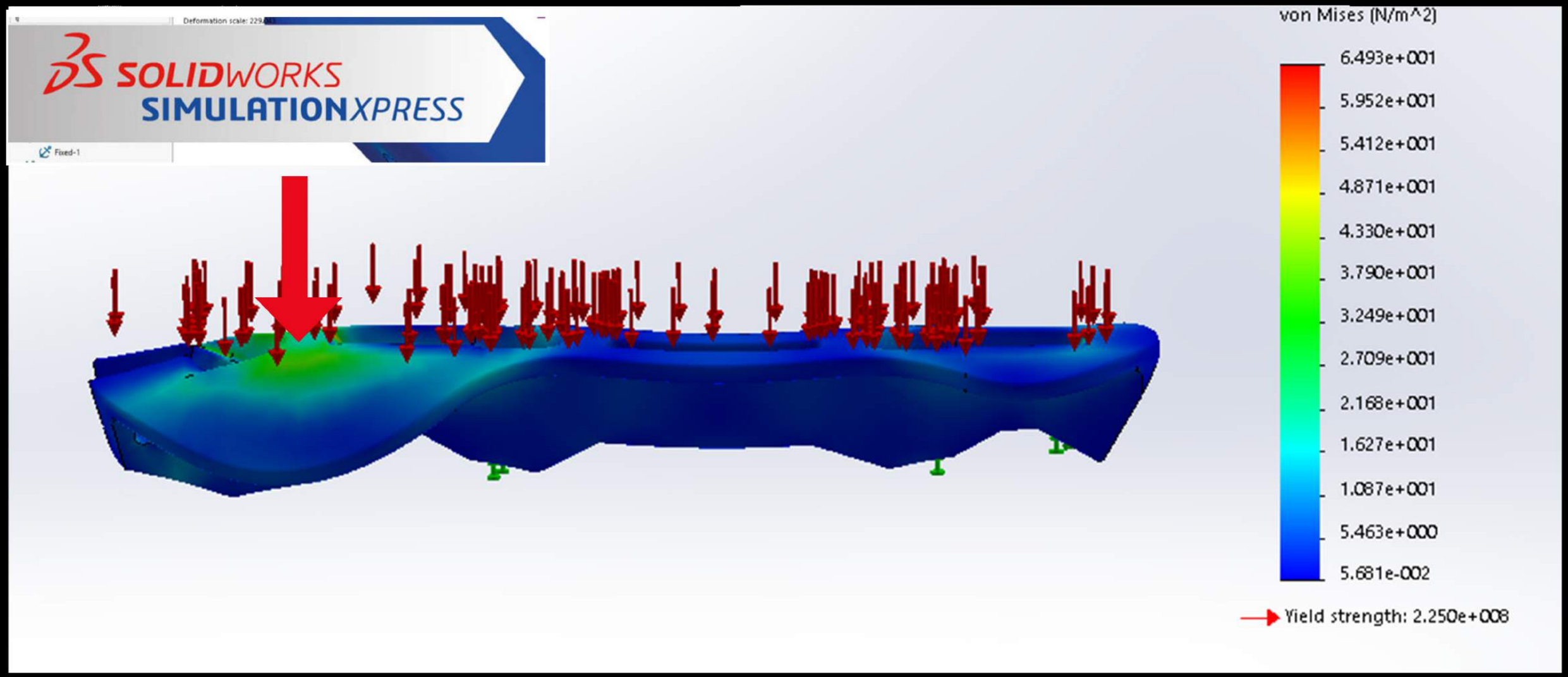


Proof?

Player mentioned breakage

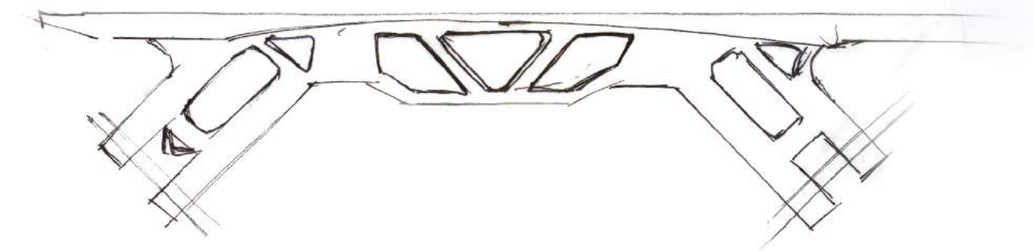
Skate Shop owner mentioned breakage

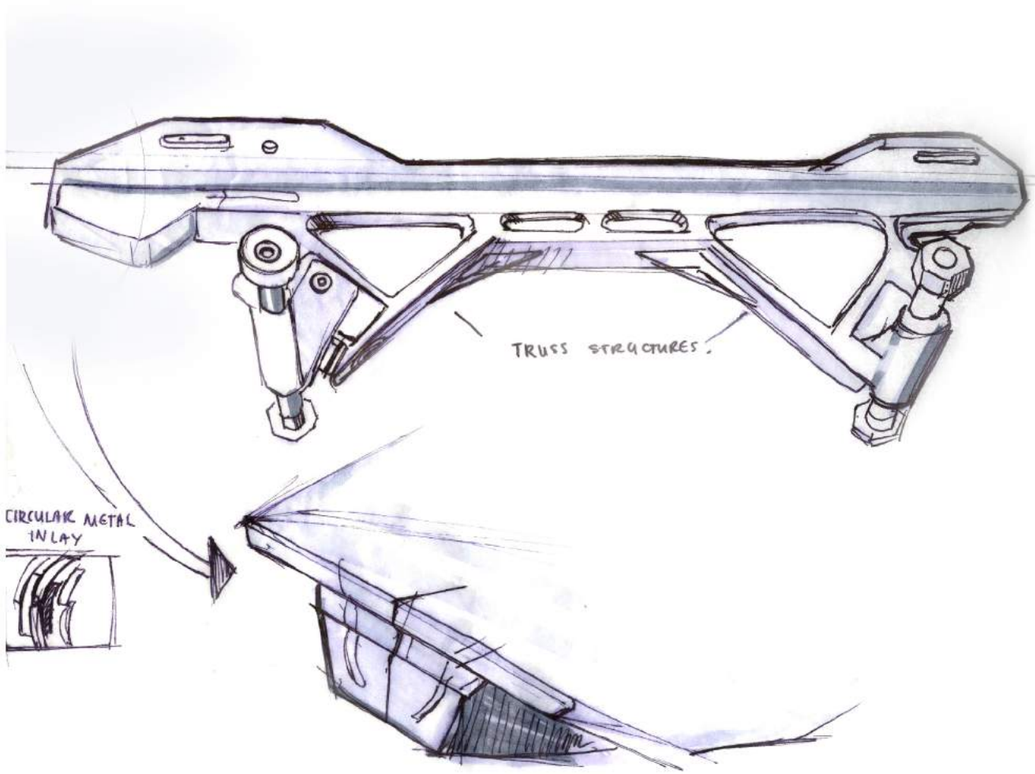
Solidworks force simulation reveals same breakage point.

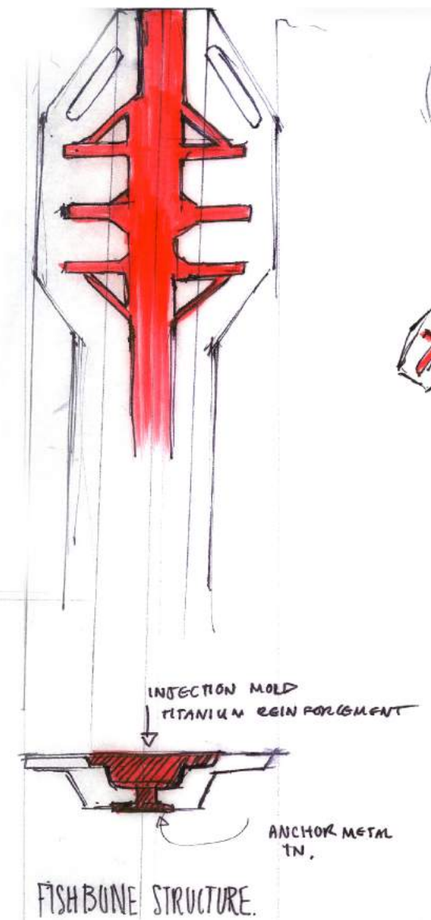


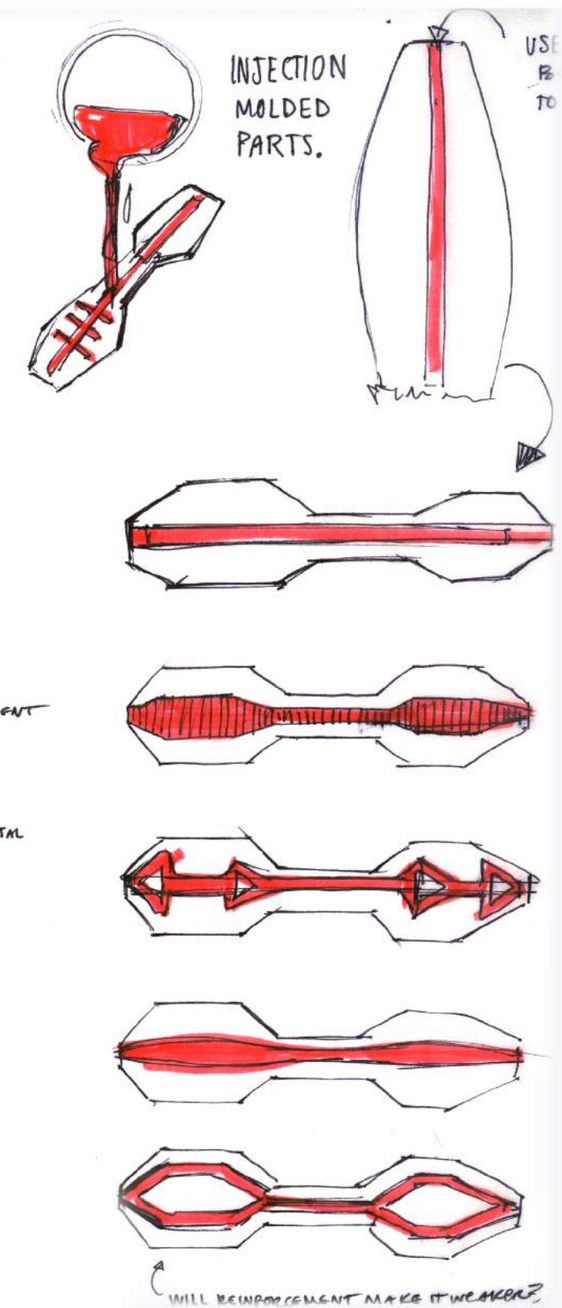
Solution to breakage: Bridges

Metal Fortification in Bridge Design?

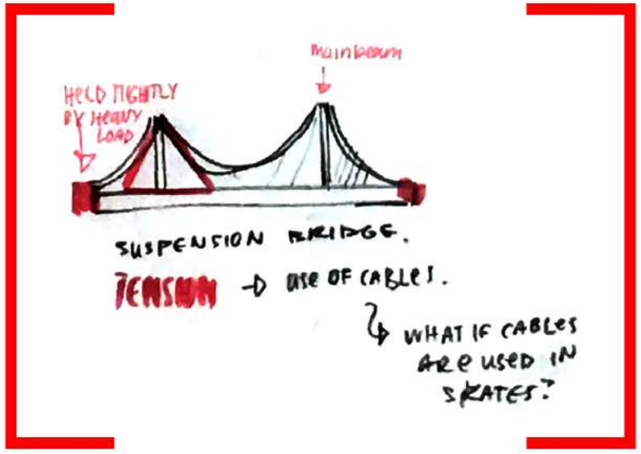


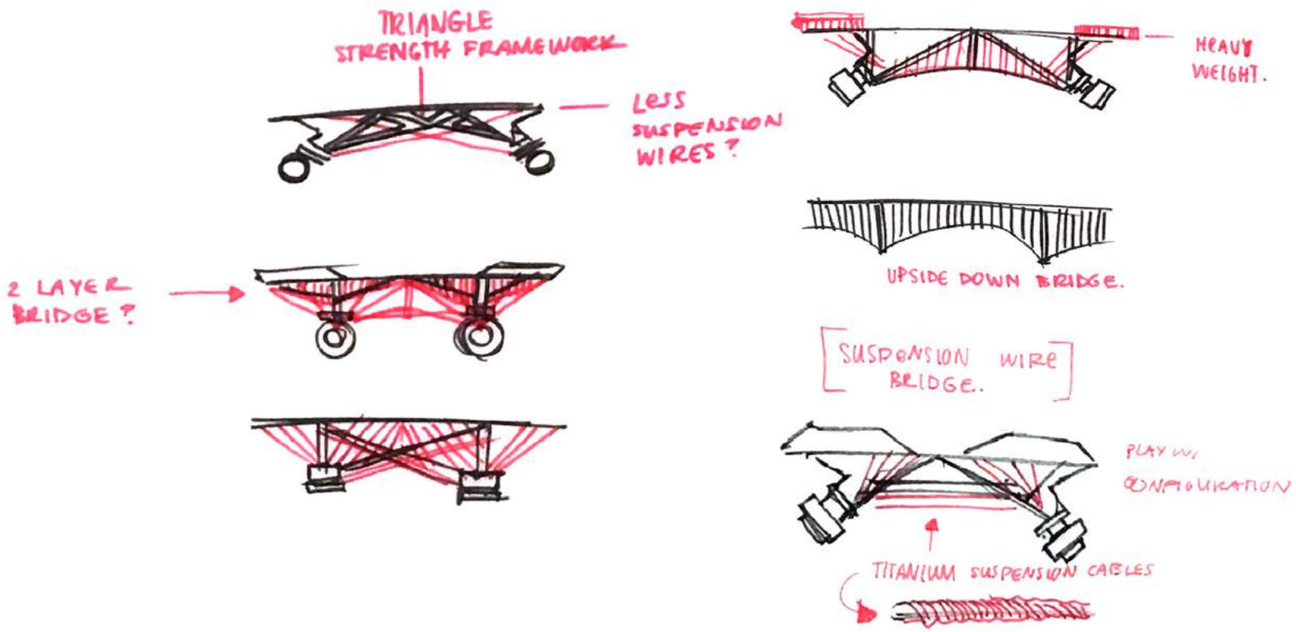






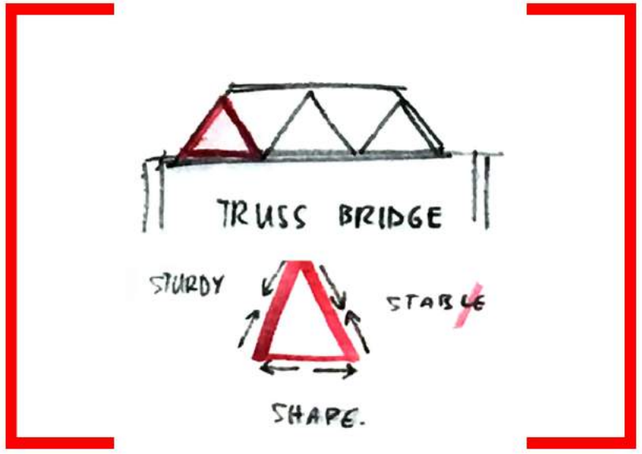
Suspension Bridges?

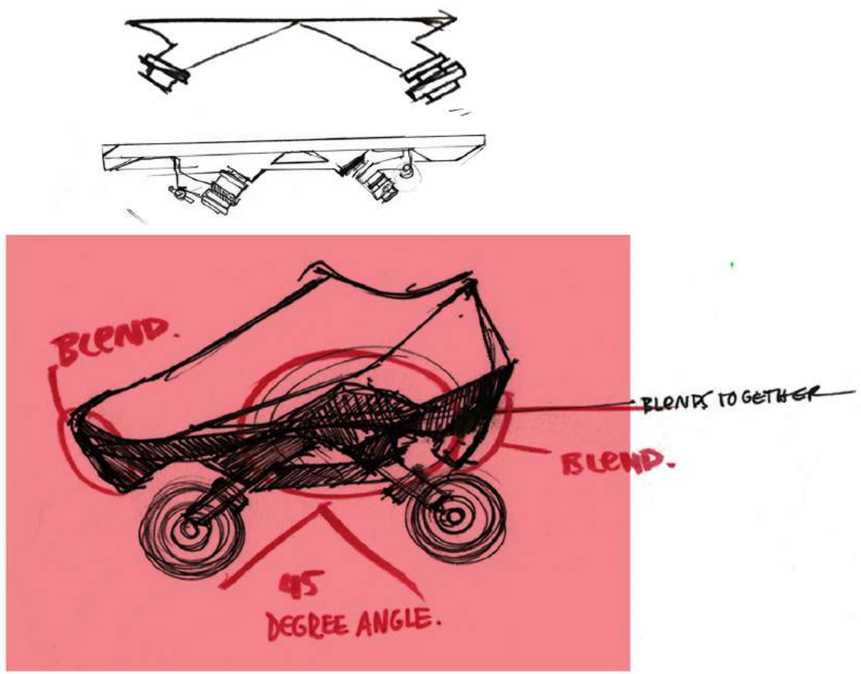




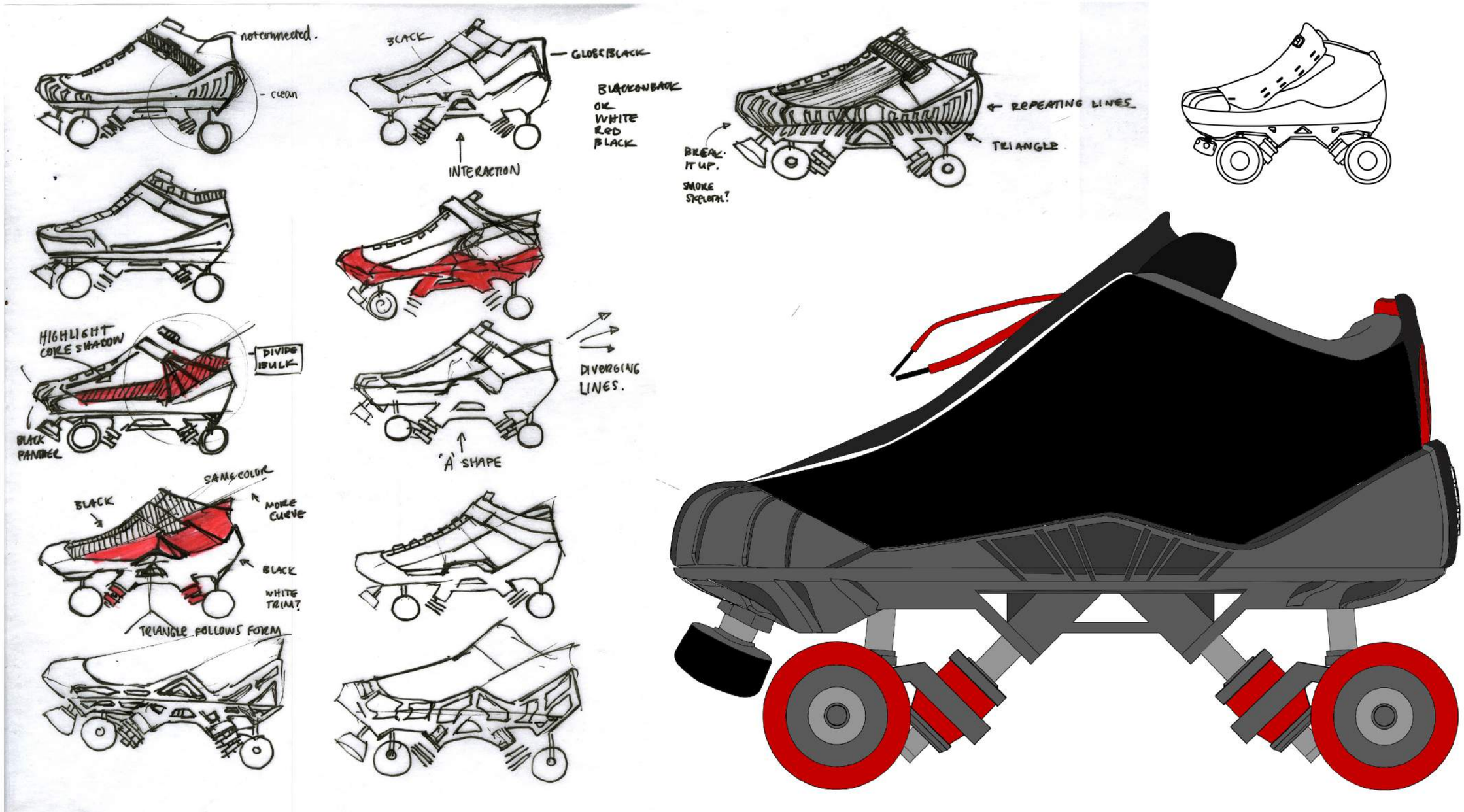
Problem: Wires might scratch and injure other players

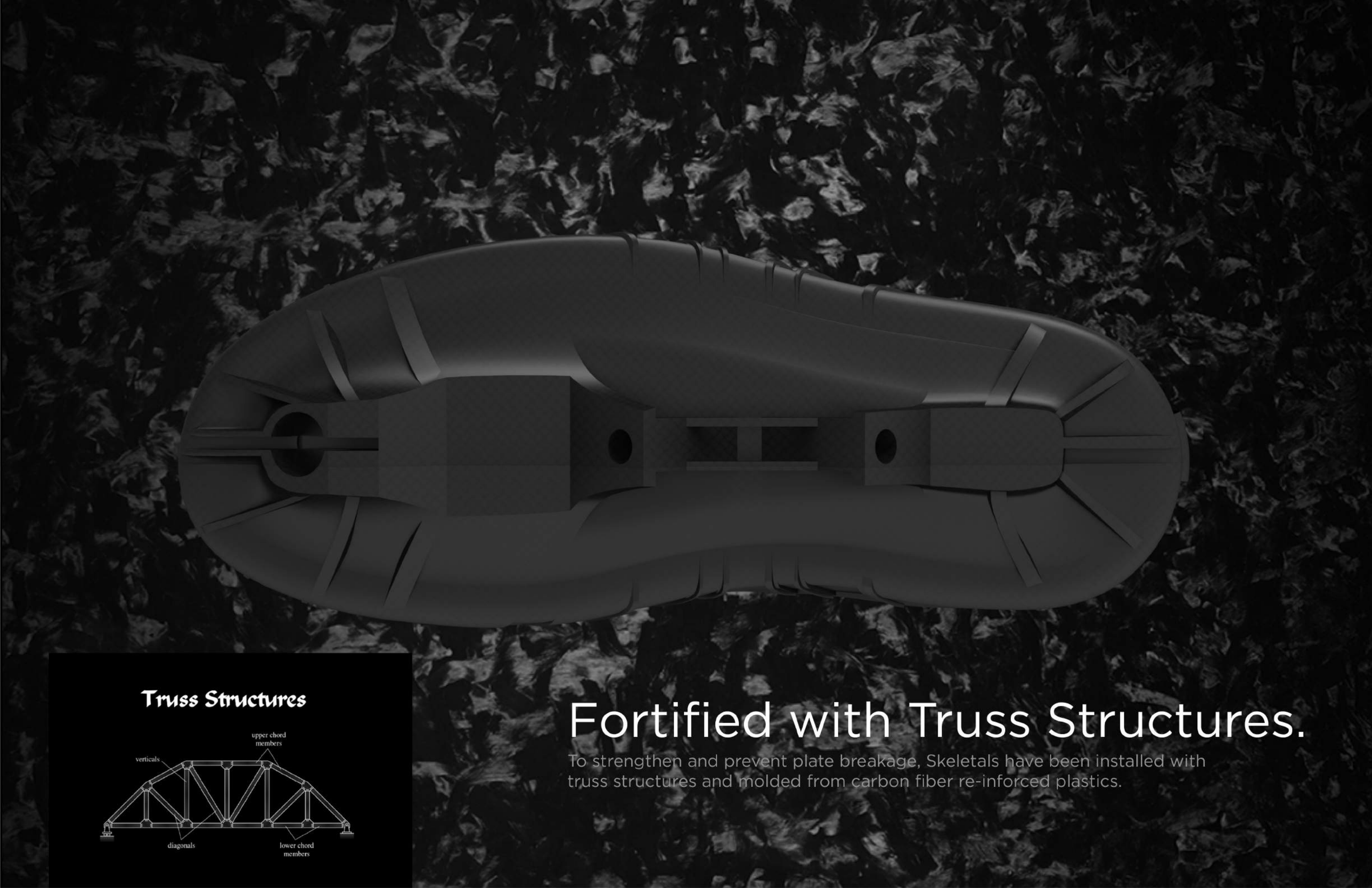
Truss Structures?





Truss structures seem to provide the best support


not connected.
- clean
BLACK
GLOBE BLACK
BLACK ON BACK
OR
WHITE
RED
BLACK
INTERACTION
REPEATING LINES
TRIANGLE
BREAK IT UP.
SMOKE SKELETAL?
HIGHLIGHT
CORE SHADOW
DIVIDE BULK
BLACK PANTHER
DIVERGING LINES.
'A' SHAPE
SAME COLOR
BLACK
MORE CURVE
BLACK
WHITE TRIM?
TRIANGLE FOLLOWS FORM



Fortified with Truss Structures.

To strengthen and prevent plate breakage, Skeletals have been installed with truss structures and molded from carbon fiber re-inforced plastics.

Generative Design

To strengthen and prevent plate breakage, Skeletals have been installed with truss structures and molded from carbon fiber re-inforced plastics.

Skates reimagined for modern roller derby