

# Yo, I'm Sol

Ill-informed design breaks my heart 💔

I love the process of making better experiences (I'd do it for FREE) 🎉

I enjoying failing at 🤞

One day, I'll be world-class at generating exploration 

# Design Generalist & Engineer

## Researcher

Research is one of my favorite stages in the design process. As a somatic empath, I employ user-observation, interviewing, and journey mapping to create the foundations of a user persona. “Innerstanding” the user informs design research, where assumptions and biases should be exposed. Within iteration, market research, testing, and analytics ensure the most informed designs are possible.

## Design Wholeness Mindset

My ability to envision the interconnectedness of a project to non-immediate stakeholders and the world at large contributes to the wholeness of the final product experience. In process, this manifests as a systems thinking approach. For example, designing for manufacturing, assembly, and adaptability. A wholeness mindset also reveals unseen opportunities.

## Storyteller

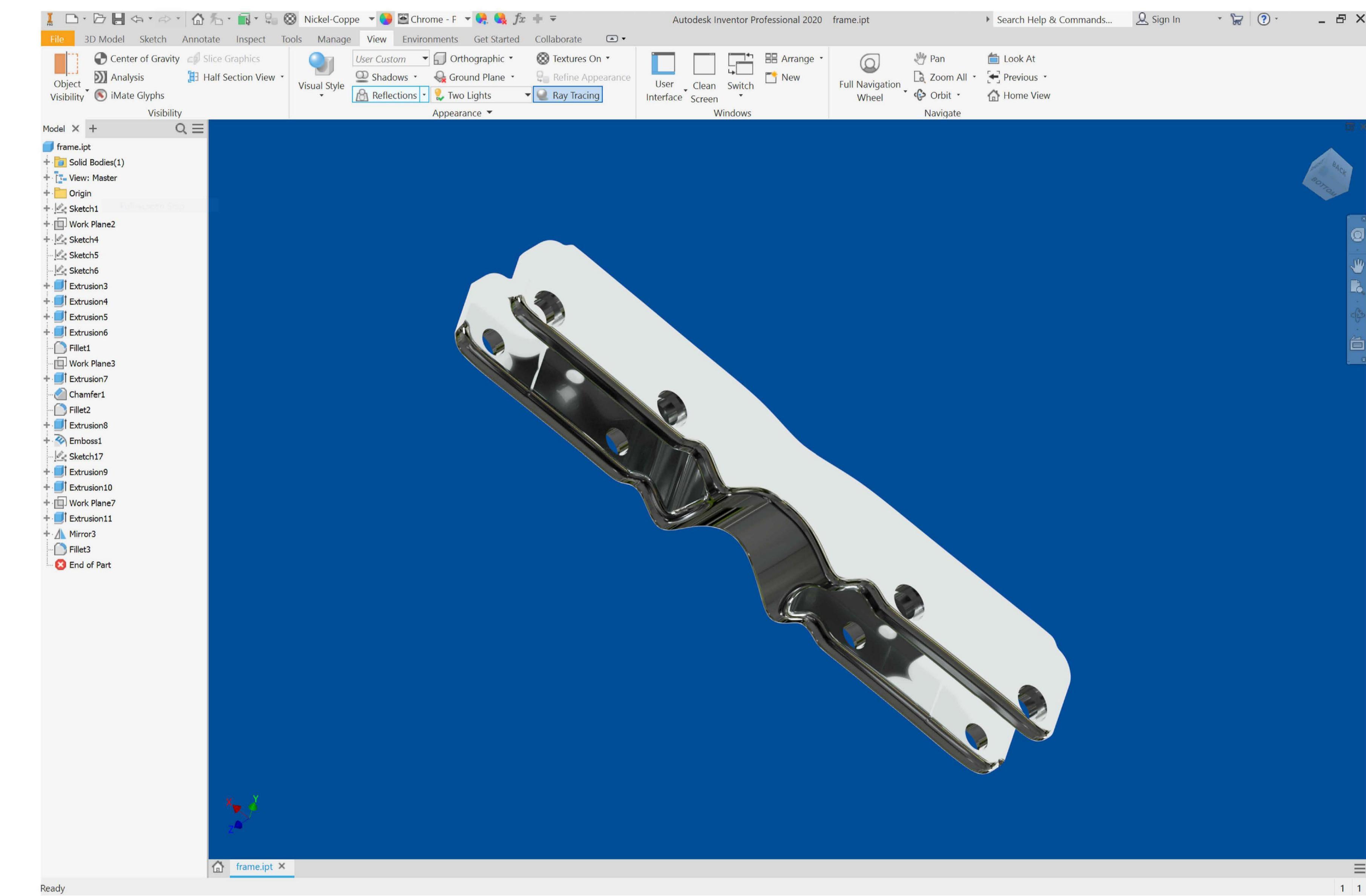
By applying my passions as a creative/song-writer, (modest) skills as a video producer, photography abilities, or rendering experience, I can elegantly illustrate the stories communicated at any stage of the design process.

UFS  
500 usd  
precision milled  
made in usa  
15 year warranty  
sine6.life

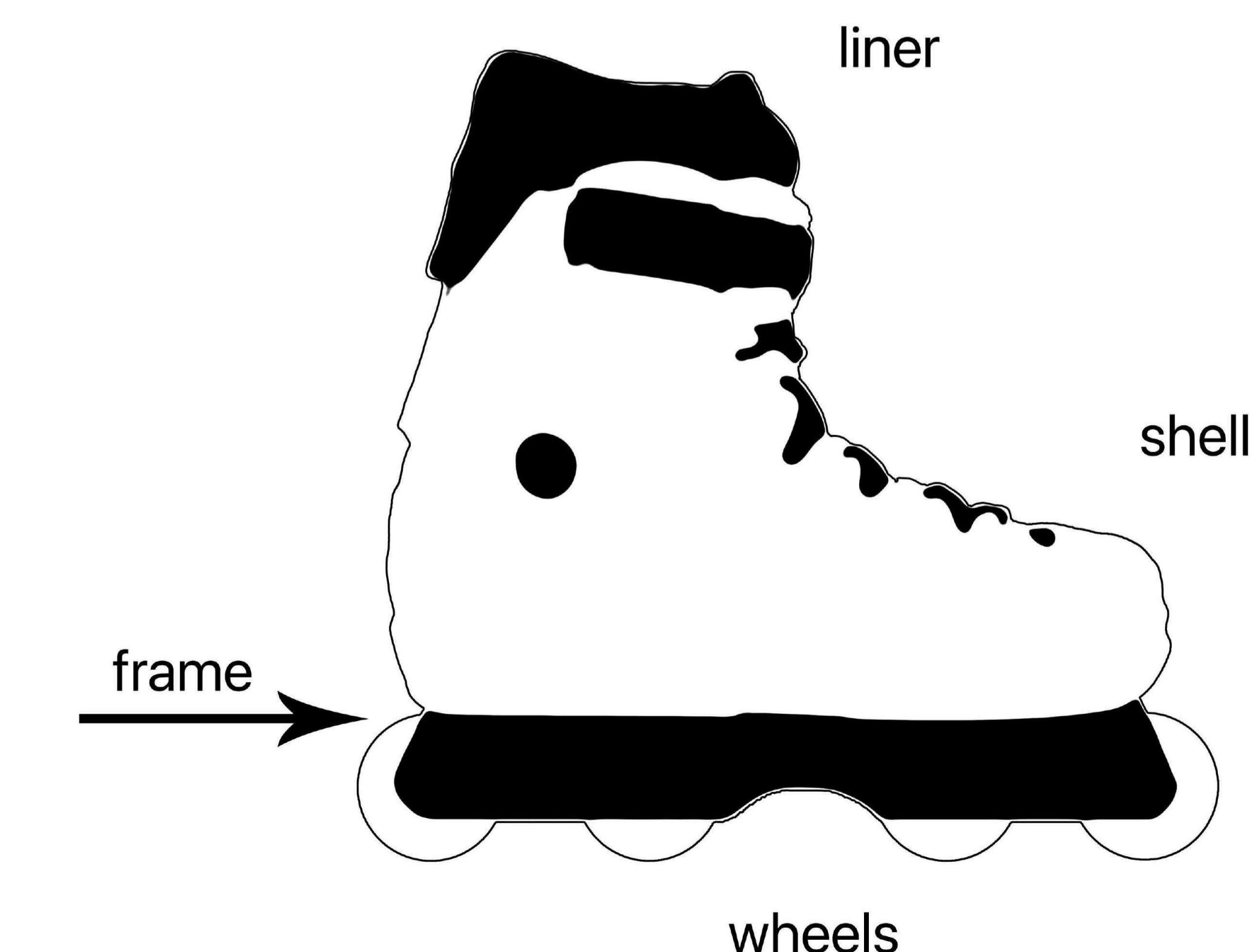


# Sine6.life Product Design and Graphic Poster

## CAD, Rendering & Graphic Design



I used Autodesk Inventor to design and render an aggressive rollerblading universal frame system (UFS). It's the part of the rollerblade that connects the wheels to the boot. I used Photoshop to create a product poster for a fictional company: Sine 6. The poster is in my interpretation of the late-90s and early 2000s style which popularized the sport. The frame accommodates a range of wheel sizes: from 59mm to 61mm. Also, the design and pricing were informed by the tooling and manufacturing processes required to fabricate a final product.

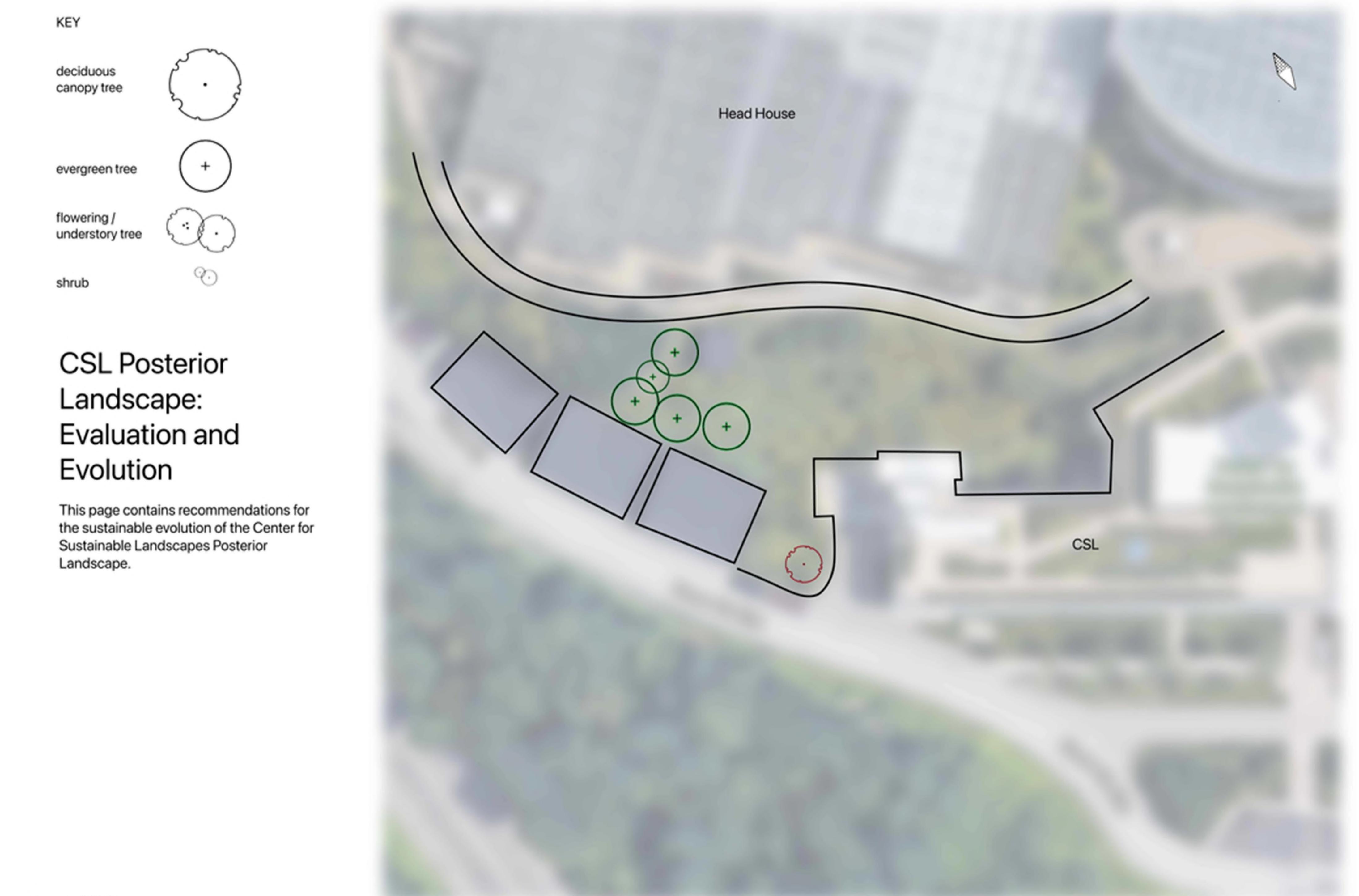




### CSL Main Landscape: Evaluation and Evolution

This document contains recommendations for the sustainable evolution of the Center for Sustainable Landscapes Main Landscape; evaluated and programmed by Jess Hornstein, Gary Worthington and Freesoul El Shabazz-Thompson (intern). **Red** indicates **At Risk** and **Green** indicates **New Recommendations**. Current successful trees are not included.

August 2020



### CSL Posterior Landscape: Evaluation and Evolution

This page contains recommendations for the sustainable evolution of the Center for Sustainable Landscapes Posterior Landscape.

August 2020

# Phipps Conservatory & Botanic Garden: Center for Sustainable Landscapes Evaluation and Evolution

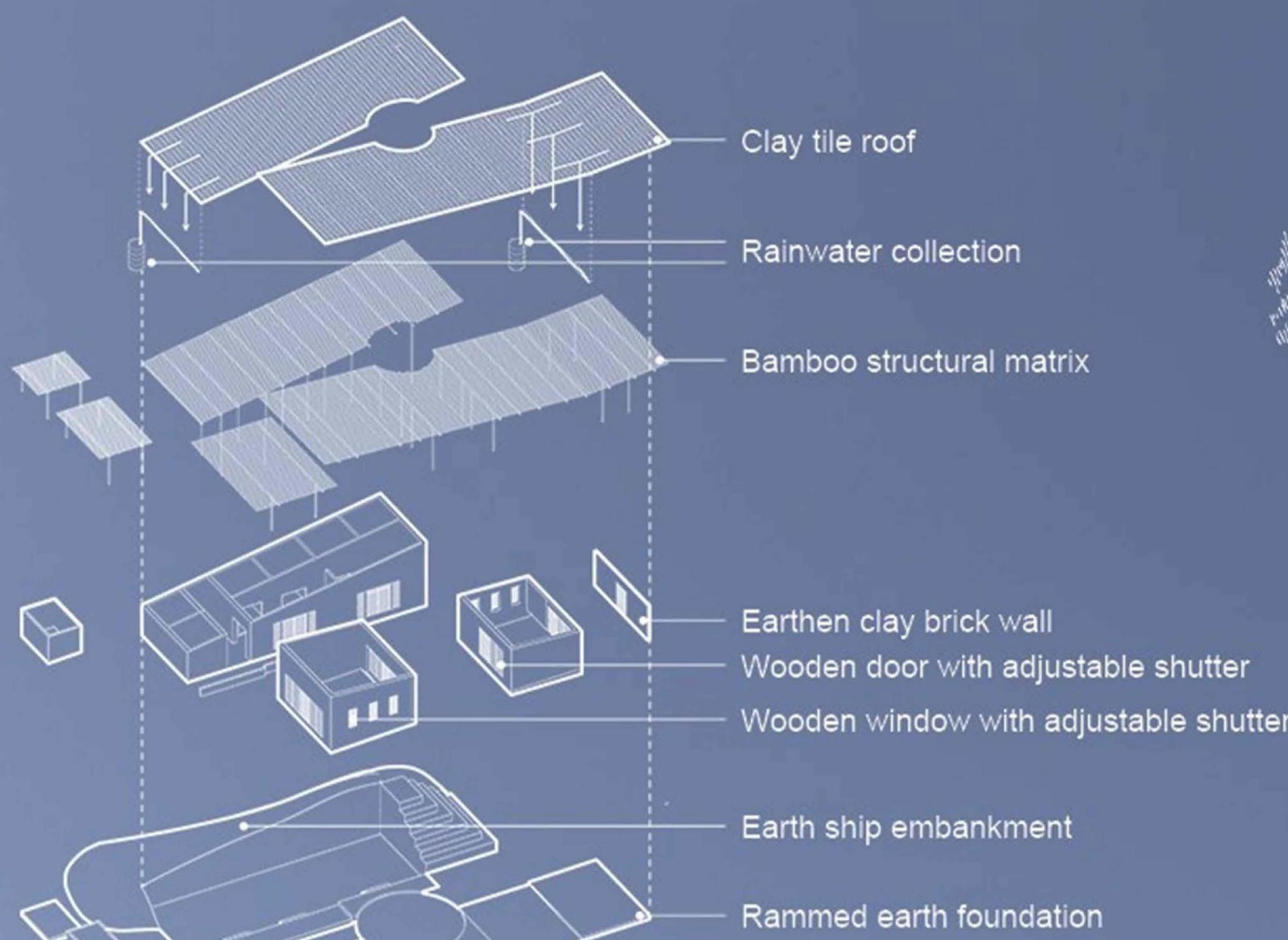
## Permaculture & Landscape Architecture



I evaluated the CSL Main and Posterior Landscapes after managing the areas through a 2 week period (solo) characterized by severe lack of rain nearing drought. The boards to the left contain suggestions for the Landscapes sustainable evolution. Influencing factors include tree/perennial relationships, water savings through shade trees, slope stabilization, invasive seeding prevention, and user experience via views, resting locations, and social points.



# The Jorejick Earth-House



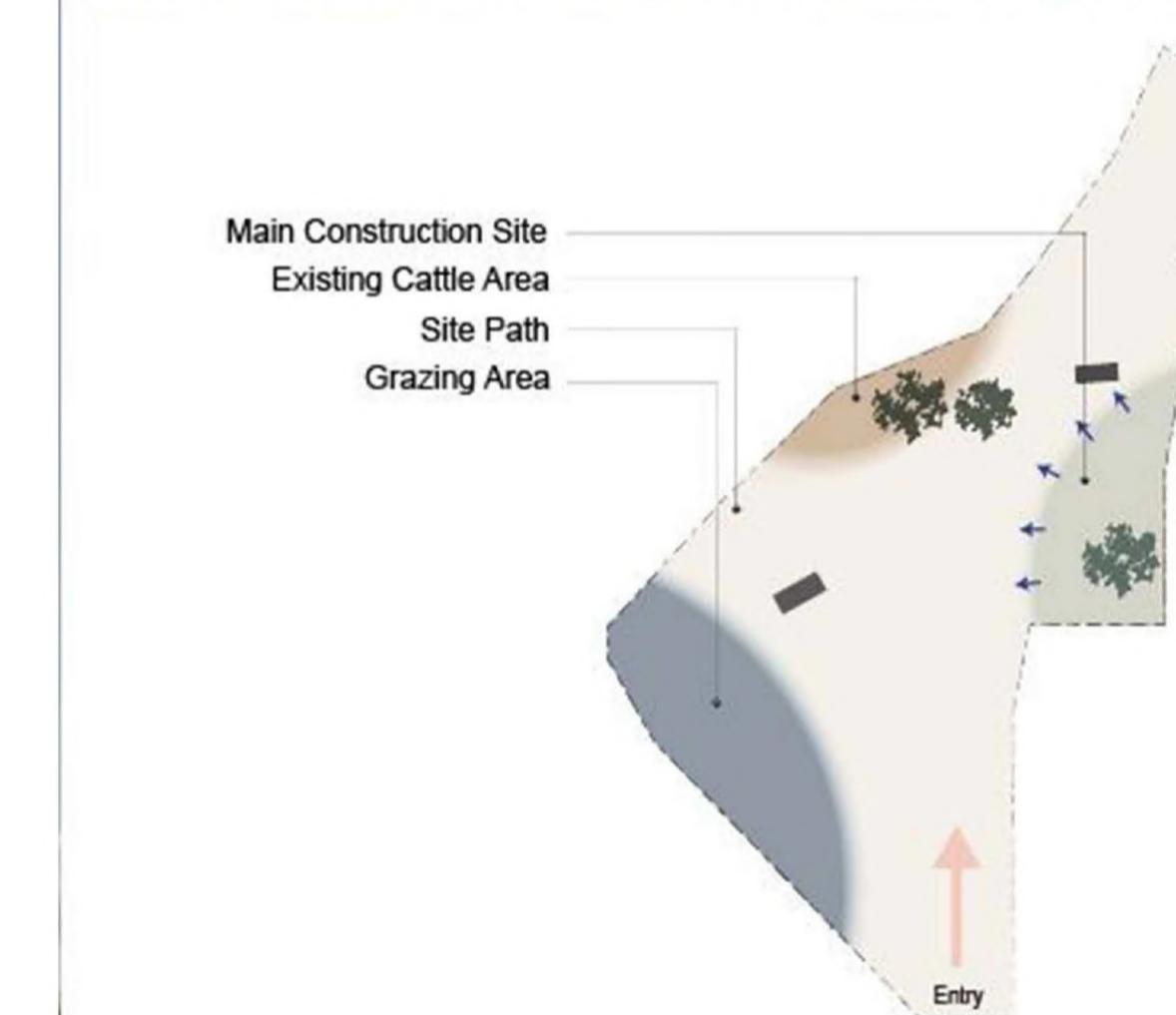
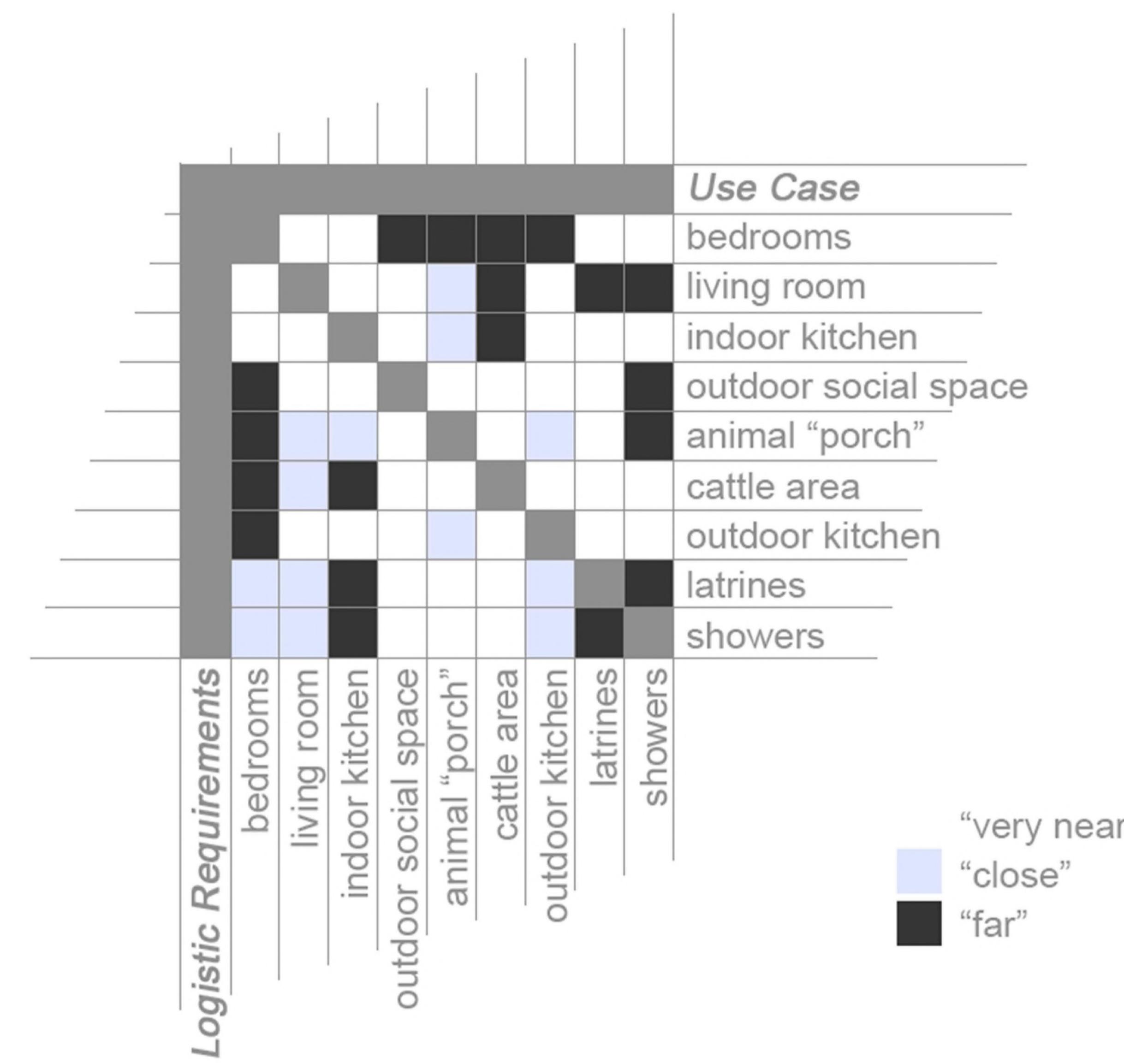
# Archstorming African House Design Competition

Low-Tech Manufacturing & Architecture

Team: Jono Coles, Freesoul El Shabazz-Thompson, Alex Hren, Nick Lazzaro

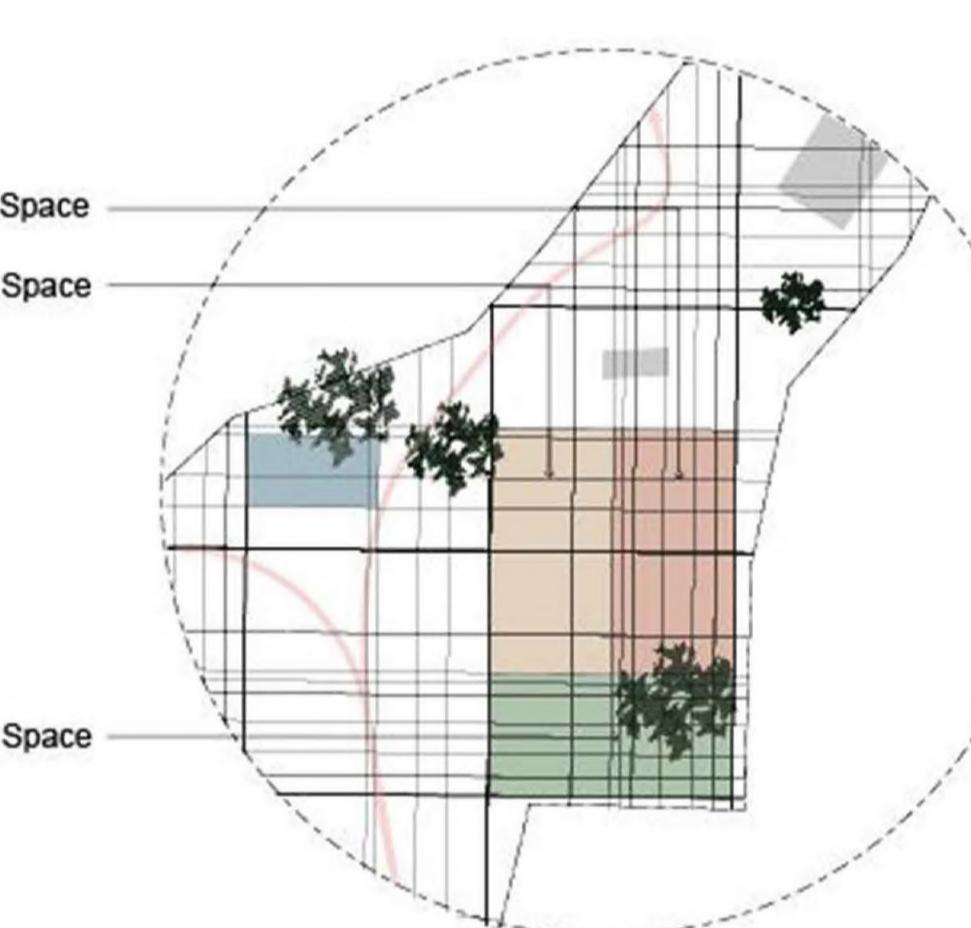
"Tanzania suffers from a terrible shortage of good quality and affordable housing." This project aims to generate a space that not only facilitates comfort and stability for the Jorejick family, but also demonstrably rethinks the role of local natural resources, potentially invigorating those industries. The design is inspired by the Iraqw conceptual pillar of harmony, which directly influences our decision to pursue a partially earthen home [as in the traditional building style]. Paired with designing for scalability and local low-tech manufacturing, the Jorejick Earth-House program achieves harmony in form and mode for not only the family, but also the community. For example, choosing to pursue clay roof tiles over corrugated metal affords greater thermal and acoustic performance, and supports local industry as opposed to purchasing materials outside of the community. Using bamboo over sawn timber garners similar long term communal benefits. Excavated soil is used for clay tile and brick production, as well as the raised earthen portion of the home; closing another materials demand loop. The Earth-House keeps the bedrooms cool, and situates the structural foundations for play and relaxation on the tree-shaded terrace. The overall program emphasizes circulation by balancing the potential use cases of each space with the logistic demands required to establish that space, as figured in the Proximity Matrix below. Keeping in mind children and elders, the composting latrines and showers are close to the bedrooms—however, removed enough as not to infringe on the logistics of water collection and transportation. The importance of livestock and animals to the Jorejick family is maintained by ensuring the cattle area is viewable from main social spaces, and a more intimate "animal porch" is included adjacent to the living room. Flow from the living room through the entry crescendos transitioning into the oculus, which unites family and public spaces with a ring of sunlight at high noon. Moving from entry to indoor kitchen, to outdoor kitchen and finally to the gathering space accommodates the social nature of food preparation and sharing. The zenith of the Jorejick Earth-House is a demonstration of harmony, both in form and mode. By using on-site materials and in-house/local manufacturing the majority of the budget flows into the community via wages for laborers. In doing this, the design accomplishes a comfortable living size without sacrificing innovation and the harmony of the community.

Proximity Matrix: Use-case and Logistic Demands



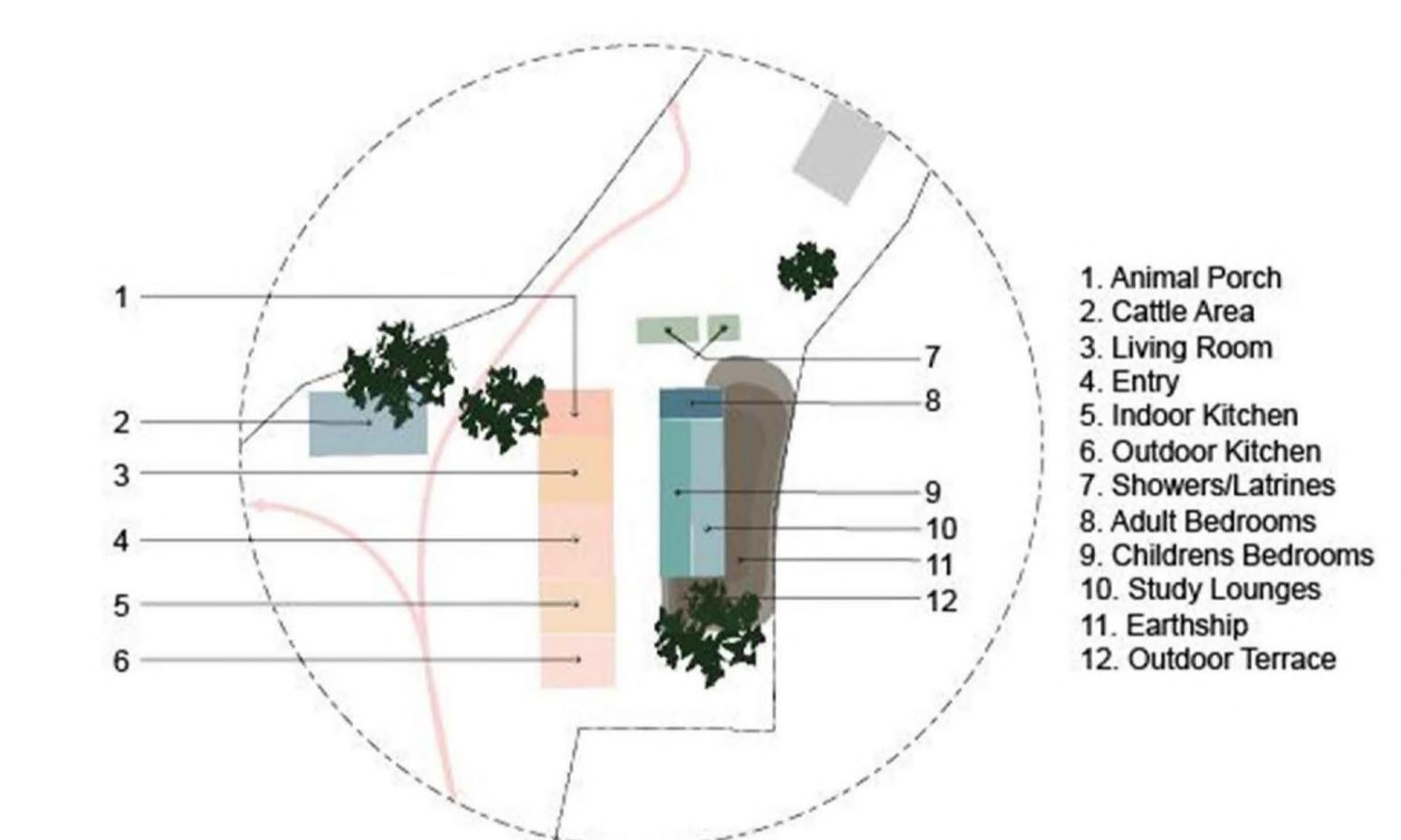
### I. Zoning

Construction site chosen based on elevation, drainage, and the preservation of existing infrastructure.



### II. Spatial Organization

The grid is derived from the 4 harmonic frequencies that comprise a major 7th chord. Outdoor and indoor spaces flank the families private quarters in order to reduce visibility and access from site's main path.

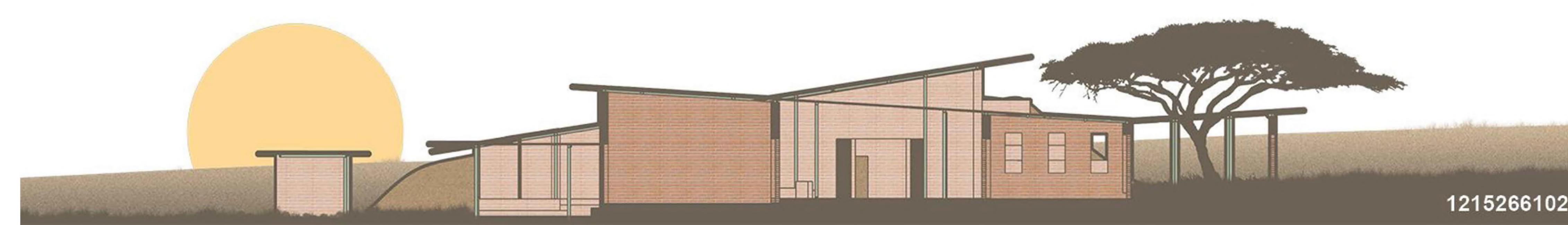
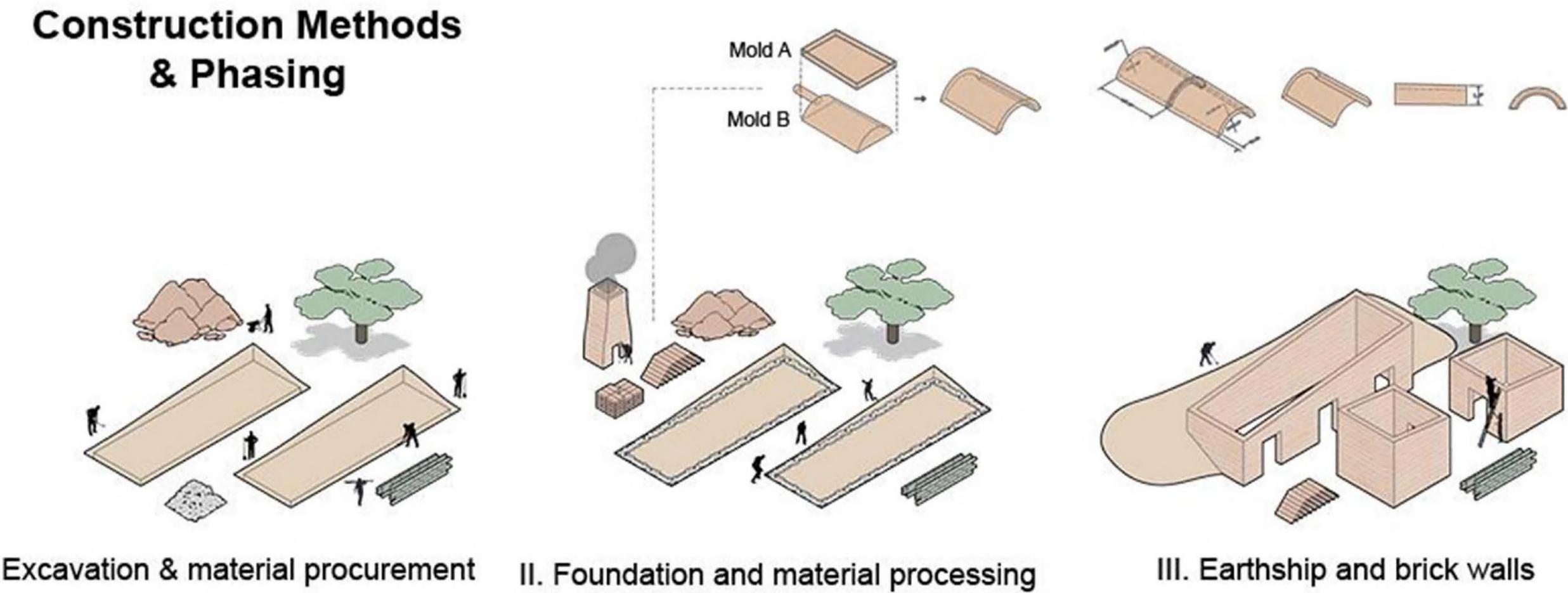


### III. Programming

- Animal porch connected to family living space and in close proximity to cattle area for easy transport
- The showers and latrines are located near the bedrooms to facilitate easy access, but separated from the cooking spaces in order to maintain a sanitary living environment.
- For students, study spaces are positioned adjacent to the children's bedrooms.
- Bedrooms are imbedded in earthship to maximize thermal performance.
- Outdoor gathering space sits next to the outdoor kitchen to integrate cooking and family gathering.

My most impactful contributions to the project were in design and cultural research, low-tech manufacturing, programming decision making, and crafting the stories and flow of the spaces. Most notably, low-tech manufacturing applied with the wholeness design mindset became a pillar of our design concept: use of local resources and skills to extend the impact of the Jorejick Home to the community. I developed the proximity matrix above to inform our architectural programming process. It describes the relation between logistic and use case requirements for each space in the home.

### Construction Methods & Phasing



# CattleTECH

UX & Product Design Engineering

Team: Freesoul El Shabazz-Thompson, Natalie Hanson, Maddie Hong, Henry Moskal, Ieva Stakvilevičiūtė

Our client, Raitong Organics Farm [Sisaket, Thailand], presented the following situations: 1) Cattle wander onto roads where they cannot be seen, thus endangering themselves and drivers. 2) Cattle herding conventions provide the opportunity for cows to feed on other farmers crops, which is property damage. Our solution needed to be low cost, easily manufacturable/reparable, and accessible to the older generation of Thai farmers. We increased cattle visibility with a hi-vis collar, and created an open source system for tetherless containment of cattle using Long Range Radios.

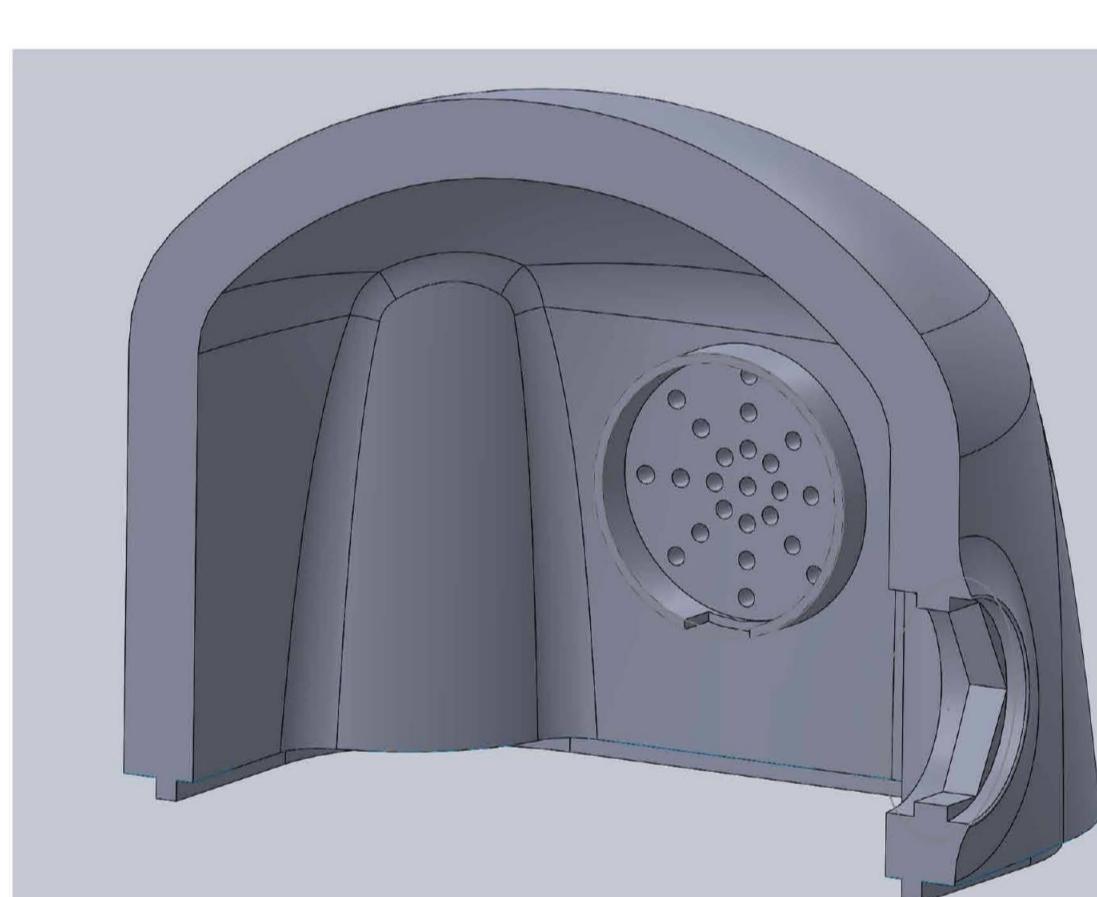
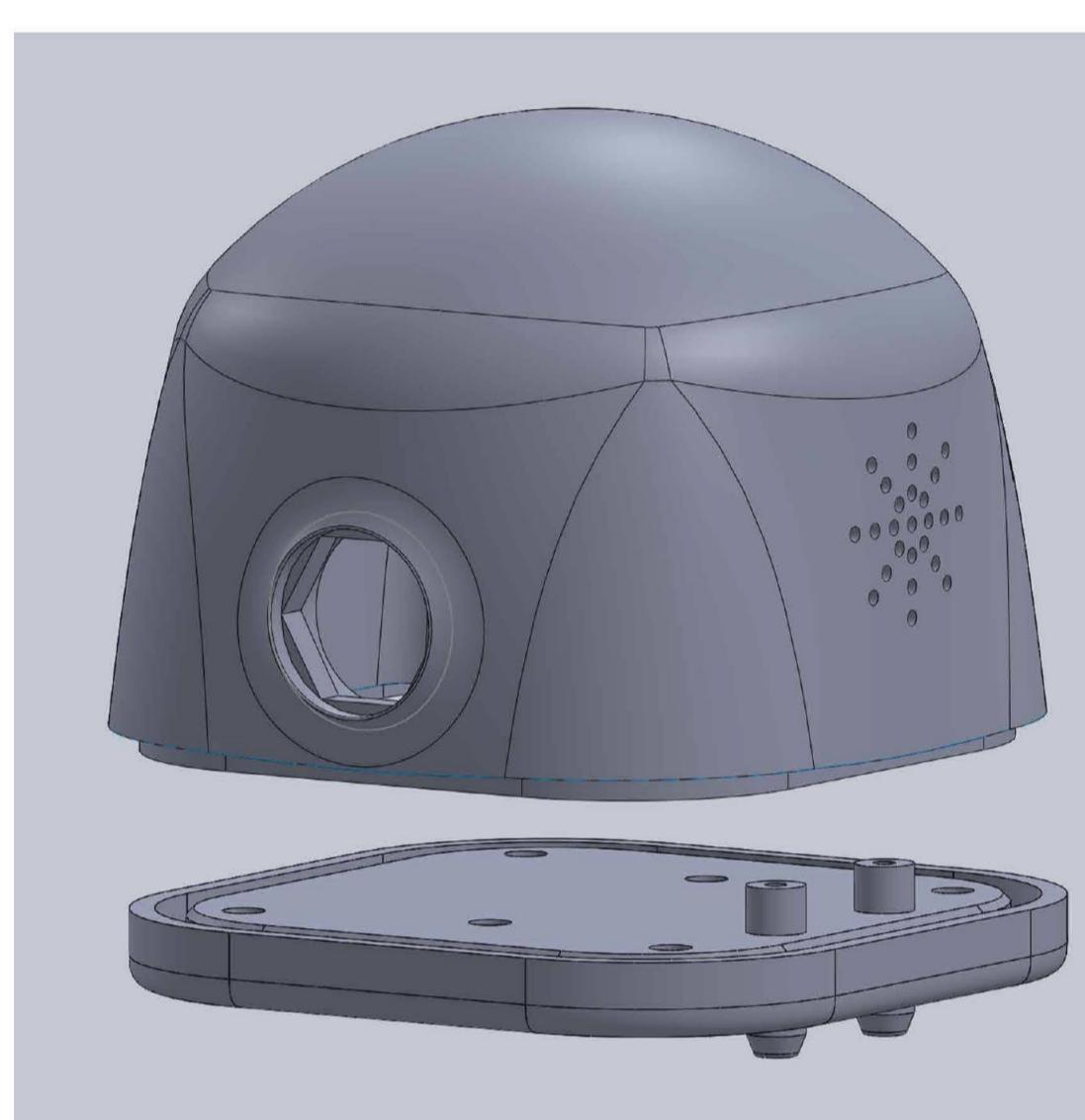
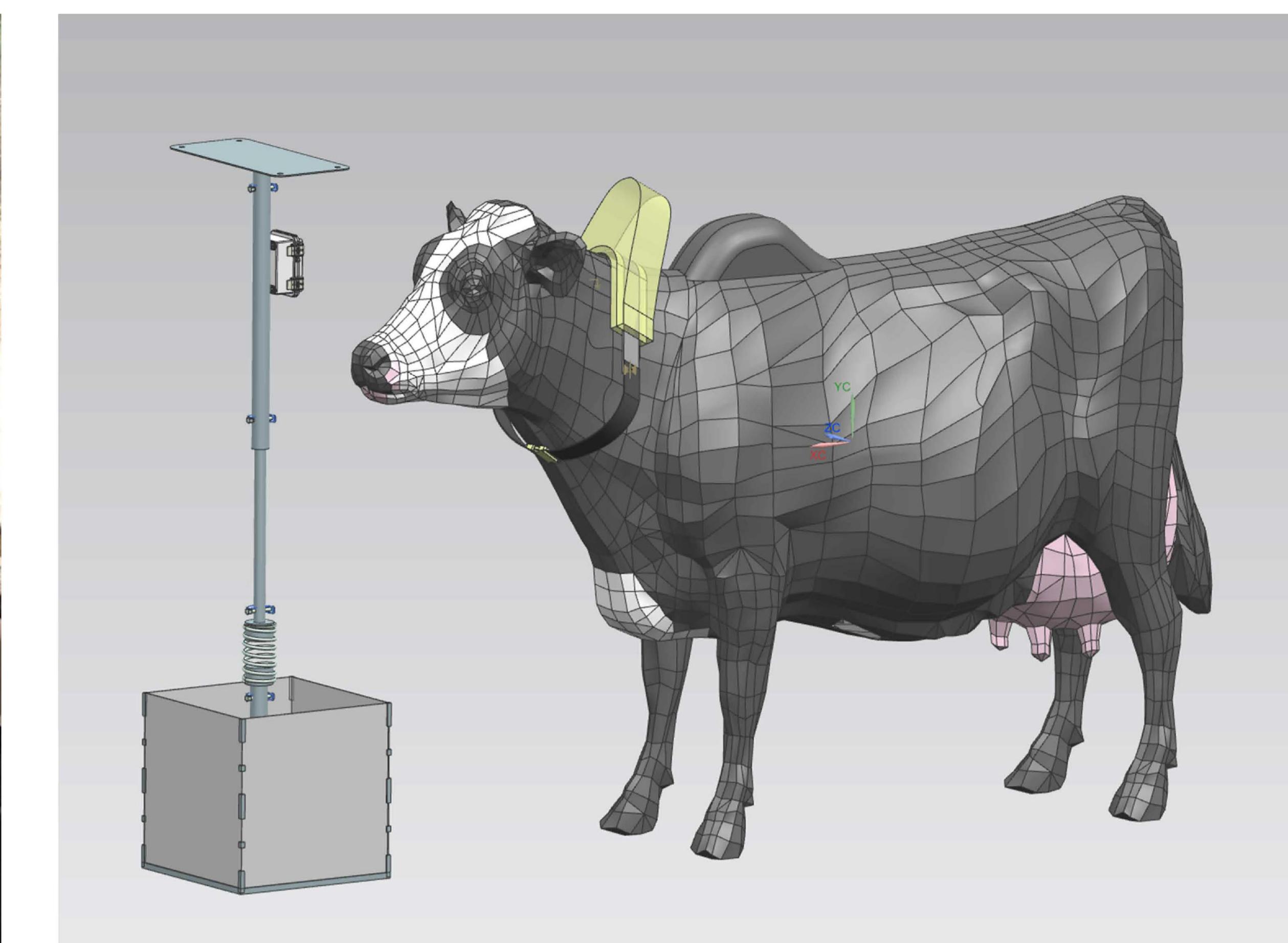
My role on the team was hardware lead as well as being a part of the software and visibility design teams.

This project follows the entirety of the design iteration process. Our research, benchmarking, brainstorming, design reviews, testing and beyond are illustrated in detail in the final pdf.



# Northwestern DESIGN INNOVATION

SEGAL DESIGN INSTITUTE at the  
McCORMICK SCHOOL OF ENGINEERING



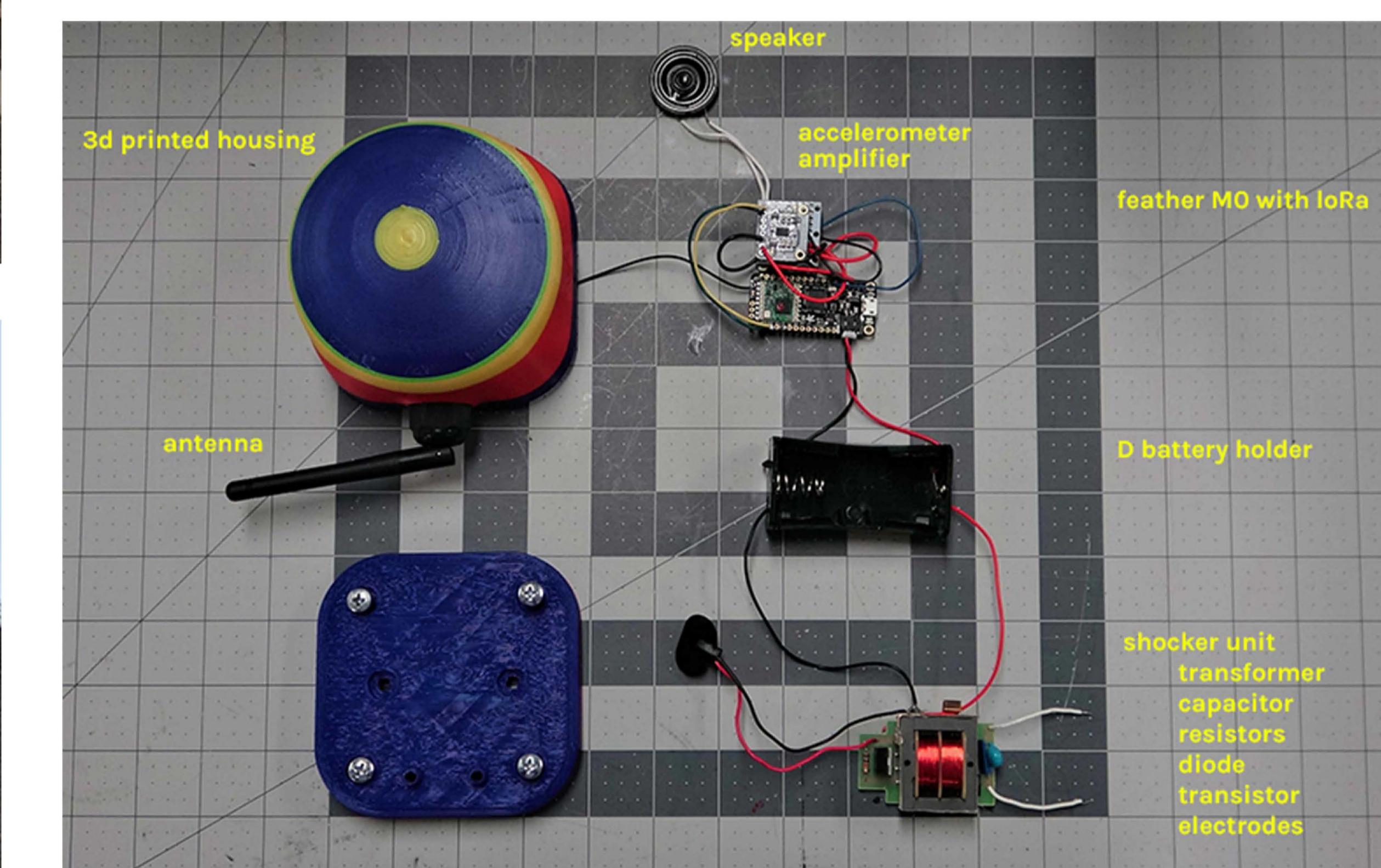
Above:

1. Early Brainstorming session
2. Prototype testing for fit at Wagner Farms [Illinois, USA]



Above:

1. Interviewing the User Group: Middle - Elder age Thai Farmers with very little hi-tech familiarity. [Sisaket, Thailand]
2. Usability Testing at Wagner Farms. [Illinois, USA]



Above:

1. Digital Model Showing Cattle, Hi-Vis collar, and Post.
2. Functional Prototype: electronic components and housing.



View the Cattle Tech: Post Demo Video at:  
<http://bit.ly/cattletechpostdemo>

# Nora The Dragon

Manufacturing & Product Design Engineering

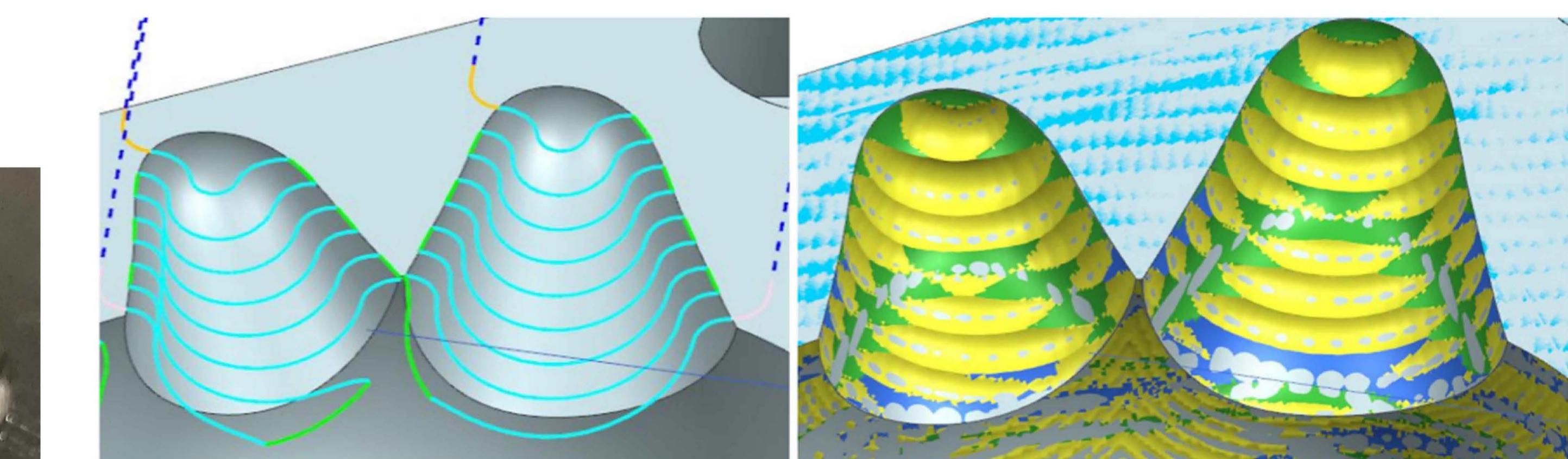
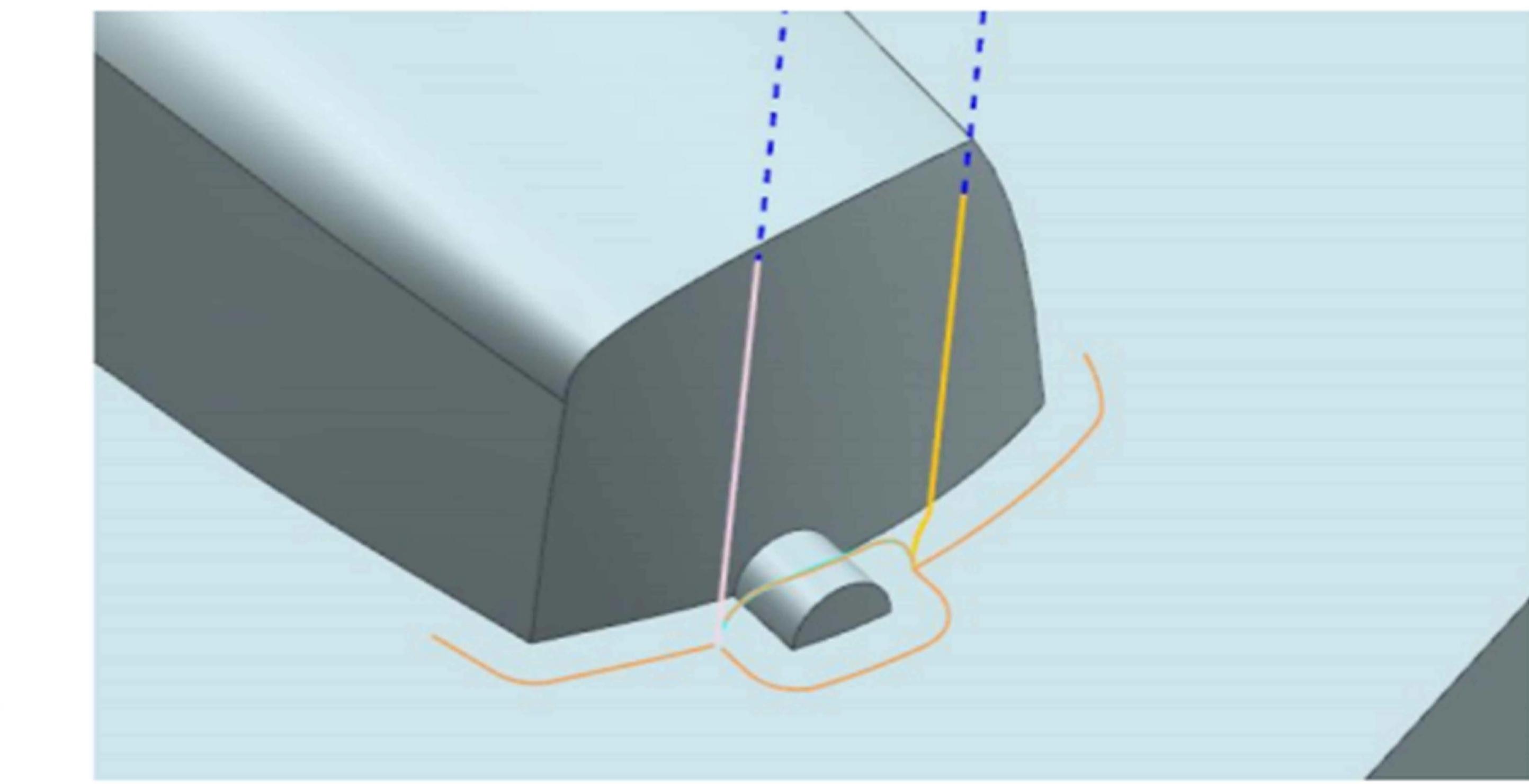
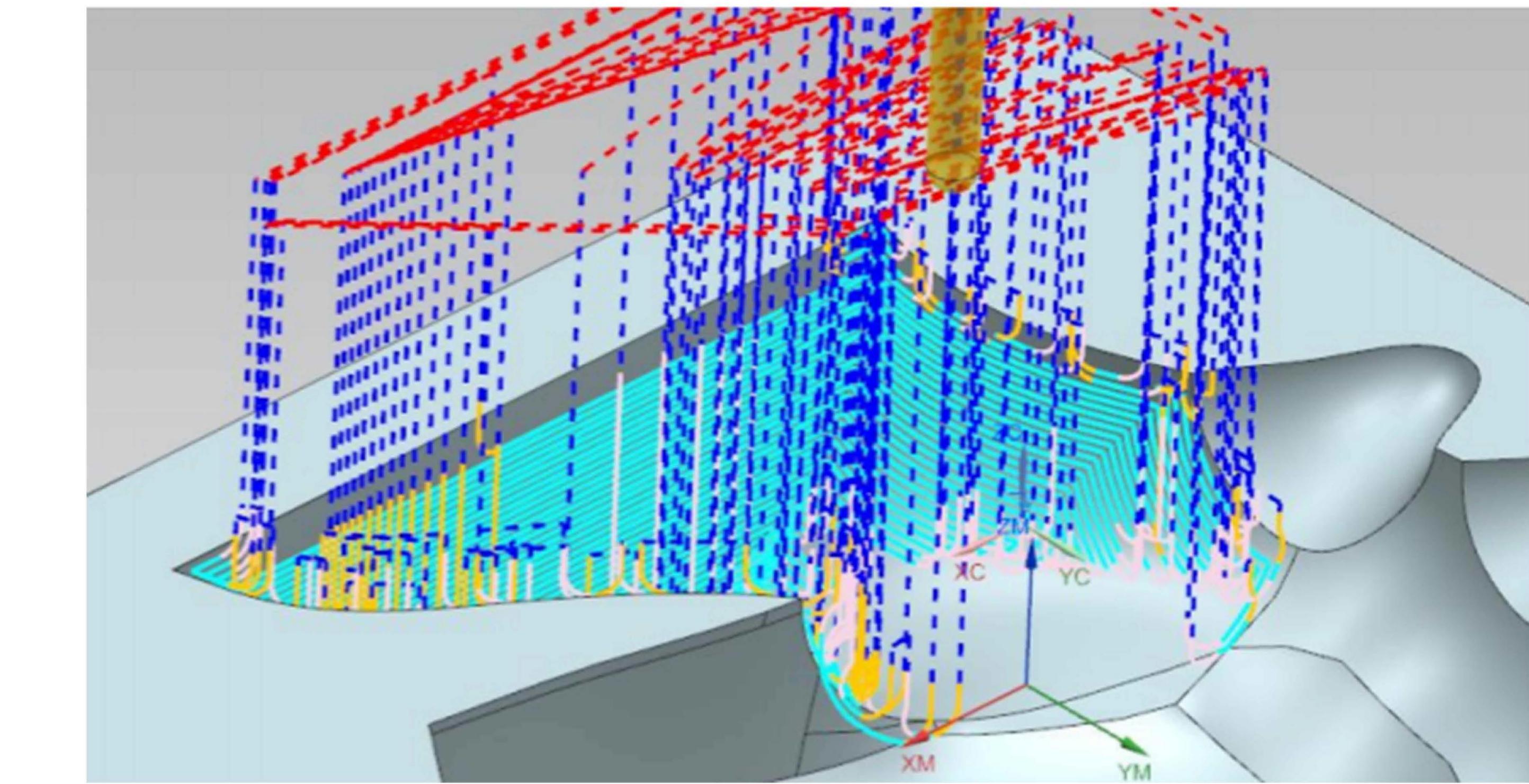
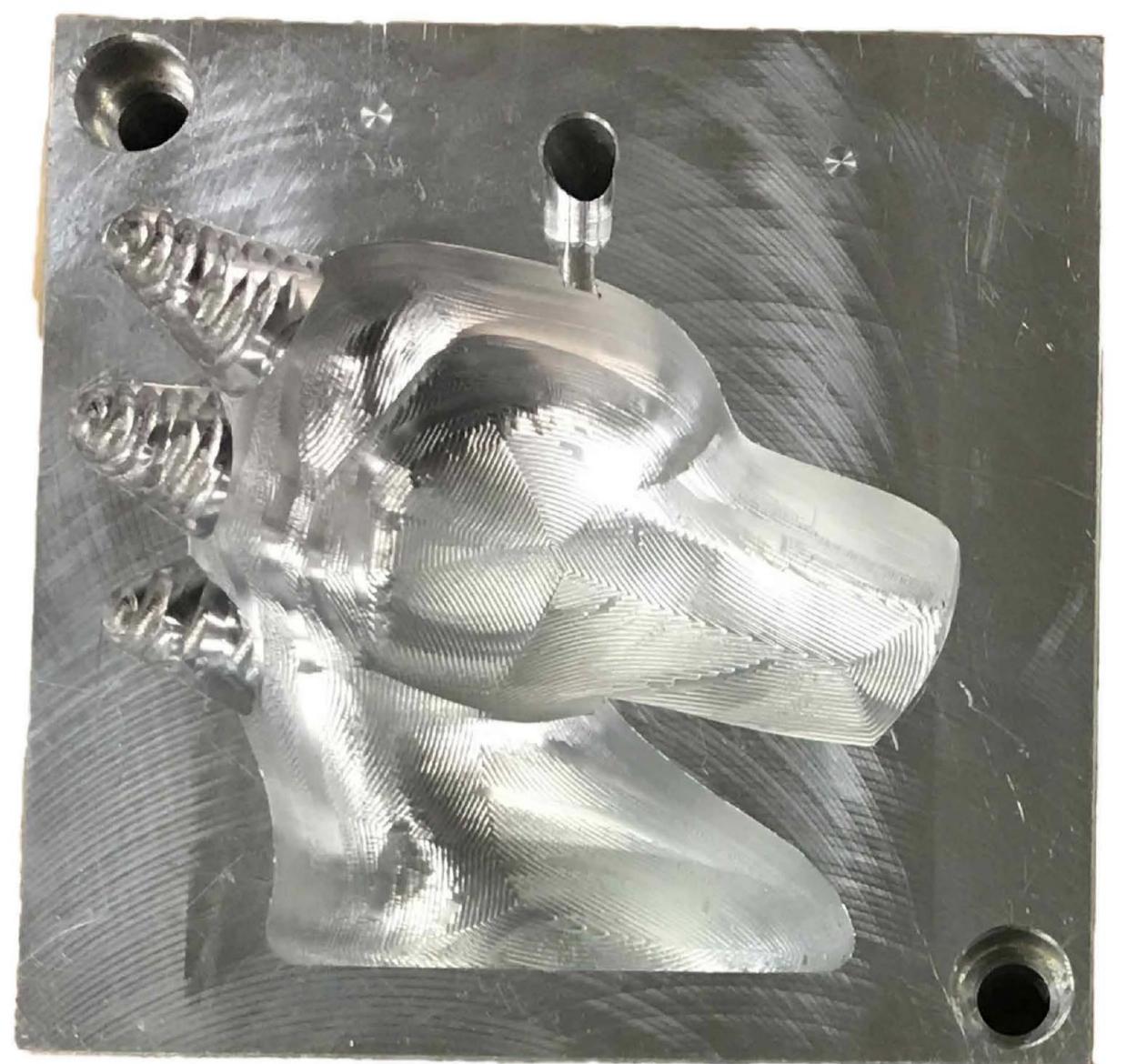
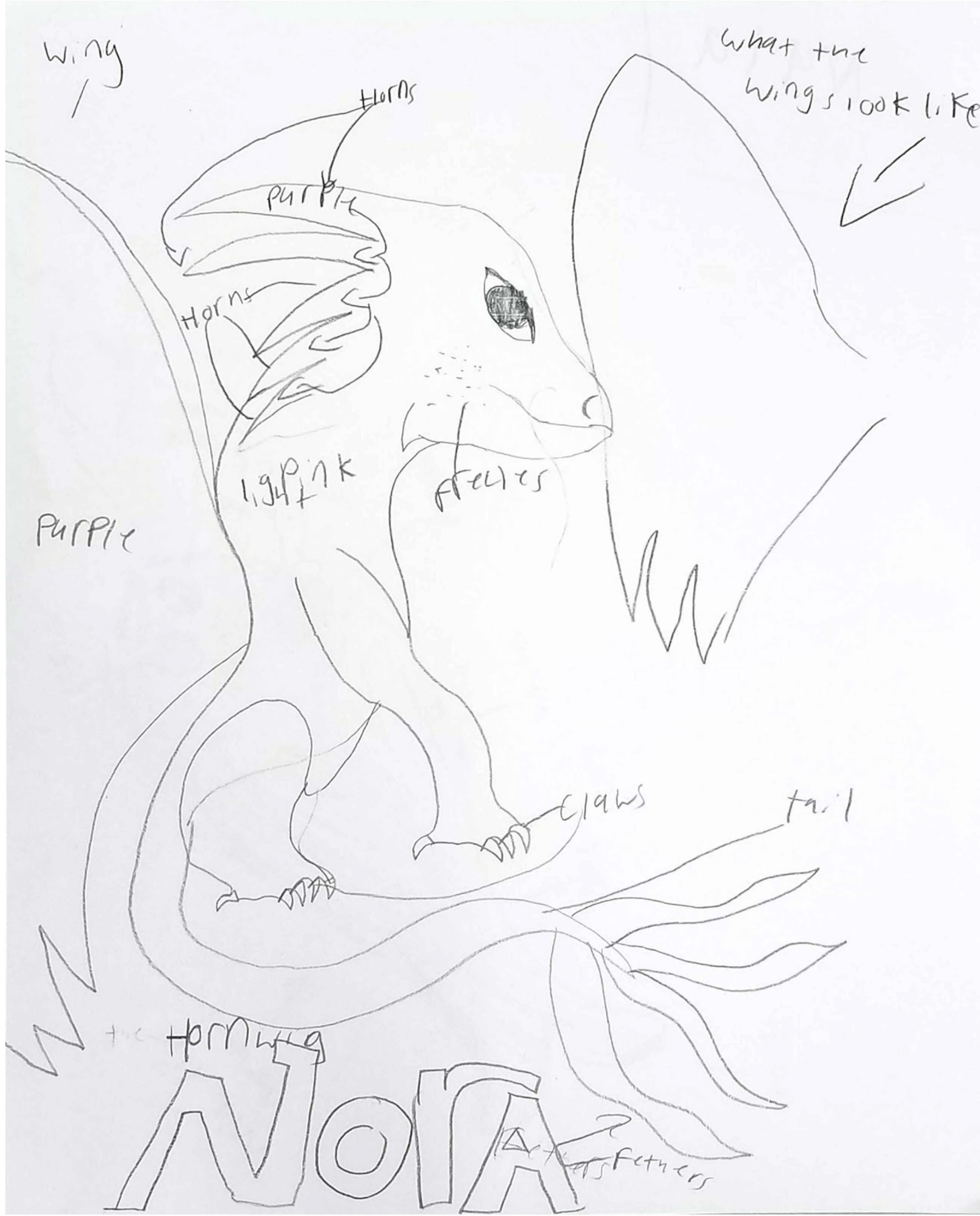
Team: Joyce D'Aprile, Jack Eichenlaub, Freesoul El Shabazz-Thompson, Jacob Hullings

Our project interprets a sketch provided by a local gradeschooler as creative direction for a product toy. In order to produce the toy we used our CAD and CAM skills with DFM in mind. We produced a 3D concept of the sketch and used Haas CNC routers to mill molds. Using the department injection molding machine we produced a run of the product. The final report is available.

We were constrained by the use of two part molds, so I designed the slotting flames to add a greater sense of depth. I produced the GCODE for the flame molds and, with the help of my teammates, for the head molds as well. I also troubleshooted CAM issues throughout the manufacturing process, and designed the sprues and runners.

Oh! This was a competition, here's the NX article:  
[bit.ly/norathedragon](http://bit.ly/norathedragon)





Above:

Various CAM operations

Top Left:

Original Sketch provided by Evanston Illinois Gradeschool student.

Bottom Left:

CNC error resulting in catastrophe.

Middle Top:

Final Molds

Middle Bottom:

Final Flame mold detail: Runners



# Rel8-Ball

UX, UI, & Product Design

Shake. Relate. Rumble.

Team: Freesoul El Shabazz-Thompson, Eileen Holland, Anette Hong, Adamn Joel

We identified the need for a product/service that would promote mental health conversations. We imagined a tool for connecting with others--that made having tough conversations easier. Our theoretical landscape for this product was that of a counselor or therapists office in which new patients tend to feel nervous about opening up. We also imagined a game played among friends. The product interfaces with the users smart phone: the user goes to [shakeeee.github.io](https://shakeeee.github.io) and inserts their phone into the handheld. The code uses the phones accelerometer to select random questions and prompts from a library. Currently, there's only one library, but future iterations could have libraries relating to relationships or pressures from school/work etc. In practice the app works like a magic 8 ball, from which it gets its design and name.

My role on the team was software lead (this was my first time trying web dev stuff, so I learned a lot).

# Formula SAE Racing

Manufacturing & Design Engineering

Formula SAE took over my life for a little over a year. I was part of the Aerodynamics subteam on Northwestern Formula Racing for the 2017-18 season. As a member of Aero I spent time using CAD to develop the bodywork of the car as well as learning and using CAM to manufacture molds required for carbon fiber lay-ups. I also practiced FEA and discovered the excruciating importance of GD&T.



# Snap Key

UX & Product Design

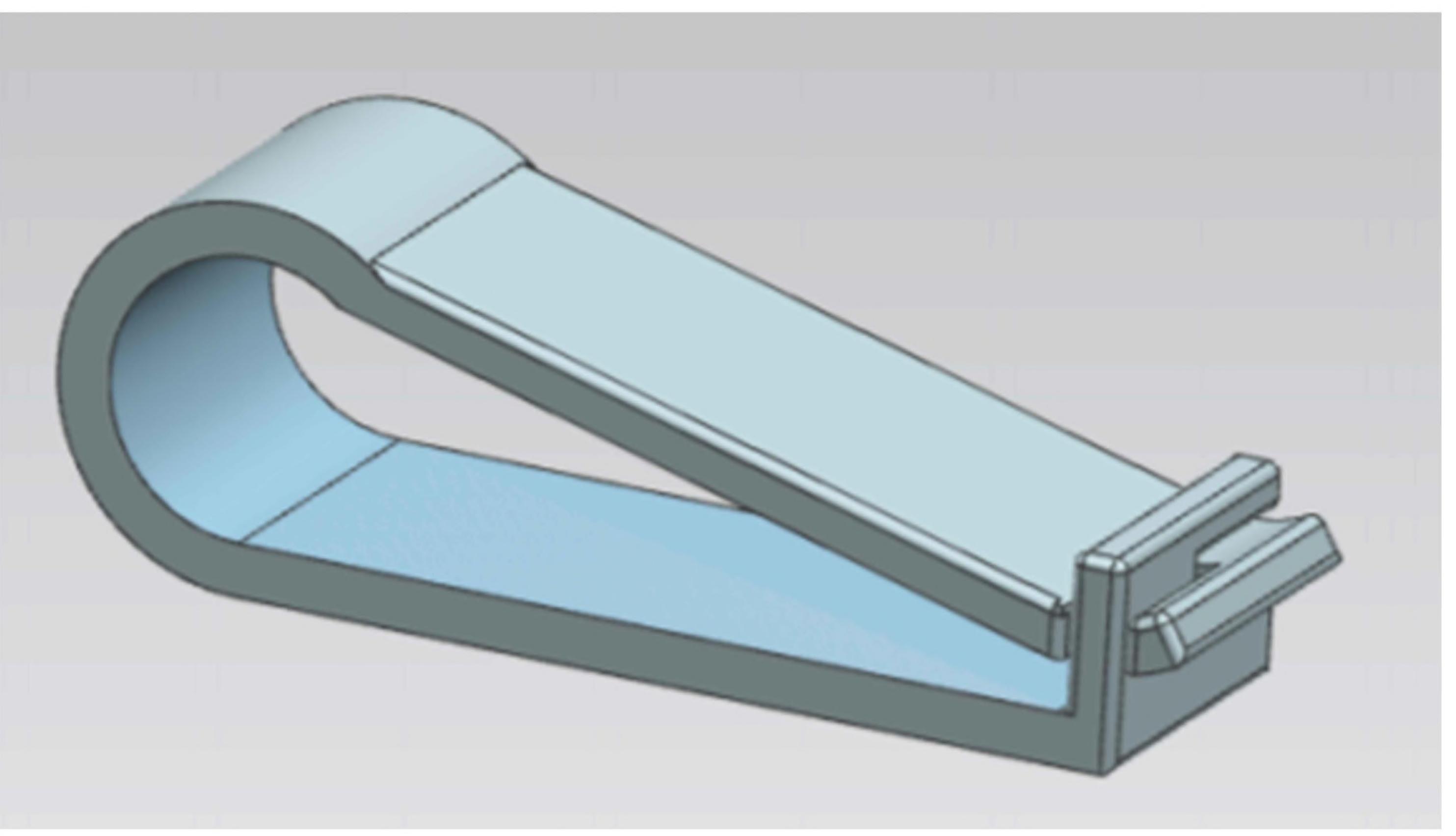
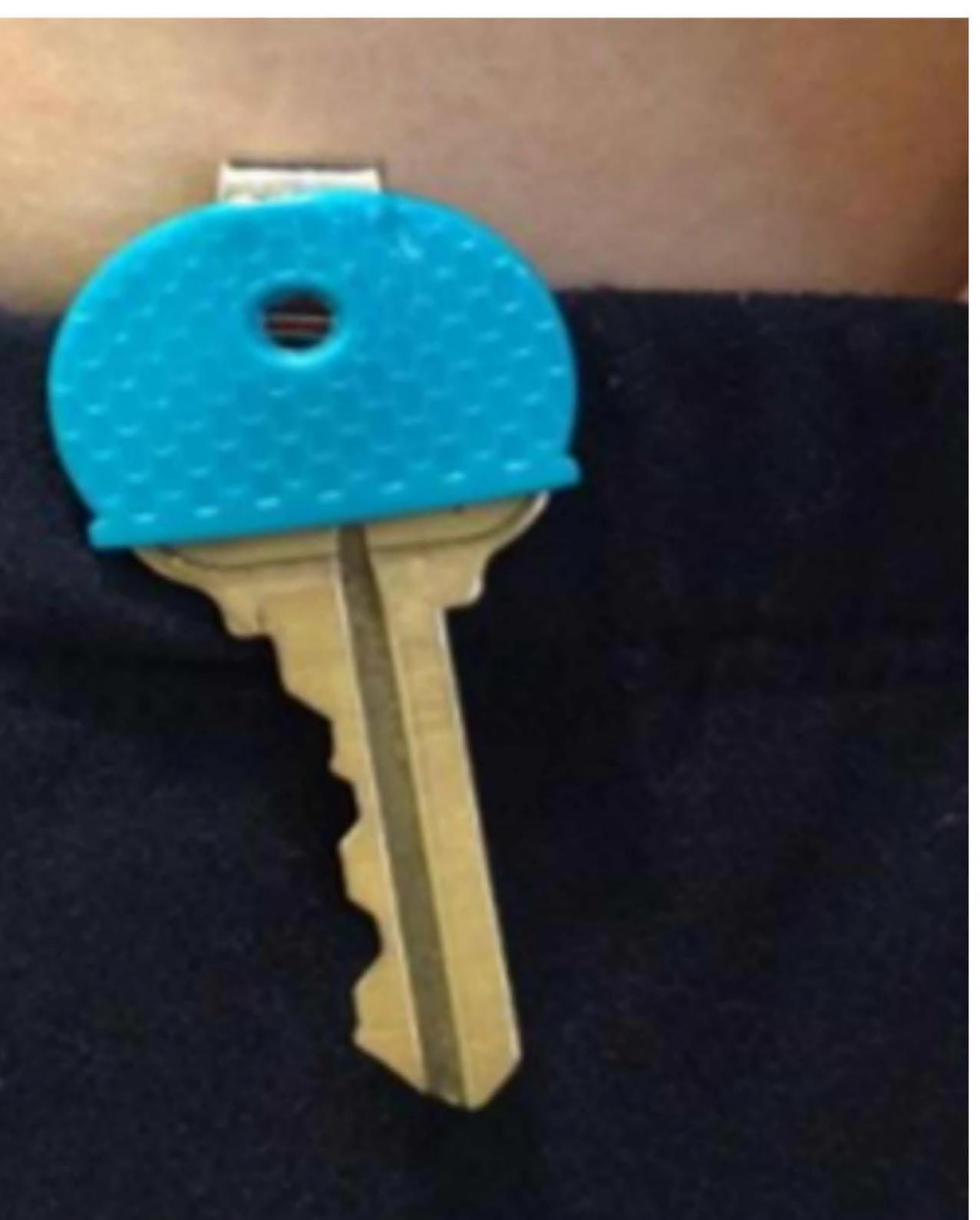
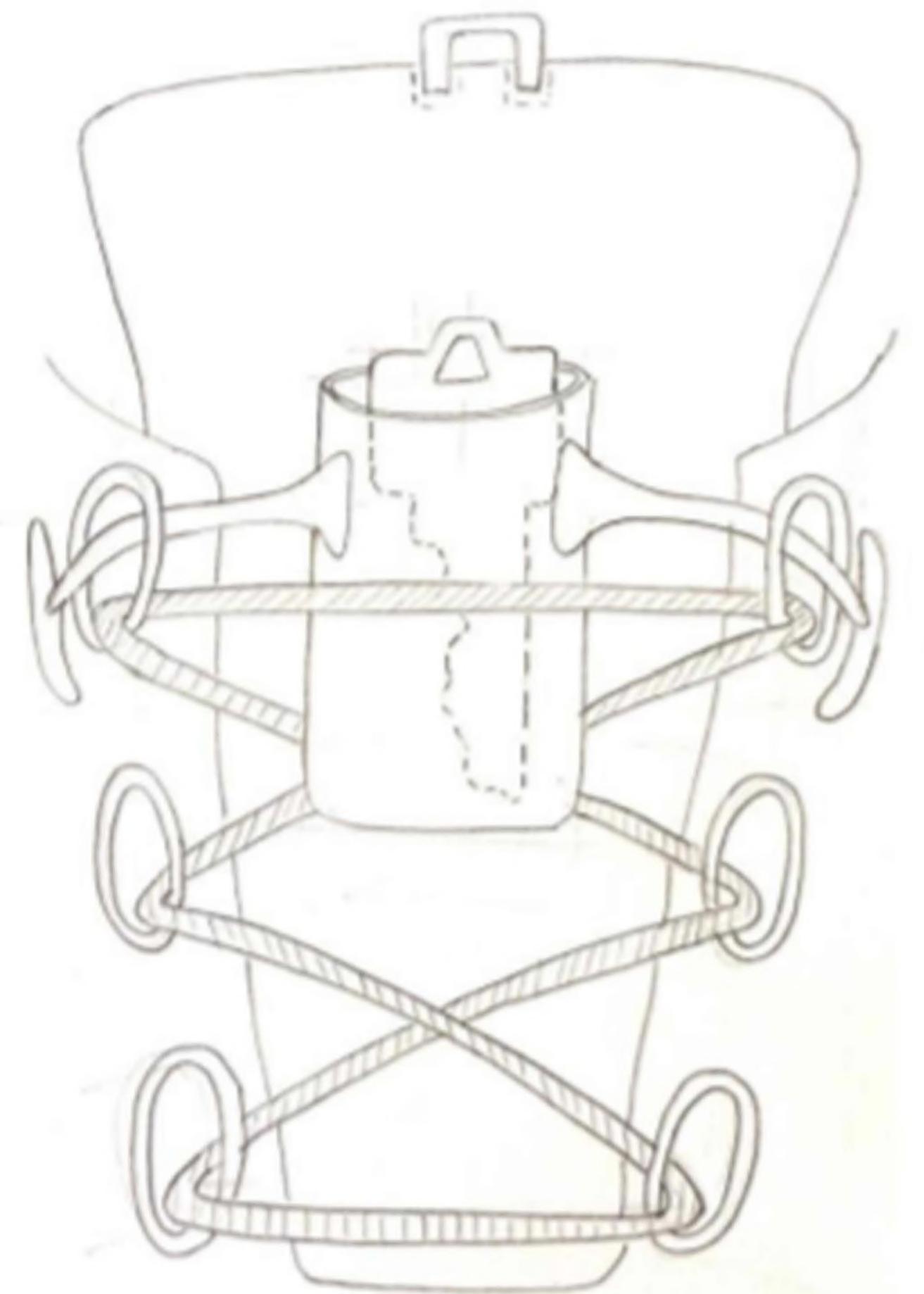
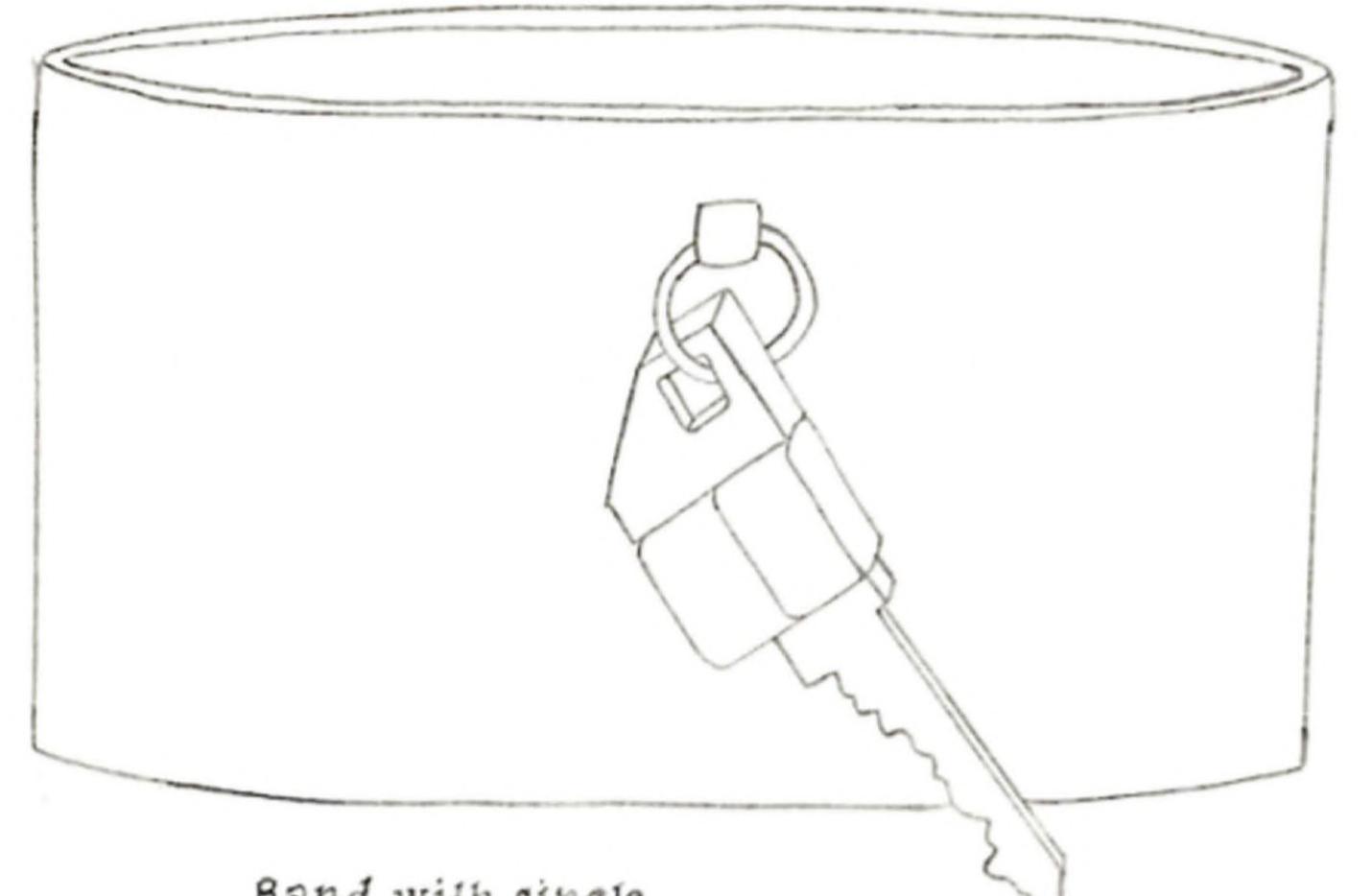
Off-screen Snip



Team: Freesoul El Shabazz-Thompson, Christina Lundgren, Wendy Roldan, and Bill White

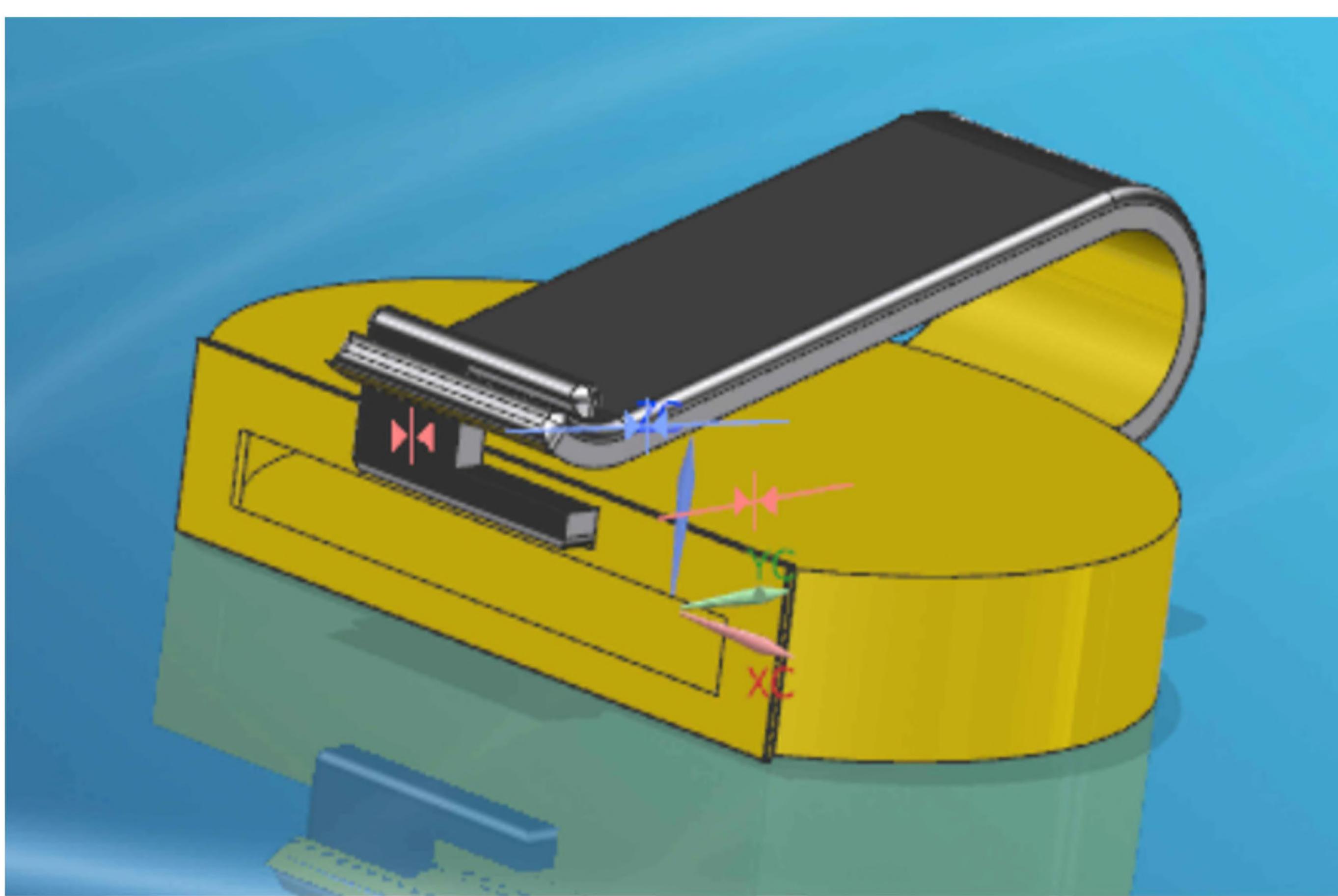
The Snap Key offers runners the option to securely carry a single key while on runs, rather than using one of the 30+ unreliable work-arounds we observed in research. I was most active in design and market research, ideation, prototyping, and storytelling. I produced a video demo of the product:

[bit.ly/snapkeydemo](http://bit.ly/snapkeydemo)



We narrowed our brainstorming down to three possible design solutions: The Snap Key, The Key Band, and the Key Lace. Each design adheres to requirements we set based on market and design research. We pursued the Snap Key variation by evaluating our mockups against our concept rationale.

I also contributed the mechanism for the clip. It allows the user to attach and detach their key from their keychain and clip the Snap Key onto their person. It's a simple notch and spring.



Thank You  
-Sol

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email: [freesoul@u.northwestern.edu](mailto:freesoul@u.northwestern.edu)