

# ABOUT OUR HOLDER

Our badge holder is made to bring workshop capabilities to an office setting! With miniature tools able to be stored within a concealed space in the holder, all your needs are one slide away!

The holder itself is 3D printed with custom foam inserts that displays the employee's badge in the front while storing various tools inside!

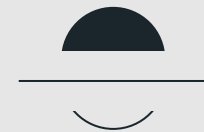
*G-Unit*

-G-Unit



# G-UNIT BADGE HOLDER

Introducing the G-Unit Badge Holder! Featuring a simplistic design, Engineers and office workers alike will *love* our holder.



Gilroy McCalla Jr

-

Griffin Johnson

# Key Features

## Custom Storage

Our badge features a customizable foam insert that can be changed to fit the user's needs! Need slots for a pencil and flash drive? Make one!

## No Obstruction

Our badge holder features an ID window with no coverage of the carried badge's information.

## Simple Design

Our holder has a simple design that's built to not overcomplicate the main goal of a multi-use badge holder. It's *your* badge, you should have the power to make it yours.

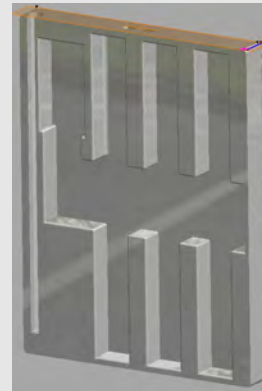
## Original Design



Our original design was based off of a swiss-army knife concept. With features flipping out of the main body.

## Version 1

This version of the holder was made with storage built in. We later decided against the 3D printed, unchangeable, storage.



## Final Version

Final Version remakes the lanyard clip, and empties the center to account for the custom foam storage.



# MISSION

Simple Storage.

1 G-Unit at a Time.



# CONTACT

Contact Information  
Coming Soon!



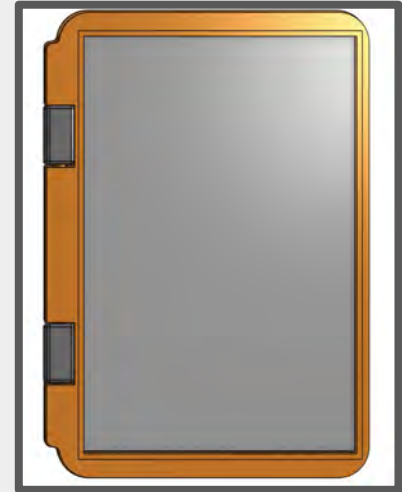
## Description:

Our NASA hunch multitool badge holder is an innovative tool that allows taking notes, observing things at a closer angle, example. Through this, we give you, the staff of NASA Hunch, the ability to provide a brighter future for the astronauts of tomorrow.



### Idea 2:

- **Tape Measure**
- **Mirror Ring**
- **Storage Pocket**



### Idea 1:

- **Ruler**
- **Whiteboard**
- **Marker/Pencil Holder**
- **Acrylic Protective Cover for ID**



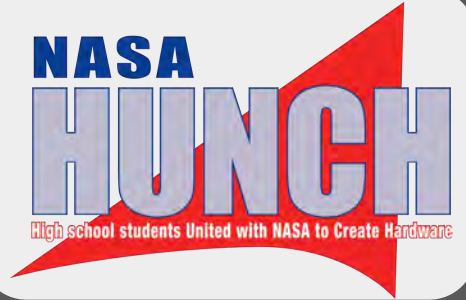
## Group Picture



## School Information:

**Diana C. Lobosco STEM  
Academy**

**40 Reinhardt Road, Wayne,  
NJ 07470**



## **NASA HUNCH 3 - BADGE HOLDER**



## Contact Information:

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**Israt Kurury:**

**[270247@pcti.mobi](mailto:270247@pcti.mobi)**

**Ayman Siddiqui**

**[270265@pcti.mobi](mailto:270265@pcti.mobi)**



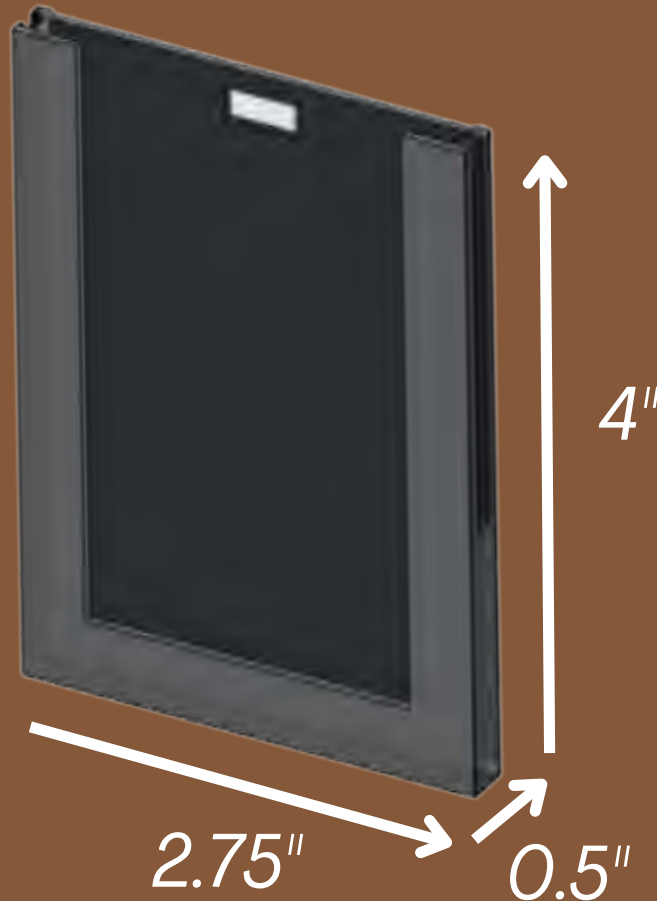


## Interchangeability

...

*Add anything to the back of the badge holder via magnetic tape. The modular design allows the user to mix and match the tools to fit their needs. Options include: a notebook, mirror, mini protractor, a vinyl pocket, and a nail file.*

## CAD Model:



# NASA Hunch Badge Holder

## DCL STEM ACADEMY

45 Reinhardt Rd, Wayne, NJ  
07470

**Ms. Salsabel Mujovic**  
smujovic@pcti.tec.nj.us

**Nitya Arivajagan** ”  
270924@pcti.mobi

**Naya Ramadan**  
270224@pcti.mobi

**Destinee Feliciano**  
270148@pcti.mobi

**Francesco Magaddino**  
271094@pcti.mobi

## Mini Protractor

*A durable and flexible vinyl protractor that can be attached to the back of the badge holder via magnetic tape. The protractor has unit circle measurements, in both degrees and radians.*

## Chains

*The chains attached to the badge holder act as a catch-all for anything you may need. Individuals can attach anything from carabiners and car keys to keychains and things to fidget with.*

## Nail Files & Mirrors

*If you choose to add the nail file and mirrors to the back, you could check for food in between your teeth or touch up your look without taking out your phone or compact.*

## Mini Notebook

*The mini notebook allows you to write down to-do lists and other important notes in an easily accessible place. The elastic loop on the side of the badge acts as a pen and eyeglass holder, allowing for easy access to necessities.*

## Airtight Seal

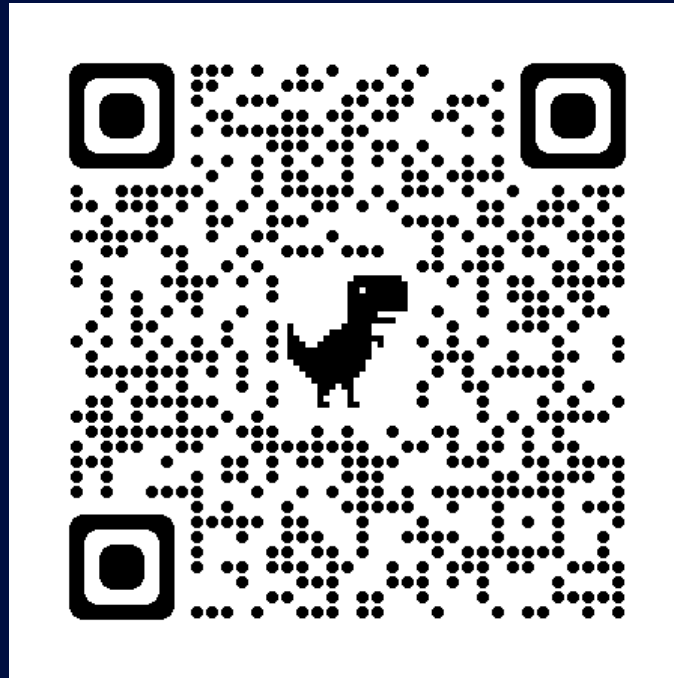
*The airtight seal helps keep the ID and anything inside the ID chamber secure and dry in case water (or any other liquid) is spilled. The chamber is also backed with aluminium, making it harder to read the ID inside*

## The Pocket

*The clear pocket on the back allows you to keep anything that you need close by and safe. Need to keep a Post-it close? Put it in the pocket! Need inspirational quotes to get through the day? Put it in the pocket!*

# About Us Learn More ID Badge

Our team is a mix of students studying engineering, computer science, and biomedical science



Ben Cruz, Ayman Raghoui, Ny Asare, Shafi Kandakhar  
Mr. Cemelli Period 4A  
DCL Stem Academy



# Our Task

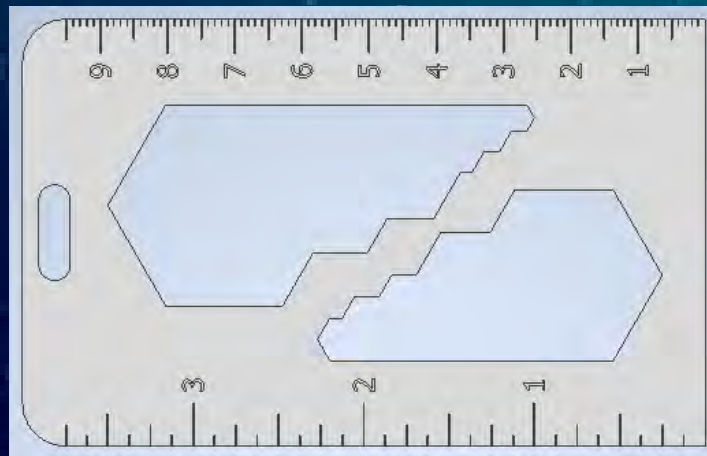
We are working on the ID Badge project. NASA asked us to redesign the holder for their ID badges to include more features useful for their work

## Research

From our research, we found that vinyl can be used for the front since it is clear and can be glued and aluminum will work for the back because of its strength and low weight

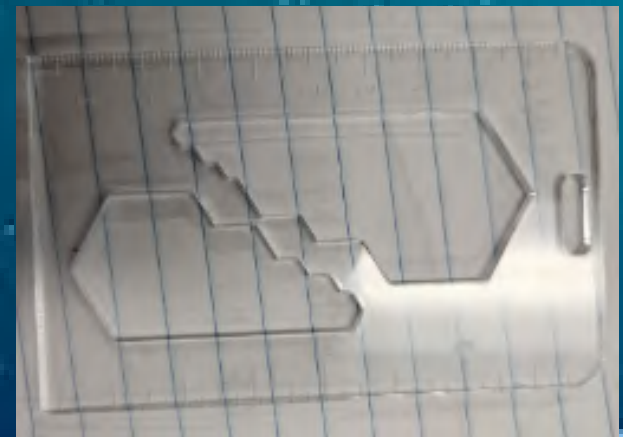
# Our Solution

We chose to make a design similar to the existing configuration with an aluminum back and vinyl front. Features will be engraved/cut into the back. Pictured below is a view of our 3D render



# Our Prototype

Our prototype is made to be as close to a final product as possible with our materials. We used acrylic instead of aluminum since it can be laser cut, but aside from that, the design is very close to our vision for it.





# Multi-Tool Badge Holder

**Names: Owen, Matt,  
Jackson, Chris, and Thor**

## Requirements

60 grams weight limit  
RFID Blocked  
Needs to be 4" by 2 3/4" by a 1/2"

## Teacher Information

We had different teachers test out our badge holders for a day or two.

### Teacher testers

Mrs. Greenman  
Mrs. Hegedorn  
Mr. Hardgrave  
Mr. Laley  
Mrs. Mitchell

### Feedback

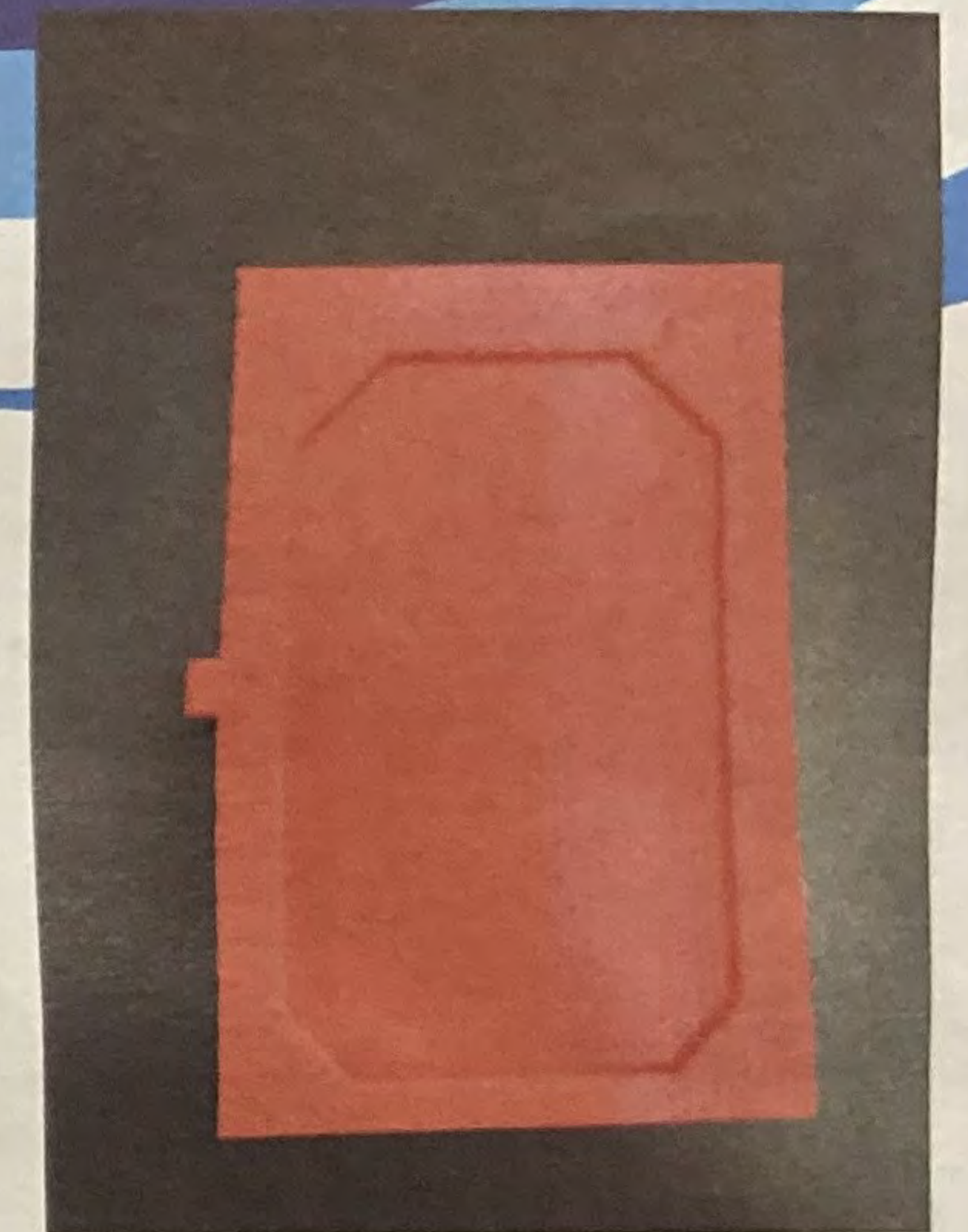
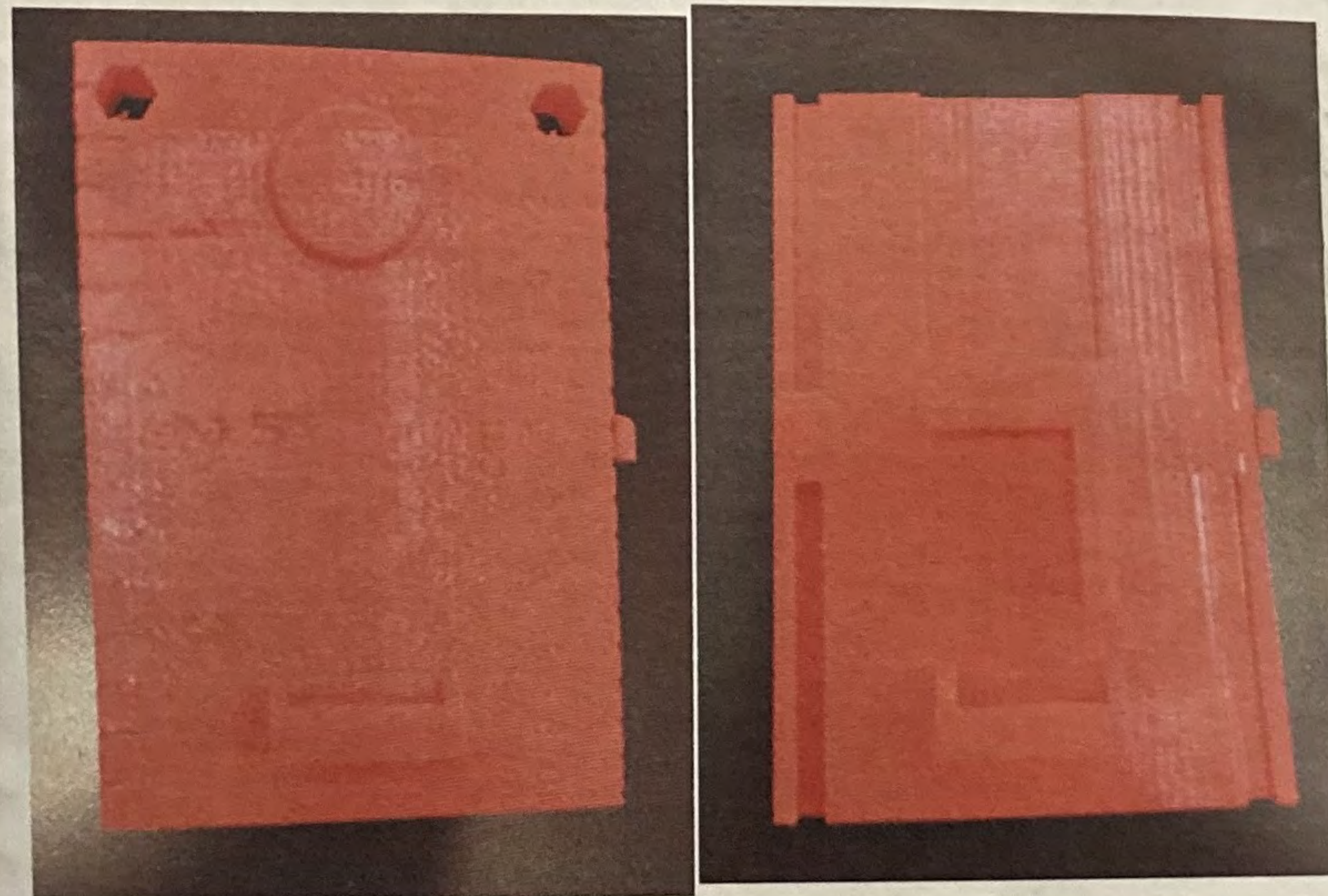
Some of the feedback from teachers

Most of them liked it

Adv: all in one

Dis: Slides out to early and kinda bulky

Attachment ideas: Retractable lanyard



## Attachment Ideas

pencil/pen holder  
felt tip cleaner  
tweezers  
scissors  
paper clip holders  
magnifying glass  
screwdriver holder  
custom precision screwdriver



**Fairport High School, NY**

**Mr. Stornello**

**Mrs. Himmelberg**



## idea for multi tools to add

- Holds a pen and/or pencil
- A couple of screw drivers for eye glasses
- Tape measure or ruler
- Hex holes so it could be used as a wrench
- A pocket that lets people put their personal little thing in there
- Flash light
- Protractor
- Bluetooth noise maker that can be activated by yourphone so you can find it
- Holder for reading glasses
- a flash drive (store files on)
- Magnifying lens

### Email

2094071@jeffcoschools.us

### Address

9700 W 8th Ave, Lakewood, CO



GENERAL-PURPOSE  
**BADGE HOLDER**

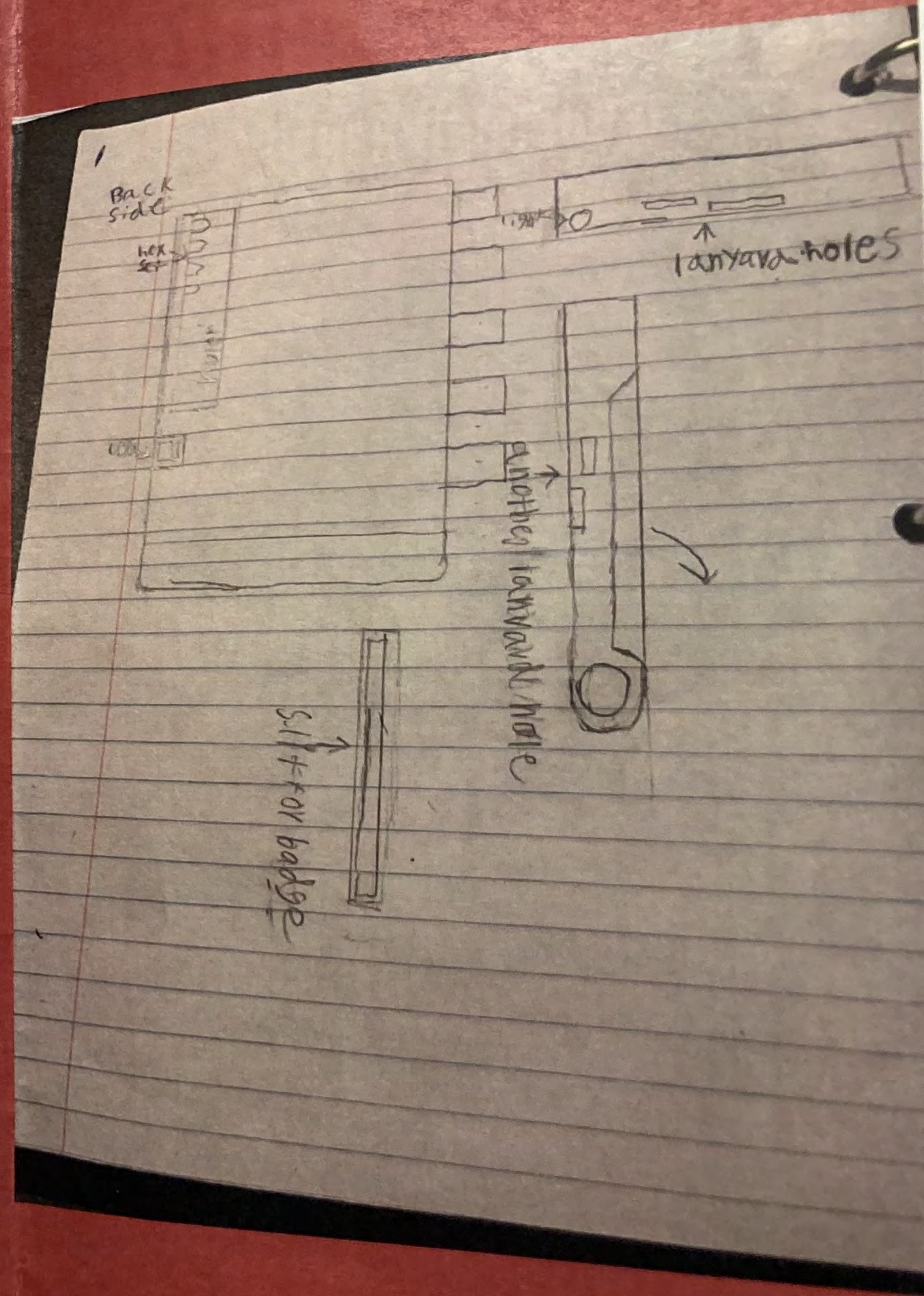
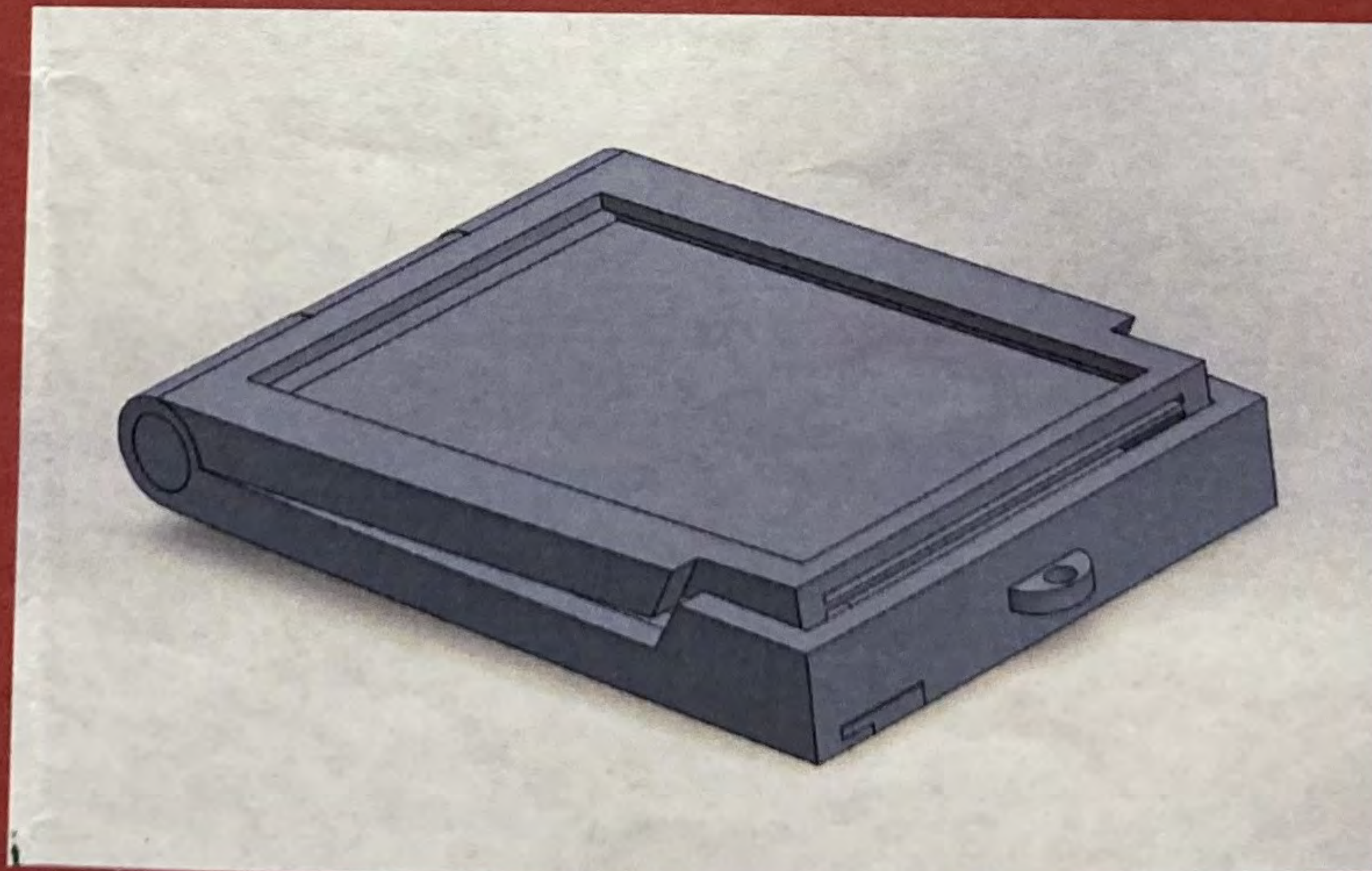


# FINAL SOLUTION STATEMENT

To have a successful made a compact and lightweight badge holder that ensures badge visibility, clothing protection, security, easy handling, and TSA compliance. I came up with a design for a badge holder that holds your badge and that will give alot of space for the many thing that you would useful to you pulse the utilities that I have added

## future edits

- Add the usb
- Get the numbers imbed into the rule.
- Get a piece of aluminum on the bottom of the badge holder.





# **ID BADGE**

# **HOLDER**

**Jesuit College Preparatory School of Dallas**



**(William Savarese, Teddy Scherer, Juanfer Zelaya)**



## OUR BADGE

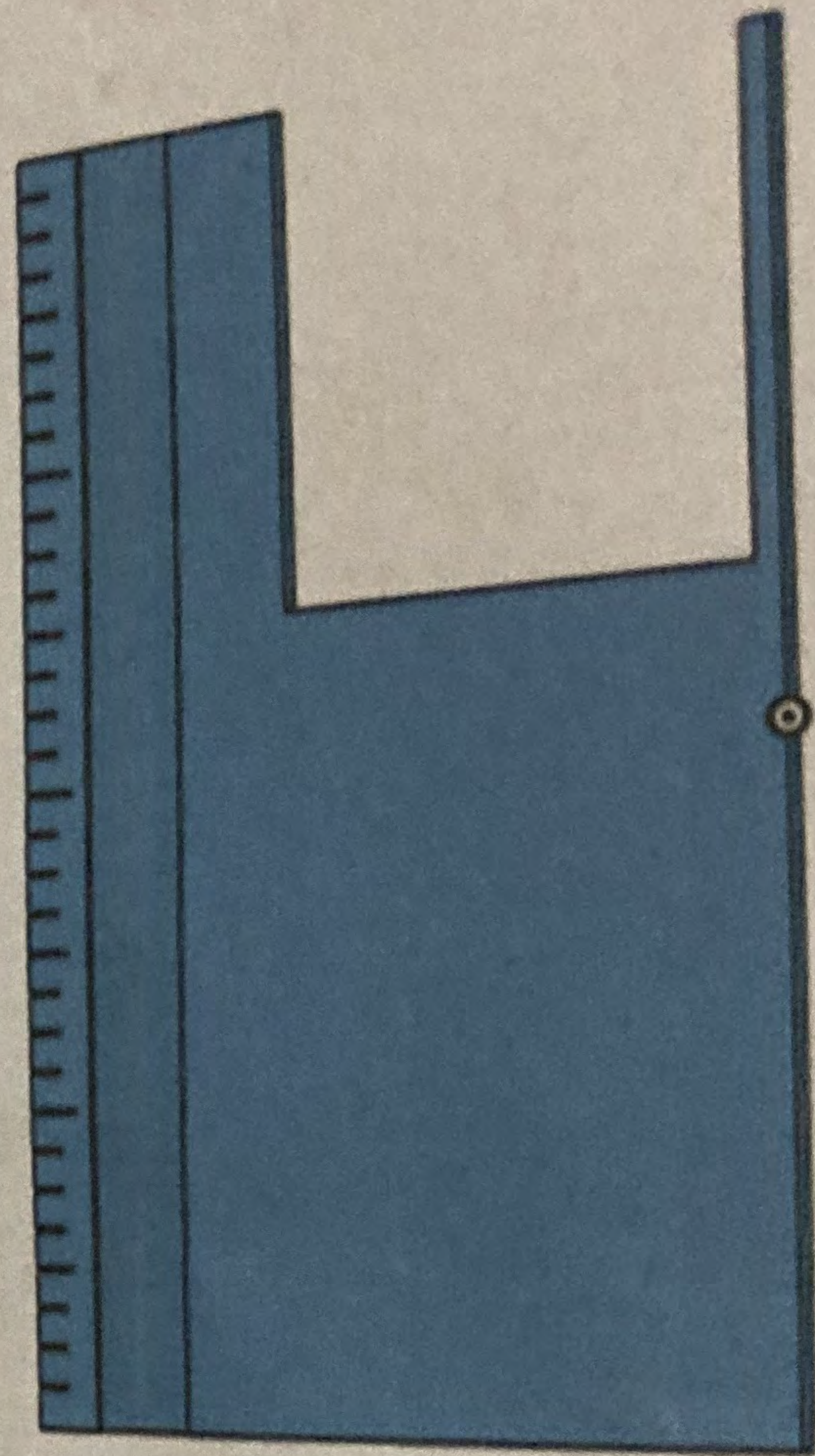
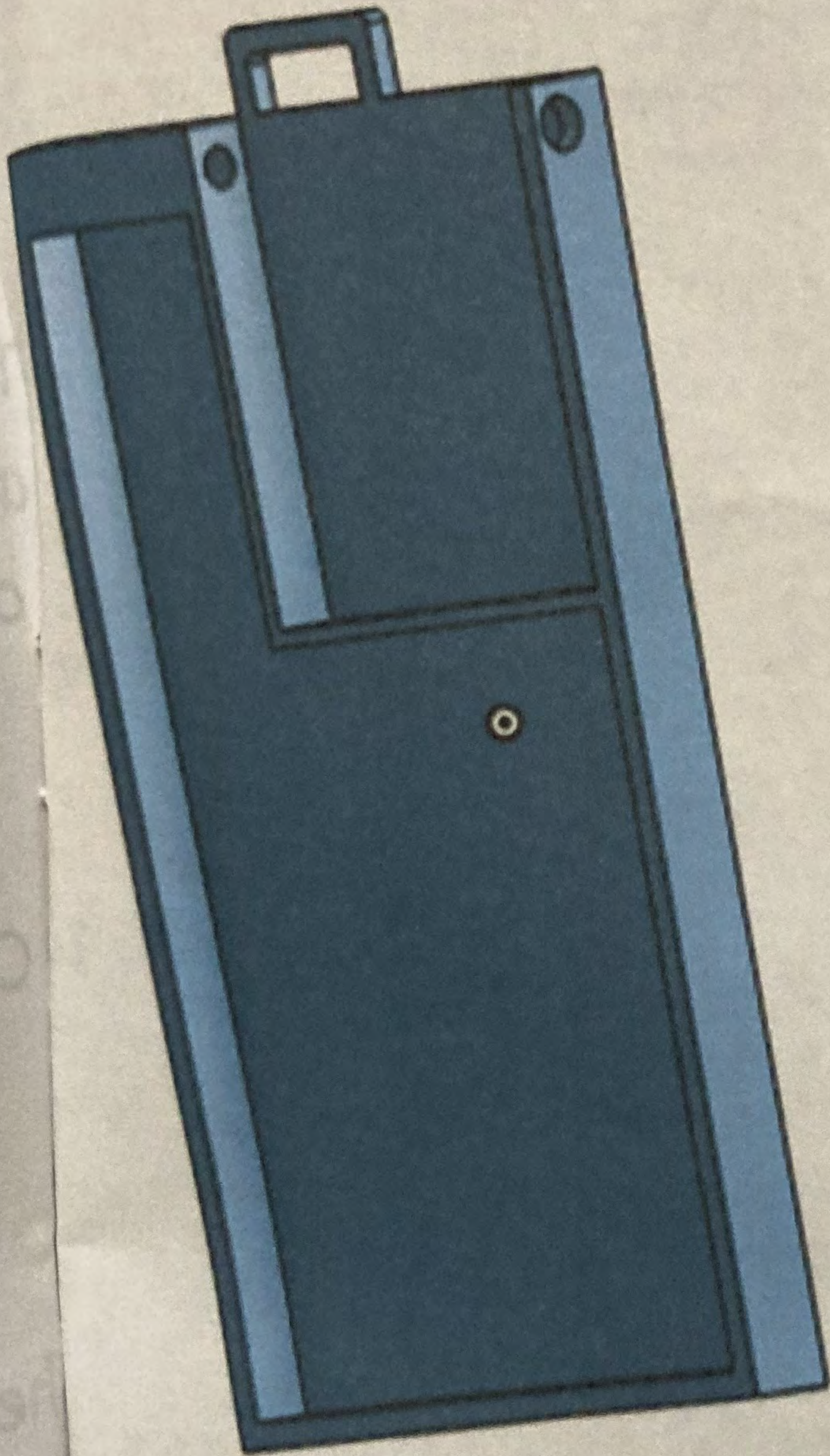


If you want to learn more about our badge or how to create your own, scan here!





# OUR DESIGN





# Multi-Tool Badge Holder

Christian Cochran, Hunter Martin,  
Laith Elfaki, Nicholas Schuster  
Bridgeland HS  
Mr. Laughlin



# Description

We made a badge holder that can be used for everyday use.

We have added a tape measure, pen, and flashlight into our badge holder, which can help you complete everyday tasks at any time.

It can hold up to 3 cards. These include: Credit cards, Debit cards, Business cards, and ID's

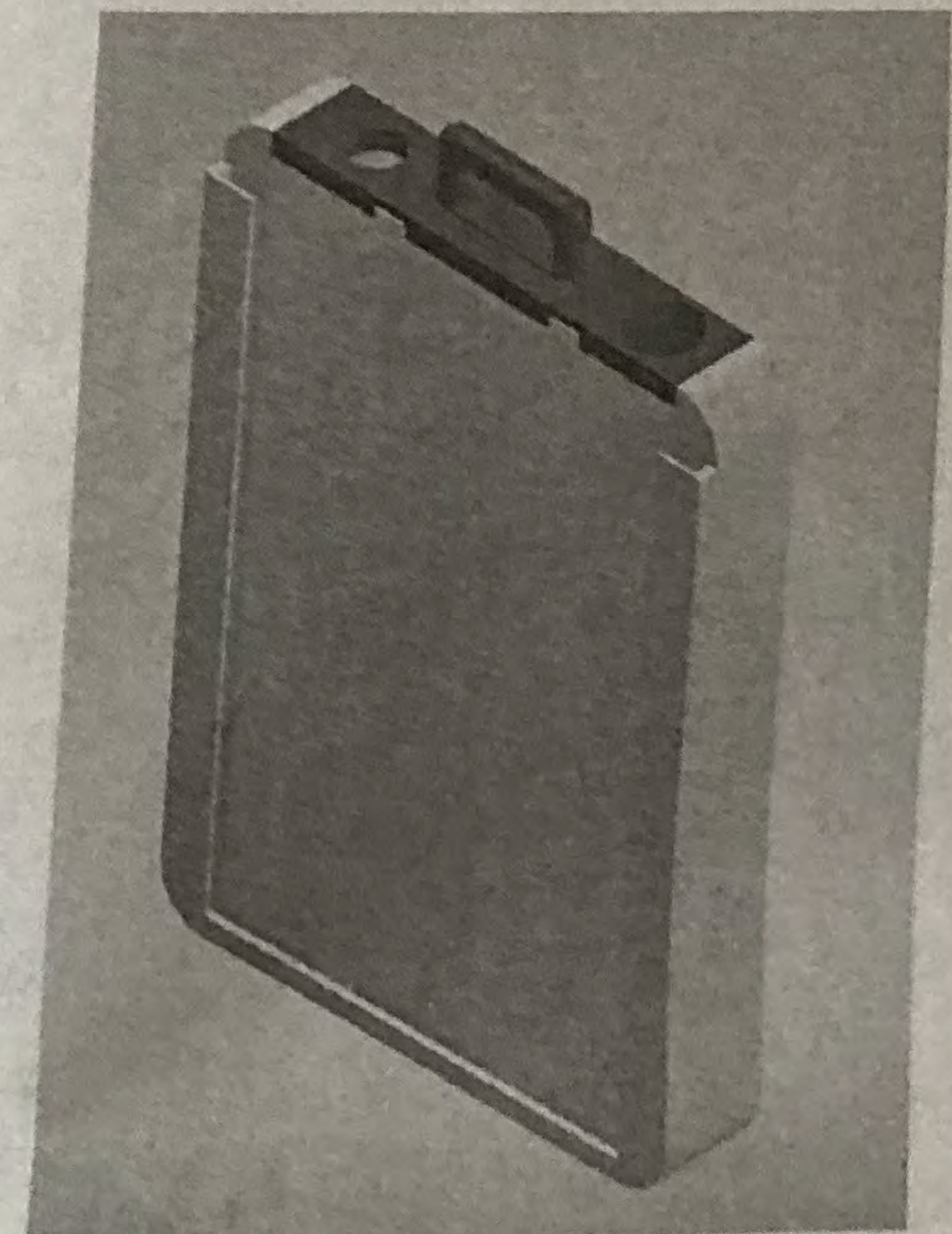


Google Doc

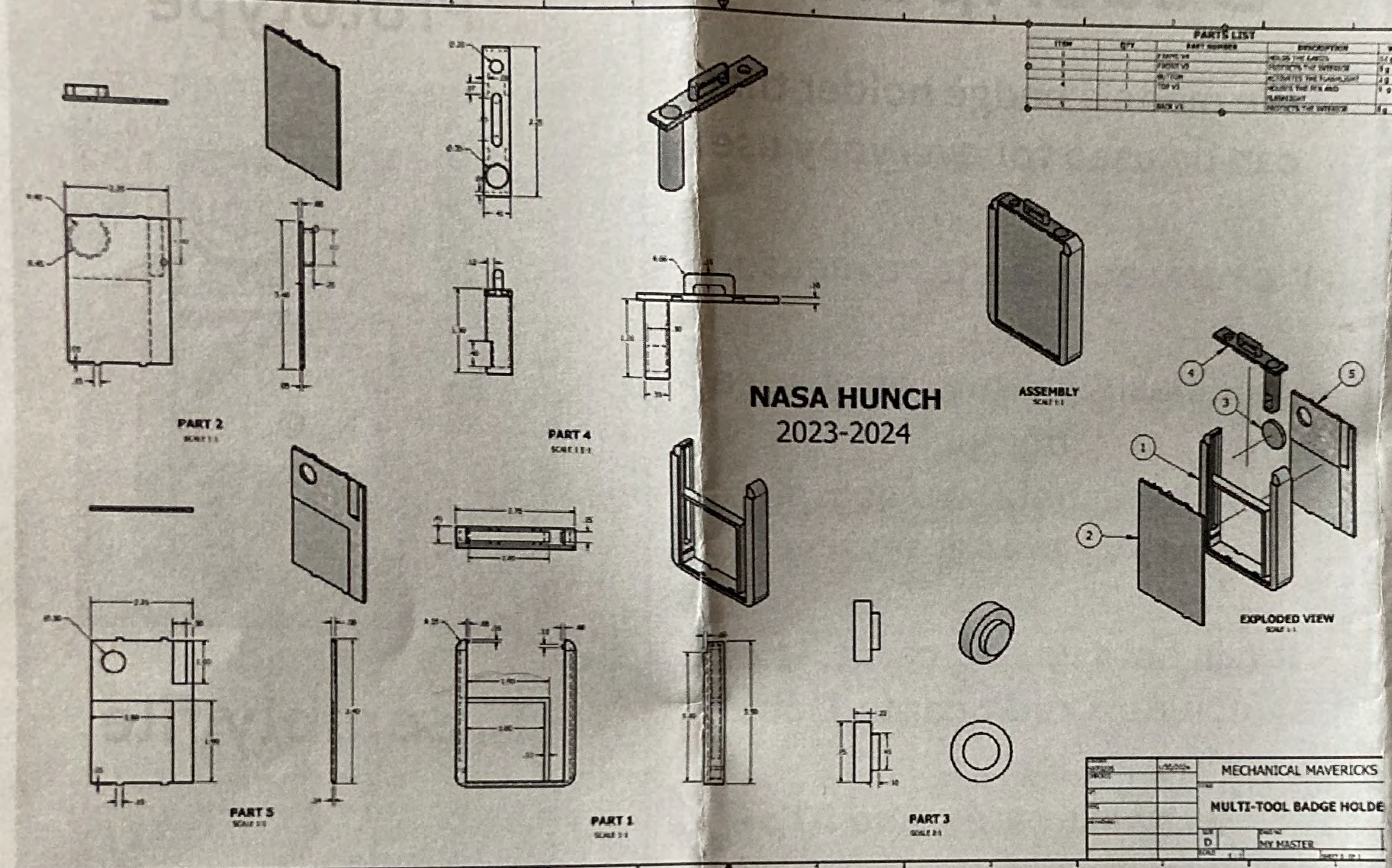
# Interior of Prototype



# Assembly file



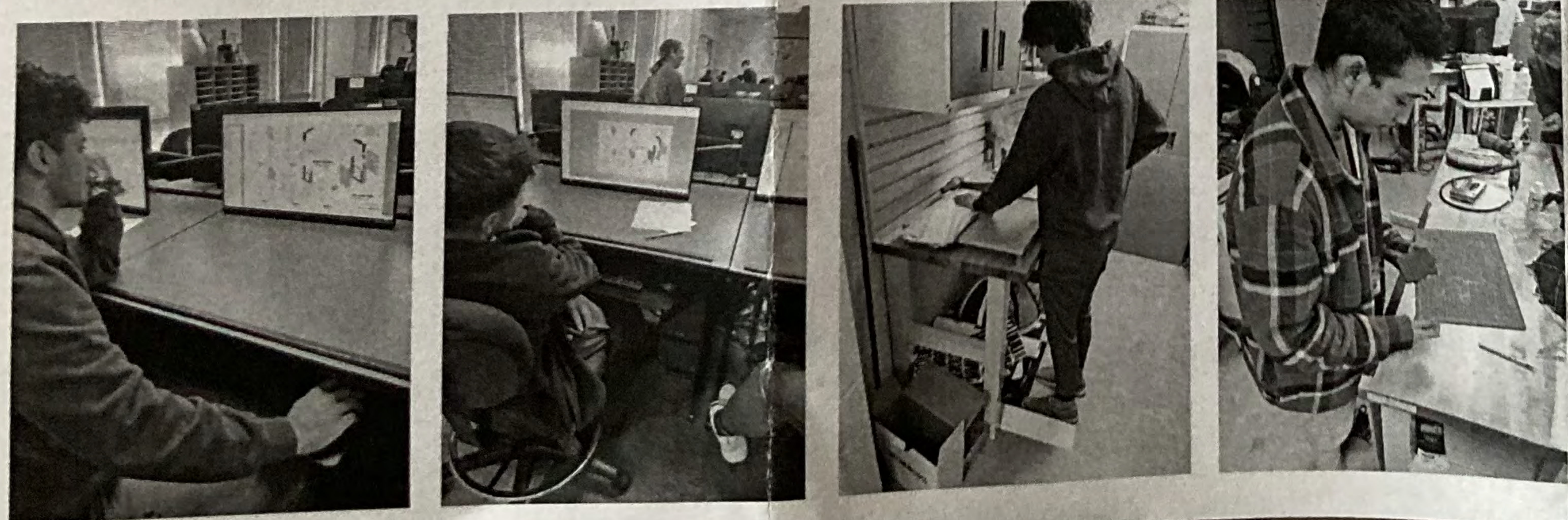




## Our Work

Our Badge holder consists of 5 major parts.

These parts include: the front, the back, the frame, the top, and the button. All of these parts are connected together using Lego-like pieces that snap together. We then used a strong adhesive to strengthen these bonds and ensure the structural integrity of our badge.





# Takeoff Tech

Multi Tool ID Badges



Jude Lineer



Noah McAuley

Minnetonka High School  
Class of 2025

## Problem

- Carrying around a bunch of tools for a job is inefficient
- different jobs have different needs and tools
- Accessing your different tools can be difficult

## Research

- What adults in all kinds of jobs find useful to them
- Popular tools for different professions
- Personal experience
- Best materials given the constraints
- Jobs in NASA that would be using this badge and what tools they may want

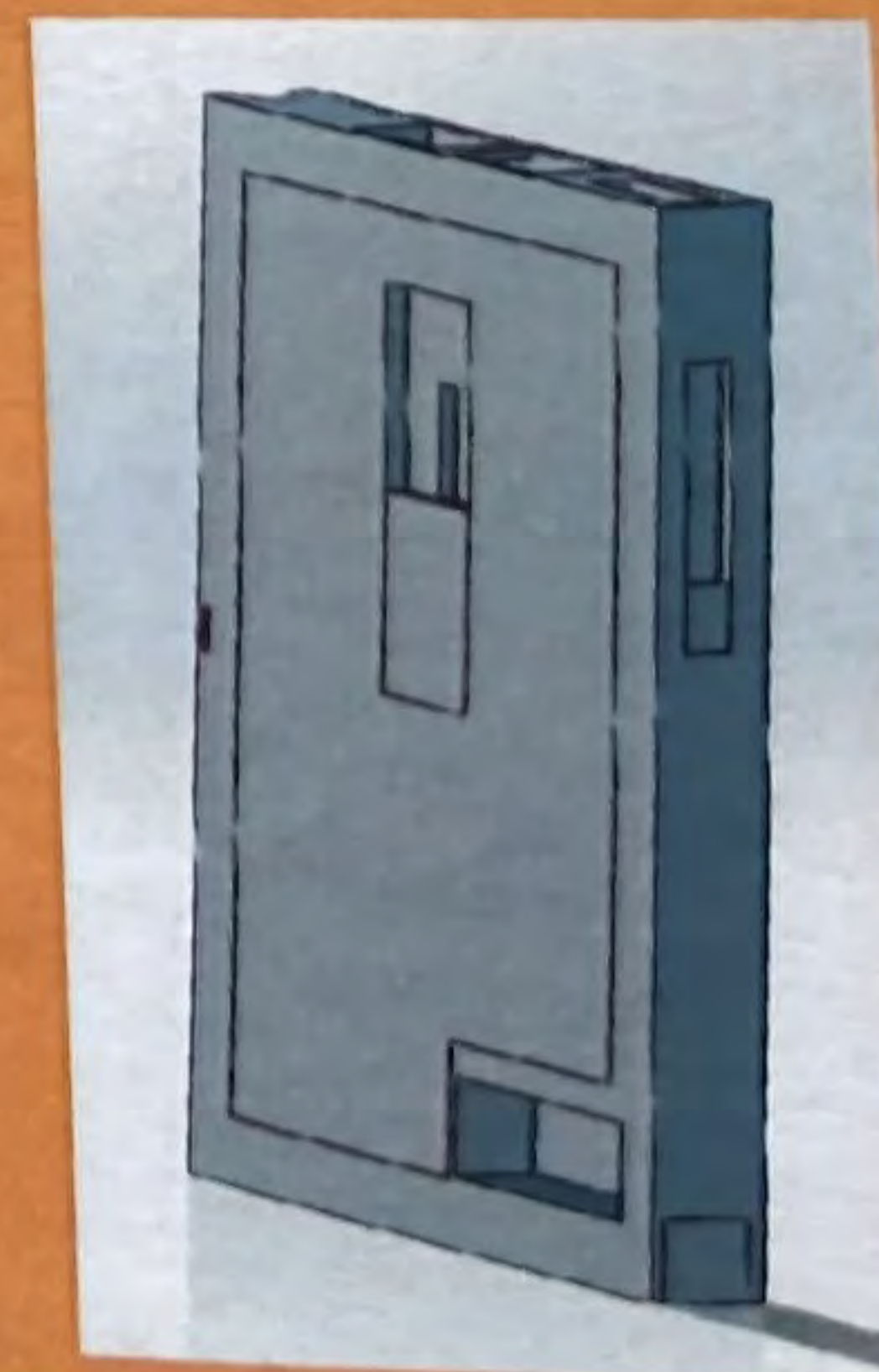
Criteria	Constraints
Aluminum backing	Max dimensions of 2 3/4" x 4" x 1/2"
Holds visible ID Badge	Max weight of 60 grams
At least 3 uses	TSA certified

## Our Solution

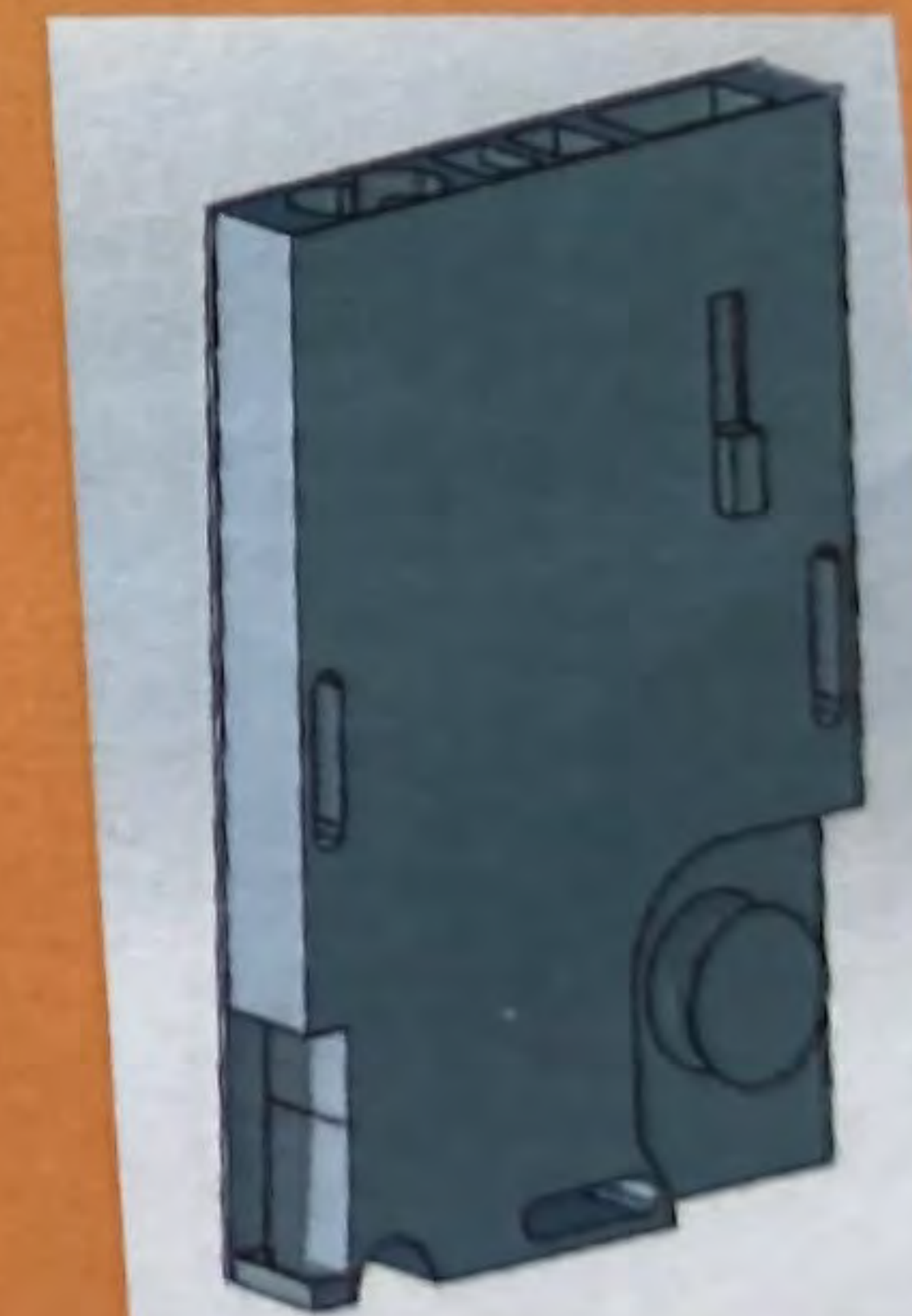
- Two Badges, one suited for engineers and one suited for business and law
- The engineering badge contains a Ruler, pencil holder, screw driver, leveler, USB, and device to pull out the NASA ID card
- The professional badge contains a pencil holder, USB, hook for wires and split key rings, eyeglasses holder, and pouch for other cards

## Models

Engineering  
Badge



Professional  
Badge





# BADGERS

PARTNERED  
WITH



SCAN THE  
QR CODE TO  
LEARN MORE





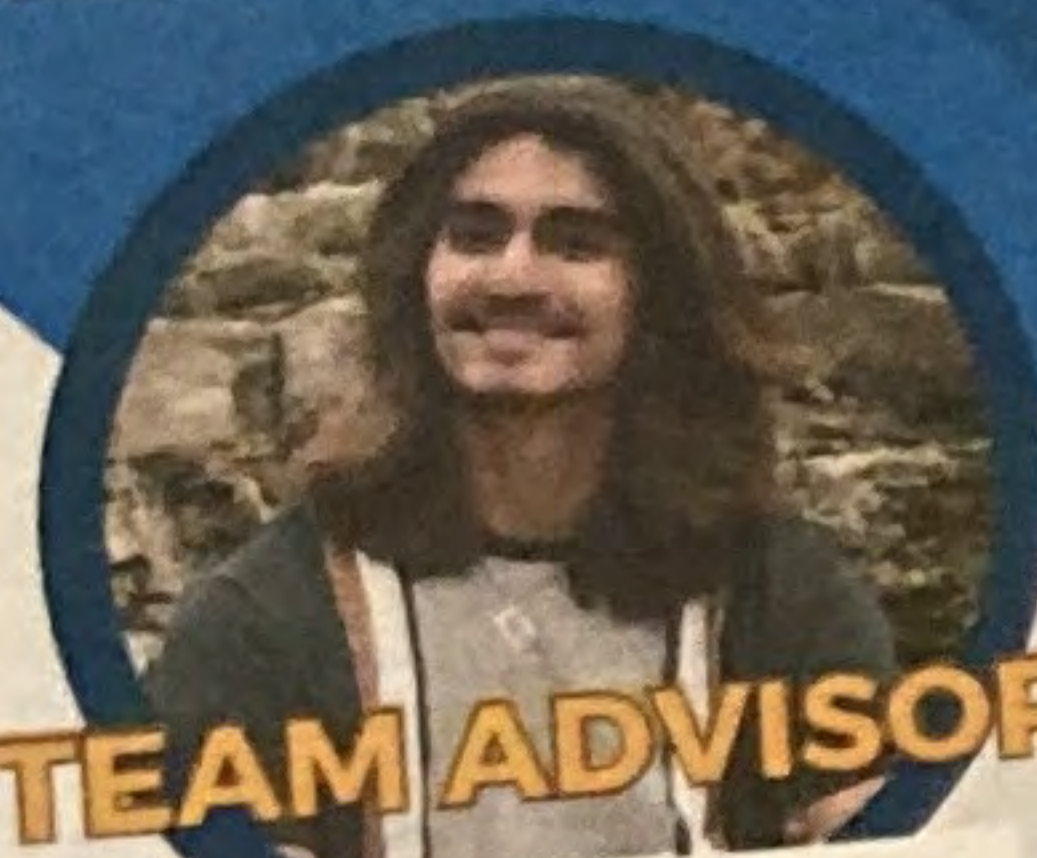
# FEATURES

- > Ruler > Protractor
- > Level > Screwdriver Bits
- > Clip > Sizing Holes
- > Open & Close Hinge System

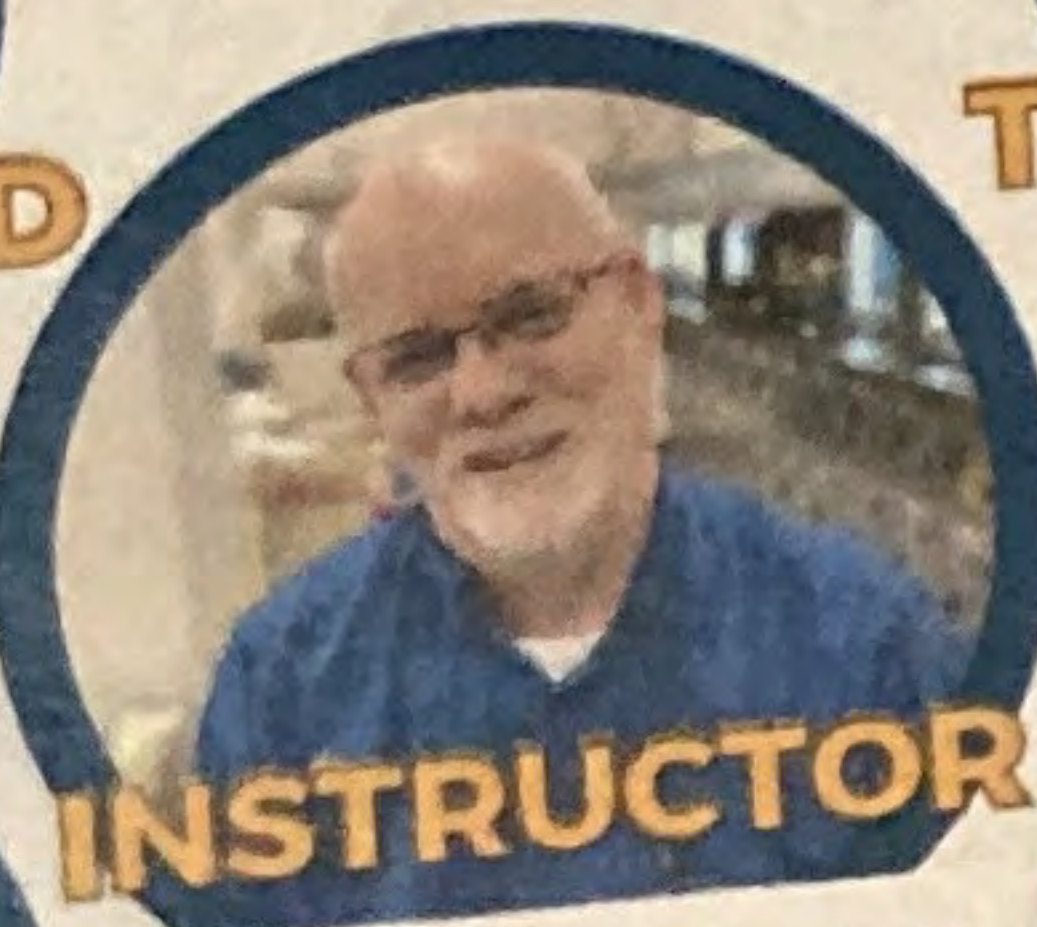
## MEET THE BADGERS



**RELATIVE LEAD**  
HUNTER KOTTKE



**TEAM ADVISOR**  
EDRJEL MASCORRO



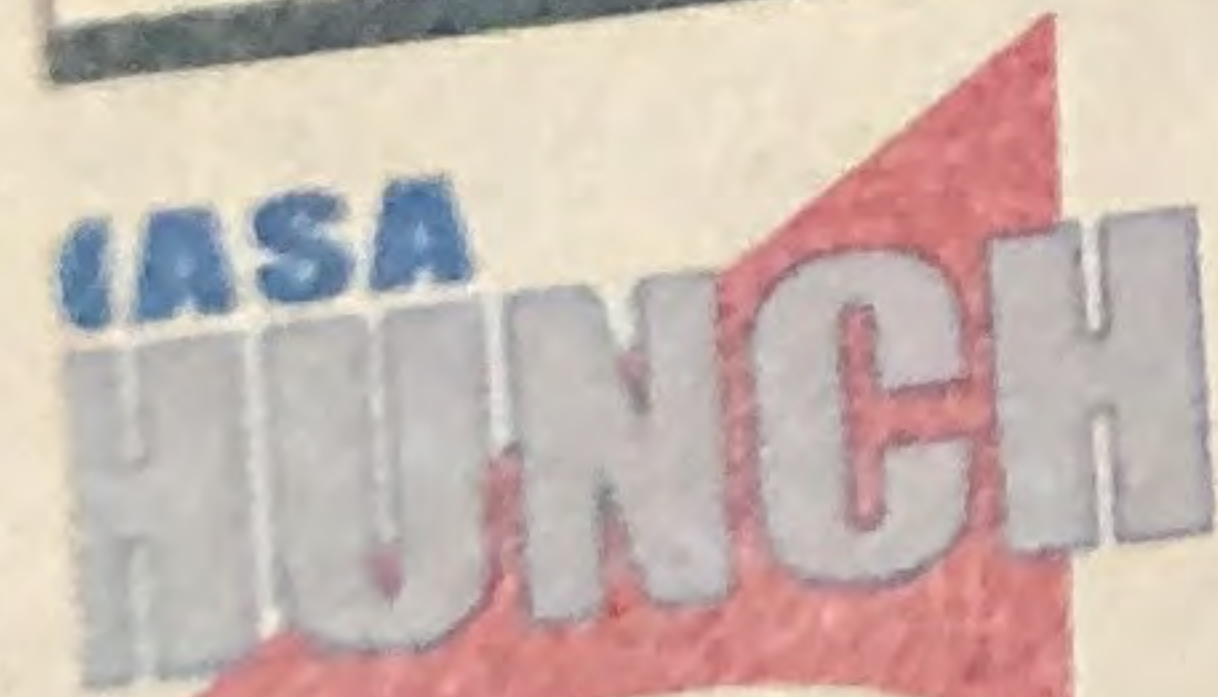
**INSTRUCTOR**  
TJ HENDRICKSON



**TEAM LEAD**  
CHASE GRONHOLZ



**AD DESIGNER**  
CHARLIE SACCOMAN



# THE BADGE HOLDER MULTI-TOOL



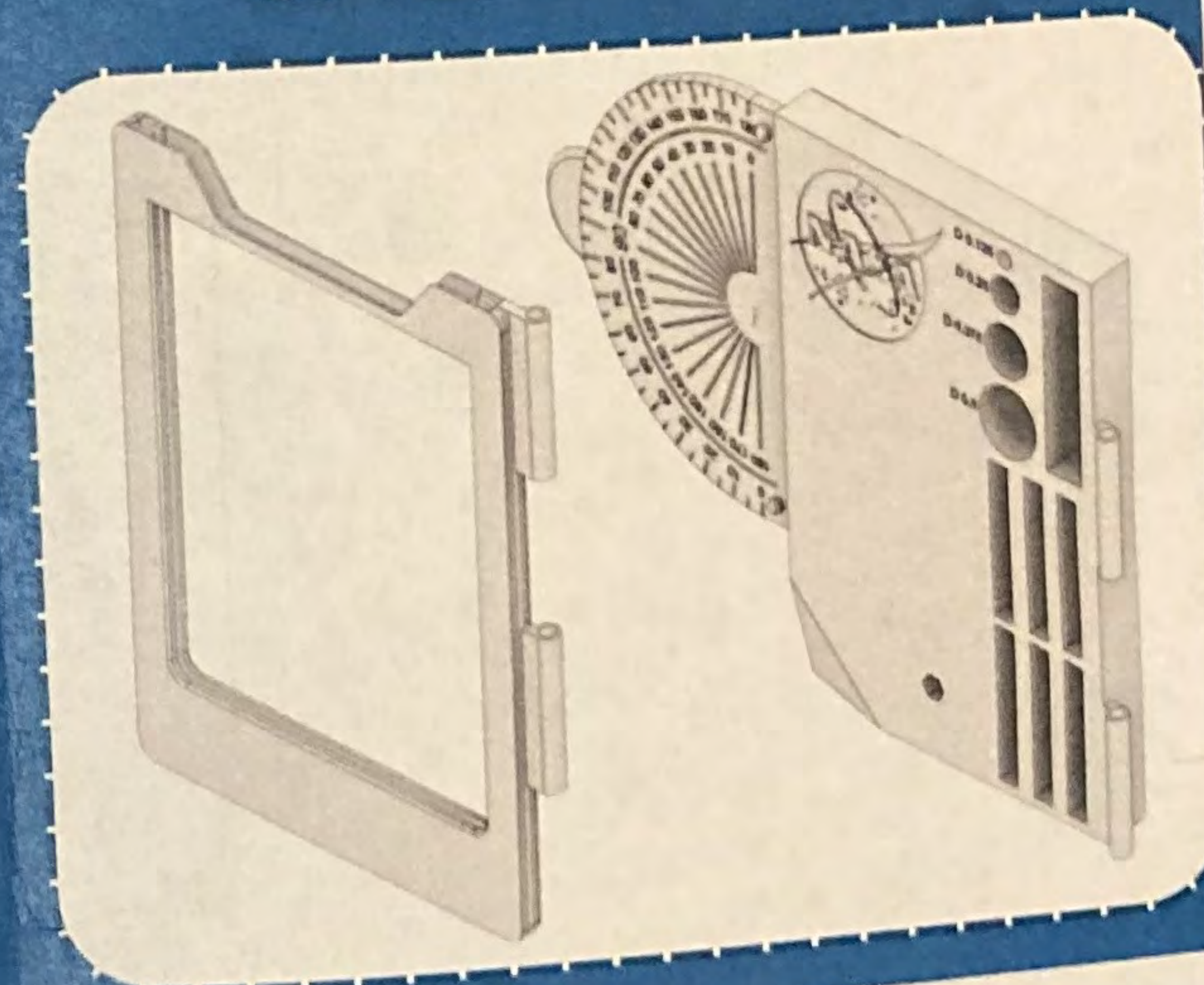
## — WHAT IS IT? —

A more efficient, versatile badge holder, that incorporates multiple functions and tools for challenges for NASA employees.



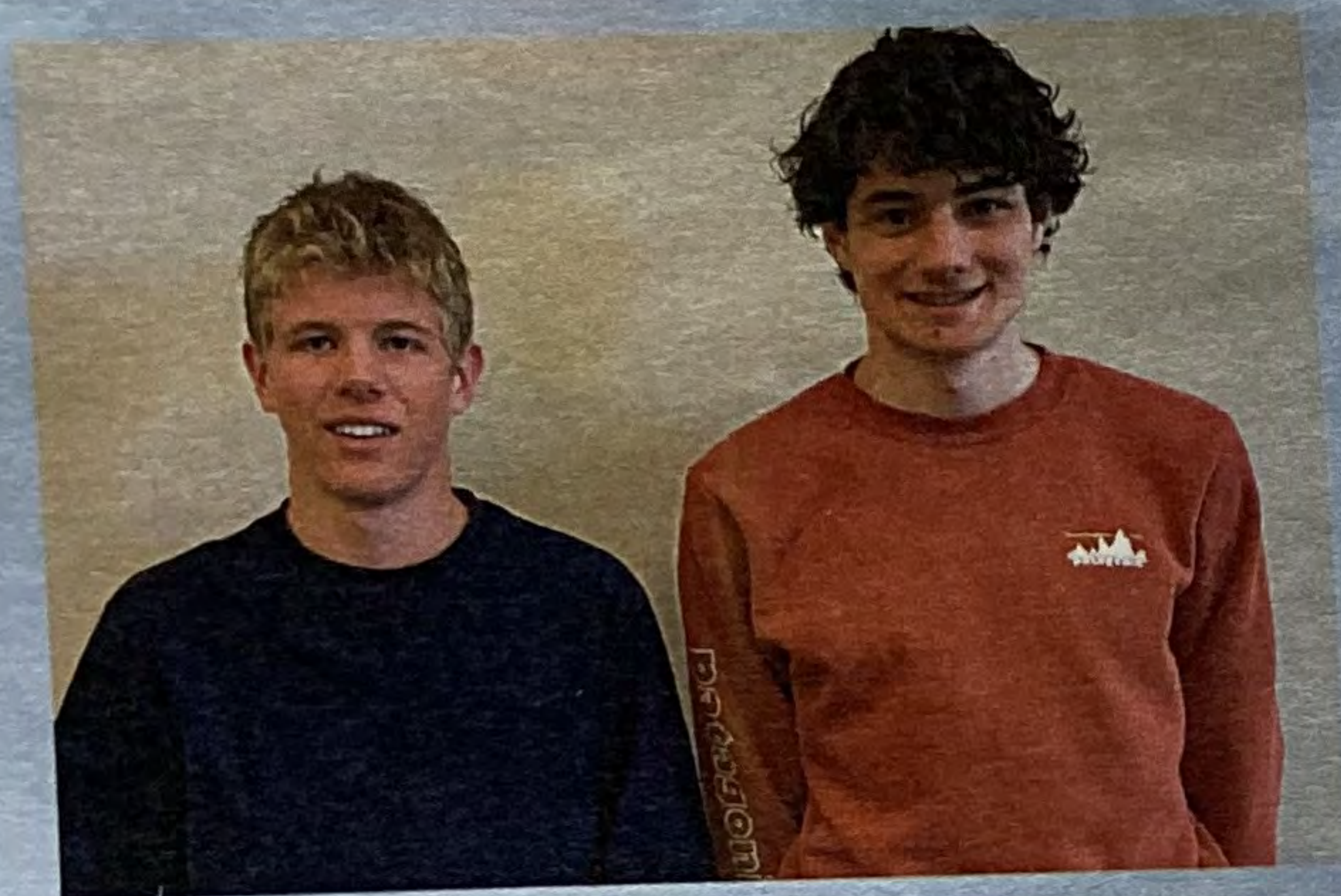
## MOST RECENT PROTOTYPE

## CAD DESIGN





# OUR TEAM



LEO

OWEN

We are both juniors participating in the PLTW Capstone class at Jackson Hole High School with Mr. Anderson, taking two previous engineering classes as well.

## DESIGN

Over the course of the last 6 months, we have researched, planned, and tested our Badge Holder Multi-tool, using both our own 3D printed CAD models(Onshape) and off the shelf commercial products.

We have tried our best to include tools useful to potential users while also making sure our prototype meets all design constraints.



Jackson Hole High School  
Team #1

### Contact Information

Owen - [owesch@student.tcsd.org](mailto:owesch@student.tcsd.org)  
Leo - [leohil@student.tcsd.org](mailto:leohil@student.tcsd.org)

Teacher - [kanderson1@tcsd.org](mailto:kanderson1@tcsd.org)

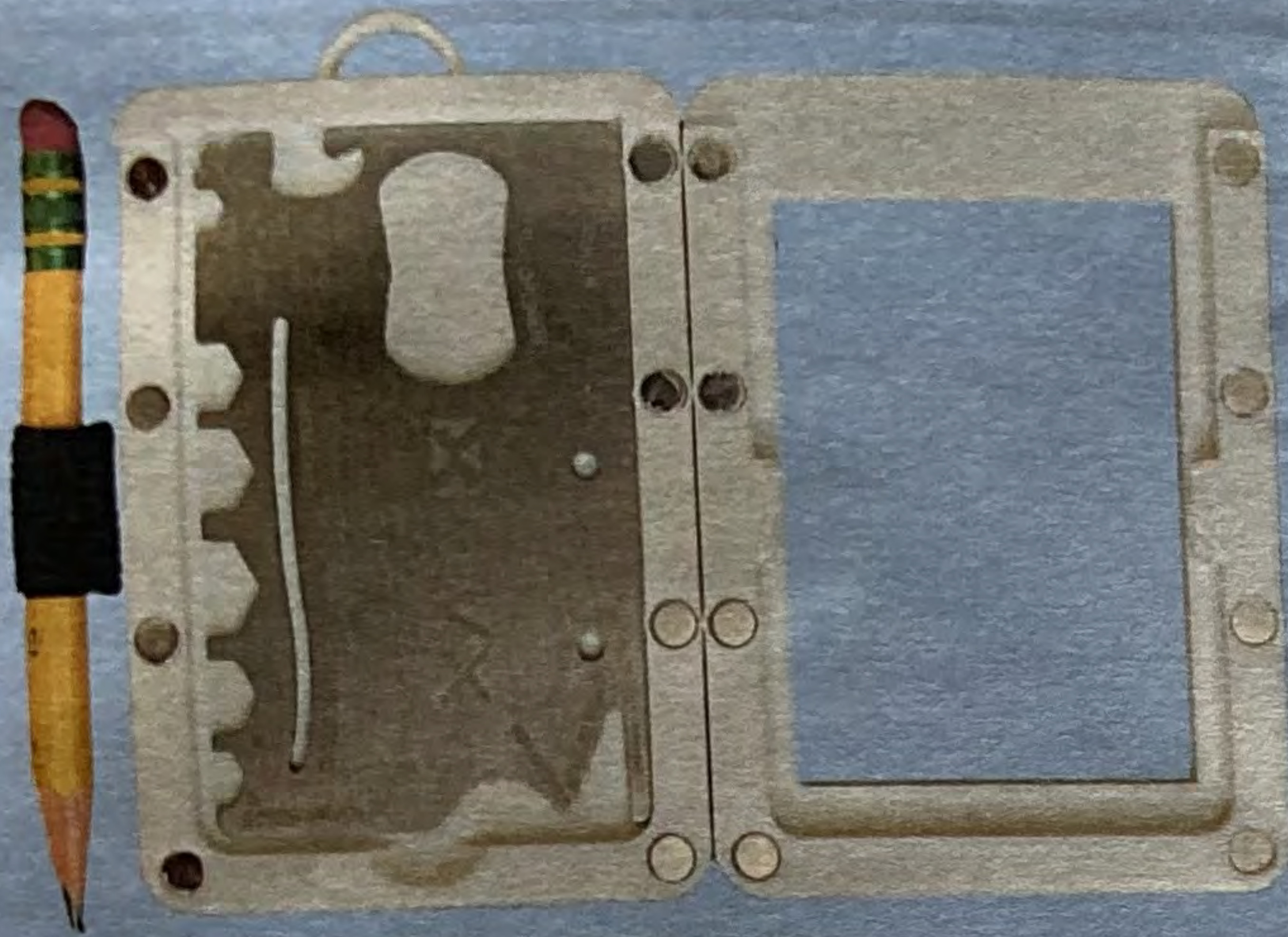


## Badge Holder Multi-Tool

Owen Schultheis  
Leo Hillinger

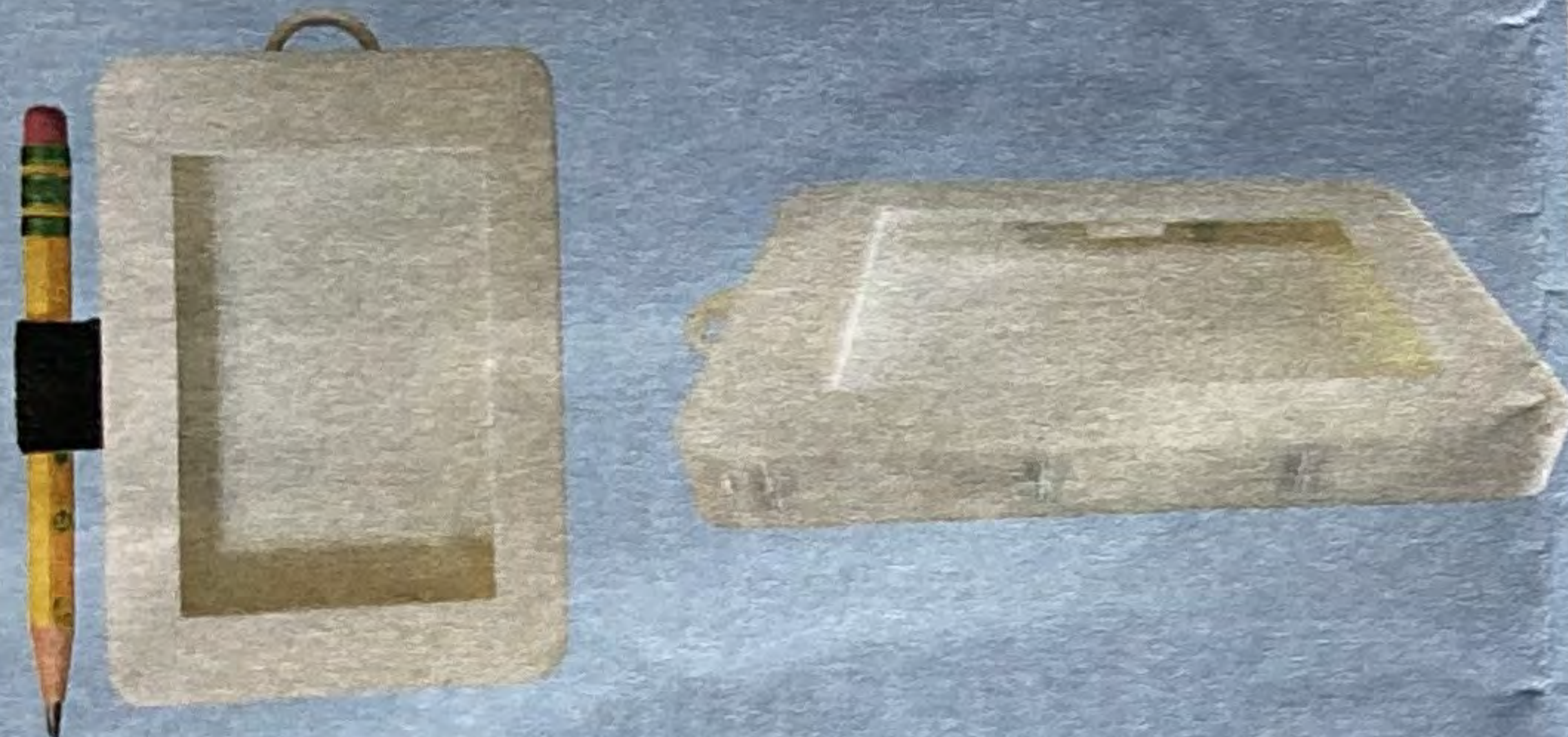
Keane Anderson  
Jackson Hole High School  
Jackson, Wyoming



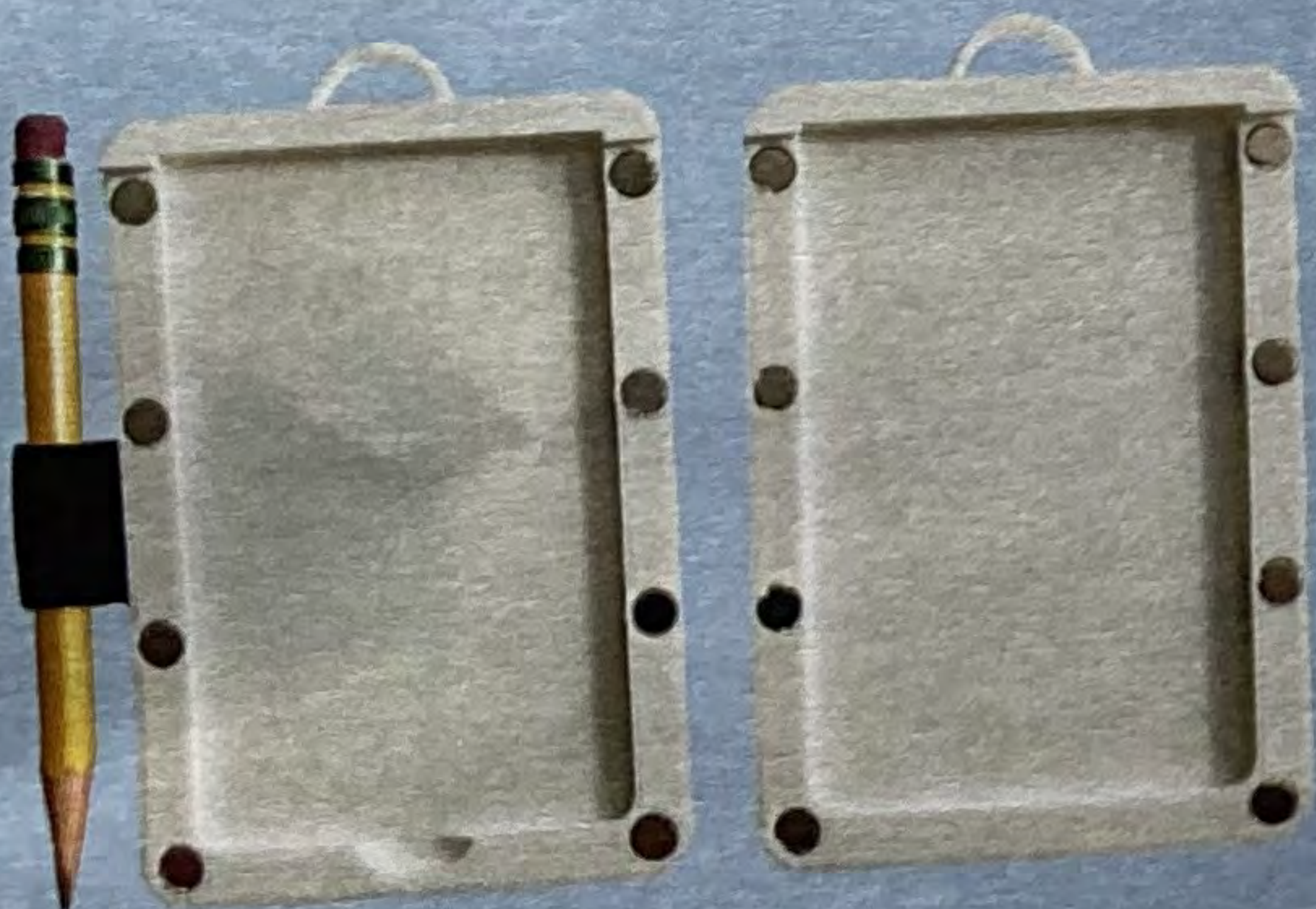


Back section

Front section



Assembled halves



Two different back sections,  
w/ pencil or without

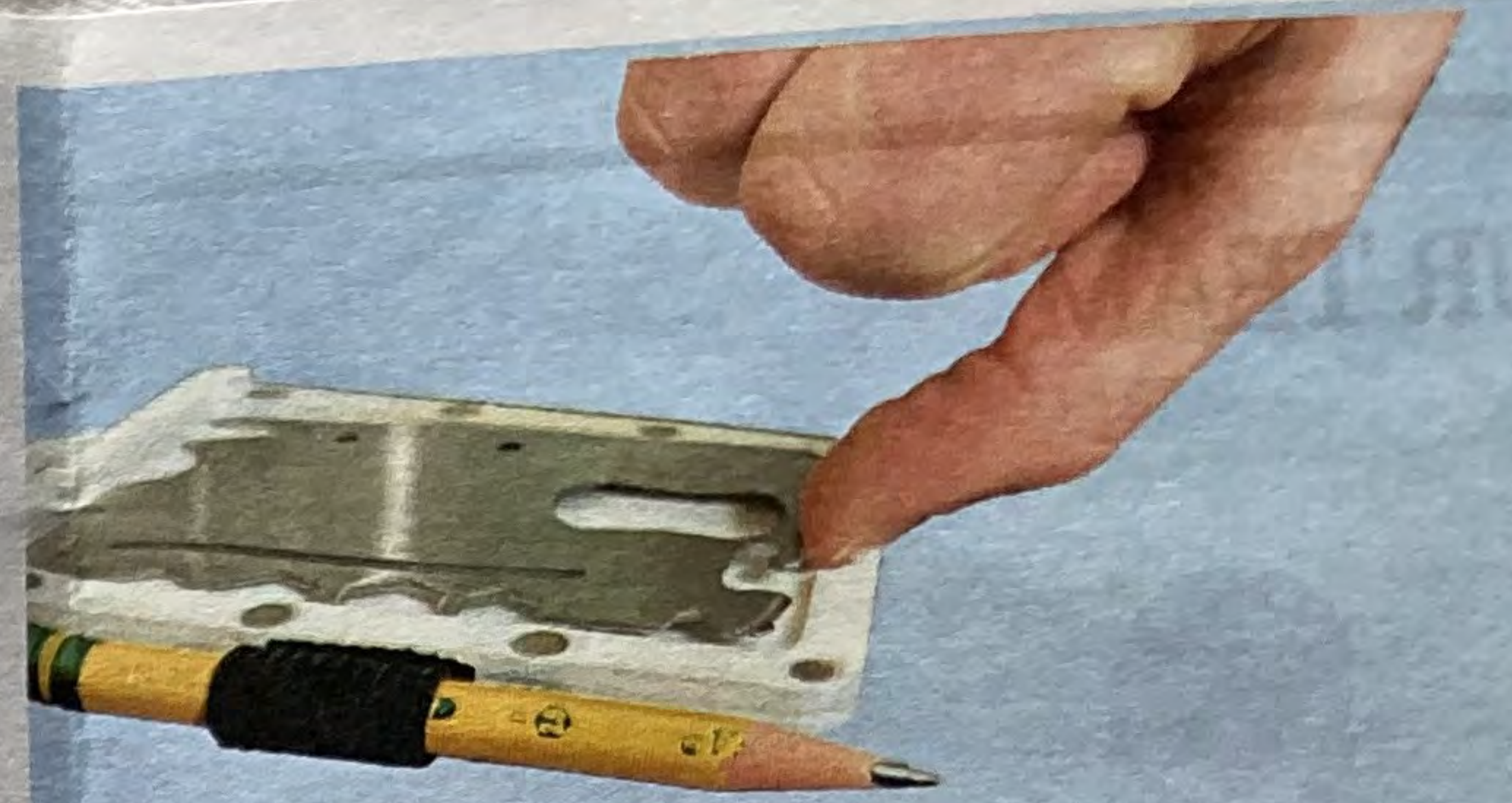
## FINAL PROTOTYPE

### Specifications:

- Dimensions: 3.9" x 2.75" x 0.4" frame (excluding pencil holder)
- Mass: 43.7/74.9 grams(w/ NVX, w/o NVX)
- Material: PLA 3D printing material

### Key Features:

- Two magnetic halves that seamlessly snap together
  - Front section holds ID badge
  - Back section holds card multitool and pencil
- Hook/loop on the top of the back section for convenient and secure attachment to the wearer
- Dual back sections catering to user preferences, allowing for the utilization of a pencil holder or omitting it
- Thumb-divot incorporated on the back section for clean removal of the card multitool
- Front section has a gap allowing the easy vertical removal of the ID badge while maintaining secure placement horizontally
- Integration of the NVX 18 in 1 Credit Card Multi-Tool, containing screwdrivers, hex heads, phone stand, can/bottle openers, and other functions



Thumb-hole for easy access  
to card multitool




Easy slide-out access  
for ID badge



NVX 18 in 1 Credit Card Multitool

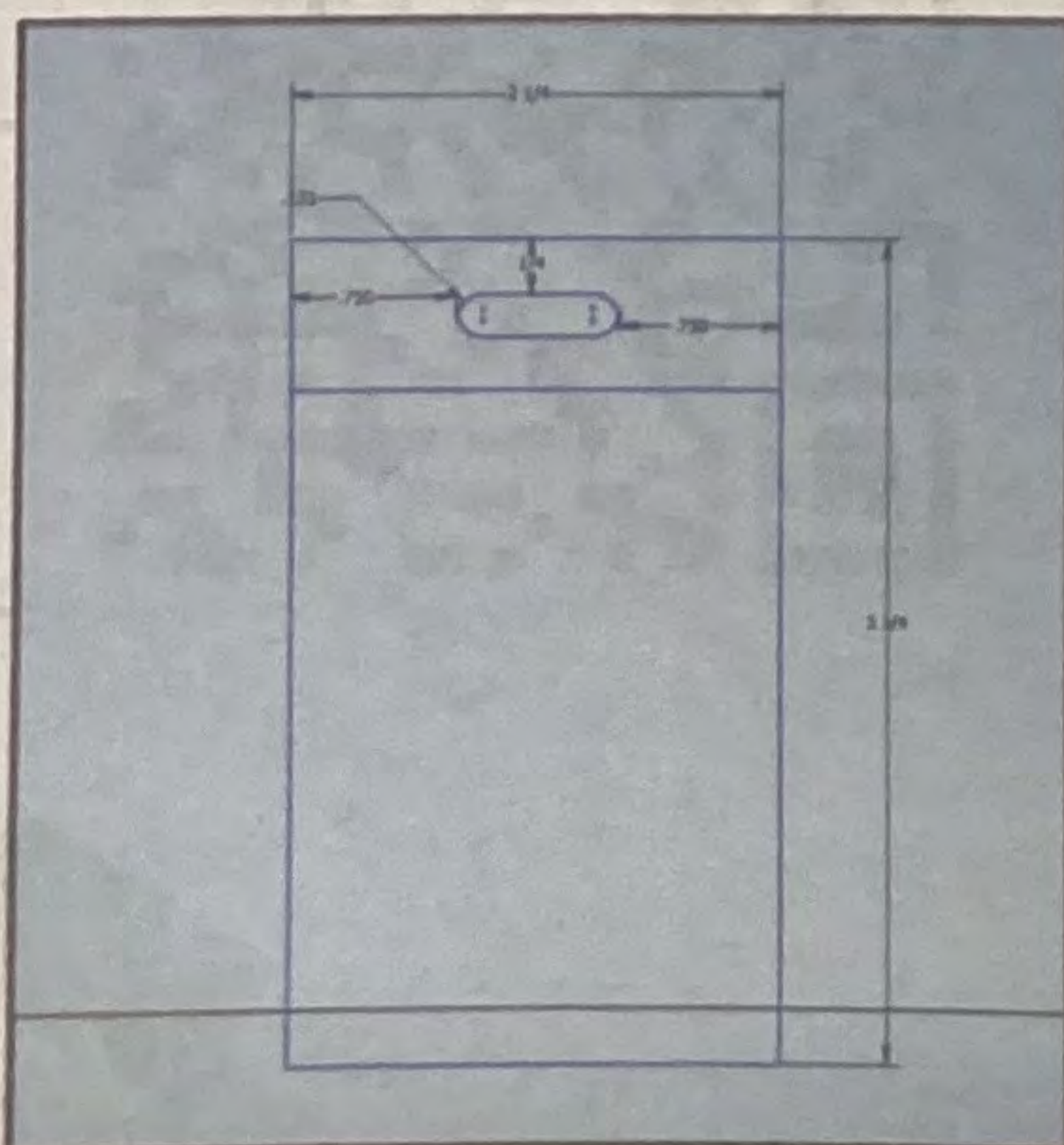
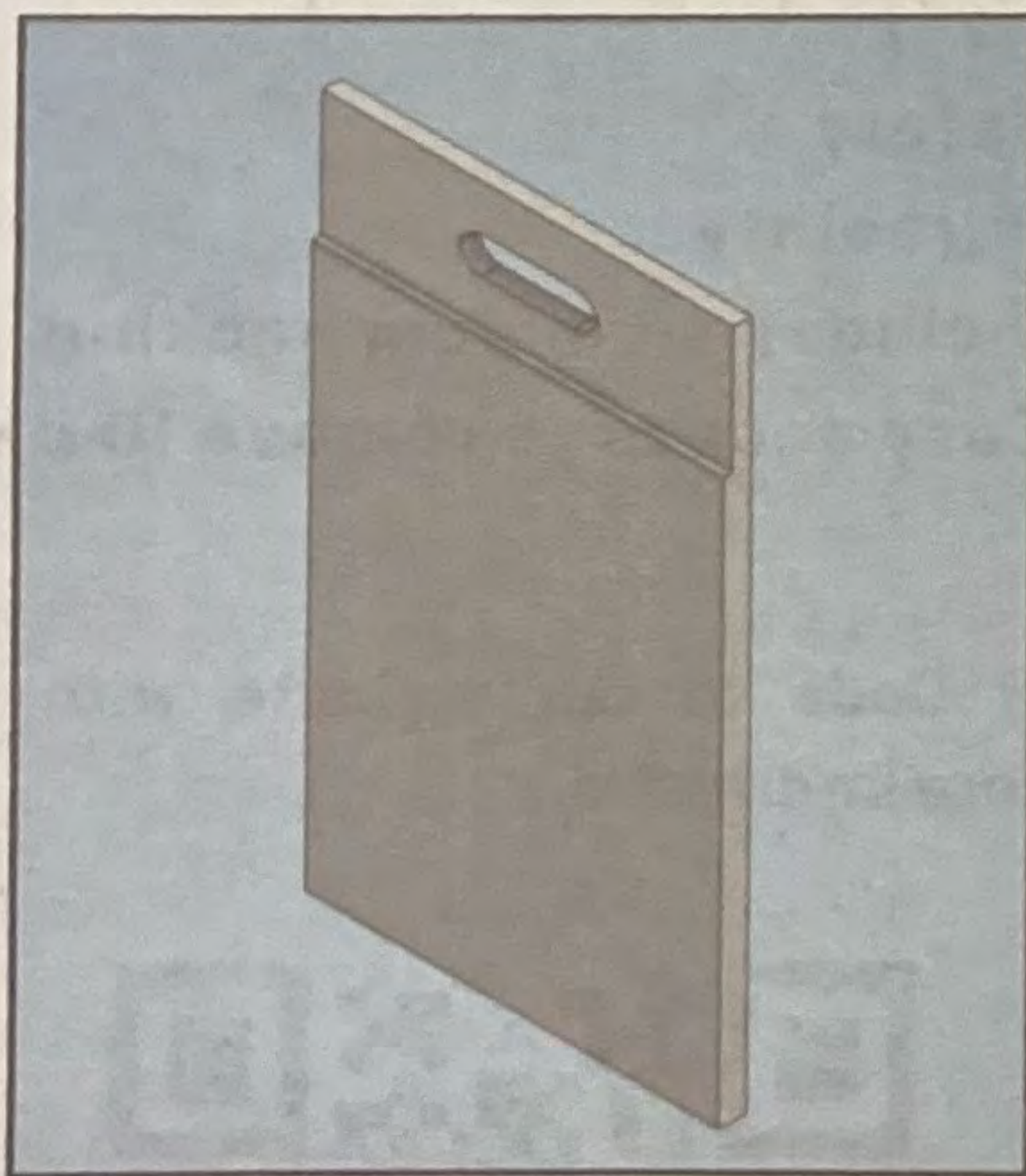




# THE SOLUTION

Our prototype focus on a few things:

- miniature ruler
- space for another card insert
- reinforced edge (ie. for cutting open packages)
- phone stand



## CONTACT:

**Student Emails:**

**Trinity Pena**

**215444@mystisd.net**

**Emma Porzycki**

**215452@mystisd.net**

**Teacher Email:**

**Dr. Lopez**

**Lorena.Lopez@stisd.net**

**Science Academy of South**

**Texas ISD**

**Mercedes, Tx 78550**

# MULTI TOOL BADGE HOLDER (D&P)





# MEET THE TEAM



**Trinity Pena**

Tri Fold Designer  
Brochure Designer  
Prototype Designer



**Emma Porzyki**

Presentation Designer  
Brochure Designer  
Prototype Designer

# THE PROBLEM

The concept behind this Badge Holder is to save the average employee from having to hunt for general tools they utilize on a regular basis but may not carry around 24/7.

# OUR PROTOTYPE

Our prototype is made one out of leather and includes a clear front pocket to showcase the ID badge, an additional pocket, a pen holder, a ruler, and a phone



# EXTRA INFO

The deciding factors to design a useful ID holder we followed for this project is the following:

- Cost (inexpensive)
- Weight (less than 60 grams)
- Size (No larger than 2 3/4" x 4" x 1/2")
- Safety
- Durability
- Includes aluminum backing
- Easy access to remove ID badge

QR Code to our website with more information:





Glaggleland

Give us  
Feedback!



**SCIENCE ACADEMY**  
900 Med High Dr 78570



# MultiTool Badge Holder

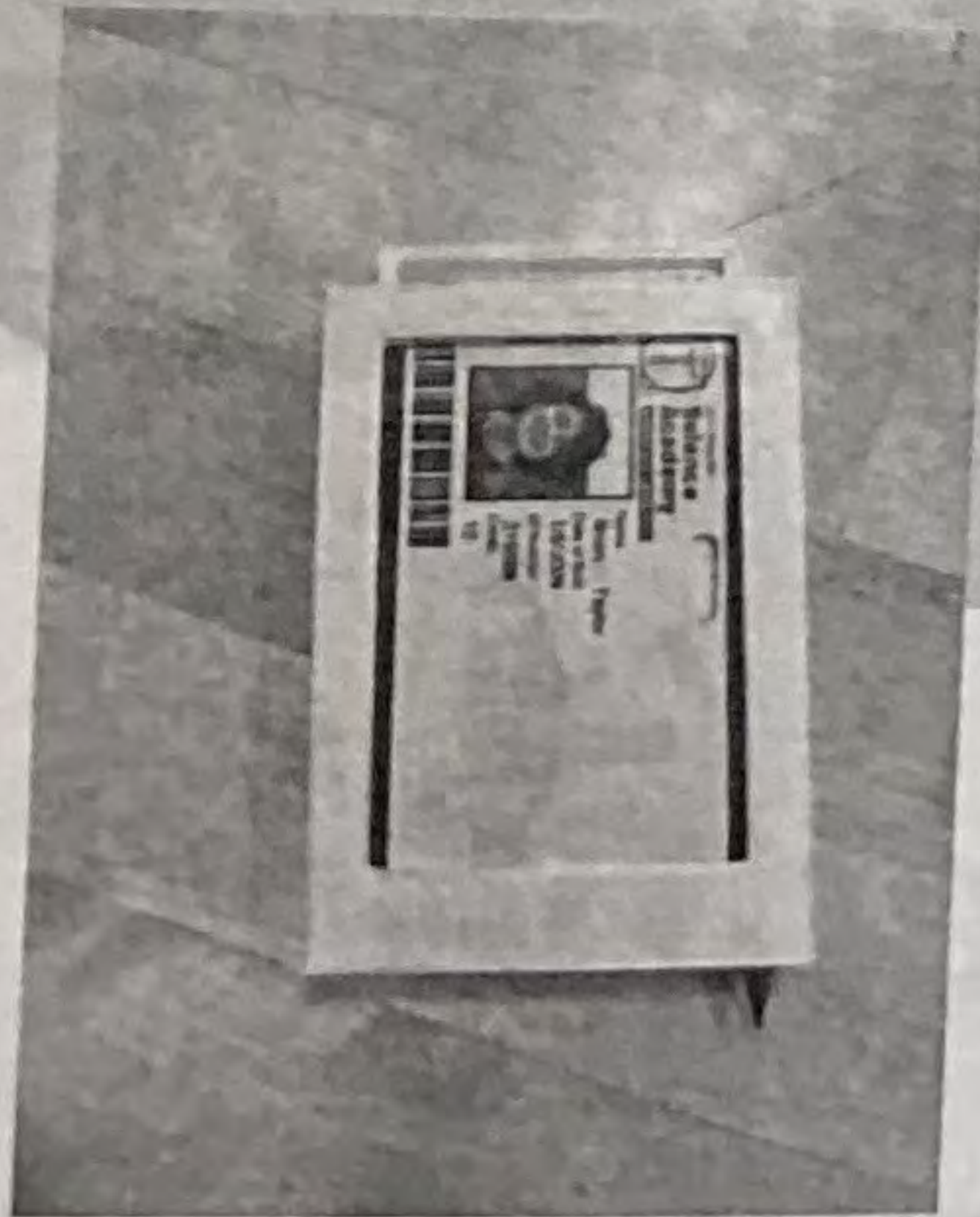
Daniel Falduto & Brian Taylor



South Texas ISD  
Science Academy  
Mercedes TX



The Mutli tool badge holder



Measurements of the badge holder



Our design has:  
A Pencil  
A card holder  
A window for the badge  
A strong clip

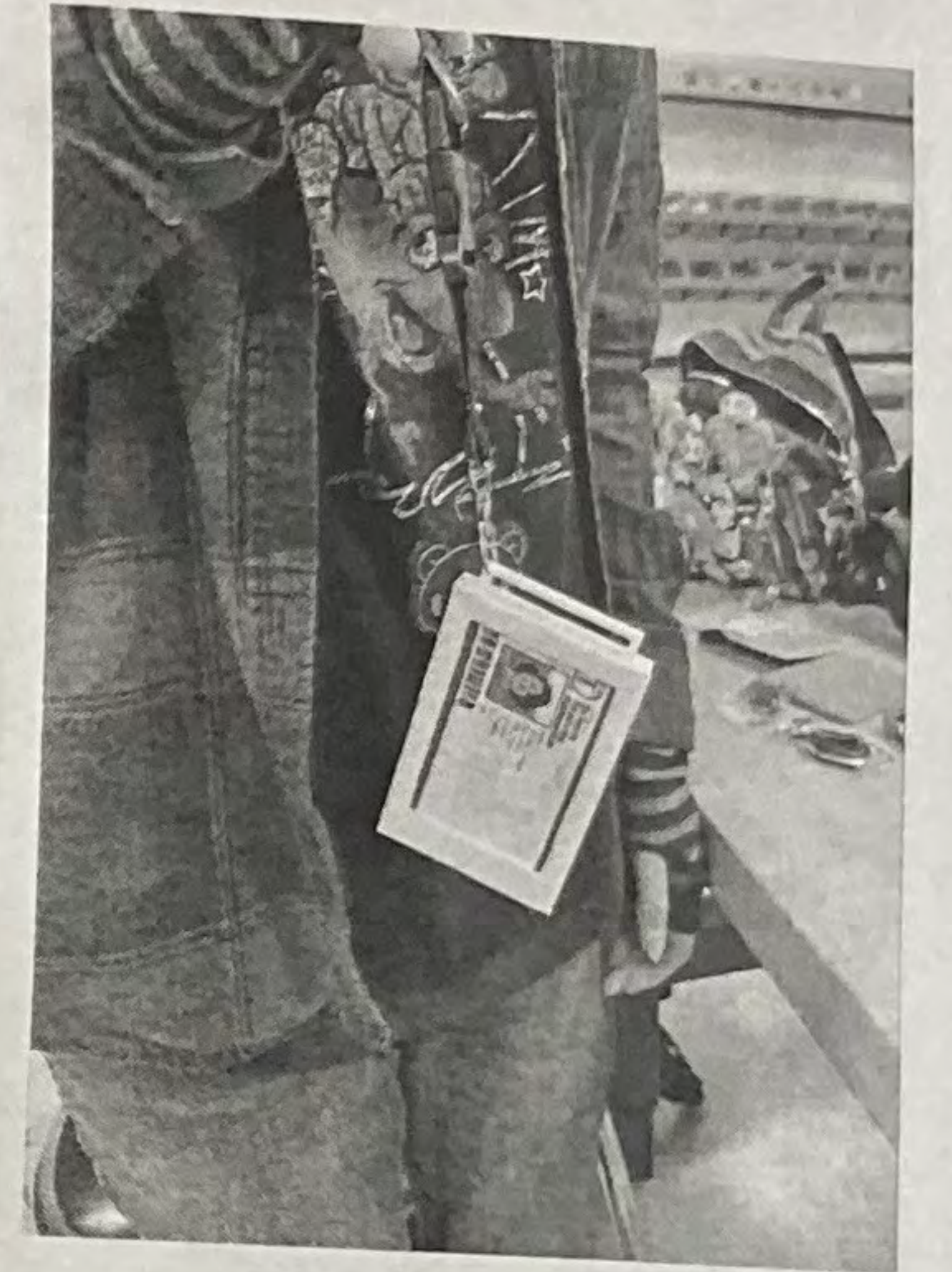
The window makes it easily visible, not obstructed by plastics or anything, and makes it easy to scan if necessary

The clip makes it versatile and easy to use with any clip or lanyard

The pencil makes it so that you can write stuff down easily if you dont have a pencil on you

our multitool badge holder is a new take on the simple badge holder formula opting to have multiple functions on it, Because if youre going to wear it all the time, you might as well make it useful

Functionality is our main priority here, being made out of plastic makes it light and easy to carry around



The Mutli tool badge holder being used



The Mutli tool badge holder being used as a pen



# OUR TEAM



OWEN

LEO

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## DESIGN

Over the course of the last 6 months, we have researched, planned, and tested our Badge Holder Multi-tool, using both our own 3D printed CAD models(Onshape) and off the shelf commercial products.

We have tried our best to include tools useful to potential users while also making sure our prototype meets all design constraints.



Jackson Hole High School  
Team #1

### Contact Information

Owen - [owesch@student.tcsd.org](mailto:owesch@student.tcsd.org)  
Leo - [leohil@student.tcsd.org](mailto:leohil@student.tcsd.org)

Teacher - [kanderson1@tcsd.org](mailto:kanderson1@tcsd.org)



# Badge Holder Multi-Tool

Owen Schultheis  
Leo Hillinger

Keane Anderson  
Jackson Hole High School  
Jackson, Wyoming



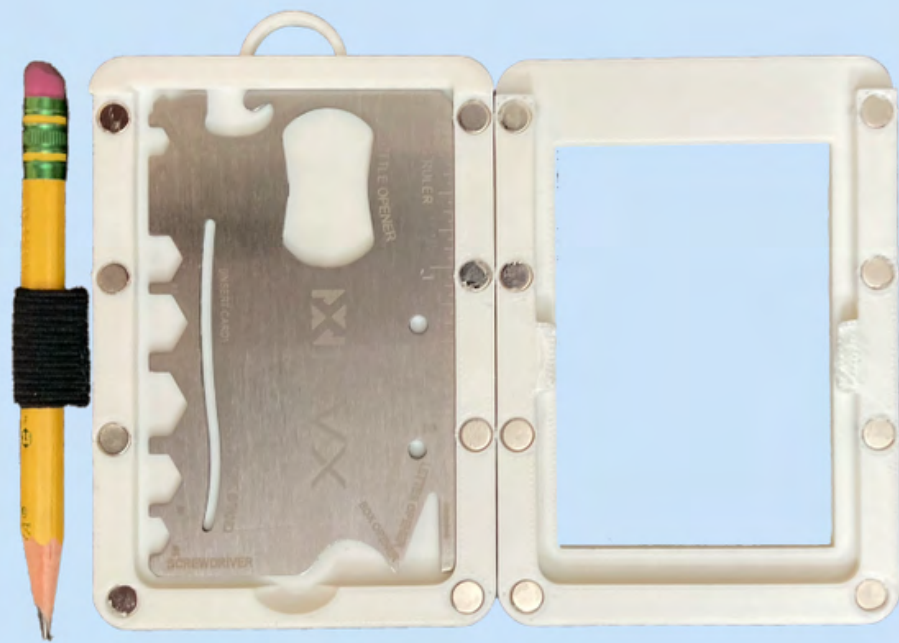
# FINAL PROTOTYPE

## Specifications:

- Dimensions: 3.9" x 2.75" x 0.4" frame (excluding pencil holder)
- Mass: 38.1/69.1 grams(w/ NVX, w/o NVX)
- Material: PLA 3D printing material

## Key Features:

- Two magnetic halves that seamlessly snap together
  - Front section holds ID badge
  - Back section holds card multitool and pencil
- Hook/loop on the top of the back section for convenient and secure attachment to the wearer
- Dual back sections catering to user preferences, allowing for the utilization of a pencil holder or omitting it
- Thumb-divot incorporated on the back section for clean removal of the card multitool
- Front section has a gap allowing the easy vertical removal of the ID badge while maintaining secure placement horizontally
- Integration of the NVX 18 in 1 Credit Card Multi-Tool, containing screwdrivers, hex heads, phone stand, can/bottle openers, and other functions



Back section

Front section



Assembled halves

Two different back sections, w/ pencil or without



Thumb-hole for easy access to card multitool



Easy slide-out access for ID badge

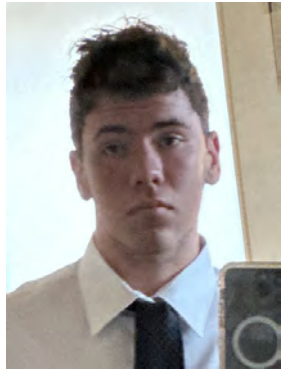


NVX 18 in 1 Credit Card Multitool



# Badge Holder

Pacific Ridge School

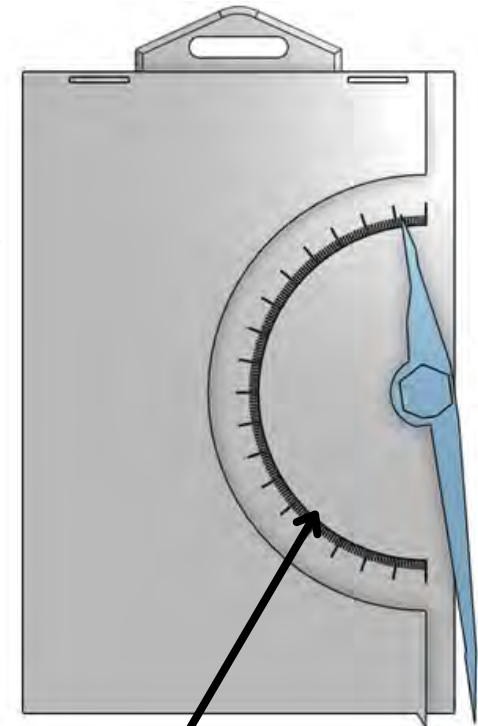


Christopher Hamel

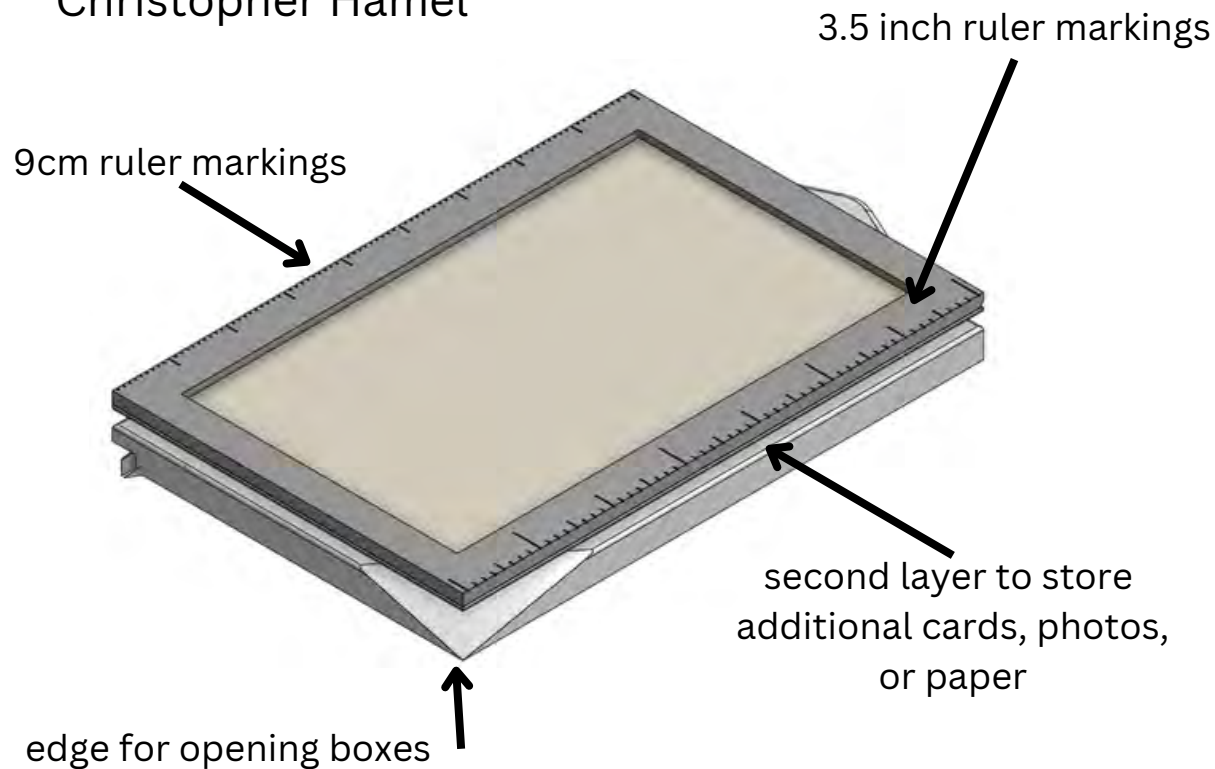


Andreas Karanikkis

One issue that we observed with many of the badge holders we tested was the badge was usually very difficult to remove from the sleeve. Our final badge holder incorporates a larger opening for the ID card, but not too large a gap so the badge does not fall off.



protractor



9cm ruler markings

3.5 inch ruler markings

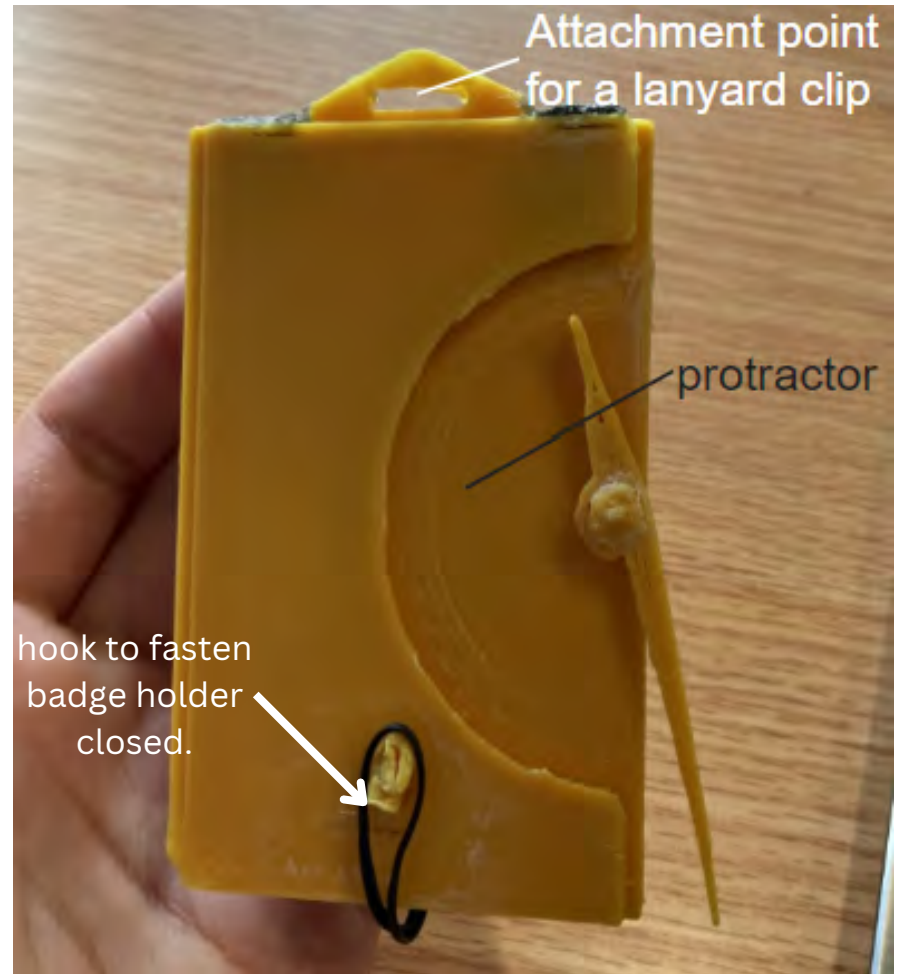
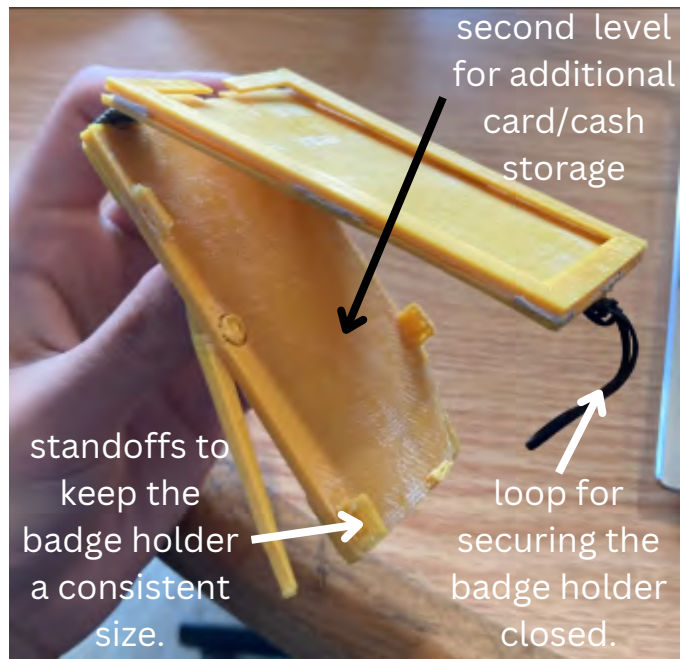
second layer to store additional cards, photos, or paper

edge for opening boxes

The badge holder design we landed on aims to be as lightweight and compact as possible without compromising on functionality. To decide on what tools to include in the multitool we surveyed the teachers at our school since they carry id badges as well. We found that many of them said they find themselves lacking a measuring device when they need one. Our badge holder aims to erase this issue.

Teacher: Mr. Simon





the badge holder aims to be as light as possible while providing as much usability and storage as possible

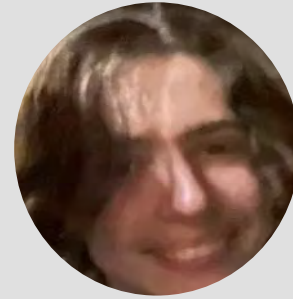


# Our product

Our product is 3 separate badge holders for 3 different types of NASA employees. We have one for IT workers, engineers, and office workers.

This is more efficient because the badge holders overall will have more different uses than if all of them were the same.

## Meet the team:



Ian  
Holland



Harlan  
Schillig



Keegan  
Epstein



David  
Wan



# ENGINEERS

Comes With

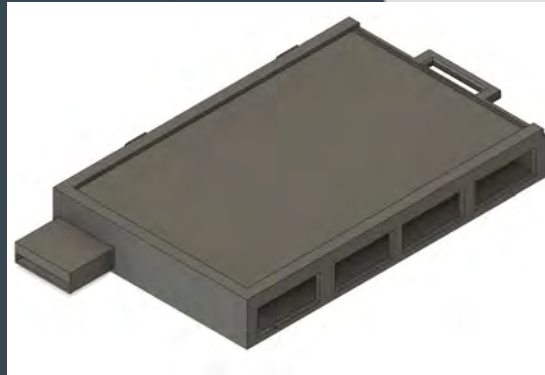
- Ruler/caliper
- Lanyard that tightens around head to become headlamp
- Screwdrivers
- Fidget toy



# IT

Comes With

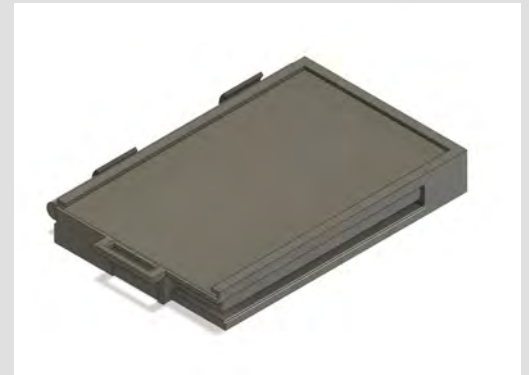
- Ports For different cables/chargers
- Thumb Drive
- Fidget Toy



# DESK JOB

Comes With

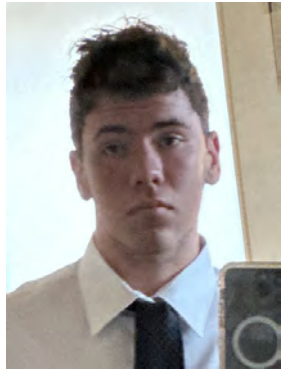
- Pencil/Pen Holder
- Stapler
- Fidget toy





# Badge Holder

Pacific Ridge School

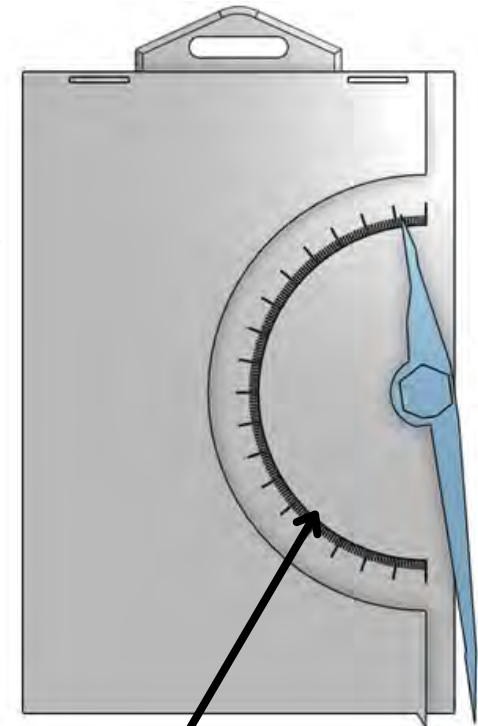


Christopher Hamel



Andreas Karanikkis

One issue that we observed with many of the badge holders we tested was the badge was usually very difficult to remove from the sleeve. Our final badge holder incorporates a larger opening for the ID card, but not too large a gap so the badge does not fall off.

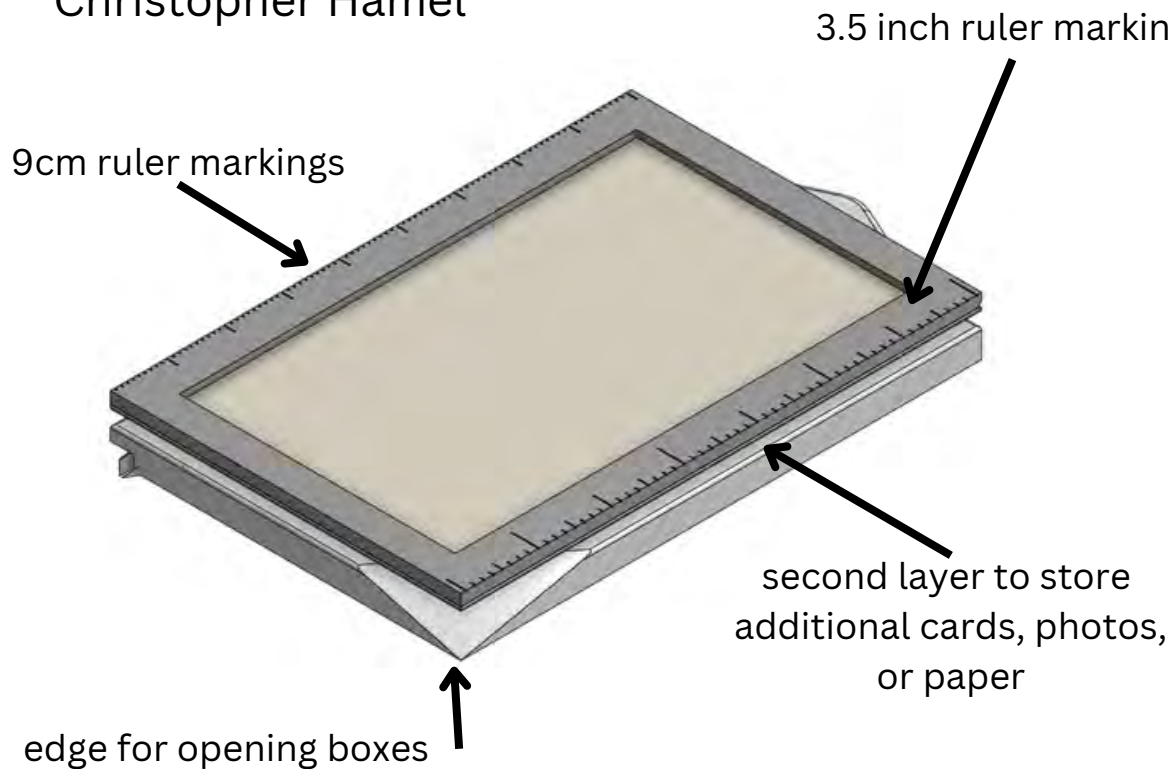


back view

protractor

The badge holder design we landed on aims to be as lightweight and compact as possible without compromising on functionality. To decide on what tools to include in the multitool we surveyed the teachers at our school since they carry id badges as well. We found that many of them said they find themselves lacking a measuring device when they need one. Our badge holder aims to erase this issue.

Teacher: Mr. Simon



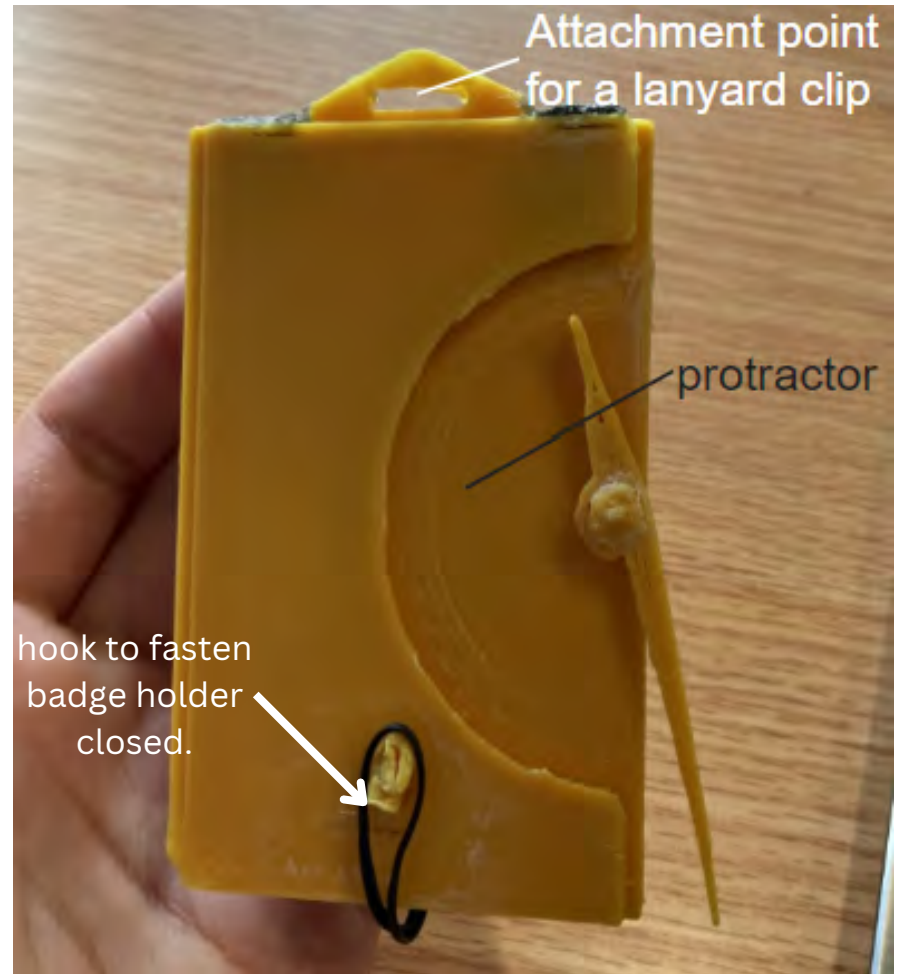
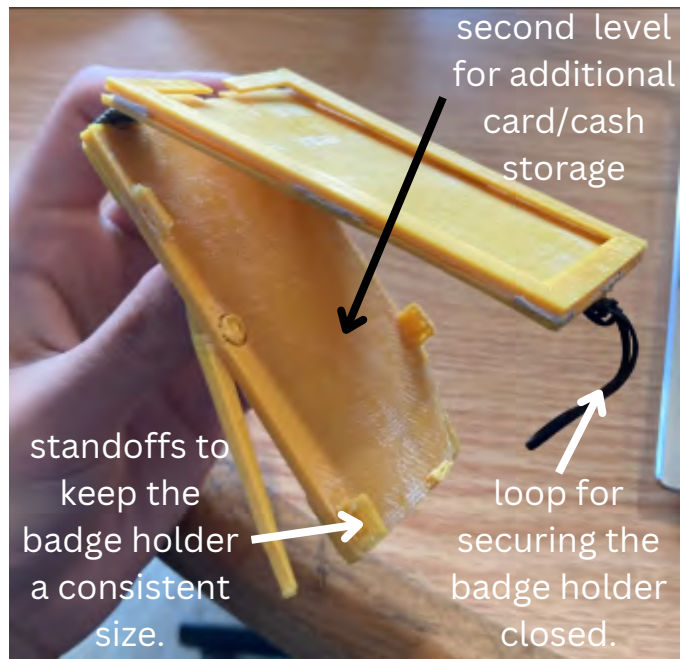
3.5 inch ruler markings

9cm ruler markings

second layer to store additional cards, photos, or paper

edge for opening boxes





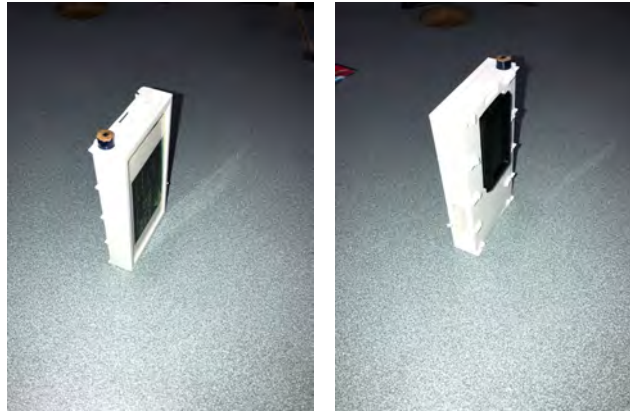
the badge holder aims to be as light as possible while providing as much usability and storage as possible



## Explanatory text

This tool could be use for every day tools that has what you need and the stuff that will be useful to help you work on things right there on a lanyard on you neck or in pocket.

This item is pretty cheap with not much but 3D printing and 2 items that are under \$10, above \$10 if you buy both items that are listed. The estimated amount of filament is about 30.58g / 10.25m which is about \$1.02 of filament and it takes 4H 7M per print to finish creating.



This image is a badge holder that can hold important stuff for you and you can use the items that are in the badge holder anytime, it's there for you to use if you ever need it for anything or need it for any project that you are making. Holds your id so you can enter the building for access. Hold a golf pencil, Temperature block so you can tell the humidity and the temperature, built in ruler 4" or 100mm, and a small USB holder

Thermometer & Tape measure  
Scan here to go to the page



Thermometer

Tape measure



# Badge Holder

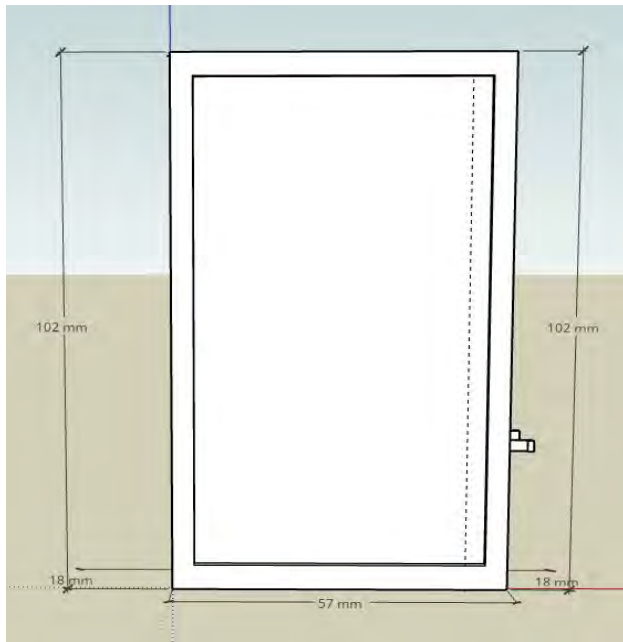
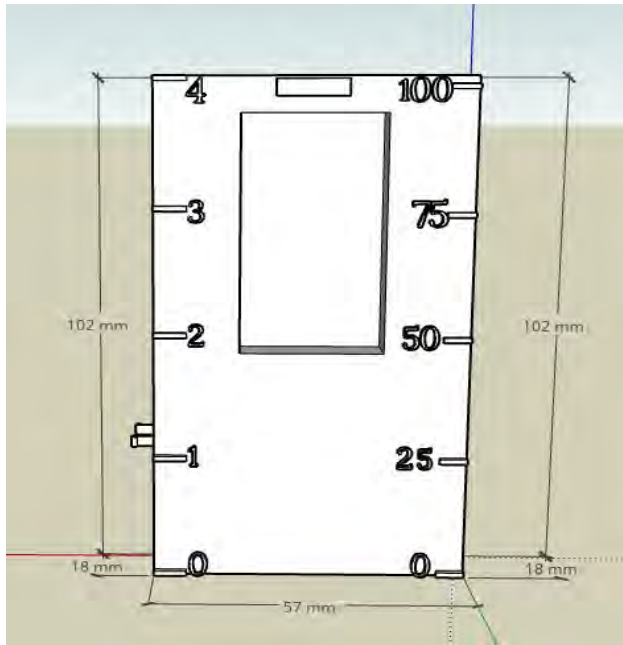
By: Everet Leyrer  
February 5, 2024



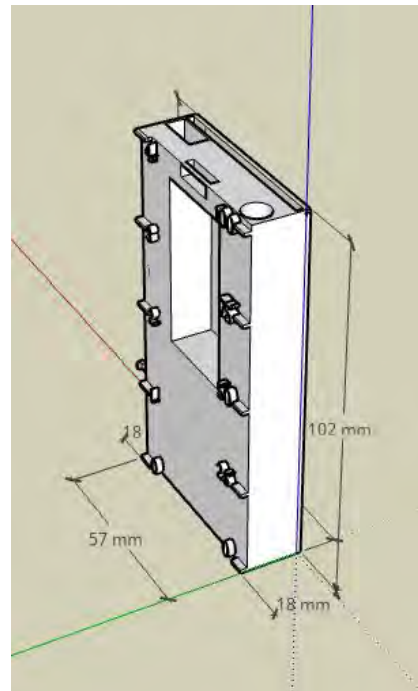
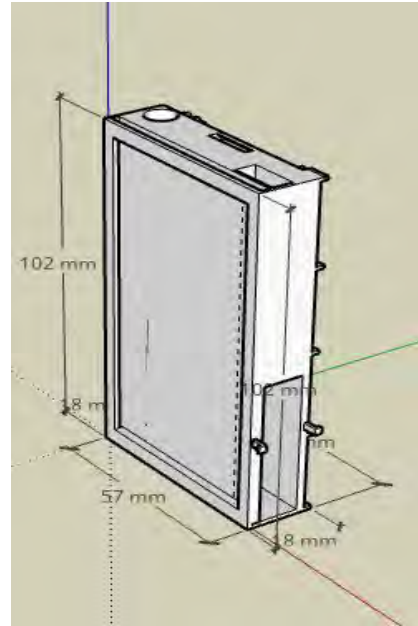
The badge holder is a tool that allows you to insert your badge to hold with other tools as, built in 4 Inch ruler, Golf Pencil Holder, and more.



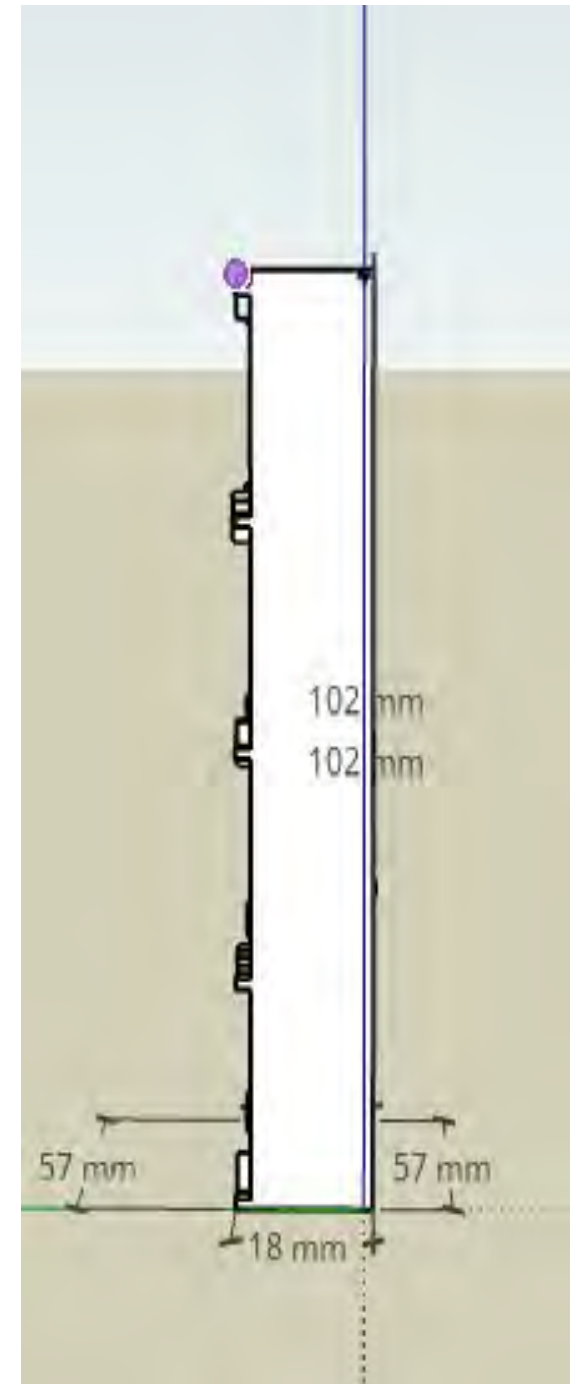
Text and Image(s)



Text and Image(s)



Text and Image(s)





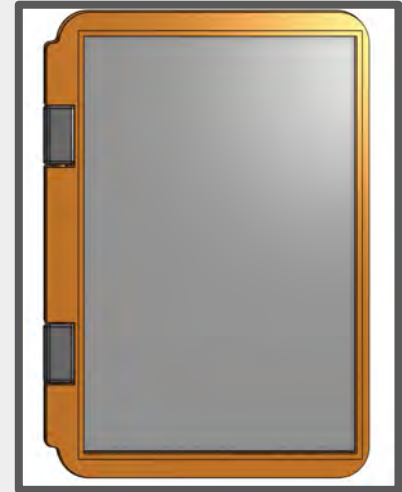
## Description:

Our NASA hunch multitool badge holder is an innovative tool that allows taking notes, observing things at a closer angle, example. Through this, we give you, the staff of NASA Hunch, the ability to provide a brighter future for the astronauts of tomorrow.



### Idea 2:

- **Tape Measure**
- **Mirror Ring**
- **Storage Pocket**



### Idea 1:

- **Ruler**
- **Whiteboard**
- **Marker/Pencil Holder**
- **Acrylic Protective Cover for ID**



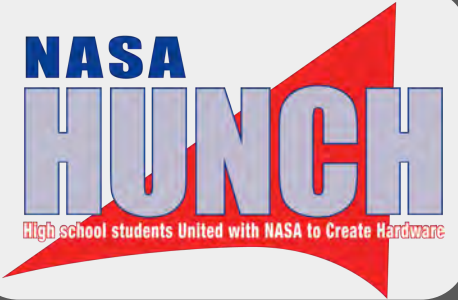
## Group Picture



## School Information:

**Diana C. Lobosco STEM  
Academy**

**40 Reinhardt Road, Wayne,  
NJ 07470**



## **NASA HUNCH 3 - BADGE HOLDER**



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