

Ryan Parco

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Base Case

SUMMARY:

- Designed various parts ready for manufacturing
- Prototyped and iterated components, including a patented clip on briefcase
- Created 3D renders for marketing
- Made 2D drawings for manufacturers

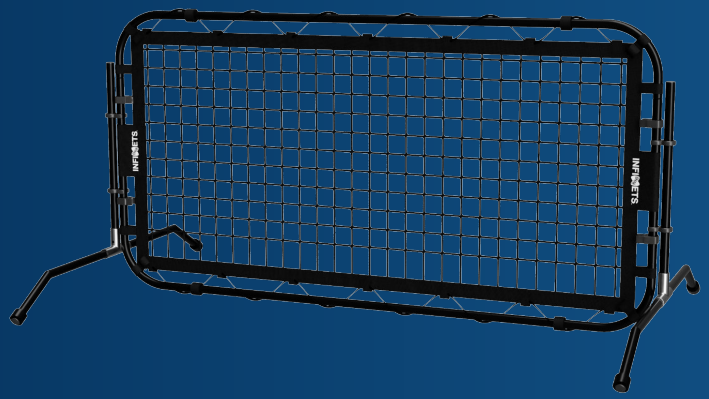
See more at: https://getbasecase.com/





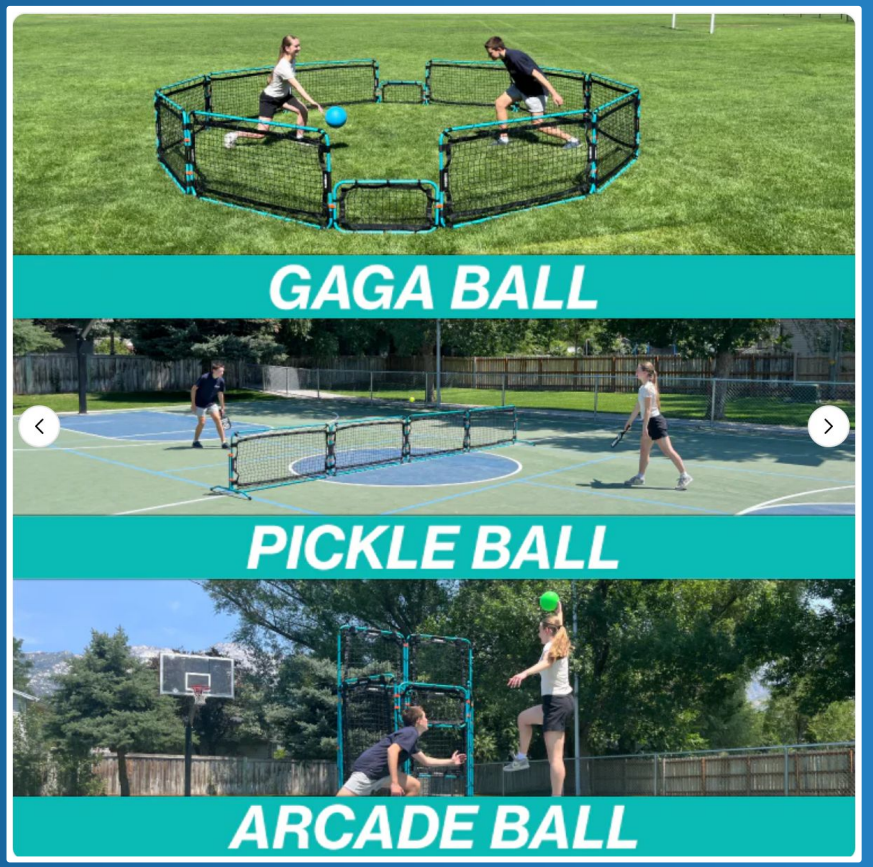
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Infinets: Castle Sports



SUMMARY:

- Designed a multi use structure that enables multiple games for schools and churches.
- Created design to be cost effective and manufactured
- Currently being sold around the U.S



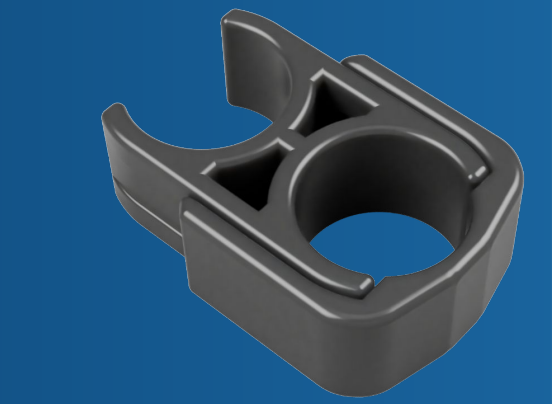
See more at: https://castlesports.com/products/infinets

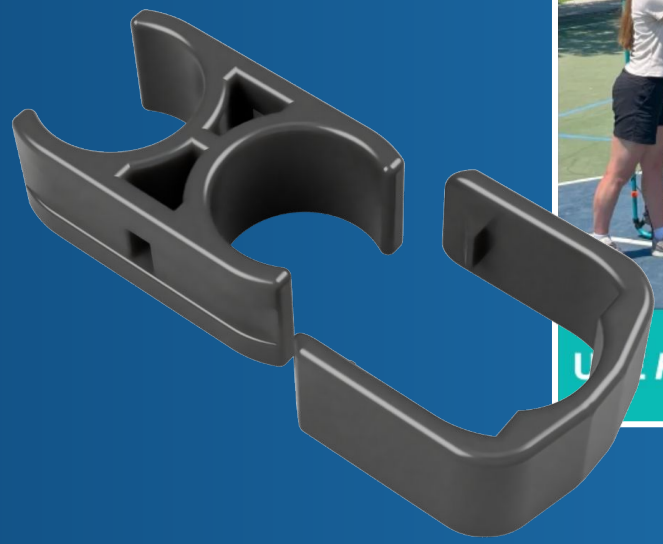
RYAN PARCO

Double Clip Attachment

SUMMARY:

- Designed a clip that can connect two panels together
- Designed for the ability to snap onto pole to prevent loss of pieces
- Designed for Injection Molding and coordinate with manufacturers





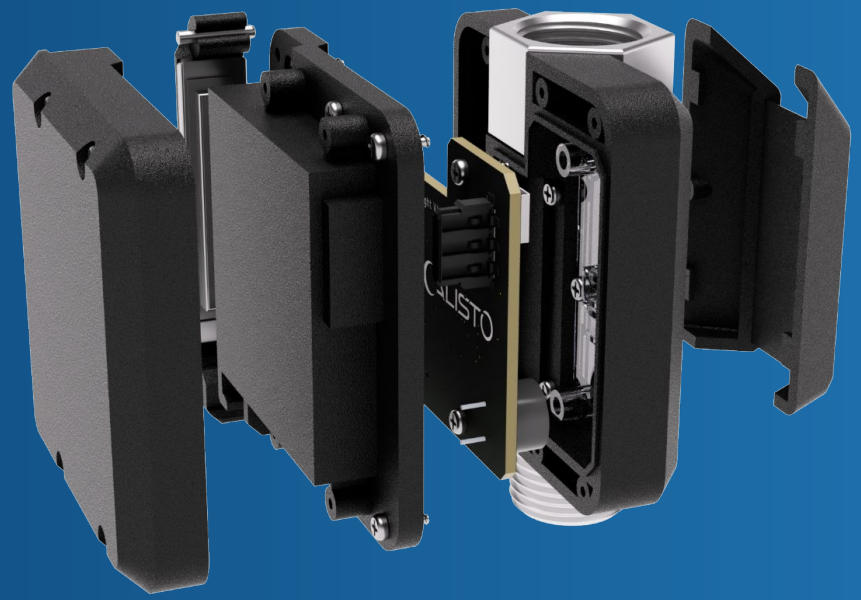


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Calisto Insight Flowmeter

SUMMARY:

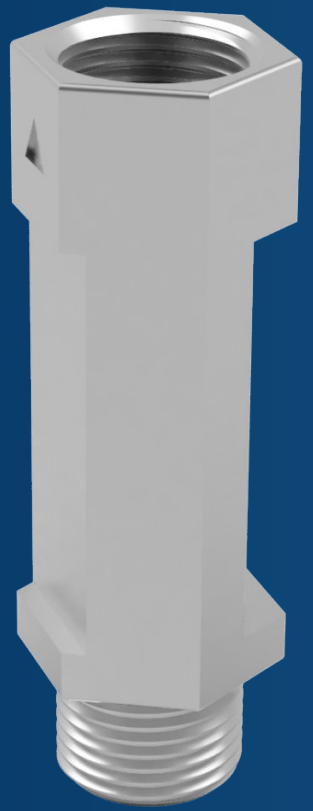
- Designed a flowmeter for pest control companies
- Designed PCB, Casing, Flowmeter, Sensors, and programed NRF52840
- Designed for 3D print and Injection mold
- IP67 rating designed for easy assembly





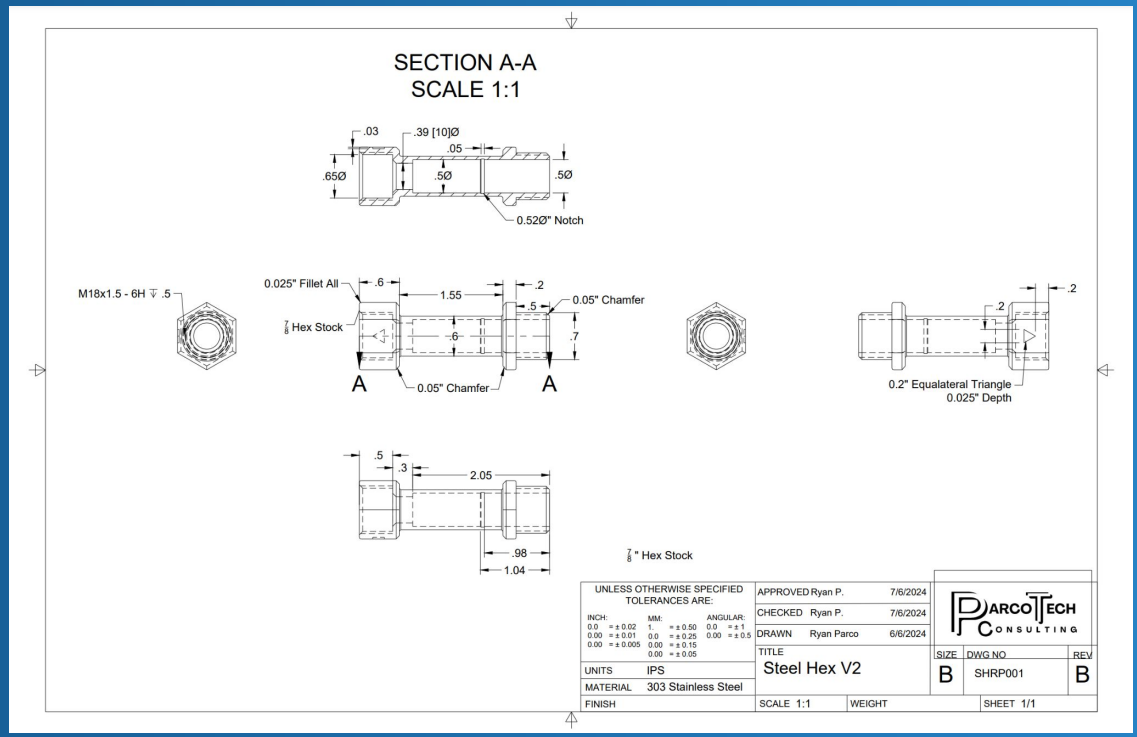
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Calisto Insight Flowmeter Cont.



SUMMARY:

- Designed a Steel Hex Piece that includes a turbine to measure flow.
- Created 2D Drawings that can be sent to manufacturing
- Currently beta testing device in the field



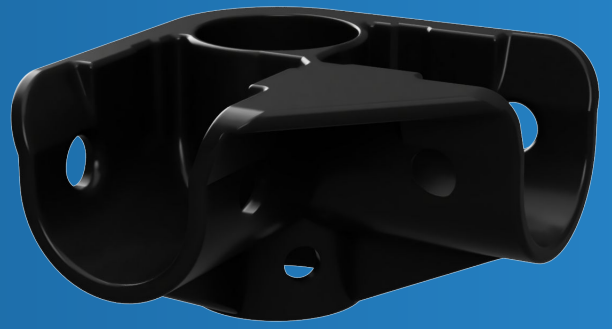
RYAN PARCO

9 Square Castle Squares Pro V2

SUMMARY:

- Designed a patented design for V2 of Pro Design
- Design reduced BoM by 15% and reduced setup time by 5 minutes
- Designed for Injection Molding from Nylon PA6 GF20











See more at: https://castlesports.com/products/9-square-castle-squares-pro

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Permanent 9 Square Set

SUMMARY:

- Designed a playground 9 square set for schools, churches, and community centers
- Designed with FEA to ensure the safety of project
- Created realistic renders to post on webpage



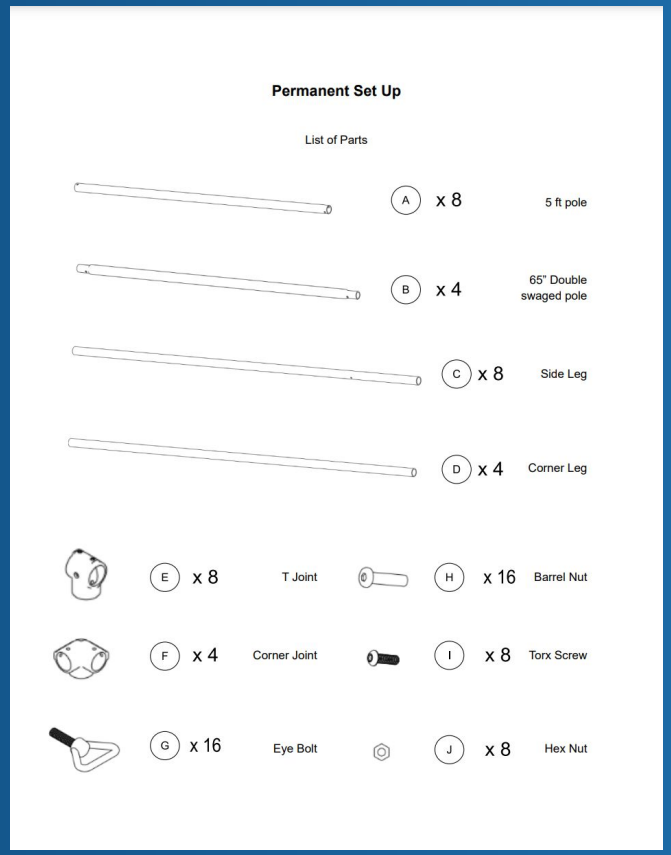
See more at: https://castlesports.com/products/permanent-9-square-castle-squares

RYAN PARCO

Permanent 9 Square Set CONT.

SUMMARY:

- Designed instruction packet to guide the user for installment
- Created drawings for assembly and easy understanding
- Designed Engineering Drawing Packet for Manufacturing (CONFIDENTIAL)



Permanent Set Up

List of Parts

A x 8 — 5 ft pole

B x 4 — 65" Double swaged pole

C x 8 — Side Leg

D x 4 — Corner Leg

E x 8 — T Joint

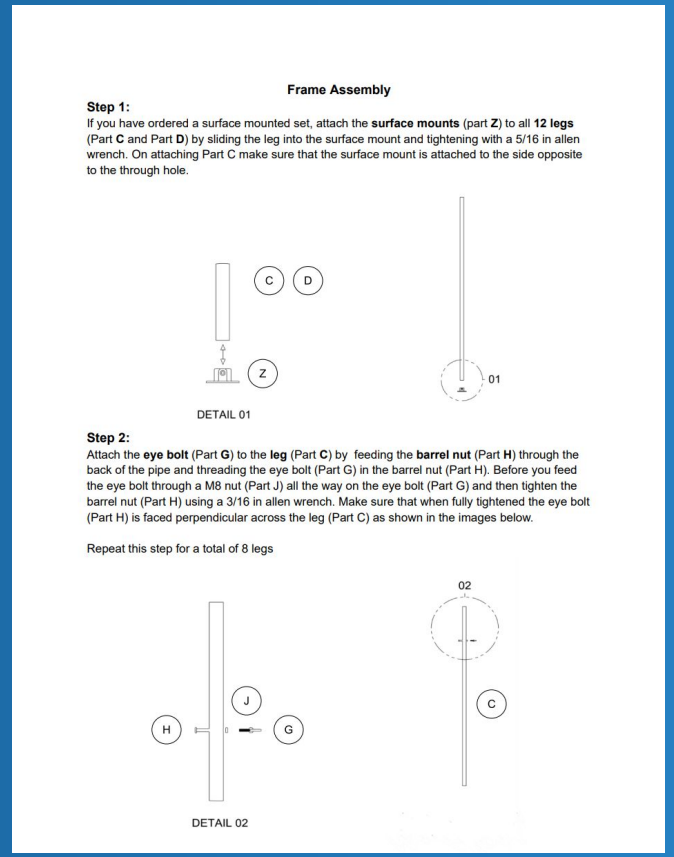
F x 4 — Corner Joint

G x 16 — Eye Bolt

H x 16 — Barrel Nut

I x 8 — Torx Screw

J x 8 — Hex Nut



Frame Assembly

Step 1:
If you have ordered a surface mounted set, attach the **surface mounts** (part **Z**) to all **12 legs** (Part **C** and Part **D**) by sliding the leg into the surface mount and tightening with a 5/16 in allen wrench. On attaching Part C make sure that the surface mount is attached to the side opposite to the through hole.

C D Z — 01

DETAIL 01

Step 2:
Attach the **eye bolt** (Part **G**) to the **leg** (Part **C**) by feeding the **barrel nut** (Part **H**) through the back of the pipe and threading the eye bolt (Part G) in the barrel nut (Part H). Before you feed the eye bolt through a M8 nut (Part J) all the way on the eye bolt (Part G) and then tighten the barrel nut (Part H) using a 3/16 in allen wrench. Make sure that when fully tightened the eye bolt (Part H) is faced perpendicular across the leg (Part C) as shown in the images below.

Repeat this step for a total of 8 legs

02

H J G — C

DETAIL 02

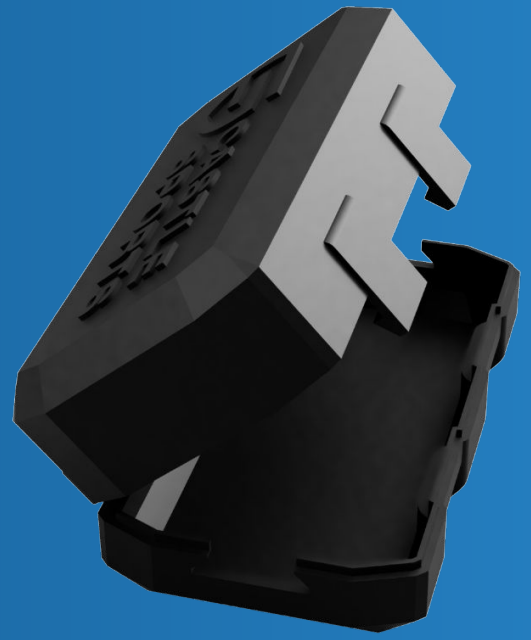
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Functional Ratchet Casing

SUMMARY:

- Designed a protective casing for ratchets to prevent injuries
- Designed casing to hold ratchet securely and easy accessibility
- Designed for Injection Molding and ability to 3D print





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9 Square Classic

SUMMARY:

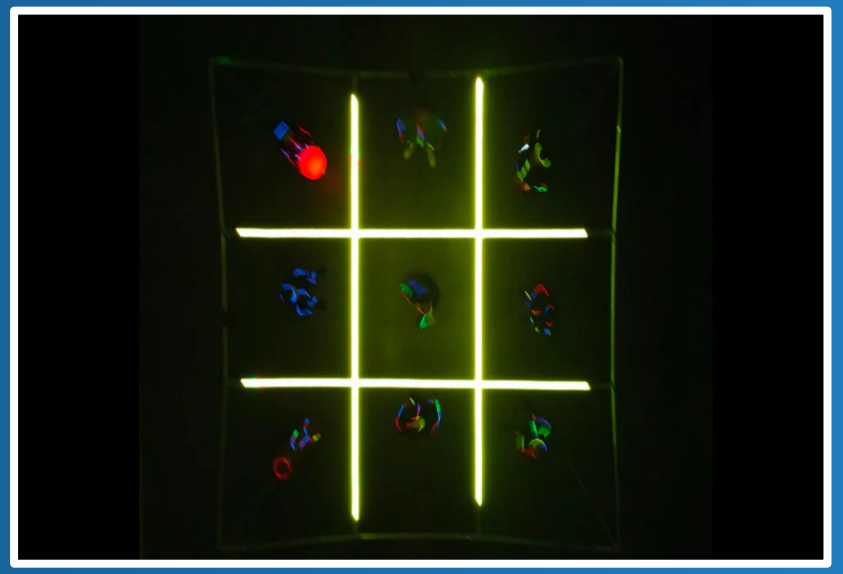
- Designed the full product — the PVC frame and all connector pieces
- Designed connector pieces for tool-free, snap-together assembly
- Designed the frame to pack down into two carrying bags



See more at: https://castlesports.com/products/9-square-classic

RYAN PARCO

9 Square:
Light up Straps





SUMMARY:

- Created portable straps that can be used in the night time/ dark
- Made cost effective
- Allow playtime to be over 3 hours in a single use
- Designed Tech Pack for manufacturers and coordinate designs with them

See more at: https://castlesports.com/products/light-up-9-square-straps-1

RYAN PARCO

Pill Organizer

SUMMARY:

- Designed a custom multi-compartment pill organizer from concept to production.
- Created injection-molded parts with proper draft, wall thickness, and snap-fit features.
- Worked directly with the manufacturer to refine geometry and ensure smooth mass production.





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Innovative Flytrap

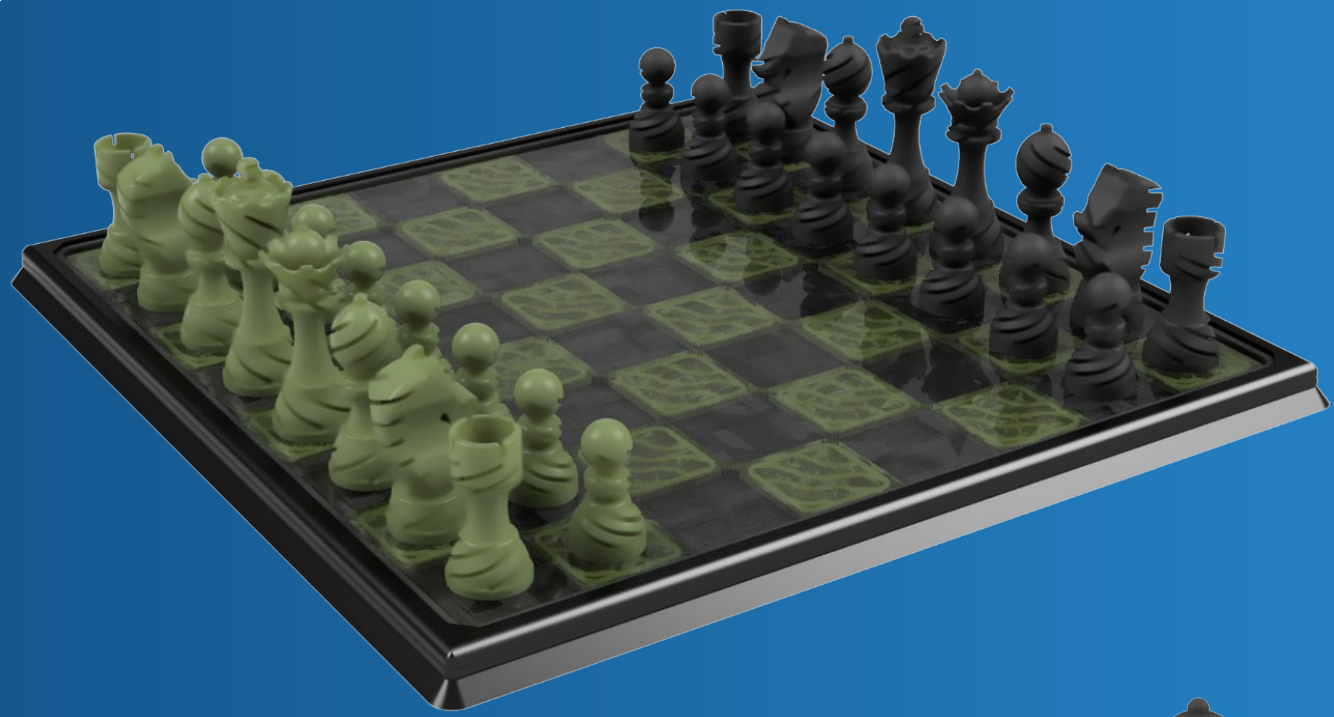
SUMMARY:

- Designed a custom fly trap with a screw-on lid and jar interface, focused on simple assembly and effective trapping performance.
- Engineered all injection-molded components, including the funnel geometry, venting features, and threaded connection for reliable sealing.
- Built and tested multiple prototypes through 3D printing to refine functionality, fit, and usability before preparing the design for mass production.



RYAN PARCO

Magnetic 3D Printed Chess Board





SUMMARY:

- Designed a fully custom 3D-printed magnetic chess set with simple, easy assembly.
- Added internal cavities for magnets to ensure smooth movement and balanced pieces.
- Iterated multiple prototypes to refine fit, tolerances, and overall usability.

RYAN PARCO

Custom Speaker

SUMMARY:

- Designed a fully custom speaker enclosure in wood, optimized for easy assembly and clean manufacturability.
- Engineered the internal acoustic volume, porting, and structural features to achieve the right sound characteristics and performance.
- Built and refined multiple prototypes to validate acoustic behavior, fit, and overall design before finalizing the model.





RYAN PARCO

Pocket Sun Design

SUMMARY:

- Designed a Concept for a Lightable Pocket Sun Keychain
- Designed packaging and Color selection
- Created realistic Renders to validate product





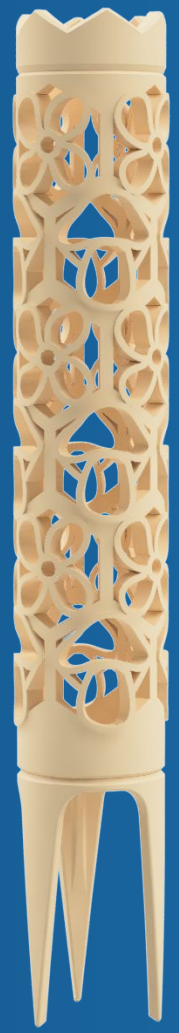


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3D Design for Bambu Printer

SUMMARY:

- Designed moss planter STL that can expand lengths
- Created design with flowers and mushrooms
- Made it functional and easily printed on a Bambu Printer





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Wood Frame for Digital E-Paper Clock

SUMMARY:

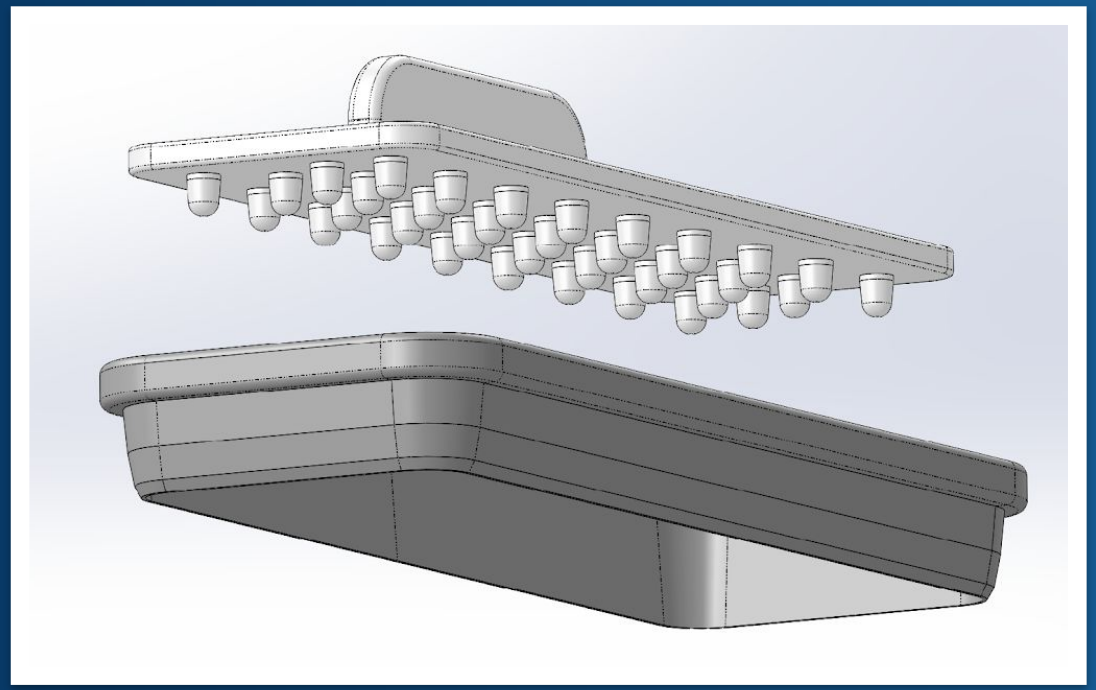
- Designed a wooden frame for a digital E paper clock
- Design must be functional
- Design needs to be aesthetically pleasing and manufacturable





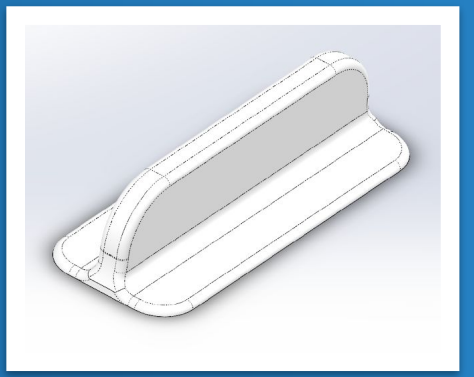
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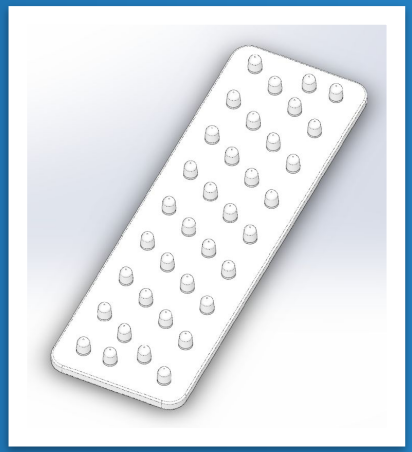
PARCO FOOD SOLUTIONS PROJECT

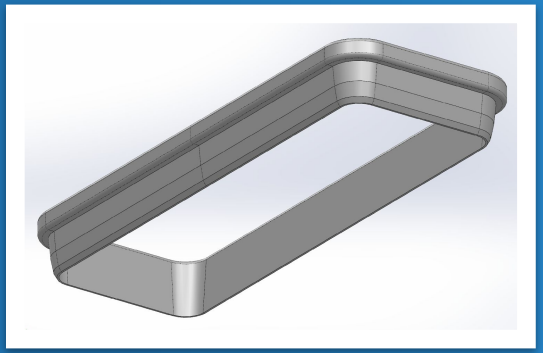


SUMMARY:

- Designed and 3D printed a working prototype for an ice-cream sandwich cookie cutter for Parco Food Solutions
- Prototype was used to cut and texturize cookie prototypes
- Followed dimensional restraints provided by BoDeans cookie company



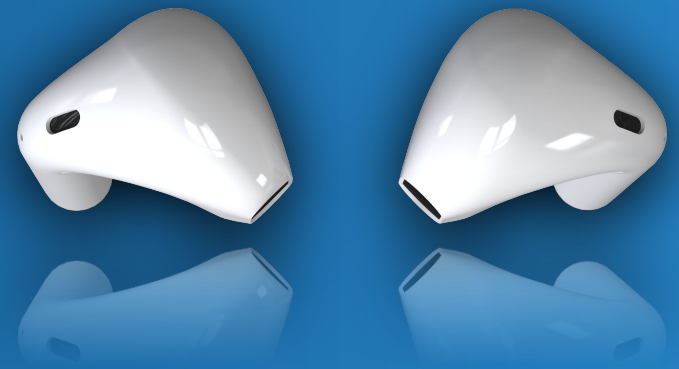




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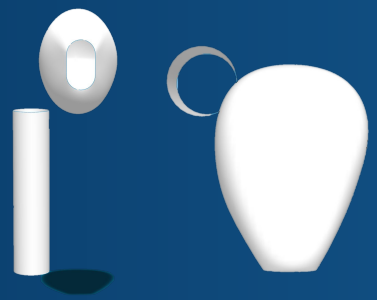
APPLE AIR PODS







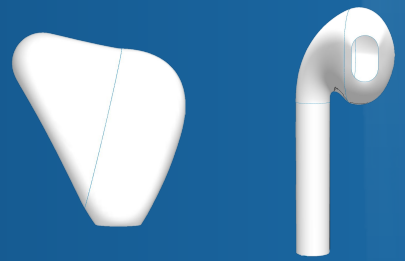
Extrude Surface



Lofted Surface



Trim Surface



Lofted Surface



Thickening + Details

CAD STRATEGY

RYAN PARCO

Other Projects Under NDA (Descriptions ONLY)

Modular Injection Molded Teddy Bear:

- Designed and prepared for DFM injection molding quote on modular Teddy Bear
- Made and designed over 10+ accessories for bear

Kids Toy Drawing Pad (with electronics):

- Designed and sent manufacturing drawings of injection moldable 5 part toy
- Included spots for electronics and wiring and followed toy safety compliance

DIY Photo Book Maker with Button:

- Designed manufacturable DIY book maker with wood and sheet metal
- Designed satisfying pressing button for user to have with DIY book maker

Other Projects Under NDA (CONTINUED)

Golf Trainer Mechanism:

- Design and Prototyped golf trainer with extrusions and applied telescoping mechanism
- Tested and determined strength through FEA

Robotic Finger Gripper Trainers:

- Designed trainer gripper fingers for robots to mimic.
- Created linkage system to copy motion of the robotic arm

Shadowbox Toy:

- Design and manufactured shadowbox that was made through thermoforming
- Made modular for easy assembly and cheap production