

# Product Design – Mechanical Engineering Portfolio

## Brad Collins

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## iFetch | 2011–2023

### Summary

- Worked as Lead Mechanical Engineer and Product Development Manager.
- Designed and oversaw production of five products for dogs from concept to completion.
- Worked with industrial designers, electrical engineers, branding & marketing, and overseas manufacturing groups.
- Managed lifecycle and sustaining support throughout each product line.
- Products won numerous awards including Best in Show at pet industry trade shows.

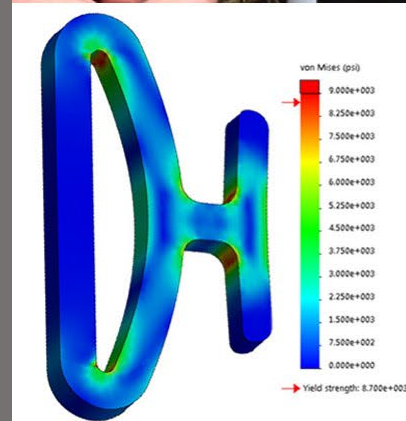


Clockwise from top left: electro-mechanical miniature ball launcher, gravity fed ball dispenser, two hybrid plastic & fabric digging puzzles, electro-mechanical tennis ball launcher.

# iFetch | 2011–2023

## Product Design

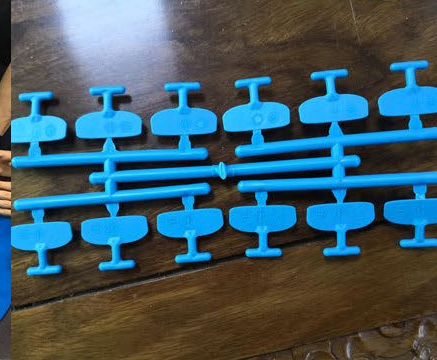
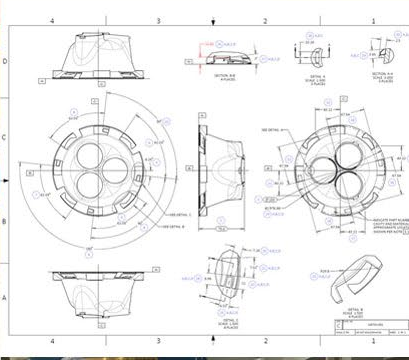
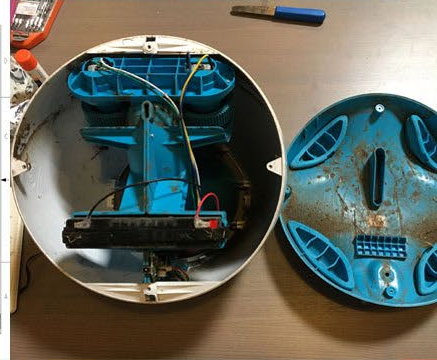
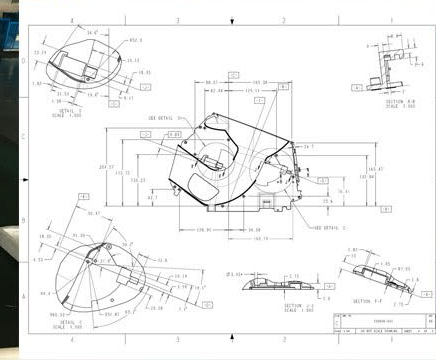
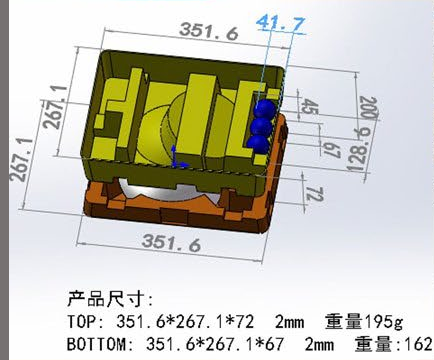
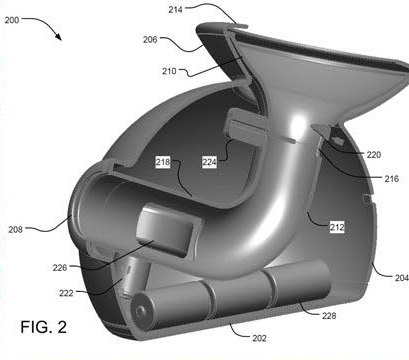
- Early product definition and concept exploration.
- Feasibility studies with both two- and four-legged customers.
- Designed, sourced, and tested all aesthetic and functional prototypes.
- Created and supervised all mechanical engineering in 3D CAD, using Creo Parametric and SolidWorks.



# iFetch | 2011–2023

## Production Ramp-Up Post-Production Support

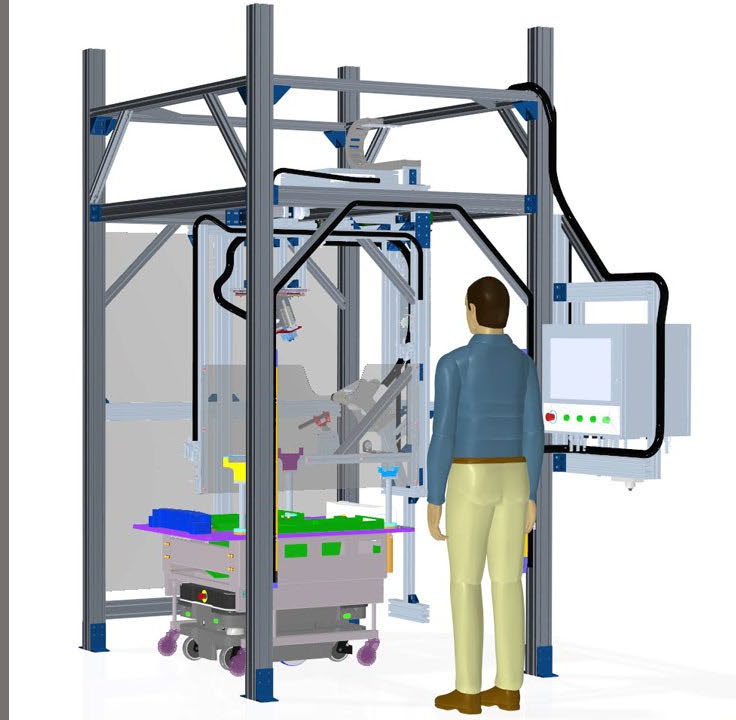
- Generated and oversaw all manufacturing drawings and documentation.
- Visited factories during ramp-up to ensure assemblies met all requirements.
- Worked with iFetch team to address any customer issues and returns.
- Technical sales and marketing support at industry trade shows SuperZoo and Global Pet Expo.



## Delacor | 2021

### Product Design Engineering Project Management

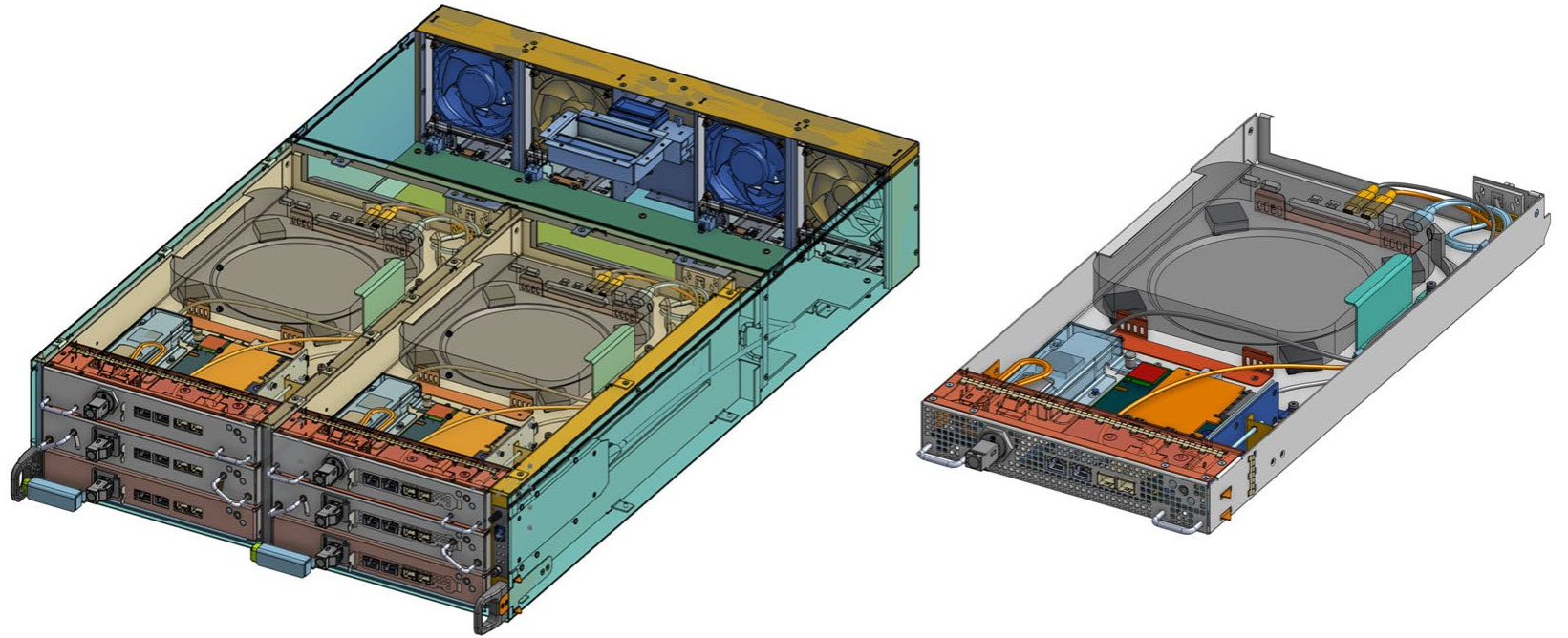
- Created and built two testing stations for an assembly line of a well-known exercise equipment manufacturer.
- Designed automated systems for testing safety factors: knob resistance calibration, drivetrain performance, and emergency stop validation.
- Collaborated with three mechanical engineers working concurrently in Creo Parametric.
- Sourced off-the-shelf components, custom-length metal extrusions, custom CNC-machined parts, and 3D-printed plastic parts.
- Constructed, tested, and validated station performance at client's warehouse.



## Meta | 2020–2021

### Product Design Engineering

- Designed sleds for Apple Mac mini computers to fit into network racks, allowing remote testing of software and apps.
- Developed sub-systems conforming to the Open Compute Project specifications.
- Used a top-down design approach, defining volumes and constraints via a shared master skeleton model.
- Used Onshape to collaborate in real time with Meta.
- Delivered solution using sheet metal and off-the-shelf purchased components, with allowance for scalability to higher volumes.





## Dell | 2007–2020

### Product Design Engineering Dell Enterprise Laptops

- Worked on 20+ projects with the Dell ME, ID, and R&D groups.
- Offered practical solutions to design challenges on enterprise laptops, servers, and storage systems.
- Implemented ID control surfaces in CAD for several laptop product lines, which were delivered to the engineering and manufacturing teams for detailed product implementation.
- Explored advanced manufacturing approaches to seamlessly integrate carbon fiber with CNC aluminum and injection molded plastics for lightweight, yet durable, laptop display backs.

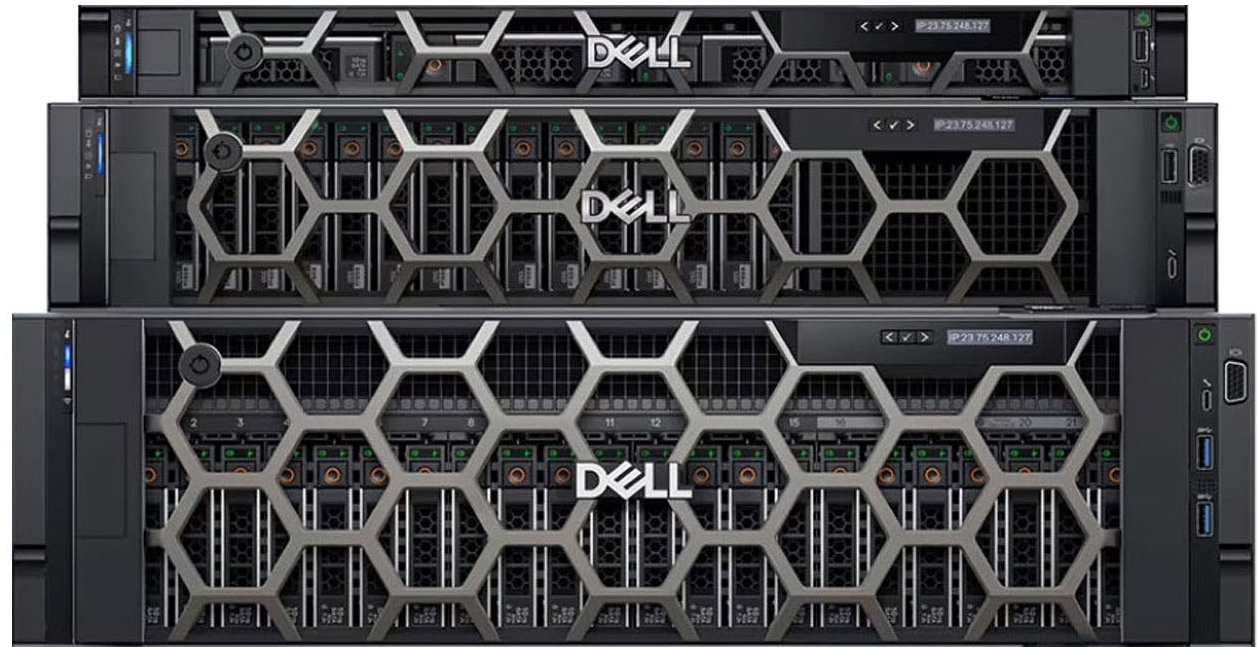
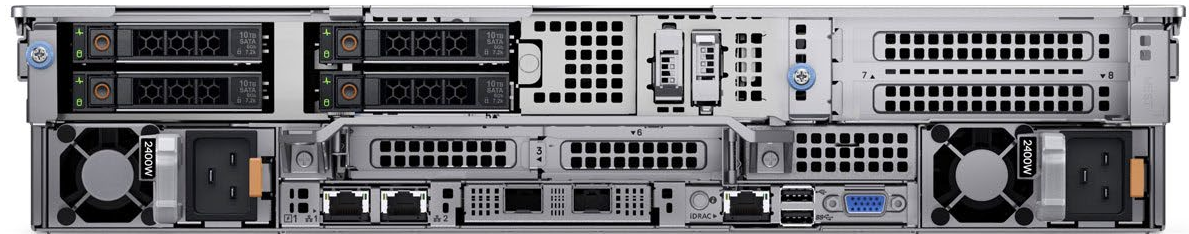




Dell | 2007–2020

## Product Design Engineering Dell Enterprise Servers & Storage

- Delivered solutions for network server bezels: latches, locking mechanisms, cost reduction, using recyclable materials, etc.
- Designed mechanisms housed in tight spaces providing high insertion and extraction forces for server modules.
- Developed proof-of-concept prototypes for LED light piping and status indication visualizations, wrapped within tightly packed components.
- Explored integrating Open Compute Project (OCP) servers with server racks built to the Electronic Industries Alliance (EIA) standards.
- Explored and envisioned the future of enterprise networked server and storage systems and how they should evolve.

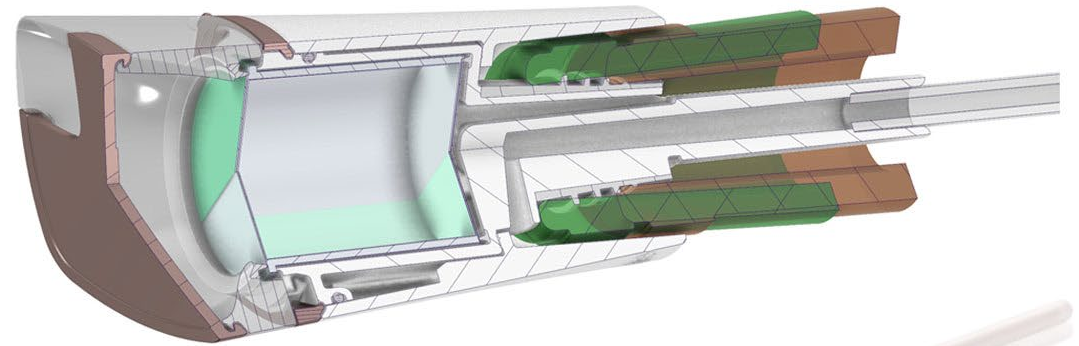




## PureWine | 2020

### Product Design Engineering

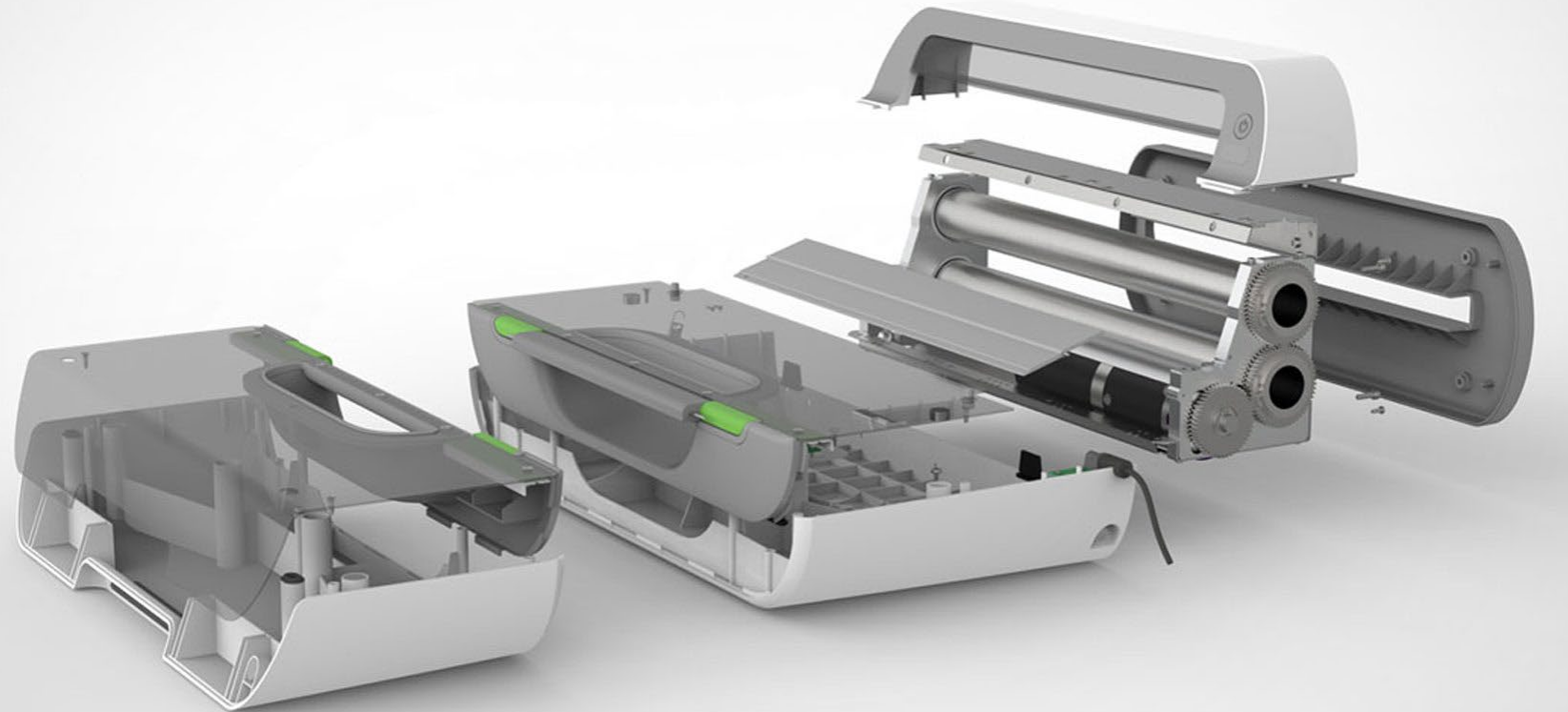
- Partnered with industrial design consultants to create a reusable wine bottle topper for filtering out sulfites and histamines.
- Creatively designed, prototyped, and tested solutions to land at a result nearly identical to the originally desired size.
- Preemptively designed for future cartridge design changes.
- Recommended manufacturing with ultrasonic welding, two-shot molding, and hidden snap features to hide functional elements without compromising functionality and elegance.



## AccuQuilt | 2013–2017

### Product Design Engineering

- Envisioned a motorized version of AccuQuilt's manual quilting fabric cutters.
- Iterated layouts with industrial designers to house the drive train within an ergonomic and portable system.
- Designed an automatic safety feature to pause and reverse the cutting process if touched near the cutting slot.
- Recommended a combination of injection molded plastics, sheet metal, die castings, and extrusions incorporated with purchased components.
- Supported the project from early concept development through overseas manufacturing site visits.



## Bluelounge | 2012–2013

### Product Design Engineering

- Collaborated with Bluelounge owner to develop elegant accessories for Apple products.
- Designed multiple phone stands and chargers that hid all assembly features.
- Delivered an articulating laptop stand that improved ergonomics and thermal cooling.
- Creatively designed, prototyped, and tested all solutions for cost-effective, manufacturable products at competitive prices.
- Worked with Apple's confidential disclosure of upcoming products, to deliver Bluelounge accessories in parallel with Apple product launches.



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