RSP Creates Wearable Active Fun for DigiBit

DigiBit Case Study - Part I

August 2017

How It All Started

Colt Correa and his family came up with the idea of DigiBit when a pair of light-up LED shoes stopped working within a matter of days of buying them. While trying to fix the shoes, the family thought of creating a wearable gaming system to keep kids active. From that point on, DigiBit became the focus for the Correa family, specifically Colt Correa, who has a very strong engineering background.

Why RSP as a Manufacturing Partner?

With his engineering experience, Colt knew exactly how the printed circuit board (PCB) needed to function and generally how he wanted the product to look. However, he did not have the ability to manufacture DigiBit on his own and needed to partner with a company who could help bring his vision to life. It was through a common connection that Colt was introduced to RSP. RSP's expertise and experience in contract manufacturing and developing full turnkey solutions, including plastic, electronic assemblies, packaging and much more, made RSP an excellent fit for Colt and DigiBit.

Working Together

Colt brought his preliminary design of the assembly to RSP. From there, RSP engineers did a full design review and modified the design models in order for the parts to be manufacturable. After the design was approved, RSP manufactured the entire assembly including the PCB, plastic mold, springs, pins, instructions, and packaging.

When the first pieces went through quality control and testing, RSP and Colt realized that the clip was not robust enough to meet DigiBit's high standard for performance. From there, RSP worked hand in hand with Colt to quickly modify the design to be more durable. To do so, RSP modified the plastic tooling and tested different formulations of plastic to find the perfect solution. Additional changes made during the R&D process included selecting mid-mount connectors, creating a sleeker look, and modifying the packaging design; updates like these are a standard part of the process.

Creating the perfect product is difficult and takes time. But with proper quality control, competent engineers and designers, and strict testing procedures, RSP maximized the design of DigiBit to match Colt's vision.

According to Colt, RSP has been an asset to DigiBit during the past year of their working together. The key to their successful relationship, he says, is that RSP serves as "a 'turnkey,' 'single point of contact' company for all of DigiBit's needs, from design services to electronics, packaging and enclosure manufacturing."

How Digibit Works

DigiBit comprises two small clip-on devices, worn on both feet or hands, that gather a user's movements as information. For example, to play the game "DigiBit Dash," a user wears a clip on each shoe, which allows them to run down a virtual school hallway to escape from a bully. The idea of the game is to dodge obstacles while jumping, stepping right or left. Unique to DigiBit technology, users can even split their legs to avoid an obstacle blocking their path, making the object go between their avatar's legs.

In order to collect the movements, each DigiBit has a PCB with special sensors to measure linear acceleration space (back and forth, side to side and up and down). The algorithms, which collect the data, run 100 times faster than a human can sense.

What's Next?

DigiBit is hard at work promoting their product, promoting their product, diligently tweaking and developing new software before mass production begins. Once those items are finalized, RSP will manufacture production components and assemble the units and package them for retail. RSP also has the capability to help with order fulfillment and logistics.

How Is RSP Unique?

The challenges that inventors and entrepreneurs like Colt experience when preparing prototypes for mass production are not uncommon. While each product has its own challenges, RSP's vast experience in a variety of materials, markets and product types makes us a leader in turnkey solutions, uniquely qualified to see the R&D process through and bring innovative products like DigiBit to market.

Our engineers understand the requirements of manufacturing when designing a product. Thus, we do a full design review and apply our expertise up front to avoid problems down the road. However, when challenges do arise, RSP follows through, simply working with the customer to make timely adjustments and keep the project moving forward.

This project was different than many because of the hands-on involvement of DigiBit's creator. Colt's diligent communication with our team in China and his on-site visits to our product design group allowed RSP to rapidly create a prototype. But while his engineering background and long work hours were helpful in speeding the process, it's not a requirement. RSP works with startups and inventors of all backgrounds, with solutions tailored to each product's needs. "Unlike most companies, RSP is responsive to the needs of the inventor," Colt says. "RSP has the proven ability and willingness to help small inventors and startups like DigiBit succeed."

If you have an idea of what you want to make, we can execute your plan from design to prototyping to product launch. You Dream It, We Built It.

Have a great idea? Contact RSP, Inc. today!