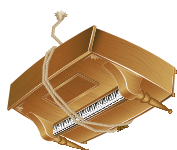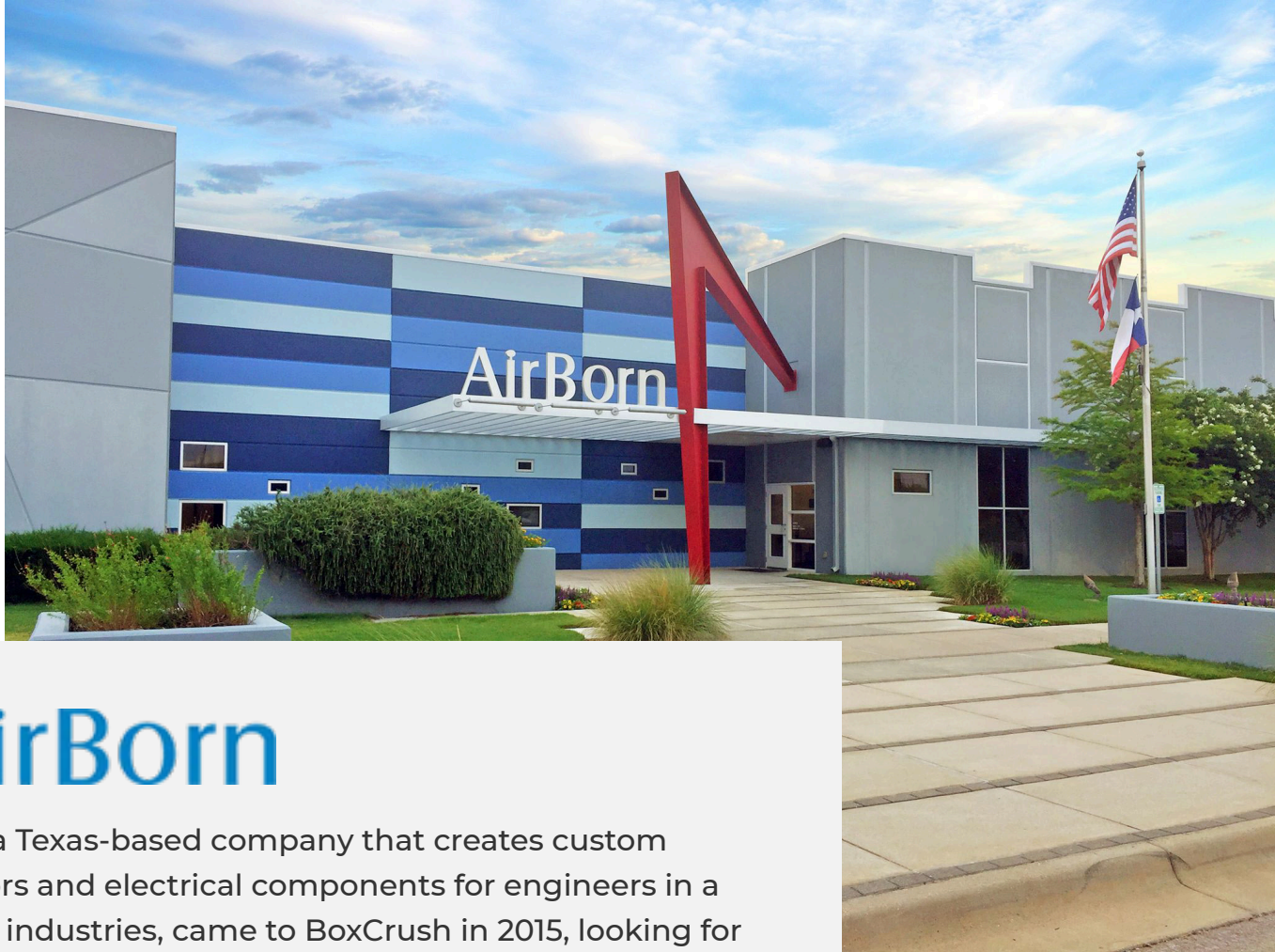# How BoxCrush **Increased Efficiency and Reduced Turnaround Time** for a Part Manufacturer
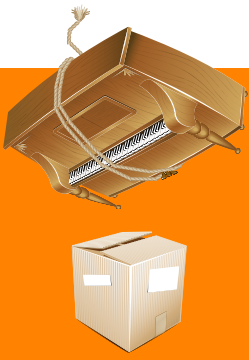
BoxCrush®

www.boxcrush.com

AirBorn

AirBorn, a Texas-based company that creates custom connectors and electrical components for engineers in a variety of industries, came to BoxCrush in 2015, looking for help with **two problems:**

1 The company had paid someone to create a custom part builder, but once implemented on the AirBorn website, this feature didn't function well.

2 AirBorn's competitors were showcasing 3-D part models on their websites, but with millions of components that could be combined in more than a billion product configurations, AirBorn hadn't yet determined how to render product images on their own site.

BoxCrush knew that improving AirBorn's website wouldn't be a quick project – it would require ongoing effort, focusing on the most urgent needs initially, and improving the website incrementally over time.

Improving the Process

BoxCrush's immediate objective was to debug the existing custom part builder and improve its performance. During this process, the BoxCrush development team identified three issues that were interfering with AirBorn's ability to deliver results for their customers:

Problematic Backend Programming

The parts AirBorn manufactures have several individual attributes – contact plating, number of rows, and wiring options, for example. The existing part builder contained a database of exceptions designed to prevent AirBorn's customers from selecting incompatible attributes, but the database's logic was flawed and did not apply exceptions within certain parts series. As a result, the AirBorn engineering team was receiving CAD model requests that were impossible to create.

The company was spending a considerable amount of time on back-and-forth file review between customers and the AirBorn CAD team, because of the custom part builder's limitations.

A Lack of Automated Processes for Online Requests

When a customer would request a CAD drawing via the part builder, that request would then go to an AirBorn employee, who would manually route the request to the appropriate department. The department would then forward the request to its CAD team to produce the drawing, and the completed drawing would then go a salesperson who would deliver the drawing to the customer.

Inefficient Processing of Phone Center Requests

AirBorn sometimes received CAD model requests via its customer service phone line. To process orders, a customer service associate would create a ticket for the request, the ticket would be assigned to an engineer, the engineer would create the requested design and email it to customer service and sales, and customer service would close the ticket after delivering the design to the customer.

The BoxCrush development team saw an opportunity to improve both this process and the online part builder's functionality.

The Solution

BoxCrush first resolved the database errors – customers would no longer be able to request CAD models for parts that could not be made. Then, using AirBorn's CAD design software, BoxCrush was able to shorten the timeframe between customer requests and CAD drawing delivery.

BoxCrush set up a web service and communication manager that could accept CAD requests from any source, eliminating several steps in the processing of orders. Customer requests from the part builder were relayed to the CAD software, which then created a rendering of the part and delivered it to the customer, copying the sales team on the design.

BoxCrush linked AirBorn's customer relationship management software with the web service and communication manager, so call center representatives could create a ticket that would automatically send a request to the CAD software for fulfillment and delivery.

Results

By streamlining the processing of customer requests, BoxCrush was able to reduce AirBorn's 24- to 48-hour turnaround time to roughly 10 to 30 minutes. The server's 24-hour availability helps AirBorn better serve its international customers, improving overall customer satisfaction.

The automation process reduced the number of requests for AirBorn's engineering department by approximately 30-40%, freeing up time for them to focus on customized product requests.

Generating Images

AirBorn's components can be combined in approximately 3 million unique configurations, so adding to the website a 3-D image of every possible combination wasn't feasible.

AirBorn needed an iterative, cost-effective method for displaying 3-D product images that could be launched as quickly as possible.

The Solution

BoxCrush set up a server that runs 24 hours a day that constantly searches AirBorn's CAD server and generates 3-D part images. As a customer begins choosing options from the custom builder, the software will show a preview of the 3-D part when it has collected enough information to match the request with an available image.

Some AirBorn parts may look identical, except for variables like colors of wiring, or materials. To reduce strain on the server and more rapidly deliver a rendering to customers, BoxCrush configured the custom part builder with placeholders that ignored any information non-essential to the 3-D preview image – for example, two customers requesting the same product, but with different colored wire and different product SKUs, might each see the same 3-D image.

Results

BoxCrush's approach to rendering 3-D product previews helped AirBorn remain competitive in a niche industry. Manually creating and adding images to the site would have been cost-prohibitive, but after the initial programming stage, the 24-7 server has been managing this task without the need for manual manipulation or human intervention.

Ongoing Improvement

After launching the first iteration of the part builder, BoxCrush continued to refine it, adding graphics for each component to make the part builder more visually engaging. Using responsive design techniques, BoxCrush also made the part builder easy to use on any device, including mobile.
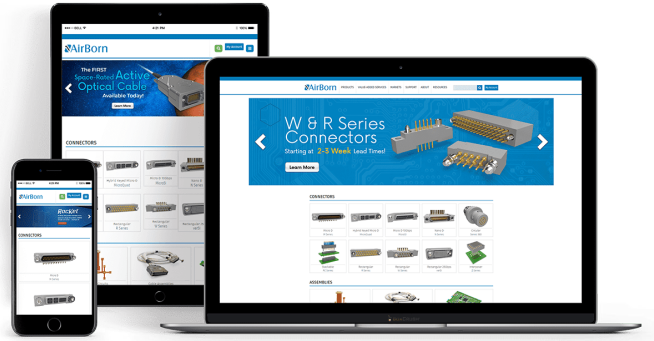
BoxCrush provides ongoing support and suggests improvements based on emerging web design trends, program interfaces, and security issues. Most recently, when AirBorn needed to upgrade its CAD software, BoxCrush upgraded the web service to ensure it continued to function seamlessly with the new version.
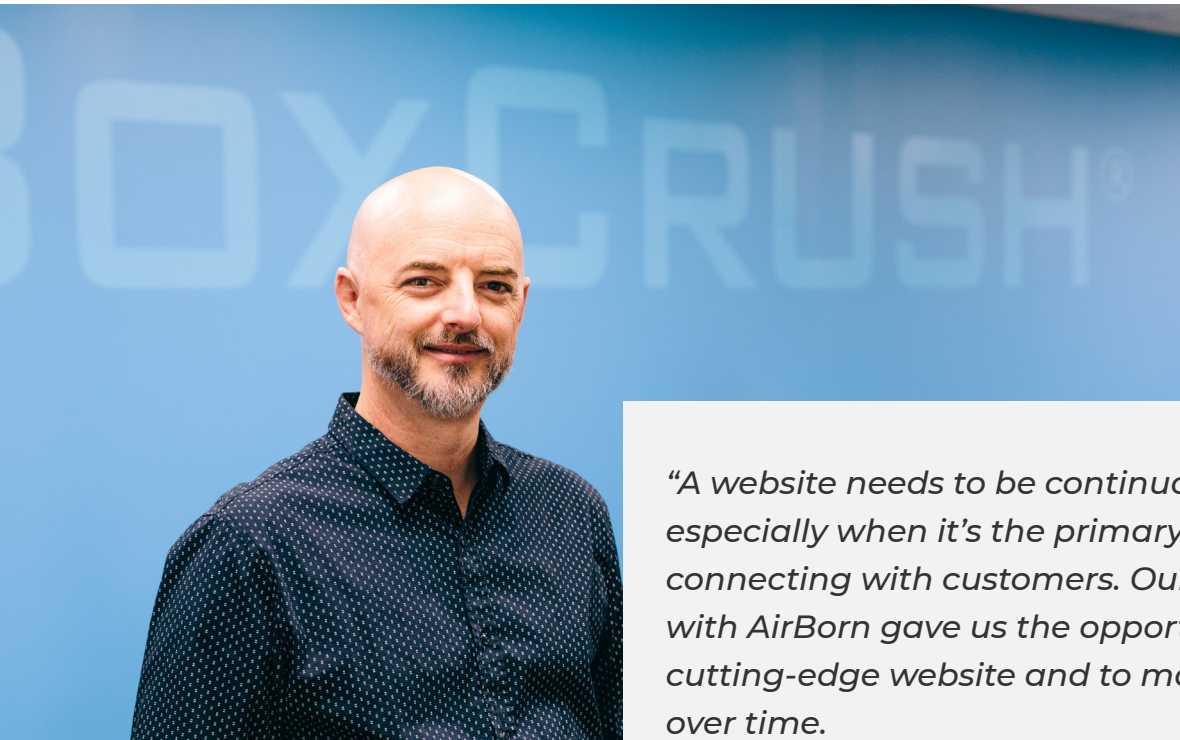
"A website needs to be continuously evolving, especially when it's the primary means of connecting with customers. Our partnership with AirBorn gave us the opportunity to build a cutting-edge website and to make it even better over time.

It's fun for us to think of new features – interactive elements or navigation, for example – that we can create to help AirBorn stay ahead of competitors. "

Dan Finney
BoxCrush Founder and President

Client Testimonial

"I have been working in partnership with BoxCrush for nearly six years now. I enjoy working with BoxCrush and recommend them to anyone and everyone.

We were recently at a technical conference where we were approached by a CIO of a large global manufacturer. He had researched our website and wanted to know how we created our part number buildup features on our site.

I proudly passed him the contact information for BoxCrush. But even beyond the business partnership, I find that it's the people that matter most.

Obviously, Dan and his staff are highly skilled. But it's also evident that they are friends as well as coworkers, and they share that friendship with many of their clients."

Mike Kramer
Director of Software Integration and
Web Applications, Airborn Inc.

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