



LIMITLESS POSSIBILITIES

Josh Shires and Mous
SOLIDWORKS Student to Product Designer



HOW IT ALL STARTED

How do you design a phone case that can withstand a gunshot? Survive a 45-foot fall onto concrete? Drop from the stratosphere and emerge unscratched? Josh Shires, co-founder and CTO of Mous, did it with SOLIDWORKS. And a lot of iPhones.

"We spend a lot of money on Apple products every year, essentially breaking them," he said. Josh breaks phones to test the Mous Limitless phone cases. The Limitless cases are slim, stylish, and lined with AiroShock™, a smart material that absorbs the energy of any impact and disperses it, leaving the phone inside unscathed. And the Limitless phone cases are often impacted.

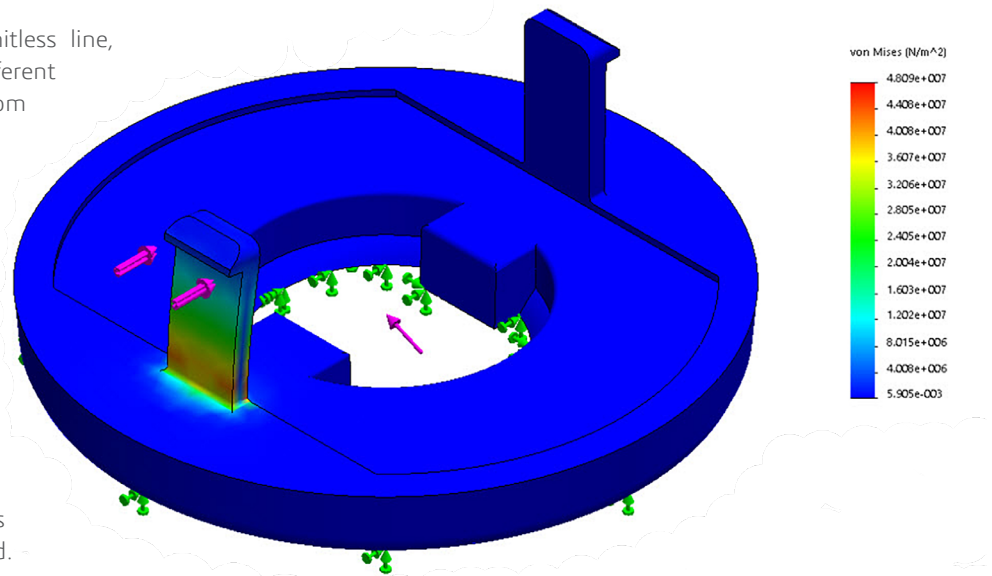


JOURNEY FROM SOLIDWORKS STUDENT TO ENTREPRENEUR

IMous is as famous for its viral marketing as it is for its incredible products. Search “Mous” online and you’ll find countless videos the company’s executives and YouTube influencers doing everything in their power to destroy the phone cases and break the iPhones. It’s heart-stopping to watch a \$999, brand new iPhone X get thrown in the air and hit the concrete. But with the Mous Limitless phone case, there’s no damage done. Just a phone case you’ve now discovered and suddenly desperately need.

Josh designed a product that’s been featured in Forbes, GQ, Business Insider, The Sun, and more. A multimillion dollar company, Mous is part of the SOLIDWORKS for Entrepreneurs program, and Josh uses the software and surrounding community to build his product and his business. Starting his engineering career as a student at Oxford Brooks University in Oxford, England, he now lives in China to be closer to production. It’s been a wild ride for Josh and Mous. We spent an hour on different sides of the world, discussing his journey from student to startup CTO.

Today Mous is known for its Limitless line, but the company began with a different phone case gimmick. Born from Josh’s frustration with losing his headphones on the bus to and from school, he began designing his first product: an iPhone case that could hold Apple EarPods and keep them untangled. Josh started learning SOLIDWORKS a year before he began university and used the software to design that first case. “I was still learning SOLIDWORKS, especially injection molding, and was just using basic features,” he recalled. He continued prototyping the phone case in school and after, eventually naming it “Musicase.”



After graduating, Josh worked Optek Systems as a research and development engineer. During that time, he realized he wanted to become an entrepreneur and create his own business. But he needed help. “It’s not real until you can say ‘we.’ I needed someone who was good at selling and good at commercials,” Josh said. “I’m not a very good negotiator, and I needed someone, a partner in crime, that complemented what I was not good at.” And at a networking event, he met James Griffith and found that partner.

In late 2014, Josh and James quit their jobs and started focusing on Mous and the Musicase full time. The Musicase was a cute phone case, marketed as the world’s smallest headphone storage case for the iPhone. Its design led to the company’s name: when Josh was rushing to launch the Musicase Kickstarter campaign and put together the CAD, graphic designs, and branding, he glanced at the back of the case. “It looked a bit like a mouse, like mouse ears,” he laughed. “On a whim, I called [the company] Mous.” The spelling is an homage to people with dyslexia, like Josh. As a child, he spelled ‘mouse’ without the ‘e.’ Mous launched their Kickstarter to market and sell the Musicase, and it was successful, bringing in over £12,000.

Then Apple AirPods happened. And just like that, the Musicase was obsolete.

Sort of. “There was actually a product that came out just as AirPods did, and it was nearly identical to a design that we were working on in 2015,” Josh said. The way he sees it, the Musicase really failed because it wasn’t mass market. Mous was trying to develop too niche a product, be too gimmicky, and continuing down that path with AirPods would have been another failure. So they went back to the drawing board.

By that time in January 2016, the four-person Mous team had moved from England to China to learn about mass manufacturing. After the AirPods discovery, they pivoted to a new design concept: create the world's best phone case. The most protective, the best looking, with the best accessories. The idea was to make a phone case that was both super protective and stylish; usually iPhone cases are one or the other, either ugly and strong or pretty and flimsy. Josh and his partners were determined to mix strength with style. And because they were already in China, they were able to design and prototype their new ideas on the factory floor.

Then something great happened: Josh and James attended SOLIDWORKS World 2016. "That trip literally, completely changed the game for us," Josh said. He joined seminars that taught him new overmolding techniques and other skills. Brimming with newfound knowledge, Josh returned to China and was able to design the Limitless phone case in a matter of months. After attending the conference in February 2016, Mous launched the Limitless Indiegogo campaign in November. "Essentially," Josh said, "going to SOLIDWORKS World helped launch a multimillion dollar brand."



With insights gained at SOLIDWORKS World, Josh Shires designed an industry disrupting product. He won't give any details about the creation of AiroShock™, but the smart material lining all of his phone cases has been a boon to Mous and led him to Limitless. AiroShock™ contains tiny air pockets and cross-linking polymer chains that absorb energy. It's a huge part of what makes the Limitless line so protective, but it's not the only thing that's made Mous successful. "AiroShock™ is a big contributor to what we're managed to achieve, but just thinking outside the box in terms of geometry and what plastics we use, the shape of those plastics, the fit, all of that [has also been important]," Josh said.

AiroShock™ lining their insides, the Limitless cases add a mere 2.3mm thickness to iPhones, keeping them slim and usable. The cases also have a small lip at the top and bottom, but lowered edges along the sides to give fingers easier screen access. The Limitless cases are built with real materials like carbon fiber, leather, walnut, bamboo, and shell to make them fashionable and functional. Josh and his team also created a Hybrid Glass Screen Protector that is shatterproof, anti-shock, anti-scratch, water repellant, and oil repellant. Mous phone cases have real engineering behind them, and it shows.

Or doesn't show, as it were. You can drop an iPhone from dozens of feet in the air, and if it's clad in a Limitless case, nothing will happen to it. The phone will be fine. Josh knows this because a huge part of his prototyping is smashing phones. "Every year it's a race to get your product out as the [iPhone] is launching, so you take a gamble on the data. The actual CAD data of the phone can get leaked, you're trying to find out what's accurate, what's not accurate, and you invest a lot of money," he explained. Mous invests that money in their own prototypes, of course, but also in buying iPhones. They break "a lot" of iPhones during testing—Josh won't say how many, but considering the beating a Limitless case can take, you can assume the number is very, very high.



In November 2016, Mous launched their Indiegogo campaign for the Limitless line. They were already manufacturing the cases by then, and they used the platform as a way to keep their cases in production, create a community to stand behind their product, and tell their story. Their campaign went viral, and over 50,000 backers raised 2.4 million dollars in sales: the world's largest iPhone case crowd funding campaign.

Back then, Mous was so small that CTO Josh edited the campaign video together himself. "We paid quite a substantial amount of money to a guy to create the video for us...and then we all reviewed it and it was absolutely terrible," Josh said. "I was like, 'Right, I'm going to have a crack at this.'" His edit became the basis for the personal style of Mous' famous viral videos.

"I do like the marketing, but nowadays I have nothing to do with it at all," Josh said. After the success of their Limitless Indiegogo campaign, the company rapidly expanded. In nine months, they jumped from five employees to fifty. And they're still growing. The growth in the past three years has been incredible.

With a larger team backing him, Josh Shires is now working his way towards being a technical and innovation head. But as CTO of Mous, a small startup with a growing number of employees, he has more managerial duties. When I asked him if he had any SOLIDWORKS certifications, he said no, because he's a manager and an entrepreneur and doesn't plan on working for anyone else again. But he is going to try to get some of his employees to take the certification tests. And he still likes to get his hands dirty.

"I'm always trying to push our engineering skills because that will help us build better products," Josh said. He assisted fellow entrepreneur Joshua Renouf with creating the Barisieur, a coffee-brewing alarm clock. "That's something I'm going to be growing moving forward, probably as a separate entity. We'll be like a technology company, and that will benefit Mous. We'll have all this technical experience, that we can then use to produce better products for Mous." Josh laughed. "It's more fun; there's only so far you can go with phone cases."

Rest assured, he's not planning on stopping with the phone cases any time soon. Mous is getting bigger and bigger. They're going to continue on selling phone cases, challenging the system, creating better products. The next logical step for Mous is to produce cases for more devices, like the Google Pixel and the Samsung Note. Mous also has a phone case accessory line out, with magnetic card holders, vent mounts, cables, and more. This past year they released their Clarity line of iPhone cases, a line of scratchproof, shockproof, clear cases. They're made from a mix of polycarbonate and TPU, and they are, of course, lined with AiroShock™.

Josh started his engineering journey with SOLDIWORKS and he continues to use it to this day. Mous participates in SOLIDWORKS for Entrepreneurs. He encourages other startups to join the program. "I think SOLIDWORKS is doing a great job of helping people in grassroots, helping people get in early and build a company, like I did," he said. He'd like to see an incubator or entrepreneurship fund in the future, which other companies who use SOLIDWORKS can give contributions. "I'd love to help people get to where I've got," Josh said. "If anyone needs help making stuff, get in touch."

Josh still turns to the SOLIDWORKS community when he needs help with a design issue. "You come across a problem that makes you want to jump out the window, and then you go on the SOLDIWORKS forums and someone had come across that problem before," he said. "You're constantly learning new things and learning about new features, especially when you start making things...We still use SOLIDWORKS for pretty much everything."

This year, Josh sent two of his employees to SOLIDWORKS World 2019, where they learned about new add-ons and picked up more skills. It's an interesting sort of cycle: three years ago, he and James attended SOLIDWORKS World and it helped them turn their business into a success. Now he's at the point where he can send his own employees there. And Mous is planning on buying its first full license. "We'll probably buy two," Josh mused.

When asked If you could talk to yourself in 2014-2015, what would you say? "Well done," Josh answered. "You made the right decision." Josh's advice for other students contemplating entrepreneurship. "You only fail when you quit. It doesn't matter if you run out of money, it doesn't matter if all of your employees leave you. You only fail when you stop doing it."

A lot of Josh's future plans are confidential right now. "We're working on a few little things at the moment. I can't talk a lot about it," he said. "The dream is work my way into making electric cars, but I think that's a little bit far away right now...the possibilities are endless."

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