

CREATIVE FUTURES

Meet the Designer
- Jane Ni Dhulchaointigh, sugru

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What is sugru?

Something that can make everything adaptable

As Einstein said "it takes a genius to make things simple". And it's in the simplicity (and versatility) of sugru, that this 'Blu-tack on steroids' really shows its genius. The mouldable silicone comes to life in the hands of its users - allowing users to cleverly fix broken spectacles, remodel uncomfortable garden spades with softgrip handles tailormade for the gardener, repair leaky trainers, firmly stick headcams onto cycling helmets ... the list goes on and on. You can see examples of sugru users' creativity and invention at www.sugru.com.

The idea for sugru came to design student Jane Ní Dhulchaointigh while she was a post-graduate research student at London's Royal College of Art (RCA). "I was making things with silicone sealants and sawdust, and started using the leftovers around the house. I modified a knife handle to make it more comfortable. My boyfriend said: "Imagine if everyone could do that - like with stiff jam-jar lids." It was a light bulb moment!" Jane, whose main work had been in sculpture, started looking for a mouldable, self-adhesive and self-curing silicone that would let people easily and affordably repair, improve or customise things they already own, and discovered that no existing product had these properties. So, working with an entrepreneur, with backing from the RCA, and technical expertise from retired silicone materials scientists, Jane invented the material herself.





The science behind sugru

With sugru, Jane and the team had developed “something that can make everything adaptable”. It’s the first product to enter the market using Formerol®, which has a combined range of properties unique among silicone materials. It can easily be moulded by hand; its plasticity (how mouldable it is) can be changed as required; and it incorporates moisture-activated curing, so hardens in contact with the moisture in the air; it adheres to metals, glass, ceramics, some woods and some plastics; it is waterproof, highly durable, insulating, heat-resistant to 180°C; and it cures at room temperature during a period of hours to give a smooth or textured non-slip surface.

The business behind sugru

The most challenging part of getting sugru off the ground was the money side. Jane and her team set up their own company, FormFormForm, which now holds the patents to sugru (or Formerol® to give it its trade name). “Being a creative person, that didn’t come naturally ... I had to learn,” says Jane, who reckons she pitched more than 100 times for investment, in the depths of the recession, until eventually two investors came on board. But surely the obvious way for a startup inventor-designer like Jane would be to go on The Dragon’s Den? Jane wasn’t tempted despite being invited to try. “My idea, my product ... and they’d have wanted 50 per cent!” she says.

Three patents, covering the US, EU, China and India, now protect all the key inventions behind sugru and Formerol, but it wasn't an easy path. As well as thinking like a business, Jane had to learn to be a lab technician, spending two years working on different combinations until she came up with the right material: it was 1000 hours of lonely work. Throughout it all, the community was hugely important. "Handing out samples to people, finding what they liked, what colours they liked, what uses they put it to. Everybody who expressed interest we followed up."

The company has been funded to date by its founders, the National Endowment for Science, Technology and the Arts (NESTA), private equity investment from Lacomp EIS fund, and a grant from the Technology Strategy Board. In June 2009 further private investment was secured from a senior executive of a major European manufacturing group based in Ireland. The new investor brings considerable international commercial experience to the team. "The key thing I've learned is it's all about collaboration, working with other people," says Jane.

sugru ... a new business model

New materials are generally developed by large chemical companies, but the story of sugru is a brilliant mix of DIY and collaborative R&D. A small team, working from an east London workshop, developed and manufactured the compound, then got the word out on the internet "to people who turned out to be as enthusiastic about it as we were". The team worked in their east London lab, bagging up packets of sugru and selling it online. "Once we'd sold some, that meant investors became interested and we were able to scale up from our little lab to our own factory - we're now producing 50kilo and 100kilo batches." Jane admits that this is a business model that couldn't have happened a decade ago.

For Jane, the biggest buzz is the emails, tweets and posts on sugru's Facebook page with the multitude of uses or "hacks" the growing community of users have found - and which they love sharing with each other. Pictures are always coming in: a much-loved wooden donkey with a new leg courtesy of the compound; a broken phone cradle now effectively patched; a remodelled perch for a bird feeder. At the end of last year, Time Magazine featured its top 100 new products of 2010 and sugru came in at number 22 - to Jane's delight, the iPad only made 34. But Jane says the plaudit that delighted her; the most came from a younger user via the Facebook site. A parent posted that: "my four-year-old broke a favourite toy recently and said: 'It's okay; we've got some sugru!'" For a start-up designer and entrepreneur, with an eye on world domination, "that's very cool!"





Jane's design inspiration

Jane takes her inspiration from some unexpected places. She talks about her family's farmhouse back in Ireland that has grown organically down the generations to fit the needs of the family with "ten extensions and counting". Then there is the ramshackle development lab at the world-famous Massachusetts Institute of Technology (MIT) where scientists knock down walls or cut holes in the ceiling to fit around their work. It's all about adaptability - design that can grow, develop and mould to its users. Neither was her route to success mapped out. At the Royal College of Art "I struggled, not being the best designer in the world" and she retreated to her comfort zone of working with materials. "Playful, messy, unscientific", as she says. She learnt a valuable lesson. Start with what you know, what's there, and play around with it.



Meet the Designer

Jane Ní Dhulchaointigh

Which design disciplines do you work in ... and why?

I invented sugru while studying design, and then after I graduated I set up a company with a group of other people to develop it. In the seven years since then we've developed the technology (together with materials scientists and chemists), the manufacturing and the design of the product, the brand and all the communications around it. We use a design process in everything we do.

What inspired you to become a designer?

I studied Fine Art Sculpture for my degree, and after a year of working as an artist I decided to do an MA in design because I wanted to use my creativity to make a difference.

What was your path from school to college to running your own business?

In school I loved art and biology, and after school I went on to do a foundation in Art & Design, which was fantastic because you could try out whatever you wanted and see which you enjoyed most.

What advice would you give to a 16 year old interested in a career in design?

Start broad, experiment and have fun - the most important things a

designer needs is an enjoyment and curiosity of finding out how things work, and a loose creative process that allows you to surprise yourself. As for getting started in design, it may appear difficult to find a way in but look at our story. I came up with an idea and worked it up with a small team. Everybody said it couldn't work, and that we'd have to sell out to a big company. We didn't listen.

What was the most crucial bit of your education?

My arts foundation course ... learning that "Why?" is the most empowering question you can ask.

You work for yourself. What are the advantages and disadvantages? How do you stay focused and motivated?

Working for myself is what I've always done; I don't really know another way. I have absolutely no problem staying focused or motivated; I'm on a mission to change the world! My problem is the opposite; I find it hard to stop working.

What's a typical day at work?

We are six people now in the team working on sugru, and there's no real typical day, but lots of it is spent chatting online with customers, and working on things to help people get the most from their sugru and become passionate improvers and repairers: this could be through making videos, giving talks, writing on the blog or a million other things.

What are the big issues affecting the design industries?

Climate change and other environmental issues mean that more and more of us are realising that we can't blindly buy into a consumerist way of life. We know we need to re-think and find ways to live more sustainably. And we hope we can help people not only keep their things longer, but also enjoy them more.



How did you come up with the idea for sugru?

I studied sculpture and it came from my experimenting with materials: mixing modelling clay, bathroom sealant and sawdust for instance. My idea was to make new things, but then I realised it would be much more exciting to allow other people to make new things.

Where will you and Sugru be in five years?

I hope we'll be still in the same place here in London, maybe double the size or so in terms of people but having grown sugru into a global brand and a household name. I can see sugru being as ubiquitous as super

glue, Duck Tape or Sellotape - just an essential part of every household's make-do, mend and improve kit. And think of all the stuff we can keep out of landfill along the way.

What are the key attributes for a successful designer?

You need openness, curiosity, creativity, to be a good storyteller. Why a storyteller? Because these are not just products; they are things for reimagining our lives, for opening up new possibilities, for seeing how things can be different, better. Everyone has those qualities inside them.

sugru lets you use/reuse/hack ... why is that so appealing to you?

People are basically smart and creative. Everyone knows when something isn't working very well, and given the chance many of us can see ways to make things better. I hope that instead of just getting annoyed by a badly designed product, sugru will actually help people be able do something about it. And it's not just about bad design. One of the exciting things about sugru has been seeing how people can take perfectly good products and take them a stage further, improve them. It's simple stuff but it can really unlock people's ideas.

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