

# Broken toys offer neat fix for skills shortage

**Rhys Blakely** Science Correspondent

When the parcel arrives, the remote-controlled car inside is broken. It is a scenario that could easily result in an unhappy child — but not this time.

The package has come from a British start-up that hopes to equip the nation's youngsters with an endangered skill: the ability to fix gadgets when they fail.

The aim is to encourage 10 to 14-year-olds to tinker with electronic devices and learn how they work, by sending them faulty toys that they have to take apart and repair themselves.

The company, Team Repair, has been

founded by five engineering graduates from Imperial College London. Having begun as a university project, its ultimate goal is to steer children into careers in science and to nurture a new generation of engineers and inventors.

"Every month, we'll send children an electronic gadget with a carefully planned fault," said Patrick McGuckian, 22, the chief operating officer.

"The idea is that they learn key repair skills, and that they also learn the science and technology behind how the components inside it work."

It is estimated that two million tonnes of electrical and electronic items

are discarded in the UK each year. "Meanwhile, the UK has a Stem [science, technology, engineering and maths] skills shortage costing £1.5 billion a year," McGuckian said. "We wanted to help solve those two problems."

The service — currently in a testing phase — will cost £28 a month, with each kit designed to keep a child occupied for several hours. The broken toys will include a retro games console, a radio, a walkie-talkie and a metal detector. Once a gadget has been mended, you post it back so it can be broken again for somebody else to fix.



Evelyn, daughter of Rhys Blakely, tries to repair a remote-controlled car

An app provides instructions on how to perform the repair, and also mini science lessons. To fix a remote-controlled car, for instance, you must replace a gear; along the way you get a lesson on the principle of torque.

Megan Hale, 23, the chief executive, says that the idea came from the company founders' memories of taking things apart as children, which she says set them on the path to study engineering.

Their early market research involved asking the users of the Reddit social media site: "Why do you think we don't fix things like our grandparents used to?"

"We got thousands of replies," said Hale. Many of them argued that too many of today's devices were not designed to be repair-friendly. "But another thing that people said is that they just don't have the confidence to take things apart."

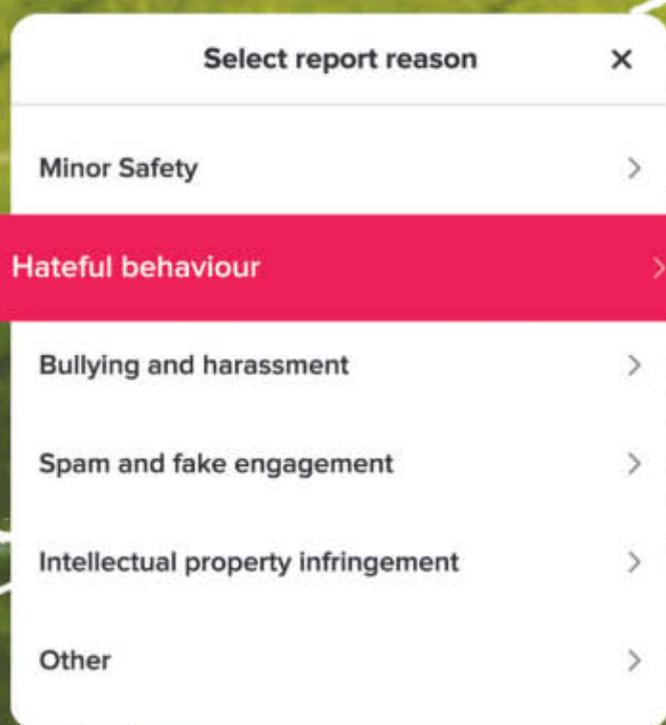
There are potential signs of a repair revival, possibly fuelled by the cost of living crisis. On Instagram, hashtags such as #makedoandmend and #repair have been attached to millions of posts. TV shows such as *The Repair Shop* have showcased renovation, and more than 200 "repair cafés" have opened across Britain where people can drop in to access tools and materials to help them fix items ranging from furniture and bicycles to electrical appliances.

Between 2004 and 2012, the proportion of household appliances that died within five years of purchase was estimated to have doubled. Britain is the second highest producer of electronics waste per person in the world, according to the United Nations University.

One study has calculated that extending the lifespan of smartphones and other electronics by as little as one year across Europe would save as much in carbon emissions as taking two million cars off the road.

"As a society we've been tuned to replace rather than repair," said McGuckian. "We want to encourage a different mindset in the next generation — and on top of that, we want them to be creative, to be engineers, to be inventors that solve the biggest problems."

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### First person

I enjoy taking gadgets apart. I'm interested in engineering and might like a job that involves design and technology, or to be a mechanic (writes Evelyn Blakely, 14). So I was excited to try the test kits. The best one was a remote-controlled car. It was nice to have something that was broken on purpose, so that it was possible to find what was wrong.

The app, which gives you instructions, wasn't quite finished in the version I tried but it was still easy to use. It explained how the car worked and mentioned things I recognised from science lessons at school.

It could inspire people to do more repairs. I definitely agree that we throw far too many electronic devices away. Lots of adults don't seem to take it seriously. Perhaps that's because they know it's my generation that will have to deal with their mess?

## Baddiel children's book to be big-budget musical

**David Sanderson** Arts Correspondent

Barry Bennett is ready to take to the stage next to Matilda and Annie.

David Baddiel has teamed up with one of the country's greatest singer-songwriters to bring the protagonist of his debut children's novel, *The Parent Agency*, to the stage as a big-budget family musical.

While a handful of successful musicals have focused on pre-teen girls, not enough focus on boys, according to the producers of the forthcoming musical.

"It is wonderful to have a boy as a central character rather than a girl," John Berry, the former artistic director of English National Opera who is the co-founder of Scenario Two production company, said. His co-founder, Anthony Lilley, said the erroneous assumption made was that "young girls like musicals more than young boys do".

They have recruited Dan Gillespie Sells — the frontman with The Feeling who wrote the music for the *Everybody's Talking About Jamie*, about a boy who wants to be a drag queen — to work with Baddiel on songs. Nadia Fall, the artistic director at Theatre Royal Stratford East, is due to direct.

Baddiel said he had only been in-

spired to write the 2014 novel after his then pre-teen son Ezra asked him why Harry Potter "just doesn't run away" from the cruel Dursley family he lives with in JK Rowling's books and "find better parents".

"I was immediately struck by the fantastically bold, childish idea that if you don't like the parents you can just go and find better ones," Baddiel said, before joking: "I wasn't troubled by the fact that my son had this thought."

Baddiel's book focuses on Barry Bennett, who is transported to an alternate universe where potential parents have to "audition" in front of children.

The musical, likely to open outside London next year, comes amid concern at the number of "jukebox musicals" such as *Mamma Mia*, which deploys Abba's back catalogue, and musical revivals, such as *Oklahoma*. The playwright David Hare bemoaned this week how "musicals have become the leylandii of theatre, strangling everything in their path".

Baddiel said that creating a new musical, such as *The Parent Agency*, was risky. He cited *Everybody's Talking About Jamie* and *Six* as two of the few examples in recent years of successful "new" British musicals.