

# Warwick helps students with disabilities 3D-print objects to ease their everyday lives

January 23 2014, by Anna Blackaby

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Hereward student Ollie Baskeran with the straw-holder he has designed and 3D-printed.

The University of Warwick is helping students with physical disabilities from a local college become their own product designers so they can 3D-print personalised objects that help them in their everyday lives.

Students at Hereward College in Coventry, located close to the

University of Warwick campus, are tapping into university expertise in additive layer manufacturing (commonly known as 3D printing) and adaptive systems so they can create assistive equipment that is adapted to their own personal needs.

By learning to use computer-assisted design technology through sessions with staff and students from the University of Warwick, a group of Hereward students with restricted physical movement have come up with solutions to every-day challenges such as eating and drinking which they can print out with the click of a button.

These include a bespoke straw-holder designed by a student with Muscular Dystrophy to help keep a straw in place when he drinks from a bottle.

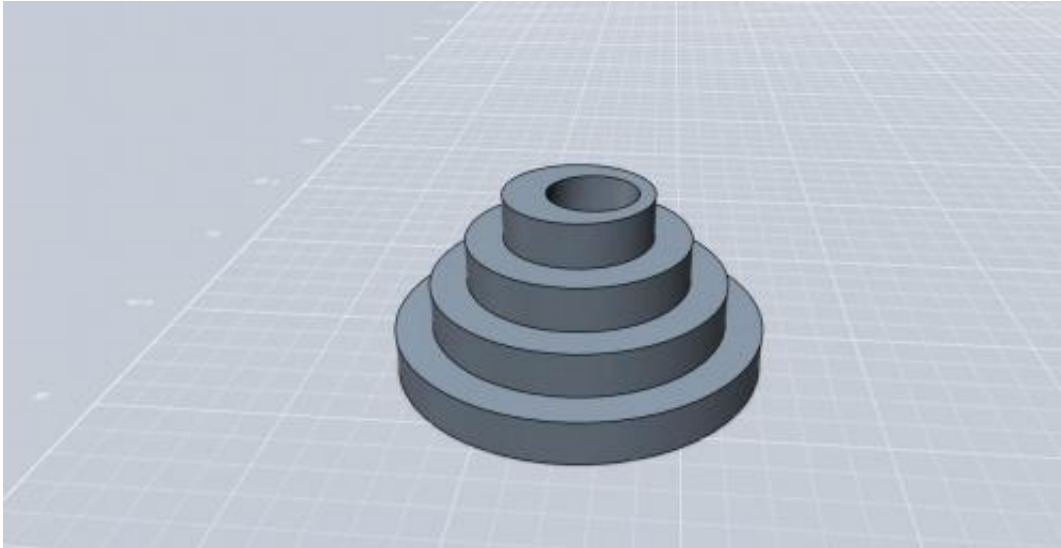
Twenty-one year old Hereward residential student Ollie Baskaran, from Leatherhead in Surrey, came up with the device together with the help of his tutor Russell Smith.

Shaped like a bung with a hole in the middle, the simple design allows him to enjoy a beer or a soft drink from a variety of different bottles.

He said: "I have limited strength and need to use a straw, but when you lift and tip the bottle at an angle, the straw moves around, making drinking difficult.

"I wanted to design something that would hold the straw in place and this was my brainwave. To be honest, I'm quite surprised nobody has come up with the idea before.

"The straw-holder just makes it ten times easier to enjoy a drink.



Straw support.

"We took less than an hour to get all the measurements we needed and to create the design, which then took about 20 minutes to print.

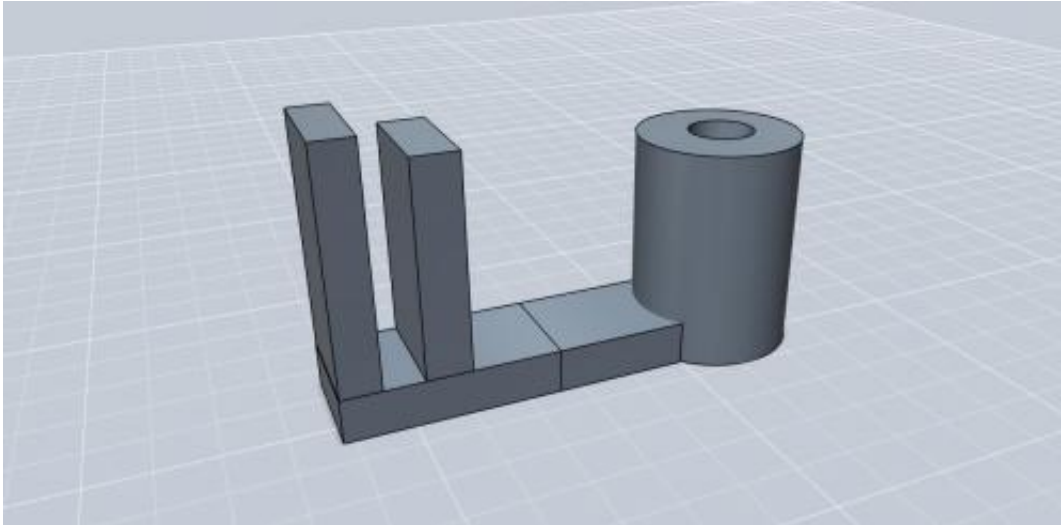
"Without 3D printing, I would never have been able to get the idea professionally designed and manufactured as it would have cost too much. This technology opens up so many possibilities to make life easier for people with disabilities."

Other Hereward students have created an adapted version of the straw-holder which fits into a wine glass and a personalised fork which makes eating easier for a student with limited muscle function in his hand.

The 3D printing project, entitled Engaging Young People with Assistive Technologies, has been running since September and has received funding from the University of Warwick.

It is part of a wider Warwick drive to engage with groups of learners who are currently under-represented in science and technology at degree

level.



Wine glass straw holder.

The project is delivered by two university departments – WMG, which has extensive expertise in additive layer manufacturing, and the Department of Computer Sciences, which has strength in adaptive systems (designing software and systems around an individual's particular needs) , in conjunction with the Access Research & Development Department at Hereward College. A 3D printer has been donated to Hereward College by 3D Systems.

University of Warwick Pro-Vice-Chancellor (Teaching and Learning) Professor Christina Hughes said: "Many people with disabilities have a variety of unmet needs where an off-the-shelf solution is not good enough

"At Warwick we have deep technical knowledge in computer sciences and product manufacturing but it's the students themselves who have

knowledge of disability and the challenges they and their friends face every day.

"By bringing together these two different types of expertise, we are seeing fantastic results as the [students](#) are able to solve some of these problems through this technology.

"This group of learners are currently under-represented in science and [technology](#) subjects at degree level, so we also hope that by inspiring them to create their own products, they might consider studying one of the STEM subjects at university."

Provided by University of Warwick

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