

The dish-washing robot

'Boris' built for £350k to help you clear the table

IF stacking the dishwasher is a chore you dread, help may soon be at hand.

For British scientists have developed a robot which they are training to complete that very task.

The robot, controlled by three computers, is named Boris and has cost £350,000 to build. And if that sounds like a huge sum to spend on something that performs a simple domestic chore – well, there's more to it than that.

Boris has enough intelligence to work out how to grip any single item put in front of it, a development which is a huge step forward in robotics.

Until now the only items robots could pick up were ones of a fixed size, placed in a fixed location.

While that is sufficient for most factory production, creating a robot which can pick up and manipulate any single item hugely increases its potential for use in industry, surgery or the home.

Professor Jeremy Wyatt, the Birmingham University computing expert who led the project, said loading a dishwasher was his main goal. 'That's not because I think that dishwasher-loading robots are an economic, social necessity right now. It's because it encapsulates an incredibly hard range of general manipulation tasks,' he said.

'Once you can crack that, once you can manipulate an object

By Ben Spencer
Science Reporter

that you've never seen before, you can do a whole bunch of different things.' Boris performed in public for the first time yesterday at the British Science Festival in Birmingham.

It reached out a thick multi-jointed aluminium arm and picked up a measuring jug followed by a dustpan before depositing them in a tray. Significantly, Boris has been programmed to figure out different ways to handle each object by varying the grip it uses – from the whole hand to a more delicate pinch-grip to grasp an edge.

Professor Wyatt said: 'The system allows the robot to assess the object and generate hundreds of different grasp options. The robot is able to make choices about the best grasp for the object, and it doesn't have to be retrained each time the object changes.'

The project, called Pacman, has been carried out with the universities of Pisa in Italy and Innsbruck in Austria, and is funded by the European Commission.

Boris's creators are now working with a Coventry firm to develop a version that co-operates with humans on the factory floor. A lot more work is needed, however. The next big step is to get Boris to use both arms and transfer objects from one hand to another.

