

# C-3PHoe the garden now please

Green-fingered robot developed by Capital researchers

CONOR MATCHETT

WATCH out gardeners, there could soon be someone else on your turf if robotics specialists at the University of Edinburgh have anything to do with it.

Developers in the Capital have created a self-navigating and automated gardening robot which goes by the name "Trimbot".

The robot uses cameras and 3D mapping technology to find its way around gardens and perform precise tasks with cutting tools including pruning roses and trimming bushes.

Video footage of Trimbot shows it expertly pruning roses while also traversing a grass lawn.

Scientists believe the green-fingered robot could be used in the future to maintain communal green spaces, support farmers and help people with mobility issues tend to their gardens.

Researchers created Trimbot by utilising the latest technologies in robotics and 3D computer vision techniques.

Trimbot also has five pairs of cameras to help it see and a flexible robotic arm, both of which are connected to an automated lawnmower made by electronics company Bosch.

The robot is also pre-programmed with a rough outline of whichever garden it is due to preen, helping navigation for the battery-powered device which then uses the 3D cameras to perform specific tasks.

Researchers created

computer algorithms which enable the robot to compare overgrown bushes with the "ideal" final shapes as it trims.

Using automated secateurs, Trimbot can prune roses by pinpointing the exact part of each plant's stem that should be cut.

Professor Bob Fisher, of the University of Edinburgh's School of Informatics, who

coordinated the project, said: "Getting the robot to work reliably in a real garden was a major feat of engineering. The eight partner teams developed new robotics and 3D computer vision technology to enable it to work outdoors in changing lighting and environmental conditions."

The four-year project, coordinated by researchers from the University of Edinburgh, was funded by the European Union's Horizon 2020 programme.

It also involved scientists from the Dutch universities of Wageningen University and Research, Amsterdam, and Groningen, the German University of Freiburg, the Swiss university of ETH Zurich and technology company Bosch.

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PROFESSOR BOB FISHER

