Off-road wheelchair for developing countries unveiled

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A group of students from The University of Nottingham have designed an off-road wheelchair to help disabled people cope with rough terrain in developing countries.

Built from bicycle parts and designed to be both cheap and suited to the off-road conditions of Africa the 'alternative technology' wheelchair has been created by a group of 4th year engineering students.

The wheelchair will be seen for the first time this Thursday 5 May 2008 at an annual exhibition of Year 4 mechanical engineering undergraduate group projects. The exhibition is being held at the Pope Building, Faculty of Engineering, on University Park.

Although many wheelchairs are donated to developing countries their ability to cope with rough ground and uneven tracks is limited.

Equipped with mountain-bike deep tread tyres, the 'alternative technology' wheelchair has been designed with front driven wheels and a small wheel at the back to stop it tipping backwards. This design gives the wheelchair extra pushing-power to improve manoeuvrability over mud and sand.

The project has been led by Dr Mike Clifford. He said: “Many wheelchairs are donated by charities for use in developing countries with the best of intentions, but the conditions they face are very different from in the UK. However, this wheelchair is designed with Africa in

mind.”

Every year the School of Mechanical, Materials and Manufacturing Engineering stages an exhibition of its 4th year group projects. It is a chance for staff to study the results in more detail as part of the student's final assessment before graduation in July. The event creates so much interest that for the first time the exhibition has been opened up to invited guests.

Among the other innovative designs will be a small scale wind mill — developed in collaboration with a Chilean inventor whose dream is to irrigate the Atacama desert by wind powered water pumps, this project questions the established mill designs and searches for new ideas for producing mills in developing countries. Also on show — a formula student racing car; a motor bike simulator to improve racing performance; a turbine blade for small sustainable wind turbines; a golf ball firing machine; a household rubbish compactor for recyclable plastic bottles and a specialist medical fibre which includes a suction grab and hold device.

Professor Tom Hyde, Head of the School of Mechanical, Materials and Manufacturing Engineering said: “We are very proud of the high standard achieved and have decided to open our exhibition to external guests this year so that industrialists can see the projects and talk to the graduating students.”

You can see more of the 'alternative technology' wheelchair at: www.test-tube.org.uk/videos/pa … fford_wheelchair.htm

Source: University of Nottingham