2012

Manufacturing and Design Engineering Students St. Mary's Hospital, Phoenix Park.

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Dublin Institute of Technology

students learning with communities

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St Mary's Hospital, Phoenix Park

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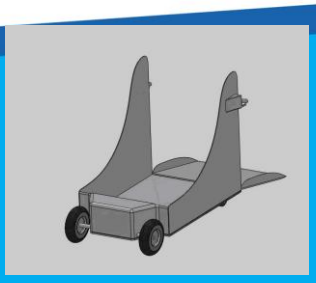
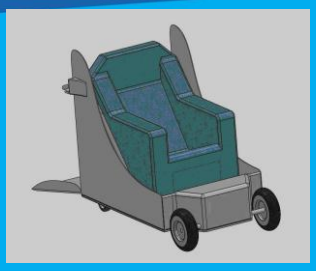

Background

Third year students in the B Eng (Honours) Manufacturing and Design Engineering course at Bolton St. completed a project in conjunction with St. Mary's Hospital, Phoenix Park.

The staff in St Mary's were experiencing difficulty in moving the Kirton Stirling chairs (pictured above). These chairs are used to transport elderly patients from one location to another. High levels of vibration were.experienced by patients using the chairs, while significant force by staff, was necessary to push the chairs across uneven ground.

The Problem and Proposed Solution

The problem was attributed, by students, to the relatively small size of the castor wheels on the chairs, and several options for remedying this problem were considered.

The students concluded that the most efficient and practical way to improve manoeuvrability of the chair was to alter the design of the chair itself. However, since the design brief given to students by the occupational therapy staff at St Mary's was to attempt to solve the problem without modifying the chair, the "Flat Bed Trolley and Ramp" design solution (pictured above) was selected instead.

This solution was tested and a model produced in order to demonstrate the concept to occupational therapy staff.

Summary

The project was beneficial on a number of fronts.

Firstly, the problem experienced by staff and patients at St Mary's was analysed and a design solution proposed.

Secondly, the students worked more cohesively as the project progressed. They also experienced in a practical way, how engineering problems can quickly become complex, and that legal barriers, regarding regulations and directives can be as difficult to solve as engineering problems.

A direct quote from the students' report on this project -

"It is a big challenge to get a fine balance between engineering, regulations and finances".

Students involved: Caoimhin 'Donnellan, Richard McEvoy, Eoin Howard, Rory Hughes, Philip Sheridan

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