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Lego Sumo Wrestling: Electrical Engineering Students Teach Programming to Children in Ballymun

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students learning with communities

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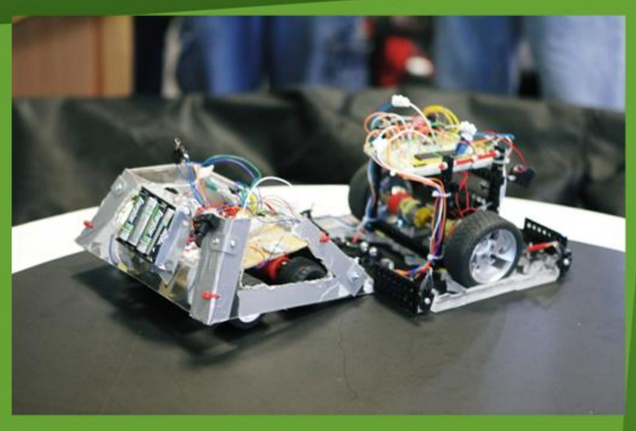

What's involved?

Engineering students from DIT travel to the Aisling Projects in Ballymun. They teach the children how to program Lego Mindstorms robots over the semester to prepare for The DIT RoboSumo Challenge: *find* the other robot and *push* him off the pitch! The children, aged 9 to 12, visit the DIT on the competition day. They visit the students in their labs and get to use equipment. After lunch it's time for the competition! Who will win the RoboSumo Challenge? The children get to see that Engineering is fun, challenging and rewarding.

The Children

There are four Aisling Project centres in Ballymun located near the local primary schools. The children go straight to their Aisling centre after school to get a hot meal and do their homework in a stable environment. Many activities are organised for them and one of these is to work with Lego Mindstorms robots.

The Students

They are in 1st of the B.E. in Electrical Eng. and 2nd year of the B.Eng.Tech. in Electrical Eng. In semester 2 they do a project-based learning module in which they design and build a robot for the RoboSumo Challenge. They can't use the Lego kits – too easy! They work in groups to tackle this open ended problem involving design, microprocessor programming, circuit building, sensing, motor control and testing of individual and integrated components.

The Partnership

Engineers love programming robots and the children love to play and learn. The students work in groups of 4 and each group is assigned to an Aisling centre. The students visit one afternoon a week during the semester and work with 4 to 6 children in each centre. They develop their own learning and teaching activities – they quickly realise the challenge of keeping the children engaged.

The students, who volunteer for this activity, act as role models for the children. They become very familiar with each other – they shortly realise they're just like all kids! The children get advice and help with the Lego Mindstorms kits. The students benefit by developing a range of personal skills. Cross contamination of ideas occurs between the Lego environment and the students project work fostering extra creativity.

The children get to meet young adults who enjoyed school, like maths and education and want to join the engineering profession.

The project has been running for three years and is a sustainable win win situation. The students have a skill, the children have the robots and the two groups work together. The project is easily scalable with extra students. We hope to work with other after school care groups from Dublin's inner city this year. All we need are primary school children, 3rd level engineering students and some Lego Mindstorms kits! Fun, learning and personal development naturally follow.

COMMUNITY LINKS PROGRAMME creating opportunity for all

Dublin Institute of Technology · D·I·T · Institiúid Teicneolaíochta Átha Cliath

NDP National Development Plan 2007 - 2013

HEA Higher Education Authority An tÚdarás um Ard-Oideachas

SEVENTH FRAMEWORK PROGRAMME

An Roinn Oideachais agus Eolaíochta | Department of Education and Science