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SHORT DESCRIPTION

Objective	<p>The goal is to design, develop and build a fish robot for kids to start learning programming. The robot should have one degree-of-freedom and be actuated by a low cost RC servomotor. The controller must be chosen considering the easyness of programming versus cost. All components must fit inside the robot body and the body is to be built using a 3D printer. The programming “language” should be adequate for kids.</p>
Requirements	<ul style="list-style-type: none"> – Use a minimal number of standard batteries (four 1.5 V AA batteries or one 9 V battery); – Create the project website to provide all information needed to replicate the robot (drawings, components, source code, etc.) in PT and EN as well as instruction scripts with some basic experiments; – Reuse the provided materials; – Use low cost hardware solutions; – Use open source software; – Comply with the Machine (2006/42/CE 2006-05-17), Electromagnetic Compatibility (2004/108/EC 2004-12-15), Low Voltage (2014/35/EU 2016-04-20), Radio Equipment (2014/53/EU 2014-04-16) and Restriction of the use of certain Hazardous

Substances ([ROHS](#)) EU Directives.

RELEVANT DATA

Maximum budget: 50 €

RESOURCES

ACADEMIC SUPERVISORS Abel José Duarte (AJD), Benedita Malheiro (MBM), Fernando Ferreira (FJF), Manuel Silva (MSS), Maria Cristina Ribeiro (MCR), Pedro Barbosa Guedes (PBG), Paulo Ferreira (PDF)

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