



Project funded by the EU Lifelong Learning Programme  
Project Reference No. 527877-LLP-1-2012-1-UK-ERASMUS-ENW

## SALEIE Student Project in Assistive Technology Project 1

<b>Project Supervisor:</b>	Dr Ian Grout	<b>SALEIE partner</b>	University of Limerick
<b>Project Title:</b> Hand gesture detection using the ADXL346 accelerometer for assistive technologies to support students with disabilities.			
<b>Project duration:</b>	2 semesters	<b>Project level</b>	Final year (year 4) undergraduate project
<b>Course Suitability:</b>	Bachelor of Engineering in Electronic and Computer Engineering		
<b>Project Description:</b>  In this project, the ADXL346 3-axis accelerometer will be used to interface to an Arduino UNO microcontroller system and personal computer (PC) in order for hand gestures to be read by the PC when the accelerometer is attached to a human hand. In this arrangement, the sensor will be worn by a student who will control the operation of the PC using hand gestures and the system would be worn by a student with physical disability which would limit their ability to use a keyboard and mouse arrangement. Hence, by using limited hand gestures, the hand will replace the role of the keyboard and mouse in specific applications. The system to design will be a hardware-software co-design and will demonstrate the ability to control a suitable PC application using the accelerometers.  This project links into the active <i>EU Lifelong Learning Programme "SALEIE"</i> (Strategic <b>AL</b> ignment of <b>E</b> lectrical and <b>I</b> nformation <b>E</b> ngineering in European Higher Education Institutions) and the work will be aligned to the area of assistive technologies to support students with disabilities.			

The project descriptions are provided and also the contact details of the project proposer for more information or to discuss potential collaboration. These project descriptions are provided as ideas for other institutions to develop projects in assistive technology. If you want to refer to these project ideas, we would ask that you acknowledge the SALEIE project as follows:

"This project idea was developed as one of the project proposals provided under the EU Lifelong Learning Programme "SALEIE" (Strategic **AL**ignment of **E**lectrical and **I**nformation **E**ngineering in European Higher Education Institutions). Project Reference No. 527877-LLP-1-2012-1-UK-ERASMUS-ENW Project funded by the EU Lifelong Learning Programme"

<http://www.saleie.york.ac.uk>

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