



**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 2

Project Supervisor:	Dr Ian Grout	SALEIE partner	University of Limerick
Project Title: Contactless PC interface using Hall Effect sensors and the Arduino UNO microcontroller system			
Project duration:	2 semesters	Project level	Final year (year 4) undergraduate project
Course Suitability:	Bachelor of Engineering in Electronic and Computer Engineering		
Project Description:			
<p>In this project, a 5x5 array of Hall Effect sensors will be used to interface to an Arduino UNO microcontroller system and personal computer (PC) in order for hand movements to be read by the PC when a magnet attached to a human hand passes over the sensors. In this arrangement, the magnet will be worn by a student who will control the operation of the PC using hand movements 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 motions, 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 magnetic sensors.</p> <p>This project links into the active <i>EU Lifelong Learning Programme "SALEIE"</i> (Strategic ALignment of Electrical and Information Engineering in European Higher Education Institutions) and the work will be aligned to the area of assistive technologies to support students with disabilities.</p>			

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"