Calling Applications for ITRCC Projects to be carried-out under

FSC32P2 (Undergraduate Research Projects)

2012

B.Sc Level III undergraduates who intend to follow FSC32P2 will have the opportunity to complete one of the following projects. Please note that the ITRCC shall interview the students and shall make the decision of assigning suitable students for these. In addition to these, students who have already registered for FS32P2 may submit their own proposals with the consent of academic staff member of the faculty for supervision (forms are available at http://paravi.sci.ruh.ac.lk/itrc).

Those who are interested in please send an email/ submit a letter clearly mentioning the title of the project (as mentioned in the list below) along with a copy of your recent CV to the Faculty Office or office@sci.ruh.ac.lk as soon as possible (before **20th February 2012**).

	Project Title	Industry	Description	No. Students required
1	ERP Solutions for Automobile Workshop Industry.	Automobile Repair/ Maintenance	This is a small scale local automobile workshop that carries out repair, maintenance and conversion of gasoline internal combustion engines to work with LP Gas. Required Solutions: • EPR Solutions for Customer Records and Book-Keeping, • Web advertizing • Proper management tools - involves computerizing the whole management system Requirements: Programming skills (Java, JavaScript, AJAX), some knowledge on the use of a business IDE and frameworks (e.g.	1-2
2	ERP Solutions for Apparel Industry.	Designing and making of garment.	• Needs software for customer records and book keeping • Web advertizing • Proper business tools - computerizing the whole business	1-2
3	Development of a Common Web Portal for business propaganda for small scale indsutries in Southern Region.	All	There is a common requirement from all the small scale private sector industries in touch with the Faculty to seek support, to get a Web solution to advertise their products (nationally as well as internationally). For this it is planned to purchase a domain name and develop a common platform which shall be available to each industry independently to make their propaganda for their products. For example, if the domain looks like, **biz.south.lk** an industry having the web identity say, Gas Car may be hosted as **gascar.biz.south.lk.** You can start with an available open-source code or may develop from scratch a solution for this.	1-2
4	Statistical Quality Control for Apparel	Manufacturing of	There are a number of small scale as well as	1

	Industry	Garment	large scale garment industries in the region. One of the main objectives of this project is to first study the available statistical quality control mechanisms (or any other such methods) adopted by these industries by making visits to these sites, understand the limitations and problems that are not handled by the existing methods and to propose/ develop alternative techniques for these.	
5	Development of the assessment module for Faculty of Science Management Information System (FOSMIS).	Higher Education	Faculty of Science (FoS) of University of Ruhuna (UoR) successfully manages its information system for course management via an open source solution developed from scratch as an ITRC project (2009) (named FOSMIS). The course assessment procedure leading to award of degree is yet to develop so the FoS invites two final year undergraduates to work on this: **Required Skills:** Basic knowledge in PHP, Ajax, MySQL, Javascript plus some exposure to working in any Linux distribution (basic knowledge on shell commands, shell scripting), web-server know-how (e.g. Apache).	1-2
6	Development of the FOSMIS for embedded systems and mobile phones.	Higher Education	There is a request from students to make a light-weight version of the FOSMIS available on mobile phones. This mainly involves conversion of existing codes to a light-weight version but in so doing we plan to make some major changes in the design of the system. **Required Skills:** Basic knowledge in PHP, Ajax, MySQL, Javascript plus some exposure to working in any Linux distribution (basic knowledge on shell commands, shell scripting), **web-server know-how (e.g. Apache).**	1-2
7	Continuation of the development of the MIS of the Zonal Education Office, Matara.	School and Education Management.	A couple of years ago the ITRC has launched a project to help develop the MIS of the Zonal Education Office Matara as a pilot project. Past gradaute of FoS has proposed the overall system who had been able to implement one of the essential modules. There are a number of components that required to be developed according the proposed design (e.g. the archiving system of teachers personal files). **Required Skills:** Basic knowledge in PHP, Ajax, MySQL, Javascript plus some exposure to working in any Linux distribution (basic knowledge on shell commands, shell scripting), **web-server know-how (e.g. Apache).**	1-2
8	Upgrading the "Papadam" processing unit	Freelan Enterprices (PVT)Ltd.	At present, most of the process is done manually, thinning the dough, cutting, etc. Drying needs to be done properly – electric drying makes them shrink and out of shape. - Needs to make the process more efficient - Needs to introduce a proper cutting mechanism - Needs a better drying technique	(All these problems are not to be addressed by one group – students can choose as they prefer) 1-2 per problem
9	Data entry and data management system	Freelan Enterprices (PVT)Ltd.	All production, sales, employee data are handled through different methods, some manually. Needs proper ICT solution to handle these tasks. (Computer science and/or industrial Math	1-2 students

			backgrounds are preferred)	
10	Waste management system	Freelan Enterprices (PVT)Ltd	At present a large amount of left over food and waste products are discarded without proper recycling mechanism. A Biogas unit would be ideal, if possible. Needs to study the amount and the type of waste products. (Biological and physical backgrounds would be good)	2-3 students
11	Automated pottery machine	S. N. Products	Need assistance to power the manually operated machinery used at present (b) Possibility of using gas ovens to dry products (c) Improve quality of clay for gas ovens (Chemistry and Physics background would be helpful)	1-2 students
12	Efficient measuring device to weigh small quantities like 50g, 100g, etc. needed for small industries		This device is needed for packing of spices, bites, tea, etc. for small industries. At present they use, a volume based measurement, which is not so suitable. (Physics, electronics, knowledge is preferred)	1-2 students
13	Improving shelf-life of Cinnamon	Jayantha products	At present sulfur is used to improve colour, and to improve shelf life, but they prefer not to use sulfur, if a better method is available to reduce moisture content of cinnamon. (Chemistry, physics knowledge preferred)	1-2 students

Coordinator/ITRCC
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