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In This Edition

UG PROJECTS: ACQUIRING PROBLEMS

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In UG Projects, one of the most important steps in the design process is acquiring the problems for the project.

Students can learn better from the problems that are acquired from a client who needs and wants the problem to be solved. The client can be a medical, veterinary, dental, health science personnel, or medical device designer or manufacturer. The problems can also be acquired from research institutes working on various cutting-edge projects. This allows the students to work on real and not fabricated problem.

Additionally, students also develop their communication skills by way of posing their queries to the client and understanding client's precise description of the problem.

Further, "Since there is an interested client with a real need, when the prototype is ready for test, the student has a supportive client who will facilitate animal or human testing". [1]

There are many ways in which the real world problems can be acquired. One of them is that the institute/advisors send out e-mails/letters to members of departments in nearby medical schools, veterinary schools, dental schools, health science personnel, hospitals or medical device companies requesting them to suggest problems that biomedical engineers might solve.

In addition, various institutes call for biomedical engineering design contests every year like that of GE Edison Challenge, NI-YANTRA etc... These challenges can also be converted to students' project ideas.

[1] Course notes from DESIGN FOR BIOMEDICAL ENGINEERS at the University of Wisconsin Madison

Editorial

Bheemsain Rao

Academicians are back to busy life especially after a long summer holidays, festivals with the commencement of new academic sessions. Students either trying to find their feet in the new campuses or finalizing projects ideas, preparing notes and trying to look at campus recruitments etc.,

The excitement and newer plans did not spare even our editorial team and resulted in delayed publication of Sept., issue. Any way to gain momentum again, this issue covers continued article on UG projects and MSP 430 report and Healthex-10 from students' projects standpoint.

*Also introducing the community to a local industry **India Ultrasound** and distinguished personality Professor T G Krishnamurthy with the hope that it will be interesting to the readers.*

BEST WISHES !!!

HEALTHEX-2010

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An international exhibition focusing on hospital, medical & surgical equipments, materials, supplies and allied services was conducted from 16th to 19th July 2010 at the Bangalore International Exhibition Center. The show presented a complete range of equipment, materials, services, processes, systems, components, consumables which find wide use in medical surgeries, hospitals, clinics, and diagnostic centers across the world. This exhibition was organized by the Confederation of Indian Industries (CII) and Bangalore International Exhibition Services (BIES).Confederation of Indian Industries (CII) is a non-governmental organization which works to create and sustain an environment, conducive to the growth of industry in India. Bangalore International Exhibition Services (BIES) is a proactive organizer with a vision to conceptualize and organize focused trade fairs catering to key industry sectors.

Nearly 80 companies which are ISO 13485 certified exhibited their products in the four day fair. Some of the exhibitors were BPL, Philips, GE Healthcare, Apollo group of institutions, Drager, Medanta etc. The products or services included medical equipments, hospital supplies, medical software, critical care, emergency equipment, physiotherapy equipments, health insurance, rehabilitation aids and healthcare services, medical publications etc.

Many new products were displayed and modifications were made in the existing products so as to make it more user friendly for doctors with improved safety measures. For example, one of the companies exhibited a product named Viscope 100 which is a stethoscope with electronic display. It can give an audio-visual representation of the heart's mechanical activity in real-time. A Digital MacroView Otoscope was displayed which enables 30% more magnification than traditional Otoscope with capability to store digital images for enhanced documentation. There was a lot of innovation made in the neonatal care field as well. Fire retardant composite enclosures were made in incubators for better safety. Air disinfection equipments and sterilizers for surgical equipments were also on display.

Healthcare, which is a US$35 billion industry in India, is expected to reach over US$75 billion by 2012 and US$150 billion by 2017. An ideal platform to unveil various business opportunities for medical equipment manufacturers, Healthex 2010 showcased the latest medical technology and server as an encouragement to the medical fraternity to invest on modern equipments.

Call for Papers

International Conference on Systems in Medicine and Biology

Organized by IIT-Kharagpur

Conference tracks

-Advances in systems biology
-Informatics in biology and medical systems
-Clinical Engineering systems in medicine
-Instrumental in medical systems
-Traditional medical systems

Last date for Regular paper Submission: SEPTEMBER 17, 2010

For More details visit
http://www.icsmb2010.in/

INDIA ULTRASOUND

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The recently issued market survey report by industry analysis specialist GlobalData says that the Ultrasound market in India is set to grow at a CAGR of 13% each year to reach $250m by 2015.

India Ultrasound sales N' service is set be a big part of that by strengthening its core service as well as expanding its export business.

Started off in 1998 by its founder, Niranjan Kumar, India Ultrasound Sales N' service has come a long way from being just another ultrasound business venture. Initially involved in repair and maintenance of Ultrasound equipment and Color Dopplers, the firm expanded its operations at a rapid pace and is now India's first DOTmed 100 certified USA exporter. Their core competency lies in buying quality machines and refurbishing them to full operational capability for resale. This, coupled with their wide supply network, experienced support team comprised of engineers as well as clinicians, customer satisfaction as well as innovative services is the secret of their annual growth at 35 percent.

Export is a vital branch of the company's portfolio and takes credit in the rapid expansion of the company. With the help of the internet and specifically the online medical equipment marketplace DOTmed, the company has reached out and offered its services to countries like USA, Australia, South Korea and Japan. Recently in 2008, it leapt into the market of Ultrasound spares and this has further enabled the company to successfully establish itself as a leading player in the Indian Ultrasound market.

LOW POWER EMBEDDED SYSTEM USING MSP 430

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A three-day Faculty Development program (30th Aug -1st Sep) was organized by the Department of Medical Electronics, MSRIT Bangalore, in co-ordination and support from Texas Instruments, India and Cranes Software International limited India, which was flagged off by Dr. C.P. Ravikumar, Technical Director of University Relations at Texas Instruments, India and Mrs. Padmini Sampath, General Manager MCU division at Texas Instruments, India on 30th august 2010.

This workshop mainly focused on MSP 430 which is an ultra low power 16 bit RISC mixed signal processor from Texas Instruments. The FDP as scheduled for three days started off with "Advanced applications of microcontrollers" by Dr. Bheemsain Rao, Professor and Head of Dept. of Medical Electronics, MSRIT followed by "Comparative study of microcontrollers" by Mrs. Prabhu Ravikala Vittal, Asst. Professor, Dept. of Medical Electronics, MSRIT.

The remaining sessions were an intensive hands-on sessions engaged by Mr. Gnanaguru M, Mr. Vaseem K M and Mr. Ismail Nagnoor, coordinators from Cranes Software; these sessions delivered firsthand experience on programming and exploiting various features of MSP 430 such as, utilization of built-in temperature sensors and LCD controller, interrupt driven programming, on chip ADC and DAC applications and programming, utilization of on chip RTC and Demo on Heart Beat Monitoring and wireless sensor networks.

On the whole this workshop gave a brief idea about hassle free interfacing, working of MSP 430 and also IDE used for programming, debugging and deployment of the device. Faculty from various institutions and domains participated and learnt about versatile features and widespread applications of MSP 430 in the field of Medical devices and wireless sensor networks, etc.

PROF. T. G. KRISHNAMURTHY: IN RENOWNED REFERENCES BOOK

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Many thousands of biographies from a wide variety of sources are investigated by the Research and Editorial Departments of the International Biographical Centre each year for inclusion in renowned reference books. A select few are those of individuals, who have made a significant enough contribution in their field. One of the contributors to excellence is Prof. T. G. Krishnamurthy, a HRC Technologist, who is also a Gandhian. He is now a listee of the IBC Leading Scientists of the World 2010.

Graduated in Science from the University of Mysore, Prof. T. G. Krishnamurthy completed his PG in Electronics and was a Senior Research Scholar, Department of Biophysics, AIIMH. He has been a HRC Technologist ever since 1965. Actively promoting HOLISTIC Medicate education, he is involved in planning, coordinating, promoting and propagating a wide range of topics in the areas of HRCT, YOGA, Naturopathy, Paramedical education and training. He is associated with various governmental and non-governmental agencies to promote communal harmony on local, regional, national and global levels.

He strongly believes that YOGA, Naturopathy and Meditation are bound to impact health care systems all over. He aims at channelizing and utilizing the strong youth of our country to achieve cost effective, time bound and humanitarian targets based on Gandhian vision. Secretary and Treasurer of the Clinical Engineering Society, Prof. T. G. Krishnamurthy has initiated various missions which have brought about a Gandhian, peaceful and techno-social transformation resulting in improving the quality of life of all levels of people.

Forthcoming Events

National Conference on Molecular Medicine & Nanobiotechnology

Date: 13 to 14 October 2010
Place: Nimhans, Bangalore, Karnataka
Further details
http://www.abhyuday.co.in

International Conference on Frontiers in Biological Sciences
InCoFIBS- 2010

Date: 1 to 3 October 2010
Place: Rourkela, Orissa, India
Further details
http://nitrkl.ac.in/conference/conference_welcome.asp?cid=22

1st International Conference on Applications of Small Angle X-ray Scattering (SAXS) in the field of Nanoscience and Nanotechnology

Date: 23 to 24 October 2010
Place: ROURKELA, ORISSA, India
Further details
http://www.nitrkl.ac.in/

DAE – BRNS THEME MEETING on "Advanced Applications of Physiological Variability – 2010"

Date: 28 to 29 October 2010
Place: Mumbai, India
Further details
rkjain@barc.gov.in

South India Medical Tourism Conference 2010

Date: 10 to 11 October 2010
Place: Mangalore, India
Further details
http://www.indomedtourism.com

We will be glad to publish your views, reviews and expertise in the biomedical field. Send your articles to

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