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Making design work

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Though Indians are innovative design experts, they are at a loss when it comes to end-product marketing. Product Manufacture and Development Association, India, is trying to change that situation by encouraging student designers.

For details, log on to <http://www.indiadesignchallenge.com/> or, <http://www.pdmandia.org/> Tentative schedule: Registration: September 30, 2006. Submission of entries in specified format: November 15 Phase I presentation: December 20 -21, 2006. Phase II exposition of prototype: March 25, 2007 Contest only for manufacturable products (software products excluded from contest)

Photo: Arunangsu Roy Chowdhury



DESIGN DREAMS: A group of students of International Institute of Information Technology, Hyderabad, developing a low-cost, flexible and versatile mobile robotic platform (file photo).

Made in India. Designed in India. This is the striving of a small band of dedicated professionals looking to create Indian products that will create ripples internationally.

Put another way — an indigenous set of designer products that are conceived, built, prototyped, commercialised and marketed globally by Indians — that's the dream of the Product Manufacture and Development Association, India (PDMA-I).

In other words, PDMA's vision is to make India a hub of global design activity, innovative product development and to create a pool of leaders in integrated product and process development with a focus on improving the quality of life of people in the "bottom of the pyramid," says one of PMDA-I's leaders, K. Chandrasekaran.

Product design and development is a process that comprises several activities from concept to a state of market readiness. Starting with an initial inspiration of a new product, it proceeds to business analysis, marketing efforts, technical engineering, design, manufacturing, and validation of the product design.

Indians are good at having inspirations of new design, but to finally convert it into a market-ready product through a whole process is just not their forte, it appears, if you go by what Prof. Chandrasekaran says. For example, PDMA-I began earlier this year with a national-level student design contest.

It began with their sending the contest notification to over 400 colleges including IITs and NITs. "By online registration, we got 286 concept ideas, including 120 concepts from Tamil Nadu alone...," he notes.

"Then we asked the contestants to send in a two-page write-up (this we named Phase zero) asking the students to say why they thought the idea was innovative, objects of the project, how does it compare with any other existing product... But then we came down to only 26 write-ups. This showed how our youngsters were unable or unwilling to convert what that they thought was an innovative idea into a design concept," Dr. Chandrasekaran notes. The young men and women who sent in the 26 ideas were given time and asked to make presentations of their prototype.

The final phase was held a fortnight ago when the students made live demonstrations of a working prototype/software before an invited audience and a panel of judges at RMK Engineering College, Kavaraipettai.

No first prize

While all of them won Rs. 5,000 and a certificate, the first prize was not awarded to anyone.

E. Prakash, R. Narayanan, and V. Prakash of St. Joseph's Engineering College, final-year mechanical engineering college, got the second prize of Rs. 50,000 for designing a cost-effective hydraulically controlled knee (a major improvement on the Jaipur foot which is very rigid compared to the bamboo model presented by these students).

A bogus voting control system software, a slurry-based cooling vest that can be worn in hot season, an automated irrigation system, a design optimised instrument for ultraviolet-led water purification system, a stair climbing transporter and energy-efficient lighting for rural areas, were some of the major innovations presented and which won prizes at the final meet.

Dr. Chandrasekaran says the lessons learnt made PDMA-I decide to make this a national level annual event.

"We want to see why with all the creative talents and engineering skills available with our young students, there is a big gap in taking innovative ideas to engineered products that work. Does our design education content lack a practical bias?"

The PDMA-I aims at promoting a better understanding of the processes that can help India become a preferred global destination for new product development.

"Now we feel the initiative needs to gain more attention and publicity from engineering colleges. Before the final phase of the contest, we want to allot mentors for the contestants for providing the necessary guidance to overcome problems that occur between conceptualisation and final prototype stage."