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ht for mumbai
Awards
 2015
 CELEBRATING CHANGEMAKERS

For the awards, HT's jury whittled down a longlist of nominees to six finalists in two categories, Individuals and Organisations. Each of these 12 nominees will be profiled in this space every day. Today, we profile IIT-B professor Kannan Moudgalya for his mission to take IT to the city's less-privileged schools

When students learn their net v

FOR FREE Kannan Moudgalya's 'spoken tutorials' software aims to make IT students stuck with obsolete curriculum

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MUMBAI: Every year, Mumbai's colleges churn out hundreds of Information Technology (IT) graduates, and while there are plenty of jobs waiting for them, many of the aspirants lack the skills that make them employable, feels Kannan Moudgalya, professor, Indian Institute of Technology Bombay (IIT-B). The biggest problem, Moudgalya thinks, is the obsolete curriculum followed by some of the institutes.

To bridge the gap between the employment seekers and the jobs, Moudgalya started The Spoken Tutorial project, which uses audio and video programmes for instruction.

It recently received the best "Nurturing Employability" award from the Reimagine Education competition co-sponsored by the Wharton School.

Moudgalya started the project in 2010 to increase students' employability by honing their IT skills.

The project began with funding from the National Mission on Education through Information and Communication Technology of the ministry of human resource development (MHRD). In the five years since its inception, more than 13,000 students and teachers in the city and 9.9 lakh across the country have been trained in IT through these tutorials.

Moudgalya, a chemical and electrical engineer, became deeply involved in educational technologies and headed the Centre for the Distance Engineering Education Programme (CDEEP) at IIT-B in 2006. He made IIT-B courses



■ IIT-B professor Kannan Moudgalya has also developed a low-cost computer, Vidyut, which can be used in institutes that do not have computers.

PRASHANT WAYDANDE

available to the outside world and was approached by the MHRD for skill development through ICT.

"I proposed this idea to the MHRD to develop IT skills through online tutorials. The main reason for doing this is to make our children more employable," said Moudgalya, currently part of the faculty of chemical engineering at IIT-B. "NASSCOM (National Association of Software and Services Companies, an association of IT and Business Process Outsourcing industry) always said there was a shortage of programmers and several studies revealed that our country's graduates are not employable so we decided to bridge the gap."

Over the past few years, the

number of technical institutes and students graduating from them has doubled, but the jobs have failed to keep pace. Beseated by a flood of institutes and shrinking markets for their skills, the technical sector has become extremely competitive. But the academic curriculum is still outdated and does not match the industry requirements.

"When I was at MIT, Aurangabad, a prominent IT firm had come to our campus for placements, but they wanted students proficient in one aspect of programming, which was not included in our syllabus," said Chitra Desai, professor and head of computer science, National Defence Academy. "More than 30 students took up the course and this helped

place six students."

Around 630 original tutorials were developed in the form of 10-minute videos to teach programming languages, office tools, graphic and circuit design tools in a simple and interesting manner. Students, faculty members and working professionals contributed to the content. "Usually it takes 30-40 hours of instructions to cover the curriculum in C; Spoken Tutorial does it through 20 audio video tutorials of 10 minutes duration each," said Moudgalya.

The target audience is students, teachers, researchers and retired persons. "The unique thing about these tutorials is that they are fit for self-learning and once a student watches a video, he can hold a workshop for oth-

ers," said Moudgalya. "Every video is carefully scripted and subjected to novice checks to understand if a beginner is able to follow every step." They were also dubbed in 22 languages such as Hindi, and even Sanskrit.

Raj Patel, studying in second year, BSc IT, SM Shetty College, said he uses the spoken tutorials videos to learn various open source software and programming languages. Krishnaveni Haridas, an IT professional currently working as assistant manager with an international bank, said the tutorials helped face job interviews and tests with more confidence.

This year, Moudgalya's team has gone a step further, mapping the tutorials with the academic programme of different colleges. "Several colleges wanted to include our tutorials in their lab hours so we have mapped it with their curriculum and part of the lab hours are devoted to watching these videos," said Nancy Varkey, senior project manager.

Internet connectivity was yet another challenge faced by schools, said Moudgalya. "Schools might have internet connection, but they do not have the bandwidth to connect it to each and every computer."

For this reason, he developed offline tutorials, which can run on all the computers even without internet. "They can be downloaded via internet on one computer and then copied to others." He has even developed a low-cost computer, Vidyut, which can be used in institutes that do not have computers. "We have loaded all our content on this computer, it has a user friendly operating system (Linux) and costs only Rs7,500," said Moudgalya.

CATEGORY

INDIVIDUAL

NOMINEE

KANNAN MOUDGALYA

worth

n more employable

THE AWARDS

- The HT for Mumbai awards are a recognition of individuals and organisations that have worked tirelessly and selflessly to make life in Mumbai better. The parameters used to shortlist them were: the individual/organisation should have been active for the last five years, should have been a changemaker, should have had a positive impact on public policy and should have been proactive on an issue without waiting for intervention from authorities.
- The panel of judges comprised Neera Adarkar, architect and urban researcher; V Ranganathan, former chief secretary; Vidya Balan, actor; Soumya Bhattacharya, editor, Hindustan Times, Mumbai; and Pravinchandran Nair, deputy editor, Hindustan Times, Mumbai

» The content is neatly presented and very easy to understand.

LOHIT SAHU, founder-director of Physok learning solutions, which provides educational technologies to schools

» The software helps students to better understand abstract concepts.

AMARSING MAGAR, principal, Colaba Municipal Secondary School

TOMORROW

Pratham

HT SPECIAL AWARDS

T FOR MUMBAI POPULAR

INDIVIDUAL

UDAY DESHPANDE (01)

This mallakhamb coach who runs the Shree Samartha Vyayam Mandir at Shivaji Park has been teaching the sport there for 48 years. He holds free one-hour classes daily. A career Customs and Excise Department man, he is also former secretary of the Mallakhamb Federation of India.

HARAKHCHAND SAWLA (02)

This restaurateur from Nagpada feeds cancer patients and their families for free every day, outside Tata Memorial hospital. Many patients come from rural areas and live on pavements outside the hospital. From feeding 5 people 30 years ago, Savla's Jeevan Jyot Trust now feeds 600 daily. The trust also distributes free medicines for cancer treatment and toys for young patients. He currently caters for more than 40 people every day.

MAARK D'SOUZA (03)

This Borivli real-estate agent runs a free tiffin service for the elderly - mainly people too old or too ill to cook. He delivers fresh, home-cooked food to their doors every day. Many of his beneficiaries also live alone, so he helps them fill out forms, complete bank work, even drives some to doctors' appointments.

LAXMI TRIPATHI (04)

A member of the transgender community, Laxmi has taken on the onerous task of acting as the face and voice of India's marginalised hijras. From speaking at the UN to leading rallies for equal rights, she has pushed the boundaries of what is possible for transgenders in India. She and her NGO, Astitva, also mentor transgenders and help them complete higher education, acquire degrees and find work.

KANNAN MOUDGALYA (05)

This professor at IIT-Bombay has made it his mission to take information technology to less-privileged city schools. He has created software that allows schools to explore the Web even without a Net connection, so students can get first-hand experience of information and communication technology. He has also created open-source learning software that students can download for free.

BHAGVANJI RAIYANI (06)

His Forum For Fairness in Education has filed 44 PILs across high courts and in the Supreme Court. These include petitions about fund misappropriation in the Sarva Shiksha

ORGANISATION

SNEHA (07)

The Society for Nutrition, Education & Health Action tackles issues, including mal-nourishment, maternal and infant health and primary health care. They have been working in the city's most-neglected civic wards for more than 20 years. It was started by Dr Armida Fernandez, a paediatrician and neonatologist, who set up India's first milk bank at Sion hospital in 1977. The NGO now employs 360 people, works across slums in 12 municipal wards and recently expanded its purview to include Thane, Bhayandar and Kalyan.

PRATHAM (08)

Pratham's recent investigation into the use of child labour at the Sassoon Dock led the Maharashtra State Commission for the Protection of Child Rights to issue an order to the labour department to take action against the employers. Its Annual Status of Education Report offers valuable insight into the learning levels of students in rural areas.

MUMBAI GRAHAK PANCHAYAT (09)

Has worked single-mindedly to address consumer issues and protect consumer rights. Several times a year they also make available large quantities of household goods at minimal rates. They have taken their battles to court many times.

MUMBAI TRANSPORT FORUM (10)

Works on various fronts in the struggle to make the Mumbai commute more bearable. MTF has been working with traffic and transport authorities to reduce the traffic congestion. It has worked on issues such as making BEST buses more efficient to reduce cars on roads.

AWAAZ FOUNDATION (11)

For its work on environmental issues such as noise pollution, illegal sand mining and oil spills. It has also worked to promote more eco-friendly festivals and also convened an NGO movement named Mitra (Movement Against Intimidation, Threat and Revenge against Activists) for protection of activists.

NAGAR (12)

Nagar has waged a relentless battle to protect open spaces in the city. For 15 years, the group of citizens has been fighting for open spaces, played a key role in the