

## Newspaper Clips

April 22, 2014

Hindu ND 22/04/2014 P-4

# No long-term policy to check water-logging: IIT-Delhi

Special Correspondent

**NEW DELHI:** An expert committee headed by a professor of Indian Institute of Technology, Delhi, on Monday informed the Delhi High Court that there was no long-term policy in place to deal with water-logging in the Capital.

The committee in a report prepared by Prof. A. K. Gosain submitted before a Division Bench of Justice G. Rohini and Justice Pradeep

Nandrajog that de-silting of the drains was the only short-term effective way to deal with water-logging in the city.

The report further submitted that the Capital's drainage system and the available data on it were being analysed to frame a long-term policy to deal with the problem.

The report alleged that it was not getting required support from the civic agencies in the preparation of the policy.

### De-silting of drains the only short-term effective way

In the meanwhile, the Bench refused to give exemption from personal appearance to the Delhi Chief Secretary to explain the delay in submission of the expert committee report.

The Court had on April 16 directed the Chief Secretary to appear in person and ex-

plain the delay in submission of the report.

The Urban Development Department Secretary of the Delhi Government had sought exemption for the Chief Secretary. Dismissing the plea, the Bench asked the Chief Secretary to appear in person on Wednesday and explain the delay.

The exemption application explained the delay in submission of the report stating that it was not submitted un-

der the impression that it had been directly submitted in the Court by the committee.

The Bench has been hearing a bunch of petitions seeking intervention of the Court to have a permanent solution to water-logging. The Bench has asked the Government to prepare a long-term mechanism to solve the recurring problem.

The Government had set up the committee on a Court direction.

## Hindustan ND 22/04/2014 P-1

### किचन वाटर प्लांट : रसोई का गंदा पानी आएगा काम

आईआईटी के केमिकल इंजीनियरिंग विभाग के छात्रों ने 'किचन वेस्ट वाटर ट्रीटमेंट प्लांट' तैयार किया है। इसके जरिये रसोई में खाना पकाने और बर्तन साफ करने के बाद जो गंदा पानी बचता है उसे साफ कर



फिर घरेलू कामों में इस्तेमाल किया जा सकता है। इससे लाखों लीटर पानी की बचत हो सकती है। प्रो. सनत मोहंती ने बताया कि यह छोटा सा पंप है। इसमें केमिकल की मदद से पानी फिल्टर किया जाता है। दो चरणों में पानी पूरा साफ हो जाता है। जो गंद बचता है उससे बायोगैस बनाई जा सकती है।

## Hindustan ND 22/04/2014 P-1

### कागज प्लांट : मूंगफली के छिलके से कागज तैयार

आईआईटी के छात्र मूंगफली के छिलकों से कागज तैयार कर रहे हैं। वहीं, डीयू के सुखदेव कॉलेज ऑफ बिजनेस स्टडीज के छात्र पुराने कागज से नया कागज तैयार कर रहे हैं।



आईआईटी ने कागज बनाने का प्लांट कैंपस में तैयार किया है। इसके अलावा, आलू से ऐसी प्लास्टिक बनाई जा रही है जिसे जमीन पर दबाकर खत्म किया जा सकता है। ये मिट्टी में मिल जाती है और पर्यावरण को नुकसान नहीं होता।

# New Ventures Graduating from IIMs

At least 20 graduates from Class of 2014 choose entrepreneurship over a regular job



SALAM

**SREERADHA BASU &  
DEVINA SENGUPTA**  
MUMBAI

When Tarun Tiwari, Akhil Malik, Paavan Nanda and Dharamveer Singh Chauhan passed out of IIM-Calcutta this month, they graduated with an MBA and a fledgling new business. Zostel, a chain of backpacker hostels for young travellers that the four of them started with three other friends last year, is fast growing into a full-fledged business. Two such hostels — offering a bed at less than ₹500 a night — are already open at Jodhpur and Jaipur. “At least 7 more hostels will come up in one year,” says Nanda. Zostel is getting good reviews on travel portals.

The seven of them started the venture with money pooled in from friends and family as well as the ₹20 lakh-odd they won in various business plan contests.

At least 20 IIM graduates from the Class of 2014 have stood down from this placement season to launch their own ventures — everything from express bike washes to alternative investment funds, agricultural advisory firms and test preparation institutes. To name a few, Prakhar Bindal, also from IIM-Calcutta, has started Axiom.com, which helps companies acquire premium domain names and IIM-Indore's Ashish Jain is in the final stages of R&D before launching an FMCG product.

**Incentives for Entrepreneurs** ▶▶ 19

## Incentives for Entrepreneurs

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Also, IIM-Indore's Niraj Taksande has floated an engineering innovations company. All of them graduated this year and chose entrepreneurship over a regular job.

The number of fresh IIM graduates opting to turn entrepreneurs is by no stretch of imagination big. Nor is there any guarantee that the few that have dared will succeed. Also, IIMs lag IITs when it comes to fresh graduates choosing entrepreneurship.

Nevertheless, the few new business ventures graduating from the IIM class of 2014 do need to be taken note of. Also, with IIMs offering incentives including deferred placement options to graduates choosing entrepreneurship, their tribe is bound to grow.

Most of the 20 entrepreneurs ET tracked opted for the policy which will allow them to sit for campus placements in the next couple of years in case their startups fail.

IIMs are also fostering entrepreneurship in other ways. Shaunak Chhapparia and Sushil Kumar, who are setting up a logistics venture, have been offered a co-working space at CIIE (Centre for Innovation, Incubation & Entrepreneurship) at IIM-A. As many as 13 students from the 2014 batch at IIM-A have turned entrepreneurs.

“It bodes very well for both the entrepreneurial ecosystem and industry in India that some of the best quality talent from the top institutes wants to be entrepreneurs,” says Abhay Pandey, MD, Sequoia Capital India. “This trend has been gaining ground, and the change is very apparent too in terms of the startups that approach us these days — people have better backgrounds and better experience.”

Adds Ashok Banerjee, dean (new initiatives and external relations) and coordinator, Centre for Entrepreneurship and Innovation, IIM Calcutta: “The existence of an enabling ecosystem — incubators and accelerators, angels and impact investors — has also encouraged management and engineering graduates to follow the entrepreneurial path.”

Still, it's not easy for IIM grads to walk away from an attractive job offer and opt for risky entrepreneurship.

“It's difficult to resist the lure of hundred thousand dollar salaries,” says Bindal of Axiom.com.

“But I was driven by this need to build something of my own that people around me would remember me for.” Over 150 companies from more than 40

countries have used Axiom.com's services to buy premium domain names, he says. He started with a Rs 3 lakh investment raised from family and friends.

Taksande from IIM Indore didn't bother taking the deferred placement option. He has started an engineering innovations company based out of Mumbai with two friends. They have designed and manufactured an automatic two-wheeler wash system that can wash any motorcycle in under 5 minutes. “We are targeting motorcycle service centres, wash centres, petrol pumps, parking lots at malls/railway stations etc. We offer this service under the brand name Express Bike wash,” says Takshande.

“For these students, having their own start-up is like a self-purification process. It is about adversity and one becomes stronger,” says Sharad Sharma, angel investor and former head of Yahoo India R&D. Sharma helped launch iSpirit, a think-tank for software product companies. “Even if their startup doesn't take off, these experiences help the resume. More employers want candidates to have startup experience on the resume,” he adds.

Money, fame and independence aren't the only driving factors. Several of these entrepreneurs are also eager to do something for society.

Snehl Basoya, an IIM-Ahmedabad graduate has set up Gram Bazaar, a for-profit social enterprise working with farmers and local entrepreneurs to introduce new crops and improved agricultural practices through intensive crop planning and extension services. He will soon implement a pilot project in Alwar district.

“We will also enable farmers to get higher remuneration as well as create job opportunities for rural youth by processing and marketing these new products,” says Basoya, who has a partner in Arushi Mittal, a B-Tech in civil engineering from IIT-Delhi.

Basoya's IIM-A batch mate Karunamoorthi P wants to help school students learn visually and become more creative. His venture is to build model schooling systems with a unique set of learning and teaching methodologies that would prepare students for an entrepreneurial future.

Also starting out in the education space is Alosies George of IIM Calcutta, who's started GeorgePrep, a competitive test preparation institute. Currently, he's training aspirants only for CAT, but plans to extend that to GRE and GMAT in the near future.

# IIT ROORKEE SETS NEW RECORD IN JOB PLACEMENT



## THE HOT SEAT

The Director of Indian Institute of Technology, Roorkee, **PRADIPTA BANERJEE** on placement windfall, sustainable innovation and the importance of student feedback

### ■ New academic initiatives

We constantly modernise our curriculum making it up to date with the realities of the world. For instance, we took a feedback from our 2013 batch on subjects they would like us to include and focus more. Based on this we introduced a minor specialisation, wherein students pursuing a specific course such as Electrical Engineering can opt for a short-term programme in Mechanical Engineering, thereby increasing their job prospects

### ■ Most sought-after programmes

The most sought-after academic programme by students is Computer Science. In the late 1970s to early '90s, it was Electrical Engineering. Hence the perception among students that these are the areas that had the maximum potential for securing good jobs. The institute takes regular feedback from students and then makes changes in the subjects accordingly.

### ■ Efforts to foster innovation

IIT Roorkee believes in coming up with green and sustainable initiatives. All our rooftops

have solar panels and 30 per cent of our electricity comes from solar energy. Hot water in all our hostels comes from solar thermal plants.

### ■ Share of students who stay back after graduation

We do not have an accurate data of students who go abroad, but at least 5 to 10 per cent of the graduates opt for higher education and jobs in other countries after the course. This year we

saw more than 1,600 students registering for jobs, of which more than 1,000 got placed, the highest in our history. Google and Microsoft were among a

few companies that picked up the maximum number of students. While the highest international salary package offered this year was ₹75 lakh, the highest national salary package was ₹32 lakh

### ■ Graduates seeking entrepreneurial route

The percentage of students starting their own venture is around 5 per cent, which means out of 800 students at least 40 to 50 students pursue entrepreneurship after graduation.

Of the 1,600 students who registered for placements at IIT Roorkee this year, more than 1,000 got jobs in various leading companies

2014 बैच

20 ग्रेजुएट्स ने अपनी कंपनी शुरू की, जिनमें एक्सप्रेस बाइक वॉश, ऑल्टरनेटिव इनवेस्टमेंट फंड्स शामिल

# IIM ग्रेजुएट्स को लगा अपनी कंपनी शुरू करने का चस्का



[ श्रीराधा डी बसु & देविना सेनगुप्ता | मुंबई ]  
इस महीने आईआईएम कलकत्ता से पासआउट होने वाले तरुण तिवारी, अखिल मलिक, पवन नंदा और धर्मवीर सिंह चौहान ने एमबीए की डिग्री के साथ ही तेजी से बढ़ रहा नया बिजनेस भी हासिल किया है। उन्होंने यंग ट्रेवलर्स के लिए बैकपैकर होस्टल्स की चेन जोस्टेल तीन अन्य दोस्तों के साथ मिलकर पिछले साल शुरू की थी।

इस तरह के दो होस्टल जोधपुर और जयपुर में खुल चुके हैं, जहां 500 रुपये में रात गुजारी जा सकती है। नंदा ने बताया, 'एक वर्ष में कम से कम 7 और होस्टल खुल जाएंगे।' जोस्टल को ट्रेवल पोर्टल्स पर अच्छे रिव्यू मिल रहे हैं। इन सात लोगों ने दोस्तों और परिवार से इकट्ठा की गई रकम के अलावा कई

बिजनेस प्लान कॉन्टेस्ट्स में जीते गए 20 लाख रुपये से इस वेंचर की शुरुआत की थी।

2014 के बैच के कम से कम 20 आईआईएम ग्रेजुएट्स ने अपने वेंचर शुरू करने का फैसला किया। इनमें एक्सप्रेस बाइक वॉश, ऑल्टरनेटिव इनवेस्टमेंट फंड्स, एग्रीकल्चर एडवाइजरी फर्म और टेस्ट प्रिपरेशन इंस्टीट्यूट्स शामिल हैं। आईआईएम कलकत्ता के प्रखर बिंदल ने Axiom.com की शुरुआत की है, जो कंपनियों को प्रीमियम डोमेन नेम हासिल करने में मदद करती है। आईआईएम इंदौर के आशीष जैन एफएमसीजी प्रॉडक्ट लॉन्च करने से पहले आरएंडडी के अंतिम राउंड में हैं। आईआईएम इंदौर के ही नीरज तकसंदे ने इंजीनियरिंग इनोवेशंस कंपनी लॉन्च की है। ये सभी इस साल मैनेजमेंट ग्रेजुएट बने

हैं और इन्होंने रेगुलर जॉब के मुकाबले अपना बिजनेस शुरू करना पसंद किया। अपना वेंचर शुरू करने के लिए आईआईएम की ओर से उन्हें कुछ सेंसिटिव दिए जा रहे हैं। इनमें डेफर्ड प्लेसमेंट ऑप्शन भी शामिल है। आईआईएम-अहमदाबाद के शौनक छापरिया और सुशील कुमार लॉजिस्टिक्स वेंचर शुरू करने जा रहे हैं। उन्हें इंस्टीट्यूट ने सेंटर फॉर इनोवेशन, इनक्यूबेशन एंड आंत्रप्रेन्योरशिप (सीआईआईई) में को-वॉकिंग स्पेस दिया है। आईआईएम-अहमदाबाद में 2014 बैच के 13 स्टूडेंट्स आंत्रप्रेन्योर बने हैं।

सिकोइया कैपिटल इंडिया के एमडी अभय पांडे ने बताया, 'यह देश के आंत्रप्रेन्योर इकोसिस्टम और इंडस्ट्री दोनों के लिए अच्छा है कि टॉप इंस्टीट्यूट्स का बेस्ट क्वालिटी टैलेंट आंत्रप्रेन्योर बनना चाहता है।

Business Standard ND 22/04/2014 P-9

## Chetan Bhagat, national treasure



PAGE DOWN

MIHIR S SHARMA

Early on in the book, when the protagonist of Chetan Bhagat's *Two States* meets his future wife, she asks him what he wants to be. A writer, he replies.

"Someone who tells stories that are fun, but bring about change, too."

*Two States* is, like *Five Point Someone*, among the better of Mr Bhagat's trillion-selling books — probably because those two are the most autobiographical. It has

now, like *Five Point Someone*, been made into a movie I can't bring myself to see — partly because I was appalled at what 3 *Idiots* did to *Five Point Someone*. Mr Bhagat can't be accused of excessive nuance; but what Rajkumar Hirani and Vidhu Vinod Chopra did to his story of three sensitive boys at the Indian Institute of Technology (IIT), Delhi, was appalling. I can only imagine what that moral and creative vacuum we call our film "industry" has done to *Two States*. The book was already full of Punjabi-Madras jokes ("Marble flooring is to a Punjabi what a foreign degree is to a Tamilian"), and there were a few excessively soppy passages. Bollywood, I imagine, dialled both up to 11.

The problem, of course, is that most listen to only the first part of Chetan Bhagat's self-definition as a writer, not the second. In *Five Point Someone*, the smart student who detests how engineering is taught at the IITs performs

poorly in his examinations; in *3 Idiots*, he tops them. In the process, the larger point that Mr Bhagat wanted to make, about the mess that engineering colleges make of our best minds, is lost.

All of Mr Bhagat's books are firmly about National Problems as much as they are about young people. (Although Young People, of course, are our foremost National Problem.) *Five Point Someone* is about higher education; *Revolution 2020* about corruption; *Two States* about parochialism; *The 3 Mistakes of My Life* about sectarian violence. Mr Bhagat has, if nothing else, stuck doggedly to his vision of his role as a writer. And it is something for which he receives too little praise.

People's reasons to dislike Mr Bhagat's books are usually more shallow than any of his characters. An IITian who has never read much? A former banker who maps out his plots on spreadsheets? This is clearly not some-

one, the high priests of Literature murmur disapprovingly, who deserves any sympathy. Especially not if the Great Unwashed choose to actually read him in disturbing numbers. Mr Bhagat's own contempt for Indian literary fiction, when it reveals itself, is expressed with greater directness and more humour. From *Two States*, for example: "Smells of mustard, curry leaves and onions reached us. If this was one of those prize-winning Indian novels, I'd spend two pages on how wonderful those smells were. However, the only reaction I had was a coughing fit and teary eyes."

The fault is not Mr Bhagat's. He always wanted to be a writer; and he became a writer as soon as he could. The problem is that in those years when he could have been happily reading away, and no doubt perfecting a prose style critics could later describe as convincingly natural, he was swotting to get into, and out of, the IITs and IIMs. True, one look at the writing of his nearest rivals in terms of popularity reveals, quite sharply, how much Mr Bhagat cares about what he would no doubt call

product quality. That he outsells his competitors is a gladdening reminder that sentence construction matters even to his readers. Still, although Mr Bhagat may have always wanted to be a writer, he was clearly pretty conflicted about what it took to become a great one.

This isn't surprising. Mr Bhagat is pretty conflicted about a lot, reflecting the schizophrenia of the generation he represents and writes for. In *Two States*, the protagonist detests the hoops he must jump through for family, but does it anyway, and is proud of it. In both that book and *Five Point Someone*, disdain for the way the IITs and IIMs teach comes through, but so does pride in the institution. In many, the characters look down on accumulation for the sake of it, believe that values are more important — but focus on money-grubbing anyway. And let's not even start on *The 3 Mistakes of My Life*. That book, published in 2008, was fiercely anti-Narendra Modi; but it was made, with Mr Bhagat's involvement, into the sanitised movie *Kal Ho Naa Ho* last year. Presumably, in the five intervening years, Mr Bhagat had decided that being

anti-Mr Modi might be the biggest mistake of his life.

But being slightly confused about what you believe is not a capital crime. And the truth is that we could do a lot worse than Mr Bhagat. Someone was always going to be the person who spoke for a generation of people who are, as I said before, our foremost National Problem. That it's someone who tries so noticeably hard to be less sexist, to be less sectarian, and to be more liberal, is a relief. It could be someone who was a muscular, militarist nationalist — a tone that clearly succeeds with the young — but instead it's someone who, in one of his most persuasive newspaper columns, urged India to reduce its defence spending. It could be someone who reinforced every prejudice held by a partially educated, upper-caste North Indian man; but it's someone who visibly tries to challenge them. He may not always succeed; but which other icon of popular culture even tries? Typically for Indians, we don't know how lucky we are.

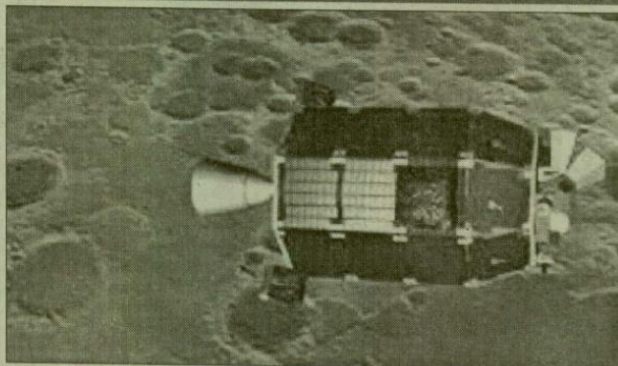
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Statesman ND 22/04/2014 P-15

PROBE CRASHED INTO THE LUNAR SURFACE AT 5,800 KM PER HOUR

# NASA crashed Moon probe

## MOON MISSION ENDS



PRESS TRUST OF INDIA  
Washington, 21 April

NASA's LADEE Moon probe crashed into the lunar surface at 5,800 km per hour - three times the speed of a high-powered rifle bullet - as the spacecraft closed its six-month mission, the US space agency said.

The Lunar Atmosphere and Dust Environment Explorer (LADEE) lacked fuel to maintain a long-term lunar orbit or continue science operations and was intentionally sent into the lunar surface last week.

The spacecraft's orbit naturally decayed following the mission's final low-altitude science phase, NASA said.

During impact, engineers

believe the LADEE spacecraft, the size of a vending machine, broke apart, with most of the spacecraft's material heating up several hundred degrees

or even vaporising at the surface.

Any material that remained is likely buried in shallow craters.

"At the time of impact, LADEE was travelling at a speed of 3,600 miles per hour (5794 km/hr) - about three times the speed of a high-powered rifle bullet," said Rick Elphic, LADEE project scientist at Ames.

"There's nothing gentle about impact at these speeds it's just a question of whether LADEE made a localised craterlet on a hillside or scattered debris across a flat area. It will be interesting to see what kind of feature LADEE has created," said Elphic.

In early April, the spacecraft was commanded to carry out manoeuvres that would lower its closest approach to the lunar surface.

The new orbit brought LADEE to altitudes below two kilometres above the lunar surface. This is lower than most commercial airliners fly above Earth,

enabling scientists to gather unprecedented science measurements.

On April 11, LADEE performed a final manoeuvre to ensure a trajectory that caused the spacecraft to impact the far side of the Moon, which is not in view of Earth or near any previous lunar mission landings.

LADEE also survived the total lunar eclipse on April 14 to 15. This demonstrated the spacecraft's ability to endure low temperatures and a drain on batteries as it, and the moon, passed through Earth's deep shadow.

In the coming months, mission controllers will determine the exact time and location of LADEE's impact and work with the agency's Lunar Reconnaissance Orbiter (LRO) team to possibly capture an image of the impact site.

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**THE TIMES OF INDIA**

## SC gives back AICTE power to approve tech colleges

*Ashok Pradhan, TNN | Apr 21, 2014, 02:18 PM IST*

BHUBANESWAR: Changing its decision of April 25 last year, the Supreme Court has allowed All India Council for Technical Education (AICTE) to have regulatory control over technical educational institutions in the country for the 2014-15 academic year. The latest interim order came on a petition of the Odisha Technical Colleges' Association (OTCA) on April 17, OTCA president Biswajit Mohanty said here on Sunday.

The SC last year had said colleges affiliated to any university do not come under AICTE purview, thereby shrinking AICTE role in regulating technical institutions. After the April 25 SC order, the University Grants Commission (UGC) had decided to take over control on technical education in the country and had framed guidelines for universities.

Allowing AICTE to have regulatory control over all such technical institutions again, a bench of Justice R M Lodha and Justice Kurian Joseph said on April 17, "AICTE shall now proceed in accordance with the approval process handbook for the 2014-15 academic year in so far as members of the petitioner association and all colleges and institutions situated similarly to the members of the petitioners' association."

The apex court also asked AICTE to issue necessary orders in this regard within 10 days, copy of the court order reveals.

Welcoming the latest court verdict, the OTCA president said AICTE control over technical institutions is necessary to ensure quality in technical education.

"UGC being an agency to offer grants, it had no technical expertise to ensure norms in technical institutions. That is why UGC delegated such a role to universities, which will dilute the quality of technical institutions in the country," Mohanty told TOI.

OTCA, which has 62 member colleges in the state, had prayed to vest regulatory control on AICTE on the same logic.

The colleges were particularly apprehensive about their future without AICTE. In the UGC system, regulatory powers would have ultimately come to state universities, resulting in increased state government meddling in their affairs. The Odisha government, for example, had asked UGC to ensure that only Biju Patnaik University of Technology (BPUT) be allowed to affiliate any technical institution in Odisha.

The government had also requested UGC to ensure that no objection certificate from the state government would be made necessary before opening a new technical college, change of location, closure of a college and conversion of women's technical college into co-ed college etc.

## How IIT Bombay's Spoken Tutorials initiative could transform Indian education

21 Apr 2014,

The Spoken Tutorials project at IIT Bombay attempts to provide IT training through audio video tutorials, created for self learning. The topics covered are programming languages, simulation and circuit design platforms and office productivity tools, all using open source software. More information on Spoken Tutorials can be found at [www.spoken-tutorial.org](http://www.spoken-tutorial.org).

Professor Kannan Moudgalya of IIT Bombay has conceptualized, founded, and oversees the operations of Spoken Tutorials. He was also involved with the distance education program of IIT Bombay that broadcasted engineering courses delivered at IIT through EDUSAT and web. Professor Kannan is also a co-investigator of the Aakash project.

Spoken Tutorials tries to teach the essence of a software in a focused way and hence does it efficiently. For instance, in a college curriculum, one typically takes several hours to teach C. In comparison, Spoken Tutorials needs 20 tutorials of around 10 minute each, adding up to 200 minutes, or a little over 3 hours in duration. Of course, it goes without saying that the student has to later practice the programming language to acquire proficiency and enhance productivity.

The Spoken Tutorials methodology forces one to practice the taught content side by side, reproducing every step: coding the discussed feature, compiling it, executing it and testing for desired results. This is always possible, as the training is restricted to open source software only.

Spoken Tutorials has courses in open source software, such as, C, C ++, Java, Netbeans, Linux, PHP, MySQL and Python. Spoken Tutorials also has courses in LaTeX and LibreOffice (alternative to MS Office), Scilab (for mathematical and scientific calculations, an alternative to Matlab), GIMP (for graphical design, an alternative to Adobe Photoshop), OpenFOAM (for computational fluid dynamics, an alternative to Flluent) and OScad (for electronic design automation, an alternative to ORCAD).

The video part of the tutorial is created through screencast, through which what one sees on the screen, such as program files and web pages, are recorded. The audio part of spoken tutorials is easily dubbed in many of the Indian languages. This includes major Indian languages such as Hindi, Assamese, Bengali, Gujarati, Punjabi, Tamil, Telugu and Urdu, and also languages with fewer speakers, such as Bodo, Nepali and Sanskrit. This combination of English video and mother tongue audio helps retain the employment potential high for students who are not fluent in English,

Interestingly, many students who have learnt software using Spoken Tutorials are able to land up jobs in IT sector, sometimes in MNCs, just on the strength of training received at Spoken Tutorials, see <http://www.spoken-tutorial.org/testimonials>. Thus Spoken Tutorials can match training provided by traditional methods that cost a lot more in time, effort and money.

The Spoken Tutorials Project was started in 2010 with funding from the National Mission on Education through Information and Communication Technology, of the Ministry of Human Resource Development. Due to this funding, the course is available free to participating students.

In addition to making available the educational content directly through web, the IIT Bombay Team helps conduct organized workshops using Spoken Tutorials, see [http://process.spoken-tutorial.org/index.php/Software-Training#About\\_SELF\\_Workshops](http://process.spoken-tutorial.org/index.php/Software-Training#About_SELF_Workshops). Although the onus of organizing and conducting workshops is with the colleges, as the tutorials are created for self learning, a domain expert is not required to conduct the workshops. While one can learn in offline mode, tests have to be taken online.

Till date almost 7,000 workshops have been conducted, training nearly 300,000 students and college teachers; 75,000 of them have taken online tests; 10,000 workshops are expected to take place in 2014, to train 300,000 to half a million people.

Many universities and departments of technical education have started adopting Spoken Tutorials in their curriculum. For example, the students of the 77 affiliated colleges of the Himachal Pradesh University have to mandatorily do one elective course, with instructions being in the form of Spoken Tutorials. Tamil Nadu's department of technical education has introduced Spoken Tutorials in all the about 450 polytechnic colleges in the state.

Spoken Tutorials is a small team of around 60 dedicated and committed staff, operating out of a small office at IIT Bombay. The atmosphere resembles that of an IT start up.

A part of this team is involved in content creation. This not only involves creating the technical part of content, but also creating the video, scripting, creating the audio and translation and dubbing. The other part of the Spoken tutorials team is involved in reaching out to colleges and encouraging colleges to organize workshops.

The training methodology of Spoken Tutorials can be extended to multiple disciplines – from first aid, to booking a ticket, to perhaps filling a government form. The success of Spoken Tutorials is an encouragement for those involved in education to experiment with novel ways of pedagogy and delivery that not just reduces



the time and cost of training, but also extends reach.

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