



## Gearing up for the semester

Imran Mirza

As I look back on the almost five years, in the capacity of Head Computer Engineering, my mind is filled with memories, happy, sad, frustrating, and even humorous. I thank the All Mighty for giving me enough leadership abilities and his guidance.

Don Bosco Institute of Technology (DBIT) has always been committed to empowering its students as excellent, employable and technologically competent. The Computer Engineering Department of DBIT has always lived up to these ideals and endeavoured to give the students an extra edge, either by conducting workshops or organizing various other events.

In the even semester, the students have shown phenomenal growth for the academic year 2012 – 2013. Starting with the final year results, of the 69 students that appeared for the VIII semester examination, 97% of them passed of which 13 achieved Distinction and 41 students got a First Class. In the third year, of the 73 students that appeared for the examination, 94% of them passed with flying colours. 30 students achieved Distinction and 31 students got a First Class. In the second year, 69% of the total students that appeared passed of which 7 students achieved Distinction and 17 students got a First Class.

Multinational companies like Infosys, L&T InfoTech and IGate come to DBIT for campus placements. Out of the 56 students that were eligible for placements in the academic year 2012 - 2013, 46 of them were placed. 11



students were placed in Infosys, 12 in IGate, 10 in L&T InfoTech and 1 student each was placed in Zycus, Godrej InfoTech, Quinnox, NSE, NCDEX, Inscriptis and EXA. The remaining 6 students were placed in Financial Technologies, Value Consulting and Tibco.

Our desire to put student's as a focal point in whatever we do, has come in the form of Aspiring Entrepreneur Workshops, an Alumni Entrepreneur meet, and followed by that Synchrony meet. The management has always been very proactive in all the activities.

Over the years, accomplishments of our faculty, students, and alumni have advanced the field of computer science and expanded its boundaries. Their hard work, an enterprising spirit, and numerous accomplishments have played a key role in defining the department.

Looking ahead, I see many opportunities to continue to enhance our existing strengths and to grow into new areas as a preponderance of students and faculty with an aim of helping our department scale new heights of success.



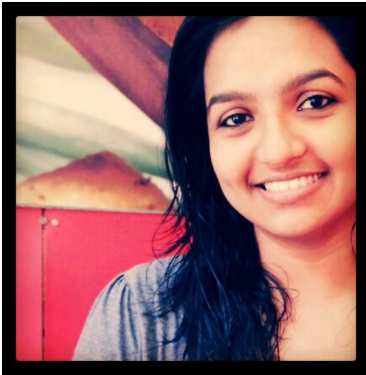
### Synchrony Meet

An alumina - student interaction at the campus of DBIT  
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### 3D Printing

A technical article on 3D Printing Technology  
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## Editor Speaks

Greetings to all our readers!

There was a time when news was more of a monologue. Now, thanks to the interactive communication made available by advancing technology, there's been a real shift towards dialogue. The online version of our Computer Department Newsletter is a good example of that.

Far from being just one academic unit among many, the DBIT Computer Department has long drawn together other branches of DBIT in broad critical thinking about aims and methods of education and in the interdisciplinary scholarly culture that is one of this institution's great distinctions, be it in the Synchrony meet, where alumni meeting with students was arranged to discuss "Skills Engineering Graduates Require for Success" or the Entrepreneurship Workshop, where students were given a step-by-step guidance on building and organizing their own business successfully.

In the last one year the Computer Department has been very vibrant and active under the dynamic and visionary leadership of our Director Fr. Adolf Furtado, Administrator Fr. Edward, Principal Dr. N.G Joag, Research Director and Dean Academics Dr. S. Krishnamurthy and Mrs. Prasanna Nambiar.

Our sincere thanks to Mr. Imran Mirza, HOD of Computer Dept. for

his unabated support and encouragement in our activities and Dr. Amiya Kumar Tripathy for his insightful and skilful inputs.

We are also grateful to the staff of the Computer Department for the valuable guidance and the kind support they have extended. Our heartfelt thanks to our students body, who have always strived to keep the Department flag flying high.

Your valuable suggestions, views, comments, compliments are all whole-heartedly welcome, as our sole purpose is to bring forth all the activities happening in and around the department, the best way we can.

Regards,  
Srinidhi Shetty  
Editor/ Publication Head  
B.E. Computers

## News in Brief

### Industrial Visit to Volkswagen's Chakan Plant

On 8th August, 2013, the students of Don Bosco Institute of Technology, Kurla visited Volkswagen's Chakan plant. They were accompanied by three faculty members, Prof. Abhishek Vichare, Prof. Dhananjay P. and Prof. Janhavi B. It gave a great experience to the students and lot of knowledge of Volkswagen Group.

### A guest lecture on Computational Photography

Dr. Suparva Patnaik conducted a guest lecture on Computational Photography which was organized 23rd August 2013. Students of Computer Department attended this guest lecture and the outcome proved to be very helpful because students were able to understand Camera Technology, limitations of Digital Camera, Advanced Image Processing Techniques in Computational Photography.

### Workshop on OpenCV

The workshop explained the installation of OpenCV & programming using OpenCV Library for Image Processing. Various modules of OpenCV and programming such as Load Image & Show Image, Gaussian Smoothing, Canny Edge Detection were covered in this workshop.



## Co-Editor Speaks

Dear friends, staff, students, alumni and well-wishers, it gives me immense pleasure to present to you this edition of Computer department's Newsletter.

This semester has been an important and fun one for the Department and was filled with numerous activities. These included Synchrony Meet, i-Create workshop, and an industrial visit. The Computer Department also undertook a lot of new workshops, seminars and various other programs, which were intended to build the technical knowledge of the students. Each semester we will update our readers on the activities of the department and its future plans for the same.

In the last semester, the Computer Department has been very vibrant and active under the dynamic and visionary leadership of our Director Fr. Adolph Furtado, Administrator Fr. Edward, Principal Dr. N.G Joag and R&D Director Dr.S. Krishnamurthy. Our sincere thanks to Mr. Imran Mirza, HOD of Computer Dept, who has been the captain of our ship and has always motivated us and guided us in the right direction. I take this opportunity to thank Mr. Imran Mirza (HOD of Computer Department) for having faith in my ability to compile this newsletter.

We are also grateful to the staff of the Computer Dept. for the kind support they have extended. Our

heartfelt thanks to our student bodies, which were actively involved in these activities. I also thank all the students who have contributed their articles to this newsletter.

I would appreciate constructive feedback from our readers to help us improve our scope. I hope you enjoy reading this issue.

Cheers!

Regards,  
Yogesh Maurya  
Co-Editor  
TE-COMPS

### Departmental News

*A half yearly newsletter of the Computer Department*

**Editor:** Srinidhi Shetty  
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Royston D'Silva,  
Sharik Raza,  
Karen Corda

## News in Brief

### MRI Technology Guest Lecture

A guest lecture on Magnetic Resonance Imaging(MRI) technology conducted by Dr. Deepak Patkar proved to be very helpful for as the students an exact idea on how imaging technology is embedded with medical science to visualize internal structures of the human body.

### Oracle JAVA SL-275 Course

Oracle Java workshop was conducted on DBIT campus & organized by Computer Department from 10th June to 20th June 2013.

### Workshop on PHP and MYSQL

A workshop on php and mysql was arranged by the Department of Computer Engineering and ACM on 7th August, 2013. It proved to be a very amazing session because in a single day he cleared almost all important concepts of PHP & MYSQL.

### Guest lecture on "VHDL and Applications of VHDL"

A guest lecture was conducted on VHDL and its applications on 1st October 2013. The basic programming syntax and example programs were taught by the guest. Concept of FPGA and CPLD was explained in brief.

# Synchrony Meet 2013

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Karen Corda (BE Comps)

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Don Bosco Institute of Technology (DBIT) has always been committed to empowering its students to be employable and technologically competent as we believe that our youth is the best resource we have, since it is our biggest asset for tomorrow. The Computer Engineering Department, proactive and dedicated to guiding

their protégés and were well pleased with their success. The alumni also expressed their happiness at being back in college and were thrilled to receive an opportunity to communicate with their teachers and mentors about their lives after graduation.

A panel discussion began after this interaction which was based on the subject “Skills Engineering Graduates Require for Success” - An alumni perspective. This theme was extremely

communication skills and corporate politics to standing out in the crowd were also discussed at length. In the ensuing discourse, we came across some differences in opinion between the panel members.

Students were then given the chance to question the alumni and their queries were answered positively and enthusiastically. The students were introduced to the functioning of the corporate world and the words of



their students in scaling new heights, took an extraordinary step on 3rd October, 2013 with “Synchrony Meet” – an event that went well beyond a panel discussion, by living up to these ideals. This event was led by Mr. Imran Ali Mirza (HOD of Computer Department) and Dr. Amiya Kumar Tripathy, and was made successful by the faculty members of the Computer Department.

The panelists and the alumni interacted with their mentors and faculty members after being ushered into the board room. The faculty members took pride in the achievements of

apt, given the current unsteady economy and the upcoming placement season. And who could’ve done this better than our alumni, who as students sat on the same benches just a few years ago! This interaction aimed to bridge the gap between life as a student and the life after graduation while helping the students build connections.

As the students of the Computer Department were ushered into the Mondini Hall, one could sense the anticipation in the air. Along with the pre-decided key topics, a number of related topics right from basic

advice that the alumni volunteered. The panel discussion instilled confidence in the students making them enthusiastic about the world that awaited their brilliance in the near future.

After the Q&A round, all the panelists were felicitated and the event was concluded on a high note. Each student took back with him an experience and knowledge which would surely help them in climbing the ladder of success in their respective careers.

# From BE to Being

Yashbeer Singh (B.E. Comps)

With dreams of engineering shimmering in my eyes and a hope of becoming one, I stepped into this premiere engineering college, Don Bosco Institute of Technology. I still remember my first day in college! Those moments of life are really unforgettable. That mixed feeling of nervousness, of being in new place, with new people was so evident on everybody's face.

It was a very new culture here; way different from that I belonged to. Here friends meant everything and friendship was the only treasure to be protected. It didn't take me long to bond with few awesome people on campus. I studied hard and played hard with them. I also learnt to play basketball which soon became my favourite sport. Lectures got tougher each day and in no time, exams befell upon us! I was hardworking enough to not flunk in the exams and came out with flying colours. It was then

that I got some recognition, scary one in fact! People looked at me like one of those guys who ate books for breakfast, lunch and dinner. But I was not like them. I believed in perfect balance. Second semester marked my cultural development to the core. It was this semester that I had painted my face, styled my hair, sang a group song, danced like crazy and won many prizes too.

Heading towards my goal each passing day, I felt what engineering truly was. Second year was full of technical challenges, but the real fun had just begun. I used to roam around entire college and would hack library computers for getting internet. What an amazing fun it was!

Third year brought with it, a new wave, and the time to become a leader. One who walks first and then followed by rest. I lead many development teams in college. I worked

extra hard for whatever I could. Also this was the time when I started experiencing the beauty of things.

I would say, "Life is beautiful if you have beautiful people in it."

Finally, becoming a senior is one of the best experiences in engineering. Fourth year brought us this opportunity and also a sentence along with it "Last year hai yaar!" Everything that starts has to come to an end... So will this Last year!

I started my journey as a kid with dreams and ended as a bigger kid with bigger dreams.

When I look back, I can connect the dots which define me. I still hear a voice ringing in head from that first day of engineering "from BE to BEings". Thanks Fr. Bosco, an enlightening soul, for this golden mantra.

## Toppers

### SEM VIII

DEEPIKA JAIN - 75.53%

BRUSELL FALCAO - 75.06%

SAYALI KALE - 74.67%

### SEM VI

HARITA KHANNA - 80.94%

MAYUR HADAWALE - 80.35%

YASHBEER SINGH - 77.7%

### SEM IV

PRITAM PATIL - 74.7%

NAVNITA SINGH - 73.88%

KRISHNA MOHAN SINGH -  
73.76%

### SEM II

LAVINA MENOTH - 9.48

SHARON SHAJI KOSHI - 9.44

PRIYANA GODIDWALA - 9.26

## News in Brief

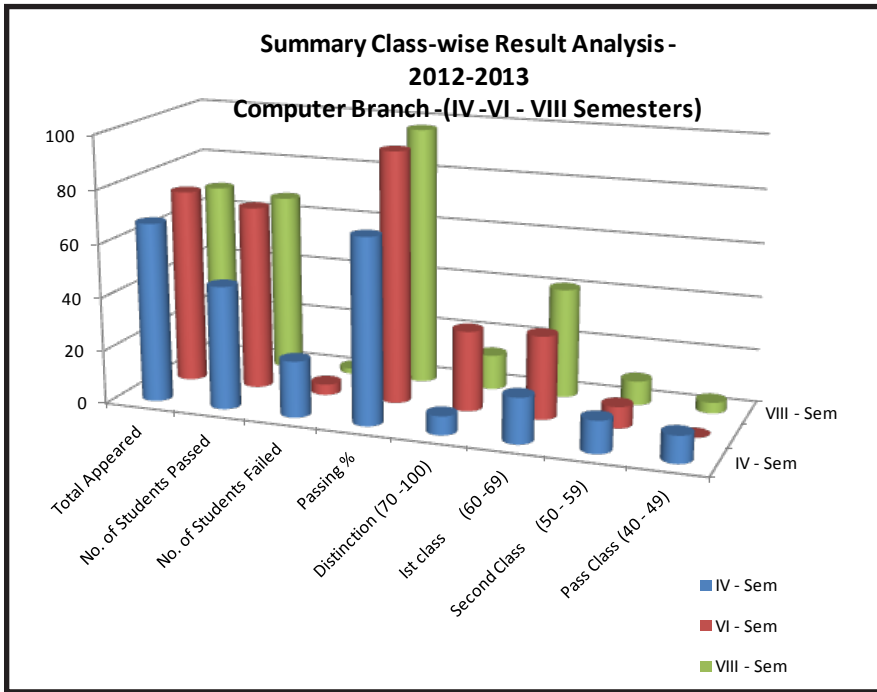
### Data Governance

Mr. Sunil Soares explained various problems that the industry & the various organizations face while maintaining their records and reports in terms of their correctness. After briefing about the problems he gave introduction to his software (COLLIBRA) that provides solution to this problem.

### WIMAX

Mr. Ajit Lohare conducted a guess lecture on WIMAX. It started with the presentation on WIMAX & explained the students about applications, advantages, disadvantages, scope, architecture, features of WIMAX. Students found this session to be highly informative and useful.

# Results Statistics



## News in Brief

### Course on IBM DB2

This course was conducted by Computer Department from 3rd to 9th July. The duration of course was 15 hours. In this course 67 students of T.E Computers were trained by the faculty members of Computer Department in assistance with few students from B.E Computers.

### Workshop on Python Programming

A hands-on workshop on Python was conducted for the students. The session was mainly a comparative study between object-orientedness in java and python, to create a link between the existing knowledge and a different, new implementation of the same concepts.

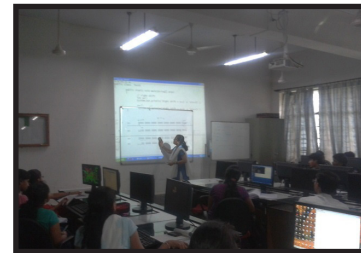
# Guest Lectures



ROBOTICS & ARTIFICIAL INTELLIGENCE



MAGNETIC RESONANCE IMAGING



OCJP TRAINING



VHDL  
&  
APPLICATIONS OF VHDL



WIMAX



PHP AND MySQL

# Comparative Study Of Java And Python

Royston D'Silva (BE Comps)

In today's world, where learning of a new programming language appears to be no more than a nightmare, given the situations and the time available at hand, there are few prospects of people being actually fanatic about learning a new language. The others, as the general trend suggests, would rather like to sip on a cup of coffee and use some codes that have already been prepared. The question that prevails is can this process be enhanced by training the 'young coders' in a language that is simple to use and understand for the user. This is where many coders would disa-

a platform-independent byte code. Python is an interpreter-based language. Each line which the python engine reads, it executes.

## User-inputs (String):

Well it appears rather absurd to add the java code here and leave the readers with strained eyes.

So we focus on the simple python alternative for the same code.

In Python (2.7, stable version):

```
s=raw_input("Enter string")
```

## User-inputs (numeric):

In Java:

All the java paraphernalia with Integer.parseInt() remember?

Fortunately, in python, all we need is: input("Enter number").

into a block)

```
if s=="python rocks":
```

```
print "True Story"
```

Variable declaration:

In Java:

```
int a=100;
```

(static datatype declaration and don't forget the semi-colon)

In Python:

```
a=100
```

(Dynamic datatype declaration as python respects java, so the user can still use the semi-colon, it's up to the user and it doesn't affect the code)

And yes, the famous print statements:

## How can we forget the SOP's of Java

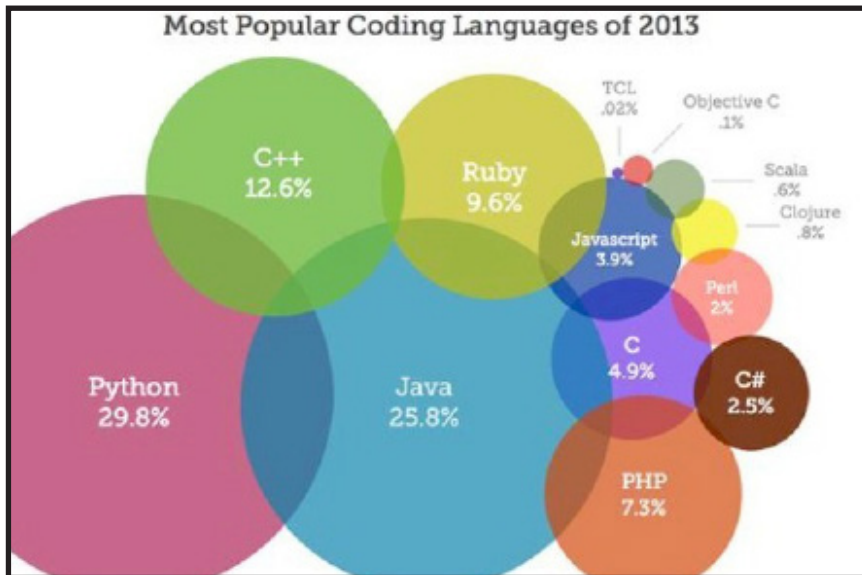
In Python, the print statement would sound as good as spelling it. Yes, that's what it is print "Hello, world!"

Creating a file and writing user-specified content:

File handling was a cumbersome task again. If you get to it, you would perhaps pray to God for a better alternative (Well... not unless you are a Java God yourself!)

In Python, only three lines of code would complete this apparently herculean task for a Java coder.

Functions needed would be open(), write() and close().... Simple and self-explanatory right?



gree saying that coding a simple java program would be relatively more 'friendly' as compared to a newer language like python. However, statistics have shown that the latter is a good competitor, once some would dedicate time to learn it. This article would hence present a comparative study of java and python on criteria ranging from ease of usage to the overall efficiency.

## What's Java and Python all about?

Java is a compiler-based language. All java codes are converted to

Python frees the user from any 'IO-Exception' that would be needed to be handled by the user in java

## Use of brackets:

In Java (plenty, almost everywhere, except for if-else blocks, for and while loops with only one line of code)

Well for an example you can check out any java tutorial or ask a fanatic about it.

In Python:

(Python knows no curly brackets to enter into a block; it needs ':' to enter

## Conclusion:

Well the conclusion is left up to the reader. The reader may overlook this as an attempt by just another person trying to publicize about what he learnt (and there might be many of those) or they can choose to start learning a language that does not leave them frustrated on semi-colons not being to be added.

# List of published papers from January 2013

SR.No.	Project Title	Area	Internal Guide	Student Names / Authors	Name of the	Date / Place / Month/Page nos	National	International
1	Wireless sensor network for Groundnut Pest/Disease precision protection	Data Mining		Dr. A.K. Tripathy	IEEE			Yes
2	Ubiquitous computing in a Lab Environment		Mr. Imran Mirza	Alwin Crasto Sujeetkumar Sinha Sagar Raut Imran Mirza	IEEE INDICON 2013	13-Dec-13 to 15-Dec-13 Mumbai	Yes	
3	Protocloud: A cloud based desktop	Cloud Computing	Mr. Imran Mirza	Imran Ali Mirza Vishwanath Sarang Ameya Joshi Shefali Shah	Computer Science and Information Technology (Vol 1 No 1)	July-13		Yes
4	Cancer detection using biclustering		Ms. Uma Sahu	Ms. Uma Sahu John A. Alphonso A. Kamath A.	IEEE	4-6 Jan 2013		Yes
5	Performance Analysis of Mobile Memory Optimization Techniques	Mobile Computing		Ms. Deepali Kayande Ms. Jignyasa Sanghvi	CIPET 2013, Nagpur, India Technically sponsored by IETE, in association with IJCA	17th February, 2013	Yes	
6	Near Duplicate Web Page Detection using NDupDet Algorithm	Data Mining		Ms. Nilakshi Joshi Mr. Jayant Gadge	International Journal of Computer Applications (0975 – 8887) Volume 61– No.4	January 2013		yes





Sharik Raza (T.E Comps)

What if I were to tell you that one day printers will be able to build homes, manufacture computers and cook food? That would be a pretty remarkable progress, and to my surprise, it's quite possible. One product which will soon change the world is 3D printing.

A machine reminiscent of the Star Trek Replicator, something magical that can create objects out of thin air. It can "print" in plastic, metal, nylon, and over a hundred other materials. It can be used for making nonsensical little models like the over-printed Yoda, yet it can also print manufacturing prototypes, end user products, quasi-legal



guns, aircraft engine parts and even human organs using a person's own cells. This device can print objects

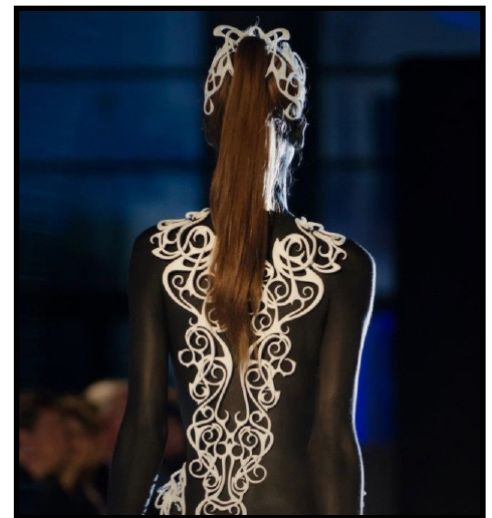
out of almost any material - from nylon to glass, from chocolate to titanium and with any complex geometry. This is transforming not just engineering, but many other fields, including education, archaeology, bio-printing and even food printing. More importantly, soon anyone will be able to make complex products quickly and cheaply, something that will democratise innovation and unleash human creativity. I have no doubt it is going to change the world.

We live in an age that is witness to what many are calling the Third Industrial Revolution. 3D printing, more professionally called additive manufacturing, moves us away from the Henry Ford era mass

production line, and will bring us to a new reality of customizable, one-off production.

Need a part for your wash-

ing machine? As it is now, you'd order from your repairman who gets it from a distributor, who got it shipped from China, where they mass-produced thousands of them



at once, probably injection-moulded from a very expensive mould. In the future, the beginning of which is already here now, you will simply 3D print the part right in your home, from a CAD file you downloaded. If you don't have the right printer, just print it at your local fab (think Kinkos).

3D printers use a variety of very different types of additive manufacturing technologies, but they all share one core thing in common: they create a three dimensional object by building it layer by successive layer, until the entire object is complete. It's much like printing in two dimensions on a sheet of paper, but with an added third dimension.

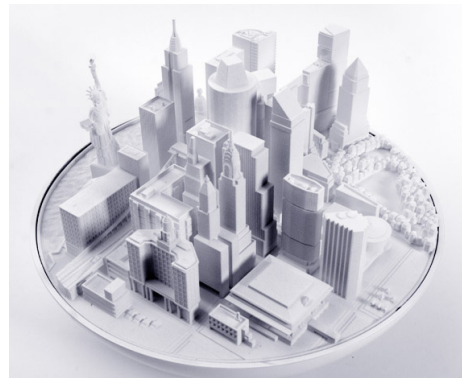
Each of these printed layers is a thinly-sliced, horizontal cross-section of the eventual object. Imagine a multi-layer cake, with the baker laying down each layer one at a time until the entire cake is formed. 3D printing is somewhat similar, but just a bit more precise than 3D baking.

To perform a print, the machine reads the design from 3D printable file (STL file) and lays down successive layers of liquid, powder, paper or sheet material to build the model from a series of cross sections. These layers, which correspond to the virtual cross sections from the CAD model, are joined or automatically fused to create the final shape. The primary advantage of this technique is its ability to create almost any shape or geometric feature.

Printer resolution describes layer thickness and X-Y resolution in dpi (dots per inch) or micrometers. Typical layer thickness is around 100  $\mu\text{m}$  (250 DPI), although



some machines such as the Objet Connex series and 3D Systems' Pro-



Jet series can print layers as thin as 16  $\mu\text{m}$  (1,600 DPI). X-Y resolution is comparable to that of laser printers. The particles (3D dots) are around 50 to 100  $\mu\text{m}$  (510 to 250 DPI) in diameter.

The evolution of 3D printing has moved quickly and it is now poised to alter every aspect of our lives and health. Thousands of people are enjoying 3D-printed metal orthopaedic implants to support or replace missing bones and, in US, thousands more have benefited from 3D printing used by dentists. Most people that need hearing aids have custom 3D-printed devices comfortably resting in their ears. The 3D printers used for orthopaedic implants, hearing aids and heart monitors are all high-end, made by expensive manufacturing tools far removed from the consumer printers that have captured public imagination.

### The Future of 3D Printing

This is a disruptive technology of mammoth proportions, with effects on energy use, waste, customization, product availability, art, medicine, construction, the sciences, and of course manufacturing. It will change the world as we know it. Before you know it!

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### ComputerNews

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