NOTE FROM THE PRINCIPAL

Dear Friends,

The ICT Society presents to us this year in Connect their interpretations of 3 dimensional technologies that have taken the world by storm. Animation in space with real-life effects captures the viewer's attention more effectively.

Real life takes on a different meaning in as much as interest of the observer increases with the illusion of depth perception; so too, with 3 dimensional technology in films and computers. Perceptions in space bring images closer to the viewer.

I congratulate the ICT Society President Suranjana Basu, Vice-President Rekha Bhalla, the Treasurer Sukanya Chatterjee and their Staff Advisors Ms. C. Sengupta, Ms. S. Chatterjee and Ms. A. Sarkar on their initiative in preparing this journal.

Sr. Christine Coutinho
Principal, Loreto College

NOTE FROM THE STAFF ADVISORS

The ICT society has always been instrumental in imparting enriched knowledge regarding latest developments and innovations in the field of technology. This year, the society presents their in-house journal "Connect", highlighting the effects of 3-Dimensional technology which has begun to spread from games to such activities as Web and product design, corporate presentations, and even personal entertainment.

The enthusiasm of contributors has enabled us to present the fifth edition of this journal. We thank the ICT Society President Suranjana Basu, Vice-President Rekha Bhalla and the Treasurer Sukanya Chatterjee for their sincere and ardent effort and our Principal, Sister Christine Coutinho for making this venture a success.

Ms. Chandrani Sengupta
Ms. Swati Chatterjee
Ms. Amrita Sarkar

NOTE FROM THE EDITOR'S DESK

Loreto College is home to many societies, of which the "Information, Communication and Technology", i.e., the I.C.T. Society forms an integral part. The sole goal of this society is to educate students about the various facets of the latest developing technologies that are taking over the world by storm and are influencing our lives in a diverse way.

As an editor it is a privilege to be editing this journal, due to which I inculcated a vast knowledge about the 3D world and hope that the readers benefit from this treasure trove of the 3D world, wrapped in this journal.

President: Suranjana Basu

Vice-President: Rekha Bhalla

Treasurer: Sukanya Chatterjee

INDEX

ACKNOWLEDGEMENTS

EDITOR

SURANJANA BASU, 3RD YEAR
COMPUTER APPLICATION

SUKANYA CHATTERJEE, 2ND YEAR
COMPUTER APPLICATION

SHAGUFTA PARVEEN, 2ND YEAR
COMPUTER APPLICATION

COVER DESIGNED BY

SUVECHHYA BANERJEE, 2ND YEAR
COMPUTER APPLICATION

WHAT IS 3D TECHNOLOGY?

3-D technology refers to three dimensional technology that is used in films and motion pictures that provides some kind of illusion of depth perception and viewers enjoy some different kind of experience to this technology! The latest release of such a technology has been in the picture called 'Avatar.' The movie was shot with special motion camera to record the images. The technology is derived from stereoscopic photography /technology. Special projection hardware and eyewear are required to enjoy 3-D technology of the movies.

The 3-D films have been there since 1950s but they have found prominence during the end decade of the last century and first years of 21st century. But 3-D technology has now experienced a world-wide resurgence and is coinciding with the computer generated imagery and introduction of high definition video standards. Today the technology has also found space in Televisions. Now it seems that soon we are going to wear the specs or eyewear to enjoy television programs with the 3-D technology already input in the TVs. Real 3D Cinema is the world's most patent and highly used technology for showing 3D movies in theatres and they are very cheap to install.

But the TV industry is trying to portray the fact that one won't need the typical specs for watching the 3-D TVs. They are trying to revive the technology and make the 3D watching specs free affair though it has not been possible yet.

Brands like Sony, Panasonic, and Philips are promising excellent 3-D technology input in TVs. It is going to create a kind of 3D revolution where we would be able to experience the depth without the eyewear.

Normally to watch 3D movies we need circular polarized or active LCD shutter glasses. These are glasses that are used in theatres by public to enjoy the 3D images or pictures. The present day glasses or spectacles use circular polarized or active LCD shutter that ensure that each eye has different image and have different feelings that altogether create the impact on the brain.

REKHA BHALLA
CA MAJOR (3RD YEAR)

HOW WE SEE 3D

Ever wondered how some movies manage pop out of the screen? Here's how they do it. Film has been one of the pioneers of 3D, thanks to its hefty budgets and some technological daring. There are largely two ways 3D has been achieved in motion pictures: anaglyph and polarized glasses.

Anaglyph is a fancy way of referring to the red-and-blue glasses we used to wear. By projecting a film in those colors — one in red, one in blue — each eye would get an individual perspective and your brain would put the 3D effect together. Other colors could be used, providing they were distinct enough to be separated on screen. This technique, however, didn't allow for a full range of color and had a tendency to "ghost," or have the once-distinct images bleed into one another. Not cool.

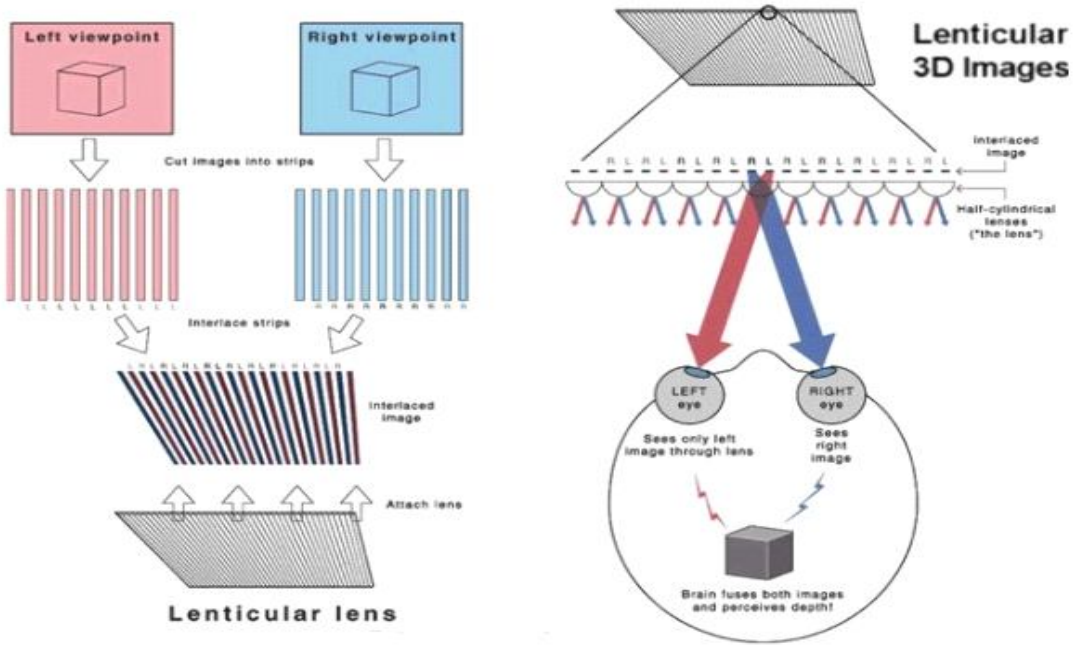
Much more common is the use of polarized glasses, which take advantage of the fact that light can be given different orientations. For example, one image can be projected in a horizontal direction while the second can be projected in a vertical direction. The corresponding glasses would allow horizontal polarization in one eye and vertical polarization in the other. The problem is that this kind of 3D requires you to keep your head still, à la *A Clockwork Orange*. Tilting your head can distort how the waves get to your eyes, messing with the color and 3D effect. Also not cool.

This is the tricky part. To counteract this, 3D now uses rotational polarity, meaning the film being projected actually has two different spins to it. The glasses then pick up those opposite rotations — clockwise in one eye, counterclockwise in another eye — to separate the image. Now you can tilt your head or place it on your boy/girlfriend's shoulder and still be able to watch the movie.

3D in Television:

It's possible to use the same techniques in film projectors for home theaters, but you would need some serious cash. Films use special silver-coated screens that reflecting light back to the viewing audience. Televisions, unfortunately, are not. However, two ways to get 3D at home are active and passive.

The most common, active 3D, involves wearing those electronic *RoboCop* glasses. The glasses are synced up to your television and actively open and close shutters in front of your eyes, allowing only one eye to see the screen at a time. This sounds like a recipe for a stroke, but the shutters move so quickly that they're hardly noticeable. These shutter lenses are made possible because of the refresh rate on televisions. 3D-enabled televisions have high image refresh rates, meaning the actual image on screen is quickly loaded and reloaded. Through the glasses, you receive one constant image instead of a flicker.



Passive systems are less common but run much like your 3D film. These televisions have a thin, lenticular screen over the standard display. A lenticular screen is made up of a series of incredibly thin magnifying strips that show a slightly different perspective of the screen to each eye, as illustrated above. While this technology doesn't require bulky, expensive glasses, it can limit the image quality. Essentially, each eye only sees one half of the screen at any given time. For example, if a screen had 100 pixels, 50 pixels would be magnified and sent to the left eye and the other 50 pixels would be magnified and sent to the right eye. In practice, your brain is actually able to put the two images together and retain the entire 100 pixel fidelity.

The Future:

In the coming years, keep a look out for technology that uses autostereoscopy, or 3D that doesn't require glasses in any way. The Nintendo 3DS, Nintendo's newest portable 3D gaming device, is one such device. One of its tricks is syncing a lenticular display with its forward-facing camera. By using eye recognition, it can track where the user's face is and shift the display to accurately display 3D no matter how the user views the screens. Look for autostereoscopy to test the waters on handheld devices before it heads to large format screens.

SURANJANA BASU
CA MAJOR (3RD YEAR)

CONVERT 2D VIDEO TO 3D EASILY

2D to 3D Video Converter, Epoch-making software, can help you enjoy all the 2D video with 3D effect. Human have entered 3D video time. But few 3D video resources can not satisfy human needs. 2D to 3D Video Converter resolves the contradiction between supply and demand he of 3D Video. This powerful software can help you convert all the 2D video to 3D files which can be played your 3D player.

Powerful converting function of 2D to 3D Video converter can help you convert avi, mpeg, flv, mp4, rmvb, dvd, blu-ray, mkv to 3D files. And HD video formats also be supported by the video converter, you can convert your DVD video as .mts,.m2ts,.mod, .tod, .trp to 3D files, HD mkv, HD blu-ray, HD DVD to 3D files. This 2D to 3D Video Converter creates an L/R dual-stream 3D file format and anaglyph 3D file format.

Key function of 2D to 3D Video converter

- Support Lifelike 3D effect. Most powerful and professional 3D team design this powerful2D to 3D video converter.
- Support all popular 3D players. You can enjoy the video which is converted by the 2D to 3D converter by any 3D player.
- Support all the devices as iPad, iPhone, iPod, psp, ps3 and even 3DS.
- Support converting among 2D video.
- Not only 2D to 3D Video converter, but also powerful 3D player.

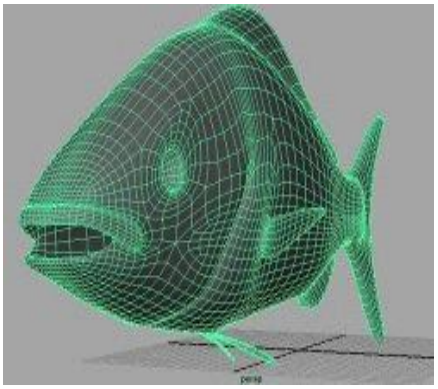
2D to 3D Video Converter is one easy-to-use software which can convert 2D to 3D video easily (just need clicking a few button).Now, let us learn how to convert 2D to 3D Video step by step as follow.

- Download and run 2D to 3D video converter as follow.
- Add the 2D video by chick "FILES" support convert all the video format to 3d video. Select the output files as follow pic. You can convert any video format to any video format you need. As device (ipad, iphone, itouch, psp, nokia and so on) 3D mov, 3D avi,3d mp4,3d mpeg and so on.
- You can setting the output effect by click "EFFECT" button
- Click "CONVERT" button to start converting 2D to 3D video.

NAILA SIDDIQI
CA MAJOR (3RD YEAR)

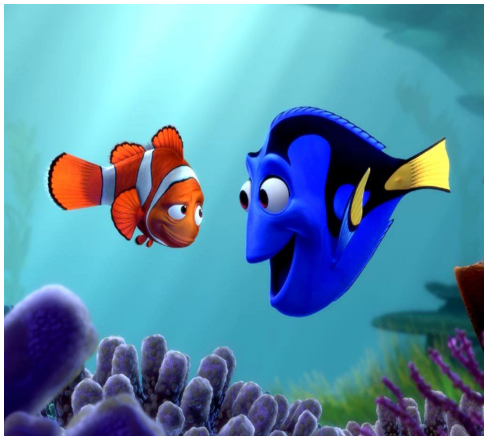
3D COMPUTER GRAPHICS

3D computer graphics (in contrast to 2D computer graphics) are graphics that use a three-dimensional representation of geometric data (often Cartesian) that is stored in the computer for the purposes of performing calculations and rendering 2D images. Such images may be stored for viewing later or displayed in real-time.



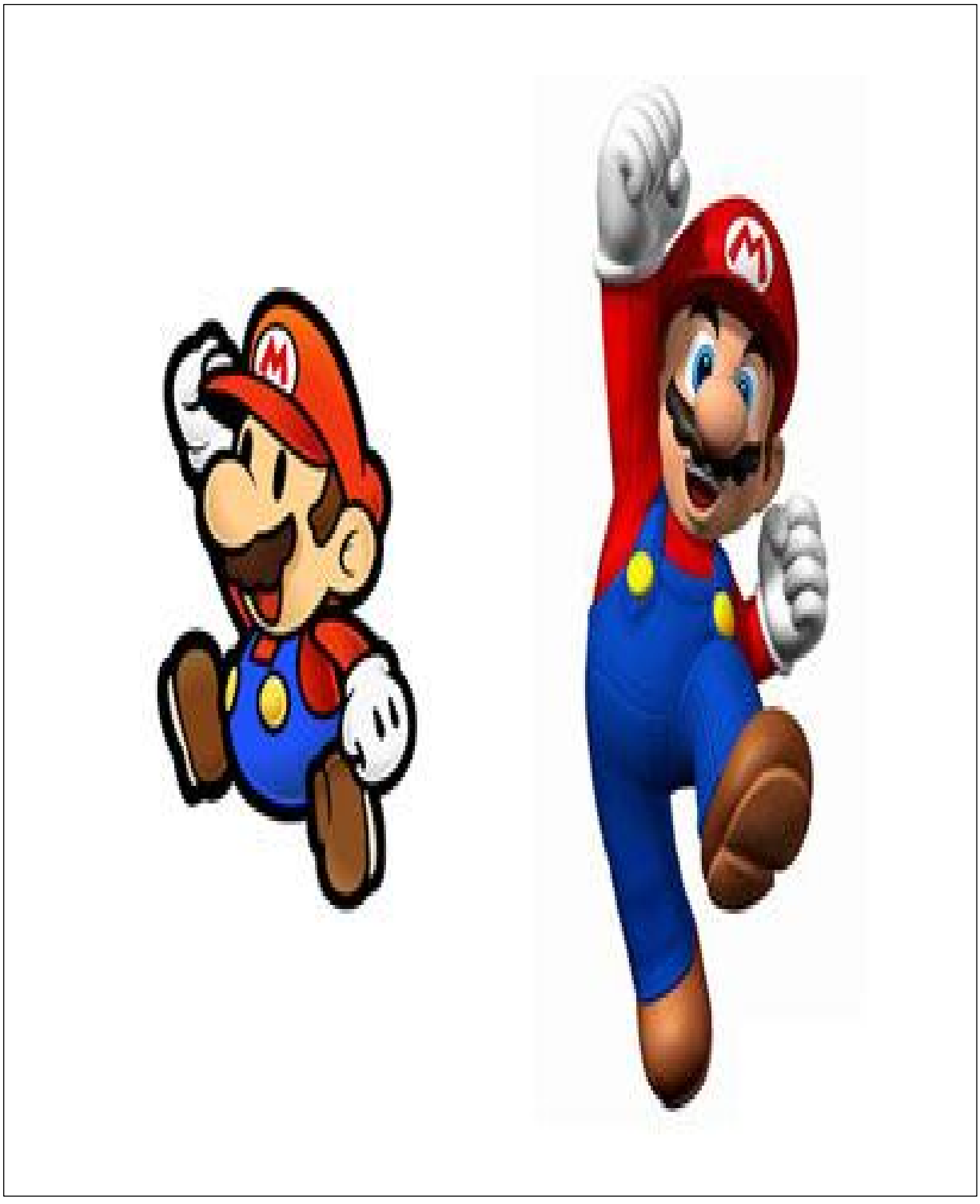
3D computer graphics rely on many of the same algorithms as 2D computer vector graphics in the wire-frame model and 2D computer raster graphics in the final rendered display. In computer graphics software, the distinction between 2D and 3D is occasionally blurred; 2D applications may use 3D techniques to achieve effects such as lighting, and 3D may use 2D rendering techniques.

3D computer graphics are often referred to as 3D models. Apart from the rendered graphic, the model is contained within the graphical data file. However, there are differences. A 3D model is the mathematical representation of any three-dimensional object. A model is not technically a graphic until it is displayed. Due to 3D printing, 3D models are not confined to virtual space. A model can be displayed visually as a two-dimensional image through a process called *3D rendering*, or used in non-graphical computer simulations and calculations.



NEHA AFREEN
CA MAJOR (3RD YEAR)

PROJECTION OF 2D AND 3D TECHNOLOGY



3D FUSION IN PIRATES OF THE CARIBBEAN

A new, modular "x frame" system is "going to be a part of almost every" Cameron-Pace supported 3D project going forward, Pace, co-chairman and CEO of Cameron-Pace Group, told The Hollywood Reporter. Going forward, that might include support for features, documentaries, episodic TV series -- and Avatar 2 and 3.

For this latest Pirates movie, director of photography Dariusz Wolski (who also lensed the three earlier Pirates films) and his team incorporated this new x frame approach into the shoot, which used the Fusion system with Red MX cameras. Production involved shooting on location in Hawaii, Puerto Rico, Los Angeles and London.

Simply put, x frame is about reducing the size of the system -- which is something that the industry as a whole is working toward when 3D gear is concerned. "They had to be able to go from studio rigs, to handheld, to Steadicam -- and had to do it in the jungle in Hawaii," Pace told THR. "In some places the road was about 3 feet wide. There was no way to bring in heavy equipment on trucks. ... We had to treat this almost as a military operation, so if they had to take equipment on a helicopter and transport it to a beach -- which they did -- they were not restricted by a large support infrastructure.

"We concentrated on reducing the size as much as possible and increasing the mobility and making the rig robust enough to handle that kind of environment," Pace explained, saying that the company is now able to configure a Fusion system that in some cases might be 30-40 percent smaller than anything it did before.

As each production has different demands, the plan going forward is to use this x frame approach to create customized Fusion systems for anything from a small movie to a tentpole. "There are so many different recording options and configurations that it's hard to create a one size fits all," Pace said. "The package that gives you good 3D and a good workflow doesn't have to be the Avatar package."Pace sees the potential of the x frame system extending beyond features, and at some point, contributing in the young area of 3D television programming production. "Where it really starts to pay off is when you are getting into episodic television," Pace suggested. "I think (the x frame system) will migrate to that type of television work where you want to make sure your footprint is mobile and has the least amount of impact on the set."

Pace also believes this system could be useful to filmmakers who what to shoot nature documentaries. "They can bring (only) the necessary equipment."To begin to get this system in the hands of filmmakers, the x frame technology has already been shipped to Budapest, where Fusion rigs are being used to shoot 47 Ronin. Development of Cameron-Pace's Fusion camera system began more then a decade ago. Since then it has been used in a variety of situations, including a dive to Titanic to shoot Cameron's 3D documentary Ghosts of the Abyss and recently on location with Michael Bay on the upcoming Transformers: Dark of the Moon.

SUKANYA CHATTERJEE
CA MAJOR (2ND YEAR)

3D GAMING: EVERYTHING YOU NEED TO KNOW

3D gaming is soon set to move*way* beyond its current limited niche in the hardcore PC market, with console manufacturers and game developers increasingly eager to provide us with compelling interactive content to play on the slew of new TVs set to hit the shelves later this spring. The runaway successes of movies such as James Cameron's *Avatar* and Disney's *UP* have not only generated a much-welcome renewed interest in cinema-going, but they will also drive 3D TV sales when they arrive on Blu-ray later in 2010.

There have been numerous attempts to take console and handheld and PC gaming into the third dimension in the last twenty years. Most have been quickly (and rightly) dismissed by consumers as little more than cheap headache-inducing gimmickry.

"We didn't worry so much about the past efforts, such as Nintendo's Virtual Boy or things like that," says Dale H Maunu, an analyst at 3D and display tech research firm Insight Media. "3D gaming is really more recent, in terms of the ability to do Stereoscopic 3D ("S-3D") gaming. The release of DirectX 8 ushered in the era of a standardized 3D API for MS Windows, which resulted in game developers and publishers creating more 3D assets in their games," adds Maunu."The move to DirectX 9 provided still more tools for game developers and is really the minimum requirement for S-3D gaming; many of the titles that can be played in S-3D were developed for DirectX 9."Rewinding a couple of years back to 2008, there were already 3D monitors and systems available from the likes of IZ3D and Zalman for playing DirectX 9 games in S-3D. "The Zalman system used drivers from DDD, while iZ3D developed their own," says Maunu, adding, "the systems worked pretty well, but the drivers generally needed to be hand-tweaked for each game since there was no standard or API for S-3D. Plus, the game developers were not directly involved in making their games work in S-3D so there was still quite a bit of variability in the S-3D experience from game-to-game."

It was really the introduction of Nvidia's 3D Vision tech early in 2009, along with its own S-3D API, that started to put some standards in place for games developers and games buyers. "*World of Warcraft"* introduced support for 3D Vision in early 2009, and Nvidia was able to convince many developers to support S-3D," says Maunu. And some cracking 3D-optimised PC titles soon followed including the likes of*Left 4 Dead 2*, *Resident Evil 5*, *Batman: Arkham Asylum* and, most recently, the game spin-off of *Avatar* from Ubisoft.

Tech Radar spoke with Patrick Naud, Ubi's Executive Producer of *Avatar*, who told us that working on 3D "was a great experience for our team… any time we can get out there and be one of the first on a new technology like this, you get a boost of creativity, and we had a lot of fun coming up with great ways to use the innovation to make a game that puts the player right into the environment and action.

"I personally see a lot of potential with combining 3-D with Natal," says the*Avatar* game producer. "These two technologies together will bring us even more immersive experience to game play."

ANKITA ROY
CA MAJOR (2ND YEAR)

3D MEDIA: MORE TYPES THAN YOU'D THINK

Whenever 3D programming is mentioned, we automatically think in terms of movies and TV. Many - if not most - major Hollywood productions are being made in Stereo3D almost as a matter of course, while in the US, 3net (a partnership between Sony iMax and Discovery) was the first to start broadcasting 3D TV content 24 hours a day.

But 3D is already available for many other media:-

1) 3D gaming - for 3D PCs and 3D games consoles. The Nintendo 3DS, launched earlier this year, is already offering glasses-free 3D gaming.

2) 3D Streaming - live and recorded content available via the Internet. While the file sizes, in particular, for 3D movies are large and require fast broadband connections, some streaming providers have come up with an ingenious solution for countries and areas where fast broadband isn't readily available. The idea is to use a small part of the terrestrial TV spectrum to 'datacast' 3D content by trickling it down to a hard disk in the set top box. The subscriber can then watch the 3D programming whenever they like, played back from the hard disk.

3) 3D video - as 3D cameras and playback become more affordable 3D low-budget and home movies become possible.

4) 3D social web - it is perhaps inevitable that the cutting edge of the web and the cutting edge of movies and broadcast would start to come together. Sites like Our Bricks are allowing people to discover and share 3D content in their browsers. While sites like Our Bricks are still in their infancy, it shows another growth path for 3D, and another way we can assimilate 3D into our everyday media experience.

5) 3D Blue-ray - in addition to home theatre use, 3D Blue-ray playback can provide a personalized experience on a suitably-equipped PC. Prices for 3D Blue-ray players are following their DVD predecessors and starting to plummet.

6) 3D in education - 3D is finding its way into classrooms as well as into entertainment and the web. Where educators have traditionally harnessed 2D educational media such as backboards, paper, slides and conventional video to explain 3D concepts, 3D media helps students grasp spatially related concepts easily and more intuitively.

7) 3D in medicine - 3D has a role in both treatment and teaching (where the benefits are similar to those for general education).With 3D imaging, it becomes possible to understand the position of diseased and non-diseased tissue, and abnormalities such as fractures in the body. 3D imaging can make surgery and invasive procedures such as endoscopies easier to plan and undertake. And in treatments such as radiotherapy, where it is very important to direct the radiation only on to the malignant cells, specialists are already reporting excellent results. The potential for 3D in medicine is vast-a recent report from Global Industry Analysts predicts that the world market for 3D medical imaging will reach US$3.5 billion by 2015.

8) 3D photography - simple to use point and shoot 3D cameras are becoming available from major camera manufacturers such as Fuji.

Consumer electronics manufacturers see 3D being in all the media they deal with. For example, Sony has announced that its PlayStation 3 games console will be upgraded to be the centre for all kinds of 3D entertainment in the home, not just the 3D games and 3D Blu-ray that are currently handled. 2D to 3D converters and TVs with integral 2D to 3D conversion make all of a family's existing 3D content appear in 3D. While the results aren't as impressive as proper Stereo3D content, quality is improving all the time. And, with 2D easily and acceptably converted to 3D, and 3D becoming the norm throughout their lives, consumer expectations for proper 3D availability will increase.

NEHA KHASNOBIS
CA MAJOR (3RD YEAR)

MOTION CAPTURE TECHNOLOGY IN THE MAKING OF TINTIN

What you see on the big movie screen is all digital output from computers. It is like computer animation, but much more. Although the characters' movement and facial expressions are so realistic that you might think you are looking at real actors, it is not the actual actors that you are seeing on the screen. They also wanted the movie to be stylized for the time and location of the era. Instead of dealing with costume and elaborate sets, motion capture technology was used.

It is wrong to say there are no actors. There are actors. Jamie Bell played TinTin and Andy Serkis played Captain Haddock. Andy Serkis is known for his role in playing Gollum in the Lords of the Rings movie.

The actors perform their actions in a "motion capture stage". They perform the fight sequences. The actors wear black skin-tight suits with yellow, red, and green stripes. Cameras capture all the actors movement.

With the big round noses of the two look-alike policemen Thomson and Thompson (one with and one without the "p"), it would be difficult to find real actors that would look the part.

With motion capture technology, the two actors for the two look-alike policemen do not even have to look alike.

White light marker dots are painted on their faces and they donned headgears with microphones. Hence, their facial expression is captured by the camera very realistically via facial optical motion capture.

All the data is fed into computers which renders the 3D animated output of the movie -- often in real time as the actors are performing and with Steven Spielberg panning and

zooming a virtual camera viewpoint from a remote control devcie. Motion Capture Technology Weta Digital was first asked to make the computer animated version of TinTin's dog sidekick Snowy. But then it evolved into Weta making the whole computer generated movie.

The movie team spent 5 years working on the film. Weta spent two to three years working on the subtlety of TinTin's computer generated face. The shooting took 31 days.[reference] The shooting in a motion capture film takes less time in traditional films since there is no makeup, lights, and no need to get the right set/scene environment. All that is generated by the computers.

Motion capture technology has advanced quite a bit. Motion capture is also known as performance capture, motion tracking, or more loosely as "mocap". Movements are sampled many times per second.

NEHA KHASNOBIS
CA MAJOR (3RD YEAR)

HOW 3D LESSONS IMPROVE STUDENT LEARNING

A research compares the difference in comprehension, information retention and overall behaviour between students learning via traditional 2D methods versus learning via 3D projection. It was conducted in classrooms across seven European countries. Texas Instruments (TI) DLP Products presents the research data that shows 3D, when used as a teaching tool in classrooms, has a widespread positive impact on how students learn. A long-time partner in providing technology for education, DLP Products initiated the study as a way to gather information and feedback on teaching with content displayed using 3D projectors.

The research team, led by Professor Anne Bamford, Director of the International Research Agency, commissioned pre- and post-testing on control and variable student groups to track information retention and understanding, as well as collected observational data during classroom visits to measure student attentiveness and behaviour.**Highlights from the survey include**:

- On average, 86% of pupils improved from the pre-test to the post-test in the 3D classes, compared to 52% who improved in the 2D classes.
- Individuals improved test scores by an average of 17% in the 3D classes, compared to an 8% improvement in the 2D classes between pre-test and post-test.
- 92% of students on average were attentive during 3D lessons, while only 46% were actively paying attention during non-3D lessons.

The research project involved 740 students (ages 10-13), 47 teachers and 15 schools across France, Germany, Italy, Netherlands, Turkey, United Kingdom and Sweden between December 2010 and May 2011.Students were tested before and after the lessons, with one control group learning with 2D methods only, and the other receiving the same instruction, but with 3D content added into the lessons.Students were also tested on their ability to recall the information four weeks later, and researchers collected observational data on the engagement level of students at set intervals during each of the lessons.

SHAGUFTA PARVEEN
CA MAJOR (2ND YEAR)

POPULARITY FOR A 3D TV GOES DOWN

Technology analyzer Egg has released a report upon the condition of 3D TV encoding around the world, proclaiming that TV stations tend to be tired of investing in the expertise and technologies necessary to generate 3D images development. What this means is how much 3D programming on television in some parts of the world is not likely to improve inside 2011.

The press launch detailing the Your three dimensional (Strategic Concentrate) report, which usually discusses expense inside as well as potential prospects with regard to 3D images programming, claims in which transmit market executives rated the launch regarding 3D programs and output of 3D articles as his or her least expensive strategic goal. Over half of all professionals stated creating 3D programming has been "not an important business consideration." Participants in the Asia-Pacific region graded the importance of making three dimensional encoding slightly greater than those involved with The United States as well as European countries, however suggestions was still being damaging.

Ovum analyzer Tim Renowned, the report's writer, declared there was simply no uniform way of 3D images broadcasting in your community -- Australian three dimensional programming is fixed to be able to special events, while Japanese’s TV possesses an on-demand, pay-per-view model because of its Hiker TV set IPTV service. Renowned said in which uptake regarding 3D images encoding will not spike in the foreseeable future: "Given the lack of enthusiasm for investing in 3D content production and delivery expressed by broadcasters, this situation is unlikely to change rapidly."

In Australia, coverage will probably be tied to unique sporting events such as your Origins soccer matches and NRL fantastic final.

"This ambivalence towards investment in 3D content production and creation of 3D channels, leaves a big hole in the availability of 3D content, and tells us that the lack of 3D programming we have seen during 2010 is unlikely to improve in 2011." The particular ACMA is merely enabling three dimensional TV broadcasts in Australia on the case-by-case basis until the end of 2011.

DEVASREE BOSE
CA MAJOR (3RD YEAR)

SCOPE OF 3D ANIMATION

3D animation is digitally modeled and manipulated by an animator. There is something mesmerizing about 3D animation that makes them popular among all age groups. Today animation is an integral part of the Bollywood film industry, every year there are good number of releases in the 3D animation format. It can be observed that most of these movies are primarily meant to appeal the younger generation specially the kids, but they end up bringing in the viewers of all age groups. 3D attracts everyone, but there aren't much movies made in 3D that caters to adults, therefore in order to satiate the need for 3D, gamming has emerged as a popular medium of entertainment for adults and youths.

Animation is a fast-emerging high-paying career option. To become an animator, one needs intensive training in 3D animation. One can specialize in creating animation characters, creating two- and/or three-dimensional shapes, special visual effects, video game programming, game art and so on.
Animation is fast becoming a full time profession with growing requirements of animation professional in field of media, advertising, film making etc. Animation in India has come a long way with Indian animations catering to the needs of several private and public sectors and indigenously produced animated films constituting the bulk. Various T.V programs, advertisements / commercials and computer games are demanding a huge quantity of manpower from the Indian market. Animation is also being used in titling films, creating special effects or in web entertainment programs. Thus the scope for students of animation is huge in the context of the emerging Indian market. Salary for animation professional after 3-4 years of experience could be anywhere between 25,000-50,000 Per month approximately.

It has also been observed that many seasoned computer operators and technicians are undergoing 3D animation training in India. They undergo this training in order to add additional knowledge to their existing profile which finally results in classic creative works. There are several options under animation training from which an individual can choose, starting from short term certificate courses, diploma programmes to advanced diplomas and even bachelor's degree.

NIKITA AGARWAL
CA MAJOR (3RD YEAR)

WHY 3D MOVIES WILL COST MORE IN 2012

Movie tickets were expensive even before James Cameron's *Avatar* sparked a powerful resurgence of 3D movies. Now, moviegoers pay an average of about $3 more for a couple hours of slightly nauseating sensory overload. And pretty soon, the cost of a 3D movie ticket may take another bump.

Wouldn't you hit on a guy with glasses?

Sony Pictures Entertainment recently notified theater owners it will cease to cover the cost of its Real 3D glasses. In the current distribution model, studios provide glasses for the 3D flicks they produce, essentially donating them to theaters. Contrary to popular belief, the extra cost of 3D movie tickets does not go toward paying for your glasses. The theaters charge extra for two reasons: 1) to cover the cost of converting their screens to 3D and 2) because they can.Providing "free" glasses can cost a studio anywhere from $5-10 million per feature or about $0.50 per ticket. By May 2012, Sony hopes to pass that expense along to theater owners and theatergoers. If successful, other studios will likely do the same. Fox previously attempted to cease handing out free glasses but backed off when its efforts were met with outrage. If the studios stop footing the bill for glasses, theaters will be forced to either take a hit or start charging more for 3D movies.

Reduce, Reuse and Recycle

Despite recent reports of waning interest in 3D, *The Lion King* was rereleased in 3D and has been the #1 movie in the US for two weeks running. *The Lion King* is the first of a whole slew of old movies to be rereleased in 3D. *Titanic* will be out in April, *Top Gun* will be rereleased sometime in 2012, and *Star Wars: The Phantom Menace* will hit theaters again in February. Obviously, 3D rerelease is a low-risk way for rich Hollywood moguls to make a quick buck, and everyone knows it. But that knowledge won't stop audiences from revisiting some of their old favorites on the big screen.With aging classics making a 3D reemergence and Sony's Men in *Black III* and *The Amazing Spider-Man* hitting 3D screens in less than a year, don't expect 3D to disappear anytime soon. It should be interesting, if not entertaining, to see how the theaters juggle this influx of surefire 3D flicks and the shifting cost of 3D glasses. More likely than not, theaters will up the price of tickets, further propagating the industries self-destructive tendencies. Despite the ease of purchasing movie tickets online and partnerships like the Fandango-Visa Signature cards ticket offering, sales continue to fall. Theater attendance has dropped 6% from last year and revenue is down 4%. While 3D seemed to offer temporary relief, we all knew it was a short-term solution to a long-term problem.

NEHA KHASNOBIS
CA MAJOR (3RD YEAR)

THE RISING THREE DIMENSIONAL CRAZE WITHIN 3D TECHNOLOGY

At this week's E3 Expo within Los Angeles, Nintendo's creative designers launched its latest gaming system the Nintendo 3DS an item that is previously receiving positive buzz as well as interest across the Internet. The actual 3DS is the most recent add-on with a small but expanding set of Items inside technology, and a part of a much bigger and increasing craze within amusement 3D images. Technologies when limited by concert halls, Items together with 3D abilities can be delivered to the family area, and now in to the fingers. Since consumers continually seek out more immersive experiences, enjoyment suppliers tend to be responding greatly. Farfel treatments is changing the way all of us experience amusement, as well as Within a few years, may become The key way we consume the mass media.

- Gaming:

three dimensional is a main advancement with regard to video gaming, spurring new video games, devices, and products to keep The Bradenton area regarding entertainment thriving. The actual Nintendo's creative designers 3DS can join Sony's Ps3 Slim as well as Microsoft's Xbox 360 Console in the 3D gambling craze. What are fans most looking forward to the actual 3DS will be the technology alone, which doesn't need individual three dimensional spectacles to be able to go through the effects. Stereoscopic three dimensional takes on "tricks" about the mind, producing individual pictures for each and every eye what we should see being a 3D result. PlayStations technology additionally makes use of stereoscopic 3D, nevertheless it will simply function over a 3D images TV set, and participants may nevertheless have to use three dimensional spectacles whilst playing. However, 3D will require the particular gambling expertise a stride additional to create an entirely immersive experience. The particular Wiki was the first step for this, now 3D has taken this the rest of the approach. Because technology advances, 3D images video gaming can escape on to additional products, just like the apple phone, apple iPod, as well as home computer systems for even more individual entertainment usage.

- Films:

Although using 3D images within films is not brand new, 2009s The movie avatar was the very first movie inside quite a long time to really use 3D as a part of the storytelling also it showed at the container workplace, with a document breaking $two Billion within ticket sales. The subsequent large 3D film will be Plaything Account three, inside cinemas today. Provided Disney and also Pixar's previous success in computer animation and the selling point of the particular Toy Account Franchise, the particular three dimensional factor is only going to allow it to be more lucrative. The topic few Toy Account three is a great system with regard to three dimensional a lot of actions, together with practical subject matter that may simply sparkle much more if you use 3D images and provide movie-goers a far more thrilling as well as in-depth watching expertise

- Television:

In March, Straight talk Samsung and The first showed 3D images televisions, aimed toward heavy press customers as well as avid gamers. Although development may be slow figures show that only 6 000 0000 devices can deliver worldwide this season tech enthusiasts are quick to point out in which High definition TV adoption got almost two decades, and is heading strong today. HDTVs tipping point emerged progressively, however erupted with developing consumer demand for the highest quality product possible; combined with a decreasing price of the merchandise and service, it was an ideal storm with regard to Hdtv. Since expenses lower for 3D models and also customers see a place in their particular life for your item, exactly the same is sure to occur with regard to 3D TV set as well. Along with entertainment selections for 3D images expanding gradually, particularly between gaming and motion picture options 3D models are usually correct on-trend.

PC Worlds Melissa J. Pearson created a good thing regarding 3D images technologies, writing, “Numerous experts have asked yourself regarding whether or not we'd like three dimensional for that ordinary things newscasts, sitcoms, and the like. Identification posits that while all of us don’t need it, at some stage in the near future, 3D images will end up because natural as 2nd video clip (but still) pictures are usually for all of us today.”Because they alternatives become less expensive plus more widely available, interested buyers will be more likely to attempt these types of systems in their properties. Enjoyment has become a part of our culture and economic system, plus moment 3D will end up the norm and secure it's invest the everyday lives.

DEVASREE BOSE
CA MAJOR (3RD YEAR)

HIDDEN WORDS!

QUESTIONS:

1. Without which computer have no existence.
2. VFX is one of the major institution producing talented students in the field of _____.
3. In VLC media player ‘L’ stands for.
4. Which company has given the copy right to Mozilla Firefox?
5. In Microsoft XP -‘X’ stands for _____.
6. Founder of Google is from this university.
7. The owner of YouTube is?
8. CDi- ‘i’ stands for?
9. First Operating system of apple is_____.
10. From year 1990 to 2005 it was downloaded by nearly 1 million of desktops.

M	A	E	T	Y	U	I	S	T	A	N	F	O	R	D
D	U	O	O	K	L	E	P	L	N	M	H	A	L	G
H	Y	L	Y	Y	A	X	K	H	T	U	I	M	A	C
A	T	W	T	D	N	P	F	T	Y	U	I	O	N	T
Z	Y	W	E	I	I	R	C	V	B	U	Y	P	J	Y
C	U	J	A	I	M	I	V	I	D	H	O	S	E	I
B	I	D	F	T	A	E	Y	H	Y	U	P	B	J	K
N	O	Y	G	O	T	N	D	A	A	S	O	K	K	P
M	A	F	D	O	I	C	R	I	Q	D	U	I	N	O
J	A	W	E	T	O	E	Y	Y	A	T	G	H	N	I
O	Z	Q	A	X	N	G	E	I	P	U	D	V	G	U
P	Z	N	A	I	N	A	L	R	P	I	A	S	F	B
Z	X	H	S	E	R	O	U	E	L	G	D	S	D	I
K	C	B	N	M	L	F	G	U	E	G	J	K	L	C
M	O	T	H	E	R	B	O	A	R	D	F	U	C	C

QUIZ TIME!

1.3Dcomputer graphics are often referred to as:

2. Process of creating 3D computer graphics can be sequentially divided into how many phases?

3. What is 3D modeling?

4. What is 3D scanner?

5. 3D computer graphics software are used to create:

6. Due to 3D printing, 3D models are not confined to virtual space. True or False?

7. What method of 3D display is ineffective for people with colorblindness?

8. Real-D 3d projectors project light of which polarization?

9. All four methods of 3D display take advantage of which effect?

10. Which method of 3d display may have problems with a noticeable “flicker”?

11. True or False: Circularly polarized light has the advantage of linearly polarized light for passive polarization 3D because head tilting doesn’t matter.

NAILA SIDDIQI
CA MAJOR (3RD YEAR)

SOLUTION TO HIDDEN WORDS:

M							S	T	A	N	F	O	R	D
	U					E							L	
		L			A	X						M	A	C
			T		N	P							N	
				I	I	R								
					M	I							E	
					A	E						B		
			G		T	N	D				O			
				O	I	C		I		D				
					O	E			A					
					N	G			P					
							L		P					
								E	L					
									E					
M	O	T	H	E	R	B	O	A	R	D				

1. Motherboard
2. Animation
3. Lan
4. Apple
5. Exprience
6. Stanford
7. Google
8. Interactive
9. Mac
10. Adobe

ANSWERS TO QUIZ TIME:

1. 3D models

2. Three

3. Process of forming the shape of an object.

4. Device that analyzes a real-world object.

5. 3D computer-generated imagery.

6. True

7. Anaglyph

8. Circular

9. Stereopsis

10. Active Shutter

11. True

NIKITA AGARWAL
CA MAJOR(3RD YEAR)