

# WORDS FROM THE PRESIDENT

It's been a pleasure to have been selected as the president of Digiflash, the prestigious association of our computer science department. On behalf of Digiflash, team Digitimes has been formed for designing the monthly magazine of our department. We are working on several new concepts and ways of expressing the magazine. We can assure that, Digitimes team 2015 - 2016 will do a great job in designing the magazines and surprise you with innovative articles. Some unique articles such as hitchbot the robot, picopro, phantom are shared in this edition. An article about Dr. A.P.J. Abdul Kalam, filled with thoughts that mainly focuses on Kalam not as the President, but how he lived as a normal Indian citizen with humbleness as his nature. I am sure, this edition will give you a good read.



**D. BALAKRISHNA**  
PRESIDENT - DIGIFLASH

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# HITCHBOT THE HITCHHIKER

Have you ever seen a robot standing by the side of road asking for a lift? If not then you have missed to see the most adorable robot called Hitchbot.

HITCH HIKE - Putting your thumb out, to get a lift.

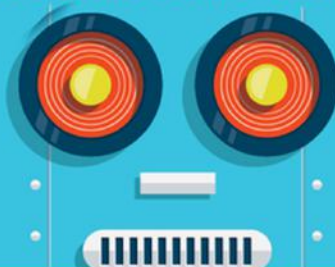
Last year, a Canadian social robot called Hitchbot was created by David Harris Smith of McMaster University and Frauke Zeller of Ryerson University. This robot made a phenomenon which grabbed attention from people all over the world by hitchhiking across Canada, USA and Europe. But this travel didn't last for a longer period since it was destructed by some people while it was hitchhiking around Pennsylvania in Aug 2015.

## OBJECTIVE

Hitchbot was a social robot which was designed to study the culture of human kindness as well as the current phase of AI (Artificial Intelligence) prevailing in the world. Hitchbot focuses mainly on building a relationship bridge between humans and social robots.

## ABOUT THE BOT

The bot had a cylindrical body made by a plastic bucket added with two flexible arms adjacently and two flexible legs in the bottom. But the bot cannot walk instead it has to be picked up and dropped. The top section contained a transparent head with a screen displaying eyes and mouth to make it look similar to a humanoid in the external appearance and its gender was neutral. This robot was programmed to get lift from any vehicle on roadside. After entering the vehicle the driver will be informed of the robot's destination. It can also interact with the driver in a polite conversation by answering their questions and cracking jokes.



The robot can get charged by plugging it into a power socket or a cigarette lighter provided in the vehicle. Also it will make the drivers informed when it needs to be charged. Hitchbot was equipped with a GPS(Global Positioning System) device and a 3G connection which allowed the researchers to track its location. Also it had a built-in camera to take photographs every twenty minutes of its journey.

Hitchbot had hitchhiked across Canada from Institute for Applied Creativity at NSCAD University Halifax ,Nova Scotia to Victoria, British Columbia from July 27 to Aug 21, 2014. It hitchhiked around Germany for few days in 2015 and attempted to cross US from Boston to San Francisco starting in July 2015.

On Aug 1,2015 Hitchbot stopped uploading photos and status in social sites and responding to the researchers while it was hitchhiking around Pennsylvania. On Aug 3,2015 it was officially declared that the robot was destroyed in Pennsylvania and its travel came to an end. "The robot designed to study humans lost its destiny by the action of humans".

The robot can upload the photographs which were taken by it and can update status in social sites like Twitter, Facebook and Instagram.



More than 60000 likes on Facebook

More than 34000 followers on Twitter (@hitchBOT)



13000 followers on Instagram (@hitchbot)



# HOLO LENS

## THE HOLO LENS,

that Microsoft will ship will be a Star Trek-style visor that wraps around your head but doesn't isolate you from the world. It is a gadget, a smart glasses unit that has a self contained windows 10 computer. It is wireless, cordless, and uses advanced sensors. Holo lens makes use of the augmented reality environment.

It was under development five years before in 2007 as codenamed "Project Baraboo" ,when it was recently announced at a press event on January 21,2015. It was announced by the Microsoft as its" Windows 10 – The next chapter" during the event. The company expects the holo lens to be rolled out after the Windows 10 launch.

The design of the holo lens is quite brilliant and sophisticated at the same time. It seems kind of technology straight from the future. The Microsoft Holo Lens has glasses mounted to a head band. The head band is adjustable and padded. It can be operated in four directions. It has a adjustment wheel at the back of the head band to secure it around their neck. The visor is let down in front of the eyes.

The visor is tinted. There is a power cord coming from the ceiling rigged to move with you as you walk.

The Microsoft Holo Lens is expected to weigh around 0.4kgs (0.8 pounds). In the brow, it is pretty much rigged with sensors , hardware including camera which has a very efficient camera angle view of 120x120 degrees, a processing unit. Calibration must be required for providing the right experience for the user. At the bottom are a pair of stereo speakers. Surprisingly the speakers allow the user to hear sounds along with the real world, not obstructing the external sound. The images supplied by the holo lens were accurate and clear. It is said that the retina screen has the same resolution as human retina. What we see isn't a hologram; it's a projection.

 Microsoft  
HoloLens



This lets the Microsoft Holo Lens to produce very complex and cheap lenses that provides the comfort of viewing 3D images to the users. The display projection only occupies a limited portion of the user's field of view.

The Microsoft Holo Lens consists of a HPU ( Holographic processing unit) that can process "terabytes of data" within seconds in real time. The lenses consists of three layers such as blue, green, and red with diffractive features.

The Holo lens becomes uncomfortable for the people wearing power glasses. But , the reviews got from other people were quite remarkable. Its light, comfortable to wear.

With holo lens, there wont be need of any monitors. What everyone need is a wider wall. It relieves us from the use of monitors for display. I'm sure to find everyone's houses with wider walls in the future. With Holo lens we can achieve even the greatest. Using the Holo Studio 3D building tool, using a simple gestures and voice commands, it lets you to design the real world structures .

With holo lens, we can watch movies on the go. With command "Follow", the screen follows as like a shadow.

The famous game "Minecraft" inspired by LEGO, has been implemented in holo lens. Now with holo lens , it lets us build digital landscape in our physical space.

Skype call can be done with more efficiency as before.

The video call doesn't jump around the room if you move; it sits in one place unless you look too far away and then it moves back into view, or you can pin it in place.

Holo lens lets us walk in the Mars. Yes, its true. It provides a environment exact to the Mars environment using unique digital capture with the help of NASA.

We can even spot Neil Amstrong's foot print and we could measure his shoe size. That's how the accuracy percentage is. Microsoft's Holo lens is a break through for cheaper holograms. The price is projected to be higher than the consoles.

The Microsoft Holo Lens is assured to break Google Glasses anytime sooner or later. It's the golden age for Microsoft until a more innovative device arrives. Until then , Keep calm and Hail Microsoft



# DJI PHANTOM

**PHANTOM** is a series of unmanned aerial quadcopters developed by DJI, a Chinese company headquartered in Shenzhen, China. These quadcopters are recreational and commercial UAVs mainly intended for aerial cinematography and photography.

The Phantom is a series of non-military quadcopter UAVs developed and distributed by DJI. Their body frames are made of composite materials. Propulsion is provided by four two-blade propellers driven by four electric engines mounted at the ends of the x-shaped body. Originally designed for aerial photo taking and video recording, the Phantom series quadcopters can carry different cameras.

## APPLICATIONS

Although the commercial use of drones is still in a legal gray area, several segments of industry are open to its usage and already seeing many benefits. Among their many applications, the most well known are drone journalism, hurricane hunting, 3-D mapping of landscape, nature protection, farming, and search and rescue. Drones are being used in entertainment as well as in business. On July 23, 2014 the Fox Broadcasting Company has used several Phantom 2 Vision+ quadcopters to promote its show during the San Diego Comic-Con International 2014.



## RECEPTION

The Phantom series of UAVs has been popular with hobby enthusiasts because of its consumer-friendly appearance and easy-to-fly features. Drones have made dramatic appearances at the Consumer Electronics Show (CES) of Las Vegas, Nevada, USA for several years. A new community of drone enthusiasts called Sky Pixel has recently been created as a means to connect and support drone users. Around the world, drones are being the subject of regulations for safety reasons. For example, a number of incidents such as a DJI Phantom that crash-landed at the White House, has prompted authorities in the USA (FAA), the UK (Civil Aviation Authority) and the The European Aviation Safety Agency to ban them in some strategic locations (ex. airports) or regulate their use and require that commercial operators hold a permit.

However, the FAA has granted regulatory exemptions for the operations of the Phantom series UAVs for film production in Hollywood, aerial surveillance, construction site monitoring, crop scouting in agriculture and photography production in real estate.





# TRENDING APPLICATIONS OF INTERNET OF THINGS

## SMARTHOME

1



Smart Home clearly stands out, ranking as highest Internet of Things application on all measured channels. More than 60,000 people currently search for the term “Smart Home” each month. This is not a surprise. The IoT Analytics company database for Smart Home includes 256 companies and start-ups. More companies are active in smart home than any other application in the field of IoT. The total amount of funding for Smart Home start-ups currently exceeds \$2.5bn. This list includes prominent start-up names such as Nest or AlertMe as well as a number of multinational corporations like Philips, Haier or Belkin.

## WEARABLES

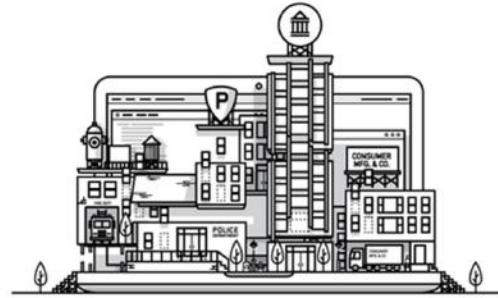
2



Wearables remain a hot topic too. As consumers await the release of Apple’s new smart watch in April 2015, there are plenty of other wearable innovations to be excited about: like the Sony Smart B Trainer, the Myo gesture control, or LookSee bracelet. Of all the IoT start-ups, wearables maker Jawbone is probably the one with the biggest funding to date. It stands at more than half a billion dollars!

# SMART CITY

3



Smart city spans a wide variety of use cases, from traffic management to water distribution, to waste management, urban security and environmental monitoring. Its popularity is fueled by the fact that many Smart City solutions promise to alleviate real pains of people living in cities these days. The IoT solutions in the area of Smart City solve traffic congestion problems, reduce noise and pollution and help make cities safer.

# SMART GRIDS

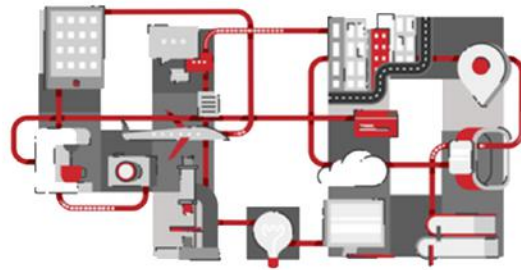
4



Smart grids is a special one. A future smart grid promises to use information about the behaviors of electricity suppliers and consumers in an automated fashion to improve the efficiency, reliability, and economics of electricity. 41,000 monthly Google searches highlight the concept's popularity. However, the lack of tweets (Just 100 per month) shows that people don't have much to say about it.

# INDUSTRIAL INTERNET

5



The industrial internet is also one of the special Internet of Things applications. While many market researches such as Gartner or Cisco see the industrial internet as the IoT concept with the highest overall potential, its popularity currently doesn't reach the masses like smart home or wearables do. The industrial internet however has a lot going for it. The industrial internet gets the biggest push of people on Twitter (~1,700 tweets per month) compared to other non-consumer-oriented IoT concepts.

# CONNECTED CARS

6



The connected car is coming up slowly. Owing to the fact that the development cycles in the automotive industry typically take 2-4 years, we haven't seen much buzz around the connected car yet. But it seems we are getting there. Most large auto makers as well as some brave start-ups are working on connected car solutions. And if the BMWs and Fords of this world don't present the next generation internet connected car soon, other well-known giants will: Google, Microsoft, and Apple have all announced connected car platforms.

# CONNECTED HEALTH

7



Connected health remains the sleeping giant of the Internet of Things applications. The concept of a connected health care system and smart medical devices bears enormous potential, not just for companies but also for the well-being of people in general. Connected Health has not reached the masses yet. Prominent use cases and large-scale start-up successes are still to be seen.

# SMART RETAIL

8



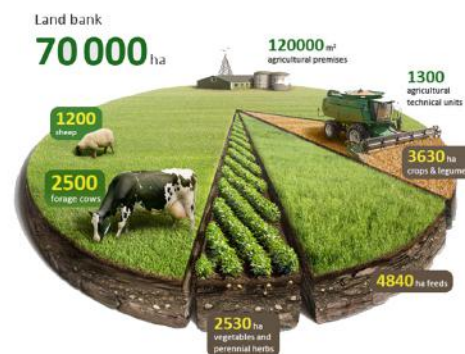
Proximity-based advertising as a subset of smart retail is starting to take off. But the popularity ranking shows that it is still a niche segment. One LinkedIn post per month is nothing compared to 430 for smart home.

# SMART SUPPLY CHAIN



Supply chains have been getting smarter for some years already. Solutions for tracking goods while they are on the road, or getting suppliers to exchange inventory information have been on the market for years. So while it is perfectly logic that the topic will get a new push with the Internet of Things, it seems that so far its popularity remains limited.

# SMART FARMING



Smart farming is an often overlooked business-case for the internet of Things because it does not really fit into the well-known categories such as health, mobility, or industrial. However, due to the remoteness of farming operations and the large number of livestock that could be monitored the Internet of Things could revolutionize the way farmers work. But this idea has not yet reached large-scale attention. Nevertheless, one of the Internet of Things applications that should not be underestimated. Smart farming will become the important application field in the predominantly agricultural-product exporting countries.

# CELLUON PICOPRO

## THE SMALLEST THINGS MAKE THE BIGGEST IMPRESSION

Suits this PicoPro, an ultra-portable, laser HD projector that puts a cinema in your pocket and a big screen experience at your fingertips. Go beyond the small screen to share movies, music videos, social media pictures or any content from your mobile devices anytime, anywhere with dual wireless or simple HDMI interfaces. This always-in-focus projector offers bold, bright colors and an always-in-focus, HD picture from a slim, lightweight projector. PicoPro – The real big deal in a tiny package.

## DESIGN

Design-wise, the PicoPro is a tiny box that is smaller in length and width than an iPhone 6 Plus. It is divided into two sections, one that contains the actual projector and the other containing the various ports.

There's no need to focus the PicoPro, as it uses lasers to project the image and has infinite focus. It focuses an arms-length away from a wall as it does from 10 feet away.

The PicoPro comes with a small carrying pouch, and with iOS devices you'll need to supply your own digital AV adapter to connect to the HDMI cable.

## FUNCTION

The color reproduction of the PicoPro is incredibly good, and the image is clear from edge to edge. The fact that you never have to focus is worth the price of admission no sound at all. The image quality and brightness out of this tiny box is stellar and to think that it does it all without making a sound or getting hot. There are no expensive bulbs to burn out (those often cost just as much as the PicoPro itself!) and using an iPhone, an adapter and this projector makes for a feather weight presentation tool. The only negative is the device doesn't support AirPlay.



# BLUE STACKS- HISTORY

Blue Stacks is an American Tech Company that produces the Blue Stacks App player and other cloud-based cross-platform products. The Blue Stack App Player is designed to enable android application to run on Window PCs and Macintosh computers. The company was found by Rosen Sharma, former CTO at McAfee and a board member of cloud.com. It relates to virtualization and mobile software industry.

The product which is released by Blue Stack is an App player and it works on the platform X86. It is available in 16 types of languages. It is a kind of a virtual machine and Android Emulator. Its size is 196 MB. The operating system in which it works is Windows XP, MacOS X snow Leopard or later.

The top companies like Samsung, Intel, Radar partners, Redpoint and others had been invested in Blue Stacks.

App Player was officially launched at Citrix Synergy Conference in San Francisco .

Early version of Blue Stacks had been demonstrated onstage by Citrix CEO Mark Templeton and they formed a partnership and it is downloadable piece of Windows and Mac software that virtualizes the full android experience. It is free to download and use after adding a small number of sponsored apps.

The MacOS version of App player is no longer available for download on their homepage while it was officially dropped later. Recently in July 2015, Blue Stacks released that a new version of App player for MacOS.

Game POP is the another product of Blue Stacks which is used as a subscription model. It allows user to play as many as 500 mobile games on TV.

At last, simply "Blue Stacks" refers to the "Android OS" where android applications can run efficiently using "App player". Here is the link to know more <http://www.bluestacks.com/>



# WINDOWS 10

**Microsoft** starts rolling out its new operating system, Windows 10, to customers around the world today, with members of its 'Insider' programme being the first to receive the free upgrade.

Following a hostile reception to Windows 8, which launched in 2012 and introduced the concept of 'live tiles' for touch-based computing, Microsoft decided to bypass Windows 9 and jump straight to Windows 10, combining what it describes as the "best elements" of Windows 7 and Windows 8.

Live tiles still feature in Windows 10, offering shortcuts to the user's favourite applications, but are far less obtrusive than in Windows 8. Microsoft has also brought back the Start menu from Windows 7, allowing users to browse through a list of their most-used programs.

Unlike with previous versions, there will not be a separate Windows Phone 10 operating system. Instead, Windows 10 will be used across all Microsoft devices, including PCs, tablets and smartphones – as well as the Xbox games console and Microsoft's holographic headset, HoloLens.

A feature called Continuum means that the software automatically detects whether there is a keyboard attached to the device and selects the most appropriate mode. The company has killed off Windows Media Center – its software for recording and playing TV, music and video – and replaced it with modified versions of Xbox Music and Xbox Video, which have been renamed as 'Groove' and 'Movies & TV' respectively.

This means users can start watching a video or listening to a playlist on one Windows 10 device, and then pick up where they left off on another device.

There is a new web browser called Edge, which allows users to annotate web pages, save them to read later, or select "read mode" to strip out adverts and sidebars.

Windows 10 also comes with Microsoft's virtual personal assistant, Cortana, which pops up with notifications and suggestions, and learns the user's preferences over time.



## Windows 10 review:

A fresh Start - Windows is available as a free upgrade for Windows 7 and Windows 8.1 users. Anyone who is still on Windows 8 will have to upgrade to Windows 8.1 to qualify for the free upgrade. Everyone else will have to pay \$119 (£99) for Windows 10 Home and \$199 (about £131) for Windows 10 Pro. People who have pre-registered for the upgrade, by clicking the Windows icon on the right-hand side of their taskbar, will be notified by Microsoft once the operating system has been downloaded onto their computer and is ready for installation.

However, not everyone who has pre-registered will get the new software today. Microsoft said that it will start notifying reserved systems in waves, slowly scaling up after July 29. When the time comes, Microsoft will scan their computer to check it is compatible, and then download Windows 10 automatically.

In order to run Windows 10, users need a PC or tablet with a 1GHz processor or faster, 1GB of RAM and 16GB hard disk space for 32-bit machines or 2GB and 16GB for 64-bit machines, a DirectX 9 or later graphics card with a WDDM 1.0 driver and an 800 x 600 display or better.

Windows 7 currently has a 61 per cent share of the global operating system market, according to NetMarketShare.

Windows 8.1 accounts for 13 per cent and Windows 8 for three per cent. Windows XP, which launched in 2001 and is no longer supported by Microsoft, still accounts for almost 12 per cent.

It is thought that the rollout of Windows 10 will break internet traffic records, due to the high volume of downloads, and could result in some problems with network performance over the next week. Microsoft has reportedly reserved up to 40Tbps (terabits per second) of capacity, in an attempt to ensure it runs smoothly.

Although Windows 10 begins rolling out to PCs and tablets today, Microsoft is yet to announce plans for launching Windows 10 on smartphones. Microsoft said that it was keen to see how the PC rollout goes before embarking on the next phase, but some analysts have expressed concern.





DR. A.P.J. ABDUL KALAM  
1931-2015

# DR. A.P.J. ABDUL KALAM

TO SUCCEED IN YOUR MISSION, YOU MUST HAVE A SINGLE MINDED DEVOTION TO YOUR GOAL

Dr. A.P.J. Abdul Kalam, who had stated the above quote, has followed the same path throughout his life. Being polite and humble, he remained as a bachelor and continued to serve his nation and its people until his last breath.

He completed his schooling in his hometown and graduated his bachelor's degree in physics and pursued his higher education in aerospace engineering.

After graduation, he started his career in 1960. He paved way for various inventions and played a major role in the development of the Indian civilian space programme and the military missile of our country.

## HIS ACHIEVEMENTS

Third president who won **Bharat Ratna**.  
First scientist and first bachelor to occupy **Rashtrapathi Bhavan**.

1981 - Padma Bhushan Award  
1990 - Padma Vibushan Award  
1997 - Bharat Ratna Award  
2013 - Von Braun Award



# HIS MISSIONS

**1960**

He designed a small helicopter for the Indian army at DRDO. He was a part of INCOSPAR committee which was lead by Vikram Sarabhai.

**1963-64**

He visited NASA's Langley Research center, Goddard Space Flight center and Wallop's Flight facility.

**1965**

He first started his work on an expandable rocket project independently at DRDO.

**1969**

He got approval from the government to expand the project that he started in 1965, to include more engineers. He was transferred to ISRO.

**1970**

He developed two projects named Project Devil and Project Valiant.

**1970-90**

He made an effort to develop PSLV and SLV - III project.

**1980**

He was the chief executive of IGMD and he played a major part in the completion of Agni & Prithvi.

**1992-99**

He was the chief scientific advisor to the Prime Minister and he was the Secretary of DRDO. He was the chief project co-ordinator of Pokhran II.

# HUMBLENESS OF KALAM

The great man is he who does not lose his child's heart  
-Mencius.

His humbleness can be seen,

1. When he made sure Indian scientists got VIP treatment at Paris airport.

2. When his team worker could not take his kids to an exhibition because of hectic work, He did.

3. When he asked an Indian student to have dinner from his plate.

4. When he did not want broken glass on the walls because it could harm the birds.

5. When an excited kid drew a sketch of him and he sent a thank you letter.

6. When he gave a Back-Bencher, an internship with the Rashtrapathi Bhavan.

7. When he invited a cobbler as a Presidential guest.

8. When he refused to sit on a chair reserved for him because it was bigger than the other chairs.

9. When he asked people on Yahoo, how we could free our planet from terrorism.

10. When he was about to deliver a lecture to 400 students and the power went off, he took the matter into his own hands.

# FAREWELL DAY MEMORIES



DIGIFLASH PRESIDENT 2015-16  
WELCOMING EVERYONE WITH  
A WARM NOTE

PRINTED  
MEMORIES



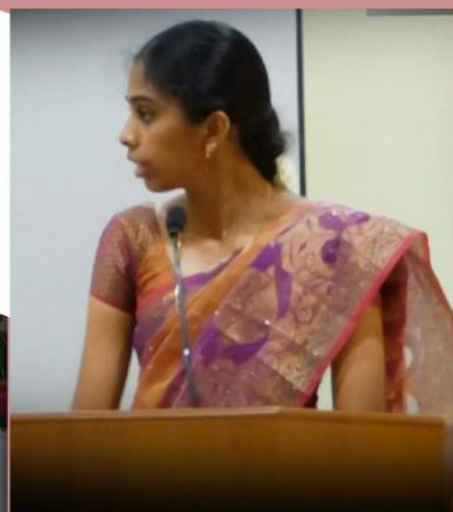
PUTTING A SMILE ON  
EVERYBODY'S FACE.  
A **PLEASANT** MEMORY TO  
BE REMEMBERED.

THE AWARD WINNERS  
GETTING CHEERED  
BY THE CROWD



# DIGIFLASH 2015-16

## INAUGURATION



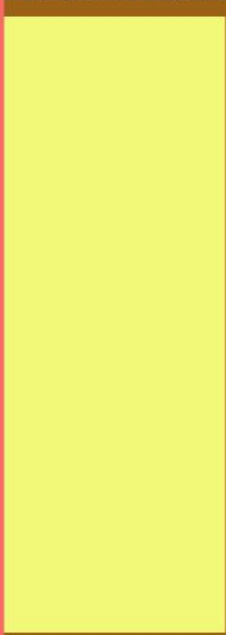
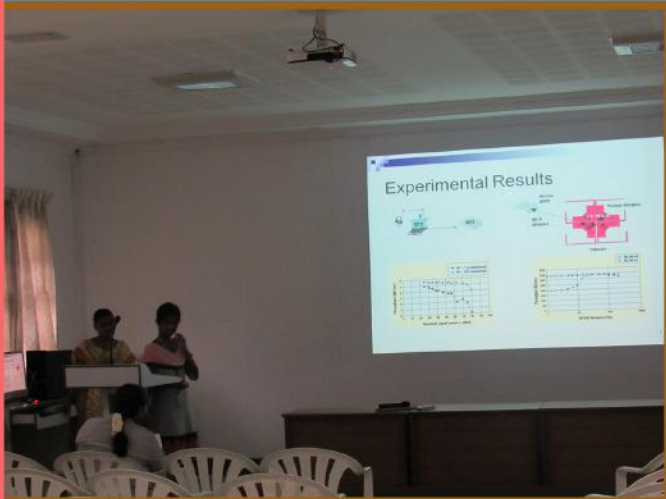
# LET US C & QUIZ CONTEST





# PAPYRUS

## THIRD YEAR PAPER PRESENTATION CONTEST



# DIGIFLASH @ AT THE HELPDESK

## FIRST YEAR INAUGURATION



# TEAM DIGITIMES 2015-2016

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2. Mr. D. HARI

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