

# CONOSCENZA



PLUS

## Movies Review

Chappie | Star Wars

## Games Review

Batman Arkham Knight | The Witcher 3

GRUB STREETERS  
ARTICLES BY NEWBIES

Coding 101

**MARCH  
WITH THE  
LEADING  
TECHNOLOGIES**

Code World

**CODECHEF**  
**CodinGame**  
[topcoder]

Young Minds

**Quikr**  
**paytm**

Vacuum Tubes

IBM Watson

Transistors

LIFI

DNA Harddrive

Hardware

Intel PC stick

Samsung sleep sense

Gadgets

Android studio

Budgee robot

Samsung galaxy note 5





the technical horizon...



# BIRTHDAY CELEBRATION



*This Magazine highlights the exalting  
glimpse of the triumphant time that  
just passed by....*

# EDITORIAL

Conatus, the technical society of Ajay Kumar Garg Engineering College, has always been engaged in exploring the field of Computer Science and Information Technology increasing the awareness among the students and opening their new vistas of knowledge.



In order to maintain continuum, TEAM CONATUS takes immense pride in launching the 16th edition of Conoscenza.... the tech torrent that addresses the applied and theoretical issues of the technical field.

The 16th edition contains articles overloaded with information like Evolution of Technology, Android Studio, Coding 101, Intel PC Stick, Samsung SleepSense, Witcher 3, Batman Arkham Knight.

Your suggestions and recommendations towards creation and increasing the spontaneity of Conoscenza are most welcome.

**Warm regards  
TEAM CONATUS**

Please write to us at-



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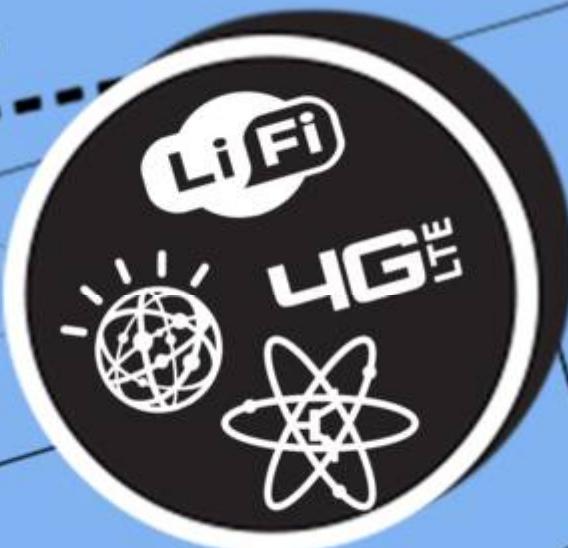
[/conatus\\_agn](https://twitter.com/conatus_agn)

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# COVER STORY

## 60 YEARS OF DOWNSIZING AND UPGRADING

The inception of computing inspired a remarkable race for faster, smaller, lighter, cheaper hardware.

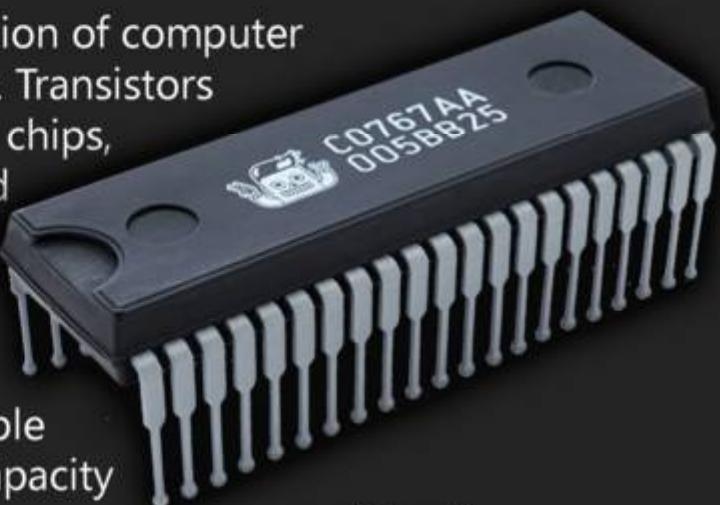
	Eniac	Intel Core Duo chip
Performance	5,000 addition problems/sec	21.8 billion ops/sec
Power use	170,000 watts	31 watts max
Weight	28 tons	negligible
Size	40.2" w x 8" h panels	90.3 sq. mm.
What's inside	17,840 vacuum tubes	151.6 M transistors
Cost	\$487,000	\$637

• Invented in 1904 (Thermionic valves) vacuum tubes were a basic component for electronics throughout the first half of the twentieth century, which saw the diffusion of radio, television, radar, sound reinforcement, sound recording and reproduction, large telephone networks, analog and computers, and industrial process control.

- The major breakthrough came in making the First Generation Computers like the ENIAC, EDSAC, UNIVAC-I.
- The computers were extremely big in size and their programming was done in difficult Machine language.
- High electricity consumption, computers were unreliable, generated a lot of heat.
- Vacuum tube or electron tube or thermionic valve is a device that controls electric current between electrodes in an evacuated container. Vacuum tubes mostly rely on thermionic emission of electrons from a hot filament or a cathode heated by the filament. This type is called a thermionic tube or thermionic valve.
  - These were highly reliable, cheaper, occupied less space, consumed 1/10 of power required by the vacuum tubes, generated less heat.
- The earliest vacuum tubes evolved from incandescent light bulbs.
  - The second generation computers began with the advent of transistorized circuitry.
  - Transistor is the building block for the processor. Without the transistor, our servers would be three stories high, and laptops would be a prop on Star Trek. Our televisions would still use vacuum tubes and camera, GPS, mobiles, i-pods, internet etc. would be impossible. Imagine a life of that?



• ICs marked the advent of third generation of computer which was highly inexpensive and faster. Transistors were miniaturized and placed on silicon chips, called semiconductors with resistors and capacitors encapsulated in a small package with many leads.



• The Magnetic disk technology made it possible to have drives having capacity upto 100MBs. CPUs became more powerful with capacity of carrying out 1 million instructions per second.

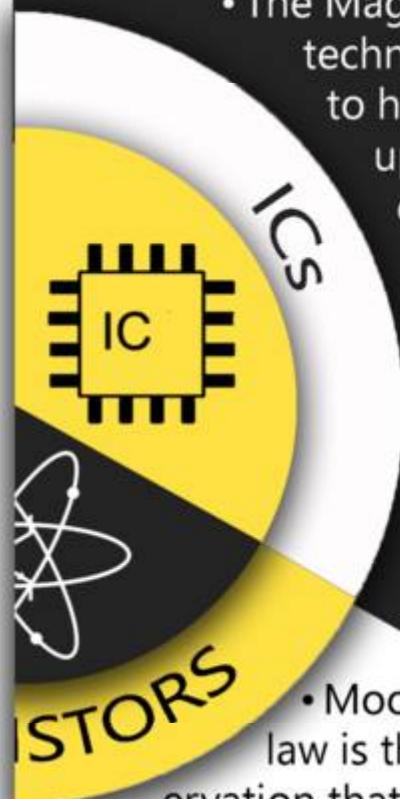
• Digital ICs contain millions of logic gates, flip-flops, multi plexers, and other circuits in a few square millimeters. These digital ICs, typically microprocessors, DSPs, and microcontrollers, work using binary mathematics to process "one" and "zero" signals.

• ICs have consistently migrated to smaller feature sizes over the years, allowing more circuitry to be packed on each chip. This increased capacity per unit area can be used to decrease cost or increase functionality - see Moore's law which, in its modern interpretation, states that the

• Moore's law is the observation that the number of transistors in a dense integrated circuit doubles approximately every two years. The observation is named after Gordon E. Moore, the co-founder of Intel and Fairchild Semiconductor, whose 1965 paper described a doubling every year in the number of components per integrated circuit.

number of transistors in an integrated circuit doubles every year.

• Today, a 45 nanometer Penryn chip from Intel holds 820 million transistors. It is likely that within 10 to 15 years, semiconductor companies will be squeezing 10 billion to 15 billion onto a single chip. Transistors can turn themselves on or off 300 billion times per second. Intel estimates that about 10 quintillion transistors ship each year. That 10,000 times the number of ants on Earth.



# COVER STORY



4G, short for fourth generation, is the fourth generation of mobile telecommunications technology, succeeding 3G and preceding 5G. A 4G system, in addition to the usual voice and other services of 3G, provides mobile broadband

Internet access, for example, to laptops with wireless modems, to smartphones, and to other mobile devices. Potential and current applications include amended mobile web access, IP telephony, gaming services, high-definition mobile TV, video conferencing, 3D television, and cloud computing. Two 4G candidate systems are commercially deployed: the Mobile WiMAX standard (first used in South Korea in 2007), and the first-release Long Term Evolution (LTE) standard (in Oslo, Norway and Stockholm, Sweden since 2009). It has however been debated if these first-release versions should be considered to be 4G or not.

In the United States, Sprint (previously Clearwire) has deployed Mobile WiMAX networks since 2008, while MetroPCS became the first operator to offer LTE service in 2010.

4G can offer speeds theoretically up to 672 Mbps though presently it is 42 Mbps maximum.

Watson is an artificially intelligent computer system capable of answering questions posed in natural language, developed in IBM's DeepQA project by a research team led by principal investigator David Ferrucci. Watson was named after IBM's first CEO and industrialist Thomas J. Watson. The computer system was specifically developed to answer questions on the quiz show Jeopardy! In 2011, Watson competed on Jeopardy! against former winners Brad Rutter and Ken Jennings. Watson received the first prize of \$1 million.



The Google Self-Driving Car, commonly abbreviated as SDC, is a project by Google X that involves developing technology for autonomous cars, mainly electric cars. The software powering Google's cars is called Google Chauffeur. Lettering on the side of each car identifies it as a "self-driving car". The project is



led by Google engineer Sebastian Thrun, former director of the Stanford Artificial Intelligence Laboratory and co-inventor of Google Street View. Thrun's team at Stanford created the robotic vehicle Stanley which won the 2005 DARPA Grand Challenge and US\$ 2 million prize from the United States Department of Defense. The team developing the system consisted of 15 engineer working for Google, including Chris Urmson, Mike Montemerlo, and Anthony Levandowski who had worked on the DARPA Grand and Urban Challenges. Legislation has been passed in four U.S. states and Washington, D.C. allowing driverless cars. The state of Nevada passed a law on June 29, 2011, permitting the operation of autonomous cars in Nevada, after Google had been lobbying in that state for robotic car laws.

Watson had access to 200 million

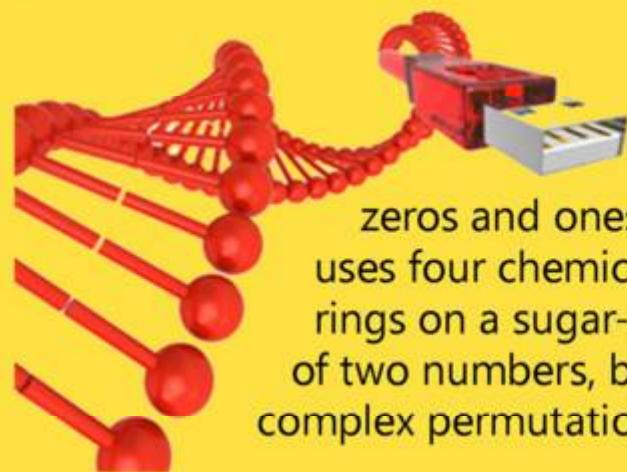
pages of structured and unstructured content consuming four terabytes of disk storage including the full text of Wikipedia, but was not connected to the Internet during the game.

For each clue, Watson's three most probable responses were displayed on the television screen. Watson consistently outperformed its human opponents on the game's signaling device, but had trouble responding to a few categories, notably those having short clues containing only a few words.

The Nevada law went into effect on March 1, 2012, and the Nevada Department of Motor Vehicles issued the first license for an autonomous car in May 2012, to a Toyota Prius modified with Google's mental drive-less technology.



# COVER STORY



After the advent of hard drives and flash drives, a new type of storage device is being researched, the DNA digital data storage. On hard drives, combinations of zeros and ones are used to represent data. DNA, meanwhile, uses four chemical bases (A,T,C and G), strung together like rings on a sugar-phosphate ladder. It's got four letters instead of two numbers, but both systems can store endless complex permutations of information.

DNA hard drive can safely store data for 1 million years while the traditional hard drives can do for 50 years max. To help keep errors low on the data stored, the team also developed an algorithm to correct mistakes in the data based on a technique called Reed-Solomon code. A fraction of ounce of DNA can store up to 300,000 Terabytes of data.

Right now the technology is in nascent stage and has its drawbacks. For one, the data stored in DNA hard drive are not searchable. To find a particular data, the whole DNA strand must be searched. Also presently the technology is quite expensive for storing even a small amount of data. But in the foreseeable future, these may replace the traditional storage devices and preserve humanity's info for millennia to come.

Robots have become smart and small enough to increase efficiency but there's no stopping there. Nanorobots, or nanobots, are small microscopic robots of few nanometres ( $10^{-9}$  m) which are capable of performing minuscule tasks. These robots can precisely interact with nanoscale objects, like

human body cells or microscopic surfaces. These robots can operate individually or in a large group like a swarm. A fleet of nanorobots might serve as antibodies or antiviral agents in patients with compromised immune systems, or in diseases that do not respond to more conventional measures.



LiFi is a wireless optical networking technology that uses light-emitting diodes (LEDs) for data transmission and is subset of optical wireless communications (OWC). It can be a complement to RF communication (Wi-Fi or Cellular network). Currently the system is able to send and receive data at aggregate rates of 110-155 Mb/s and some modifications to

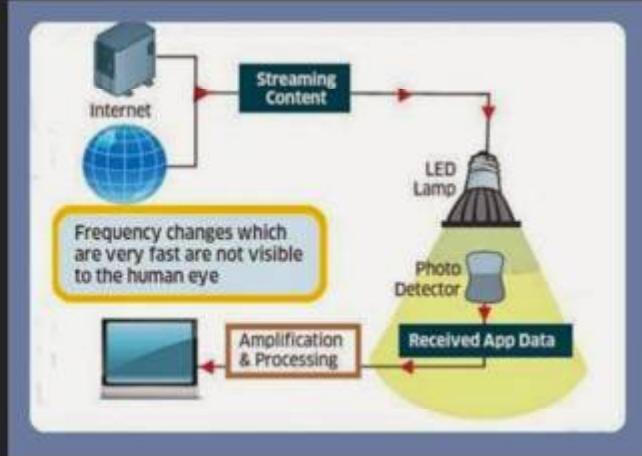
system allowed speed up to 100 Gb/s. The system has a potential for data rates of 3 terabits per second and up.

Also this system is very secure as there is no piggybacking and direct line of sight prevents access of third parties.

This system has endless possibilities as LEDs are present everywhere and they can transmit data to all the devices connected to them, giving a huge boost to the Internet of Things (IoT). Also LiFi is free of electromagnetic radiation and can be used in sensitive areas like hospitals, airplanes and power plants. Security of this technology has app-

Recent developments on the fields of biomolecular computing and nano electronics circuitry have demonstrated positively the feasibility of processing logic tasks by bio-computers. lication in government offices, banks to transfer sensitive data, underwater communication, smart lighting, healthcare and hospitals. The applications for this technology are limitless.

Nanorobots are highly durable, capable of remaining operational for years, decades, or centuries. These systems can also operate much because displacements are smaller; this allows mechanical and electrical events to occur in less time at a given speed. These small bots might remove the need of treatments in the future and automatically heal the human beings without any doctor assistance or medical procedures.





## BUDGEE ROBOT

The age of robot servants starts now. Budgee is designed to carry your bags and follow you at a distance of your choice. You can control it using your smartphone or tablet and there's an off switch on its head, just in case. It's also supposed to be able to avoid obstacles, and can carry up to 50lbs and move at four miles per hour. At \$1,400, you can guess why the kickstarter failed, but Budgee is pressing ahead regardless. You can also customize its eye colour and voice tracks, though we have no idea how to handle his inevitable robotic rise to consciousness and subsequent existential crisis.



### •FEATURES•

#### Set the distance

Everyone has different stride lengths, so Budgee has a customizable feature to allow you to set the follow distance that you are comfortable with.



#### The Transmitter

Budgee follows the transmitter that you carry. The transmitter is 1" x 1". It comes with a clip for you to attach it to your belt, back pocket, or pocket book strap.

#### Custom eye colors

You can change Budgee's eye color to be any color on the color spectrum.

# Samsung GALAXY Note 5

Bigger has always been better. Galaxy Note proved that time and again. It also changed the entire game with S Pen. A versatile tool for ideas, goals and dreams.

This time it's Galaxy Note5. The most powerful and beautiful version to date.



## S PEN

It's what makes Galaxy Note5 click. And it's even more like an actual pen, one that writes just as well. But achieves a lot more, making life that much easier. You'll never want to put it down.



## LOSE THE CORD

With Galaxy Note5 charging wirelessly is so fast and so liberating that there'll be no turning back. You're fully charged in just 120 minutes.



## DESIGN

It's still as big but now slimmer, framed by sleek metal and glass. Use S Pen on a gorgeous flat surface while the phone's dual edge back lies snugly in your hand.



# Android Studio

Android Studio is the official IDE for Android application development, based on IntelliJ IDEA. On top of the capabilities you expect from IntelliJ, Android Studio offers:

- Flexible Gradle-based build system.
- Build variants and multiple apk file generation.
- Code templates to help you build common app features.
- Rich layout editor with support for drag and drop theme editing.
- Lint tools to catch performance, usability, version compatibility, and other problems.
- ProGuard and app-signing capabilities.
- Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud, Messaging and App Engine and much more.

## CONFIGURATION:

Android Studio provides wizards and templates that verify your

system requirements, such as the Java Development Kit (JDK) and available RAM, and configure default settings, such as optimized default Android Virtual Device (AVD) emulation and updated system images. This document describes additional configuration settings you may want to use to customize your use of Android Studio.

## DEVELOPER WORKFLOW:

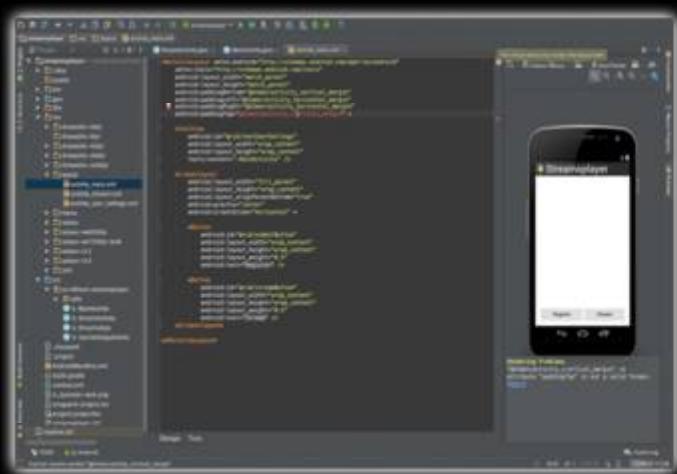
To develop apps for Android, you use a set of tools that are included in Android Studio. In addition to using the tools from Android Studio, you can also access most of the SDK tools from the command line. Developing with Android Studio is the preferred method because it can directly invoke the tools that you need while developing applications.



## APP WORKFLOW:

The development steps encompass four development phases, which include:

- **Environment Setup:** During this phase you install and set up your development environment. You also create Android Virtual Devices (AVDs) and connect hardware devices on which you can install your applications.



- **Building, Debugging and Testing:** During this phase you build your project into a debuggable .apk package(s) that you can install and run on the emulator or an Android powered device. Android Studio uses a build system based on Gradle that provides flexibility, customized build variants, dependency resolution, and much more. If you're using another IDE, you can build your project using Gradle and install it on a device using adb.

- Next, with Android Studio you debug your application using the Android Device Monitor and device log messages (logcat) along with the IntelliJ IDEA intelligent coding features. You can also use a JDWP compliant debugger along with the debugging and logging tools that are provided with the Android SDK.





## INTEL PC STICK

Is your HTPC too big? Computers have become smaller, slicker and less obtrusive over the years, Intel clearly thinks there's room for improvement though, because its latest launch is an Atom-powered PC that's about half the size of a portable hard drive, and plugs directly into a TV or monitor's HDMI port.

It's essentially the guts of a budget tablet, but without the screen. The version of the Computer Stick we received was preloaded with Windows 8.1 (32-bit) and had 2GB of RAM and 32GB of integrated storage.

A less expensive version with Ubuntu Linux 14.04, 1GB of RAM and only 8GB of storage will be available later. Needless to say, neither the RAM nor the onboard storage can be upgraded or swapped.

Both models have integrated Wi-Fi b/g/n and Bluetooth 4.0, and both support micro SD cards of between 8GB and 128GB.

The only way to get audio out is through the HDMI 1.4a port or using a USB audio device. The sole USB port runs at USB 2.0 speed.



The Intel Compute Stick takes computing to the next level and helps deliver the best computing experience possible in an incredibly small device. It brings computing to new devices and environments, transforming the way, when and how we compute.

## SAMSUNG SLEEPsense



The Samsung SLEEP sense is personal healthcare device designed to help people improve the quality of their sleep. The device does so by analysing sleep patterns, including duration and quality, and providing personalised sleep reports via its mobile app.

Here's how it works: you keep the device under your mattress, get the app on your device, and connect the two. From that point onwards, the SleepSense starts to track your sleep cycle using its contactless sensor, which as the company claims, is up to 97 percent accurate.

In addition to your sleep, it also analyses heart and respiratory rates. The device beams reports in the morning, and lets you know how your sleep pattern compares to others. The device can also be wirelessly connected with Samsung smart appliances, allowing lights to be turned off, thermostats to be

lowered, or other adjustments to be made as you fall asleep. Sleepsense can also make note of the time in the morning at which you typically enter a light sleep cycle, so you can set your alarm for that time in order to avoid a jarring awakening from a deep sleep.

The next morning, you can check the app to see an assessment of seven key elements of the previous night's sleep: total sleep time, sleep efficiency, time it took to fall asleep, number of times you woke up, number of times you got out of bed, percentage of time in REM (rapid eye movement) and percentage of time in deep sleep.

The device can be placed under mattress, and will relay their sleep reports via email.

# CODING 101



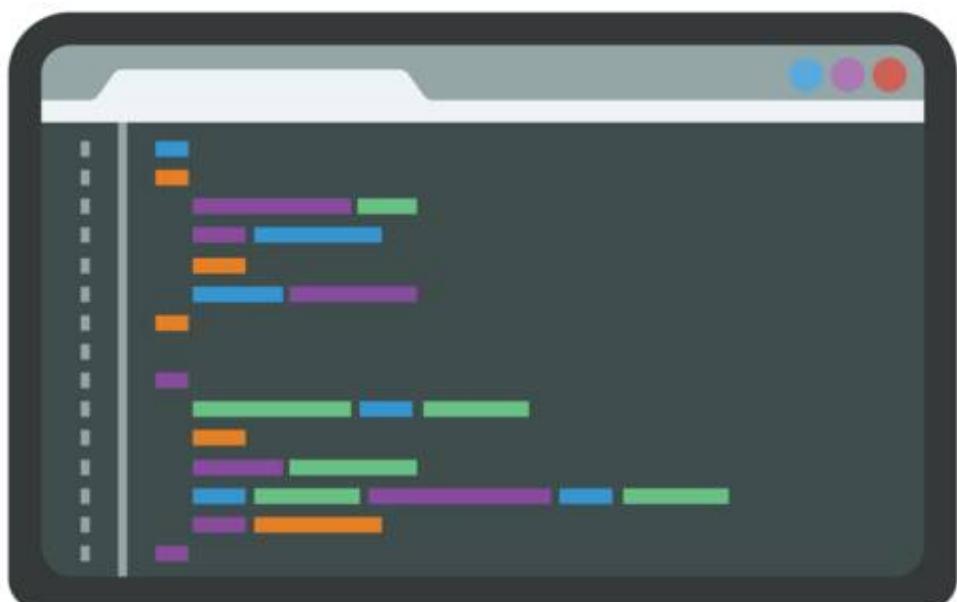
## CODING 101

### C#

C# (pronounced "C-sharp") is an object oriented programming language from Microsoft that aims to combine the computing power of C++ with the programming ease of Visual Basic. C# is based on C++ and contains features similar to that of Java. It is a multi paradigm programming language encompassing strong typing, object oriented (class based), and component oriented programming disciplines.

### Why C#?

- It can be developed using visual studio. Visual studio has the best auto-completion and code generation features till date.
- Code can be used for different platforms without being rewritten for specific architectures (Portability).



- It has the ability to treat programs as their data (Metaprogramming).
- Memory address pointers can only be used within blocks specifically marked as unsafe, and programs with unsafe code need appropriate permissions to run.
- C# allows the programmer to implement each method depending on which interface that method is being called through or like Java, allows the programmer to implement the method once and have that be the single invocation on a call through any of the class' interfaces(Polymorphism).
- C# 3.0 expanded support for functional programming with the introduction of a lightweight syntax for lambda expressions, extension methods, and a list comprehension syntax in the form of a "query comprehension" language (Functional programming).
- C# can be used to develop web applications, windows applications, with supportive tools like Xamarin, apps on android, iOS and Mac can also be developed.

# CODING 101

## Python

It's a general purpose, high-level programming language with a large support community for many different applications. Its syntax emphasizes readability and is closer to spoken English than other common programming languages, making it easier to learn for beginners. It supports multiple programming styles, allows for execution on various computing systems, and encourages modularity and reuse of code.



## Application types

- Machine learning
- Data analysis
- Web development
- Desktop applications
- Scientific computing
- 2D/3D imaging

## CODING & DESIGN



## Used by



INSTAGRAM



GOOGLE



PINTEREST



QUORA



NASA

means less load on your server.

- Immediate feedback to the visitors. They don't have to wait for a page to reload, to see if they have forgotten to enter something.
- Increased interactivity – You can create interfaces that react when the user hovers over them with a mouse or activates them via the keyboard.
- Richer interfaces – You can use JavaScript to include such items as drag-and-drop components and sliders to give a Rich Interface to your site visitors.

## Javascript

JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complementary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform.

## Advantages

- Less server interaction – You can validate user input before sending the page off to the server. This saves server traffic, which

## Limitations

- Client-side JavaScript does not allow the reading or writing of files. This has been kept for security reasons.
- JavaScript cannot be used for networking applications because there is no such support available.
- JavaScript doesn't have any multi-threading or multiprocessor capabilities.

## Our Codeworld

Only learning these programming languages is not enough, one needs to know their proper and efficient implementation. And you should also know where you stand among other coders, the ones who are your competitors. For competing and parallelly studying, there are several platforms where you can hone your coding skills. Not only this, these platforms are hiring grounds for top companies like facebook, skype, quora, etc, who are in search of talented programmers from across the world.

- **Hackerrank**



HackerRank is highly interactive platform and is very good for beginners. It provides a large range of languages. With a range of more than 5 domains and over 14 groups to choose from, you can skill up yourself on Artificial Intelligence or Machine Learning. Whether you are a beginner or an industry veteran, you will find several contests that challenge you and help you boost your coding chops.



## • CodeChef

CodeChef is a non-profit educational initiative of Directi, an Indian venture. It is a global competitive programming platform which supports over 35 programming languages and has a large community of programmers that helps students and professionals, test and improve their coding skills. Its objective is to provide a platform for practice, competition and improvement for both students and professional software developers.

## • Codingame

It is a website that connects the coding world with video games, and it can be a lot of fun to see your code perform graphical tasks even when you don't have any such advance knowledge of graphics.

## ■ Other Platforms ■



SPOJ(Sphere online judge)



 CODEFORCES<sup>®</sup> [ topcoder ]™

## ■ SOLUTION FOR DOUBTS ■

### Quora

Quora is a question and answer website where questions are asked, answered, edited and organized by its community of users. It covers large audience and a larger stretch of topics.

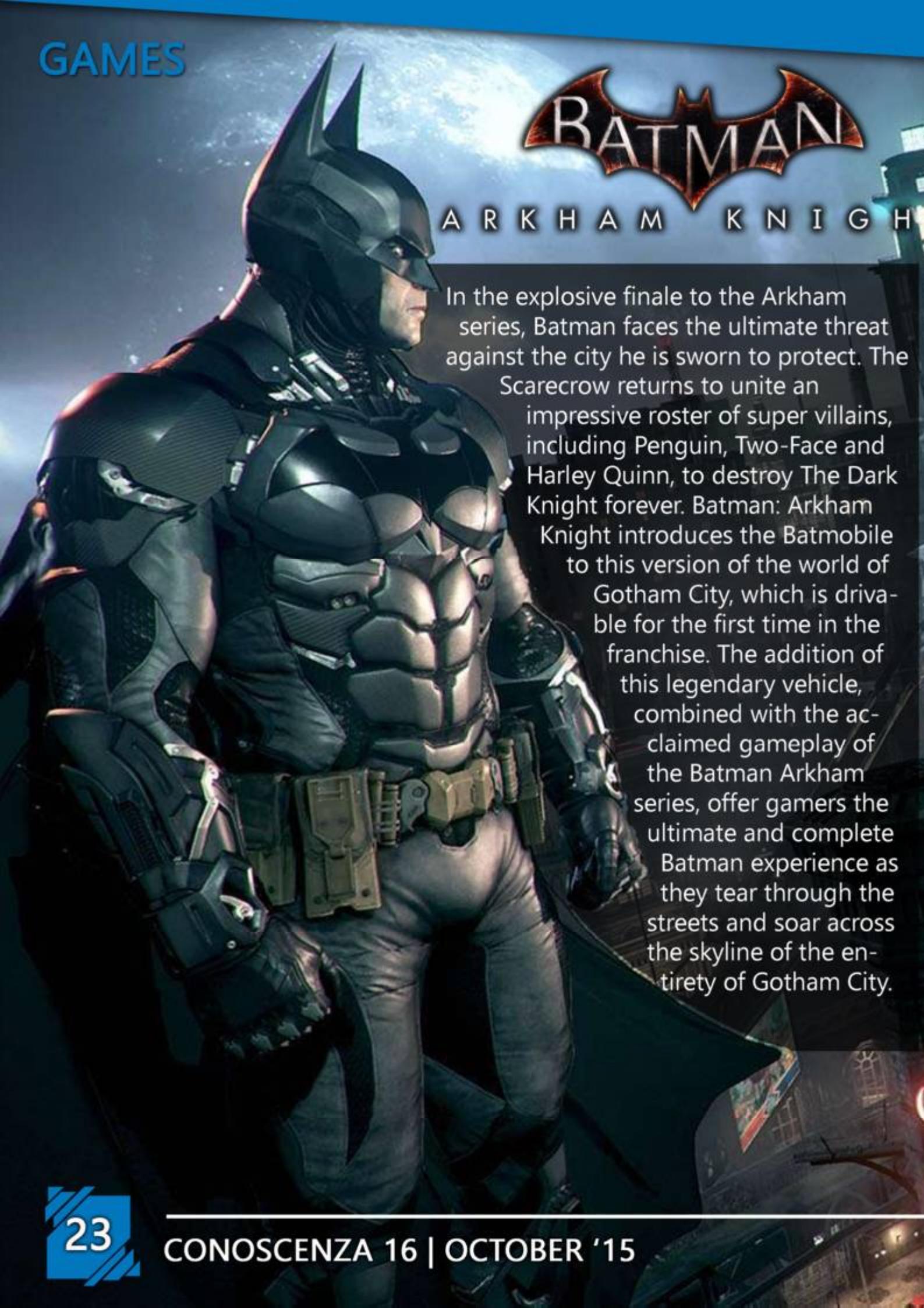
### GeeksforGeeks

A computer science portal for geeks

It serves as a platform for users to ask and answer questions. Not only that, it gives freedom to upvote or downvote questions and answers.

### stackoverflow

A website fully dedicated to Computer Science genre. It provides a good collection of programming, algorithm, interview questions, algorithms, data structure, etc.

The background image shows Batman from the waist up, wearing his iconic suit and cowl, standing on a rooftop or bridge overlooking a dark, lit-up city skyline at night.

# BATMAN ARKHAM KNIGHT

ARKHAM KNIGHT

In the explosive finale to the Arkham series, Batman faces the ultimate threat against the city he is sworn to protect. The Scarecrow returns to unite an impressive roster of super villains, including Penguin, Two-Face and Harley Quinn, to destroy The Dark Knight forever. Batman: Arkham Knight introduces the Batmobile to this version of the world of Gotham City, which is drivable for the first time in the franchise. The addition of this legendary vehicle, combined with the acclaimed gameplay of the Batman Arkham series, offer gamers the ultimate and complete Batman experience as they tear through the streets and soar across the skyline of the entirety of Gotham City.

## HIGHLIGHTS

Roughly 12 hours' worth of story missions do a great job of playing up the long history between Batman, the three Robins, and Jim and Barbara Gordon. The plot does stray a little too far into the supernatural for my tastes in that I generally find the Dark Knight at his finest when the threats he faces are at least remotely grounded in reality but in doing so it drives wedges between allies and delves into Batman's psyche in an interesting way.

While the mystery of the identity of the Arkham Knight fizzles out, there are other surprises to fall. Several strong performances gave it personality: the unsettling monotone voice of John Noble makes this the eeriest version of the Scarecrow yet, Mark Hamill returns for some excellent, darkly hilarious posthumous . Overall the game maintains the thrill and suspense leaving the players baffled till the very end.

- The Batmobile can also be remote controlled, which makes it a great addition to Batman's environmental puzzle-solving tool box.
- Batman's signature strike a counter brawling and stealthy predator fights feel better and smoother than ever, and of course they've been upgraded with dozens of powerful and interesting new mechanics and subtle tweaks that give us more to experiment with and master.
- A few flashy fight scenarios in the campaign and side missions let your team up with an AI controlled Robin, Nightwing, or Catwoman, and use them to execute some awesome dual takedown moves that knock out any enemy instantly and temporarily swap you to control of your partner .

CONOSCENZA 4.5 / 5  
RATING

The Witcher 3: Wild Hunt

No single word, however, could do The Witcher 3: Wild Hunt, justice. It excels in every aspect and will, undoubtedly, be used as a template for game developers for years to come. Its gameplay is fun but also challenging, its crafting system is as expansive as any role playing game to date, its voice acting is fantastic and it is graphically out of this world.

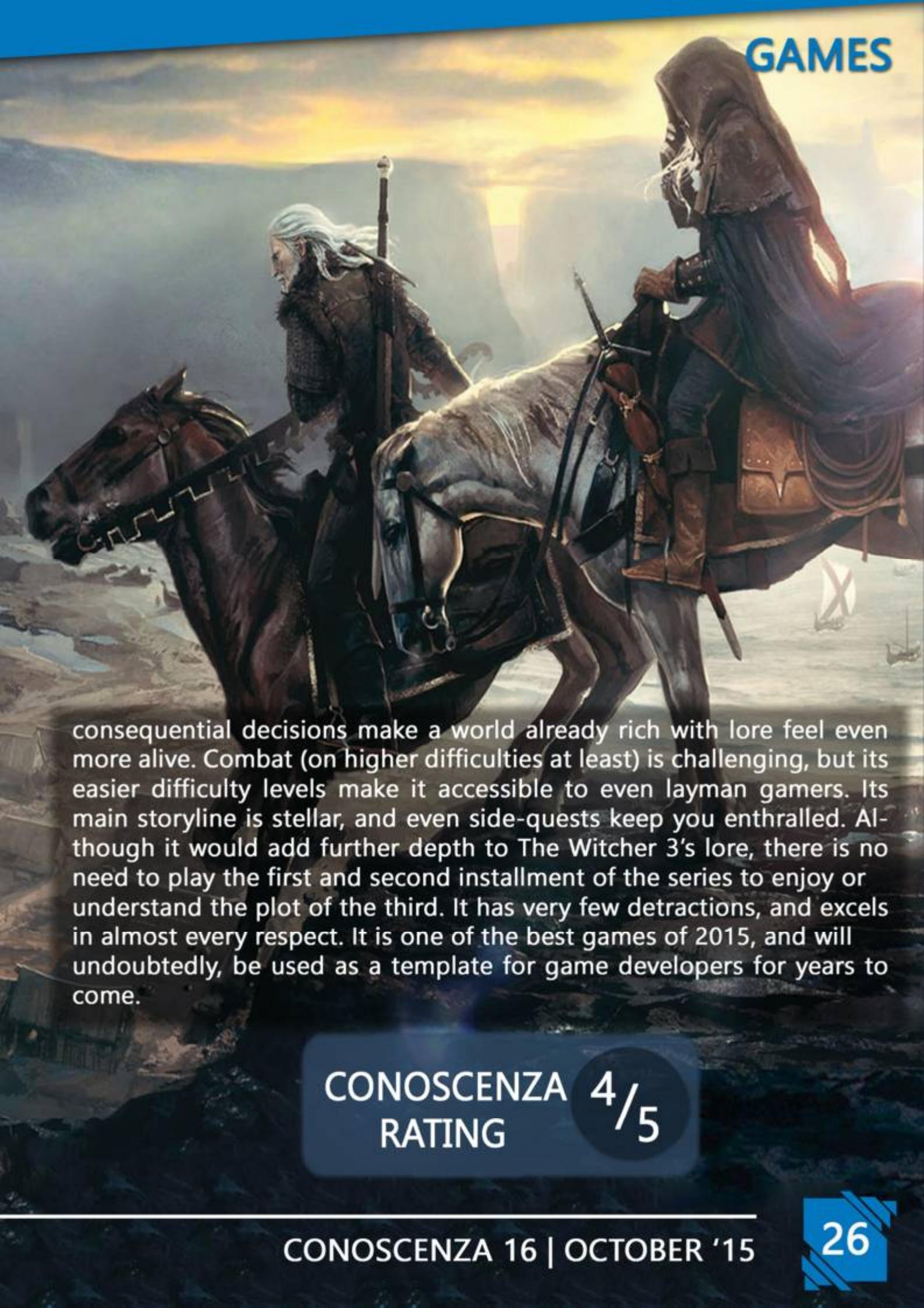
Yet although arguably unrivalled in these facets, its strongest point is undoubtedly its storytelling. Like a bestselling novel or blockbuster movie, it is a game that draws you into its world and refuses to let go. Indeed, it is a rare occurrence when a game's story from many facets of the main questline side are not predictable.

The world of The Witcher 3, more than any one character, is a world filled with terrific lore you can lose yourself in. From the game's

bestiary to the tales you hear and experience on your travels, everything of Geralt's world is a sea of secrets waiting to be uncovered. But more than the lore, it is the choices you make and how they influence the world around you that gives The Witcher 3 the gravitas of a role playing masterpiece.

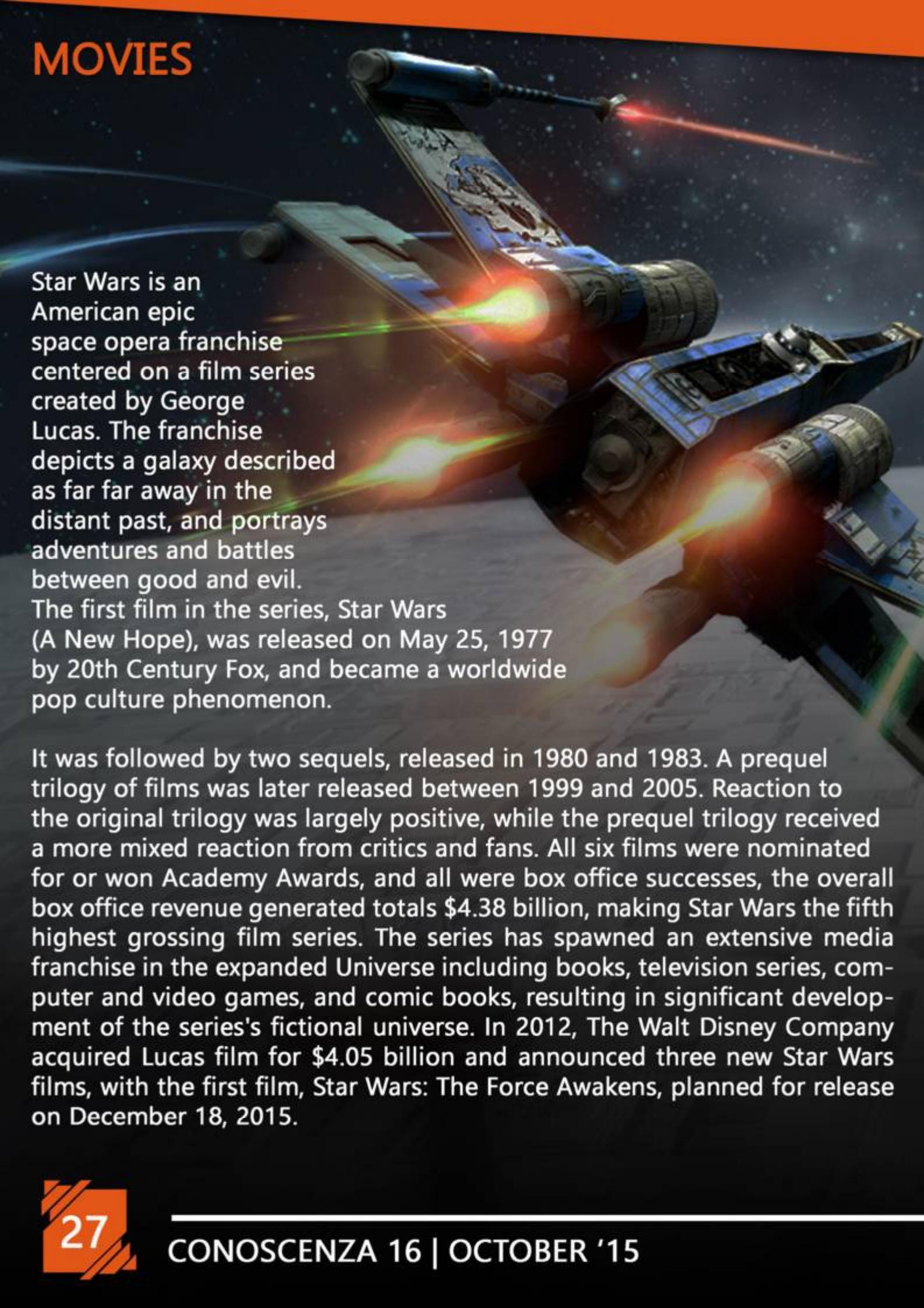
Unlike other role playing games that have choices, but are linear in their consequences, it is very apparent how the world changes around you in The Witcher 3. From the fate of villages and even empires, to characters (in some cases, very important characters) that either live or die because of your choices, the destiny of many rests on what you decide.

The Witcher 3: Wild Hunt is a brilliant game. It is an open world filled with treasures, secrets, quests and adventure. Its skill allocation is extensive enough to encourage multiple play through. Solid voice acting breathes life into each and every character, and



consequential decisions make a world already rich with lore feel even more alive. Combat (on higher difficulties at least) is challenging, but its easier difficulty levels make it accessible to even layman gamers. Its main storyline is stellar, and even side-quests keep you enthralled. Although it would add further depth to *The Witcher 3*'s lore, there is no need to play the first and second installment of the series to enjoy or understand the plot of the third. It has very few detractions, and excels in almost every respect. It is one of the best games of 2015, and will undoubtedly, be used as a template for game developers for years to come.

CONOSCENZA 4/5  
RATING



Star Wars is an American epic space opera franchise centered on a film series created by George Lucas. The franchise depicts a galaxy described as far far away in the distant past, and portrays adventures and battles between good and evil.

The first film in the series, *Star Wars (A New Hope)*, was released on May 25, 1977 by 20th Century Fox, and became a worldwide pop culture phenomenon.

It was followed by two sequels, released in 1980 and 1983. A prequel trilogy of films was later released between 1999 and 2005. Reaction to the original trilogy was largely positive, while the prequel trilogy received a more mixed reaction from critics and fans. All six films were nominated for or won Academy Awards, and all were box office successes, the overall box office revenue generated totals \$4.38 billion, making *Star Wars* the fifth highest grossing film series. The series has spawned an extensive media franchise in the expanded Universe including books, television series, computer and video games, and comic books, resulting in significant development of the series's fictional universe. In 2012, The Walt Disney Company acquired Lucasfilm for \$4.05 billion and announced three new *Star Wars* films, with the first film, *Star Wars: The Force Awakens*, planned for release on December 18, 2015.

# STAR WARS THE FORCE AWAKENS

Star Wars: The Force Awakens being the most awaited movie, is riding a wave of high expectations as the other parts of Star Wars are from Lucas productions and the upcoming part that is

"The Force Awakens" is the production of Walt Disney. According to variety a recent survey uncovered that 63% of responding fans expect the film "to be the best movie in the franchise to date".

Genre	: Action and Adventure, Science Fiction & Fantasy
Directed by	: J. J. Abrams
Written by	: Alan J. Abrams, J. J. Abrams, Lawrence Kasdan
Production	: Walt Disney
Cast	: Harrison Ford, Mark Hamill, Carrie Fisher, Peter Mayhew, Kenny Baker, Adam Driver

# CHAPPiE

Chappie (stylized as CHAPPiE) is a 2015 American science fiction film directed by Neill Blomkamp. The screenplay, written by Blomkamp and Terri Tatchell, is based on Blomkamp's 2004 short film Tetra Vaal. The film stars Sharlto Copley, Dev Patel, Jose Pablo Cantillo, Sigourney Weaver, Hugh Jackman, and Watkin Tudor Jones (Ninja) and Yolandi Visser of the South African zef rap rave group Die Antwoord. The film premiered in New York City on March 4, 2015 and was released in U.S. cinemas on March 6, 2015. The film grossed \$102 million worldwide against a \$49 million budget.

In an effort to combat a record high crime rate in the city of Johannesburg, the South African government purchases a squadron of state of the art, armour plated A.I. attack robots from American weapons manufacturer Tetravaal, developed by British engineer Deon Wilson. The robots are an instant success, wiping out some of the city's most powerful drug and organised crime gangs in a matter of months, and before long, Tetravaal move their main headquarters to Johannesburg. It also immediately overshadows a competing project, the remotely controlled MOOSE, developed by Australian soldier-turned-engineer Vincent Moore.





At home, Deon creates a prototype artificial intelligence that mimics a human mind to a point of feeling emotions and having opinions, but Tetravaal CEO Michelle Bradley refuses to let him test the A.I. in a police robot.

Genre	: Action and Adventure
Directed by	: Neill Blomkamp
Written by	: Terri Tatchell, Neill Blomkamp
Cast	: Sharlto Copley, Dev Patel, Ninja, YoLandi, Jose Pablo Cantillo, Hugh Jackman, Sigourney Weaver, Brandon Aures, Johnny Selema, Andeson Cooper, Marice Carpede, Jason Cope, Kevin Otto, Chris Shields, Bill Marchant
In Theatres	: March 6, 2015
US Box Office	: \$31.6M
Runtime	: 1 hour 59 min
Production	: Sony
IMDB rating	: 6.3/10
Audience rating	: 5.7/10

CONOSCENZA      2 / 5  
RATING

# YOUNG MINDS



**VIJAY SHEKHAR SHARMA**

**Company - PayTM**

**Started Year – 2010**

**Website – [www.paytm.com](http://www.paytm.com)**

Paytm was founded and incubated by One97 communications in 2010 as a prepaid mobile recharge website. Paytm is an acronym for "Pay Through Mobile". It is an amazing website that helps you with easy recharges with many attractive offers.

# Paytm

Vijay Shekhar Sharma did his graduation from Delhi College of Engineering (DCE). Coming from a small town and Hindi-medium educational background, he faced numerous hurdles all through his college days. Despite the challenges, he managed to start his small internet-based business while in college and later moved on to forming Xs Corporations in 1999. He later sold this to Lotus Interworks and continued working with them for a year. In December 2000, Sharma founded One97, a company which provides a platform for delivering mobile value-added services.

The screenshot shows a mobile application interface for Paytm. On the left, there is a messaging window with a conversation between a user and a Paytm bot. The user asks about discounts on a T-shirt, and the bot responds with 10% off with free shipping. The user then asks about a 50% discount, and the bot replies that it is available. At the bottom of the messaging window, there is a link to enter a cashback code. On the right side of the screen, there is a promotional message: "Chat to bargain! Best online mobile shopping experience. Paytm is here!" Below this message are download links for the App Store and Google Play. The Paytm logo is prominently displayed at the bottom right of the app interface.

He is a young and dynamic business stalwart and is extremely positive in both thoughts and action. His qualities and traits are impressive and he has an innovative approach towards business. Music and Gizmos are Vijay's other passions and he actively supports a number of non-governmental organizations.

The Viral Fever also abbreviated TVF is an online youth entertainment network launched in 2010. The main mode of this entertainment network is distribution of short comical videos that expose the funny side of everyday's life which most of us fail to notice.



**ARUNABH KUMAR**

**Company-The Viral Fever (TVF)**

**Started Year – 2010**

**Website – [www.tvfplay.com](http://www.tvfplay.com)**

Arunabh Kumar did his B.Tech from department of Electrical Engineering, Indian Institute of Technology, Kharagpur. He has participated in Inter-Hall Drama competitions throughout his student life and won accolades and prizes for his superb acting skills. He hails from Muzaffarpur, Bihar.

While in college, he used to make small movie clips with a movie camera. After completing his masters in Electrical Engineering from IIT Kharagpur, Kumar worked as a research consultant in the US Air Force. After quitting this job, he worked for Shah Rukh Khan's production house Red Chillies Entertainment at an assistant's position under Farah Khan. At Red Chillies Entertainments he got the opportunity to work as the assistant director of the Indian movie Om Shanti Om.



# YOUNG MINDS



**PRANAY CHULET**

**Company-QUIKR**

**Started Year – 2008**

**Website – [www.quikr.com](http://www.quikr.com)**

Quikr is India's leading cross category classified platform where people connect with each other to buy or sell goods and services on their mobile phones and other devices. Today, Quikr has 12 million listings and generates 20 million responses every month.



Pranay Chulet is a dynamic business leader. He did his schooling from Kendriya Vidyalaya in Rajasthan. His education details are enough to tell about his qualifications and knowledge. He took admission in Indian Institute of Technology, Delhi and holds an undergraduate degree as a chemical engineer in 1992. After completing his graduation, he went to Indian Institute of Management, Calcutta. Just after completing MBA, he joined Procter & Gamble in a brand management position. He left P&G in 1997 to join Mitchell Madison Group as a management consultant. He later worked in

a variety of roles in Walker Digital, PricewaterhouseCoopers and Booz Allen Hamilton. Chulet started his first entrepreneurial venture, Excellere, in 2007. In 2008, he founded Kijiji India, which was later rebranded as Quikr.

INTRODUCING

**Quikr**  
**NXT**

NO FIKR. CHAT QUIKR.

Quikr has always strived to make the process of online selling and buying easier. Quikr NXT is a step to ensure smart, simple and safe transactions.

Go Dimensions is focusing on creating more educational apps for kids. Shravan Kumaran and Sanjay Kumaran founded Go Dimensions out of their passion in the last month of 2011. They have developed 7 iOS apps and 3 android apps till now.

# GoDimensions

Shravan Kumaran, 15 year old boy studying 11th grade and his brother Sanjay Kumaran, 14 year old boy studying 9th grade in Hiranandani Upscale School, Chennai, India. They have been identified as youngest Mobile Application Programmers in India and one of the youngest in the World. They have been successfully running an app developing company called Go Dimensions. Shravan is the Co-Founder and President while his brother Sanjay Kumaran is Co-Founder and CEO of the company. They learnt QBasic, a programming language for beginners, when Shravan was in his fifth grade and Sanjay in his third grade. They learnt to code in Java by reading books and information available on the internet. Programming on Apple's iOS required a bit of handholding from their dad.



**SHRAVAN KUMARAN &  
SANJAY KUMARAN**  
**Company – Go Dimensions**  
**Started Year – 2011**  
**Website –**  
**[www.godimensions.com](http://www.godimensions.com)**





ARJUN SINGH  
IT  
1<sup>ST</sup> YEAR

## LIQUID Th-F REACTOR

Nuclear Energy is the prime source of energy for us nowadays and for the coming generations. But the scarcity of nuclear fuels and the added risks of a potential bio-hazard makes it mandatory to look for an alternative type of Nuclear Reactors.

Here comes the use of LTFR or Liquid Fluoride Nuclear Reactor. These are a type of Molten Salt Nuclear Reactor which can be described as a class of nuclear reactors in which the primary coolant or even the fuel itself is a molten salt mixture.

LTFR's have a very similar functioning to those of conventional water cooled nuclear reactors. The nuclear fuel is supplied in the form of a molten salt mixture-Thorium and Uranium-233 are dissolved in carrier salts. In a typical operation the liquid is pumped between the external heat exchanger and critical core.

### ADVANTAGES

- LFTR has stable coolant in the form of molten fluoride which are chemically stable and impervious to radiation.
- LFTR can reduce the radiotoxicity of the nuclear waste. In LFTR, Thorium transmutes into a relatively shorter lasting isotope.
- LFTR have an outstanding reactor efficiency of 99% i.e., it is able to consume about 99% of the fuel given to it.

### CONCLUSION

LFTR is the new hot thing in field of Nuclear Energy. Hence a lot of Nuclear powerhouses are interested in its implementation. Projects like the Fuji MSR in Japan , Chinese MSR in China and the THORIUM ENERGY GENERATION in Australia have been launched.

## HARSHITA GARG

EI  
1<sup>ST</sup> YEAR



### 3D COMPUTER CHIPS

A new method of designing and building computer chips could lead to blisteringly quick processing at least 1,000 times faster than the best existing chips are capable of, researchers say.

The new method, which relies on materials called carbon nanotubes.

The 3D design enables scientists to interweave memory, which stores data, and the number-crunching processors in the same tiny space.

Reducing the distance between the two elements can reduce the time computers take to do their work.

The inexorable advancement in computing power over the past 50 years have made way for increasingly small silicon transistors.

Now transistors have gotten ever tinier, with the teensiest portions measuring just 5 nanometers, and the smallest functional ones having features just 7 nanometers in size.

#### LONG COMMUTE TIME

The main roadblock to faster computers is not flagging processor speed, but a memory problem.

Big-data analysis requires the computer to draw some tiny piece of data from some previously unknown spot in truly staggering troves of data. Then, the computer must shuttle that information via an electrical signal back and forth across the (relatively) vast inches of wire between the computer's memory (typically a hard drive) and the processors, facing the speed bump of electrical resistance along the entire path.

#### CARBON NANOTUBES

CNT transistors would be a better transistor over silicon. It can go faster. It uses less energy.



NAKSHTRA PRADHAN

IT

1<sup>ST</sup> YEAR

## EMERGING TECHNOLOGIES

Emerging technologies are those technical innovations which represent progressive developments within a field for competitive advantage . Usually when we discuss about emerging technologies ,information technology ,robotics, etc. comes in our mind as our future .BUT WHAT IF WE CAN USE SOUND ENERGY TO PRODUCE ELECTRICITY ..???WHAT IF WE CAN DEVELOP "SOUND TECHNOLOGY" ..??

We all know sound energy is a mechanical energy which travel in the form of wave, mechanical wave that is an oscillation of pressure which need medium to travel . Through liquid and gas state sound is transmitted as longitudinal wave whereas through solid it could be transmitted as both longitudinal wave and transverse wave. Longitudinal waves are of alternating pressure deviation from the equilibrium pressure, causing local region of compression and rarefaction, while

transverse wave (in solid) are waves of alternating shear and stress at right angle to the direction of propagation. As sound energy is a mechanical energy it could be converted into electricity as mechanical energy could be converted into electricity by the law of thermodynamics. Sound energy could be easily converted into heat energy which could be easily converted into electricity but it is not highly efficient as the loss in conversion will be more whereas the other method is converting sound energy to electricity by piezo electric material, which converts mechanical strain to electric energy .

SOUND TECHNOLOGY can be seen as as offering hope for the betterment of the mankind. It could also be used in industries ,airports runways

ANSHUL SHARMA  
CSE  
1<sup>ST</sup> YEAR



## SHARING @ SPEED OF LIGHT-

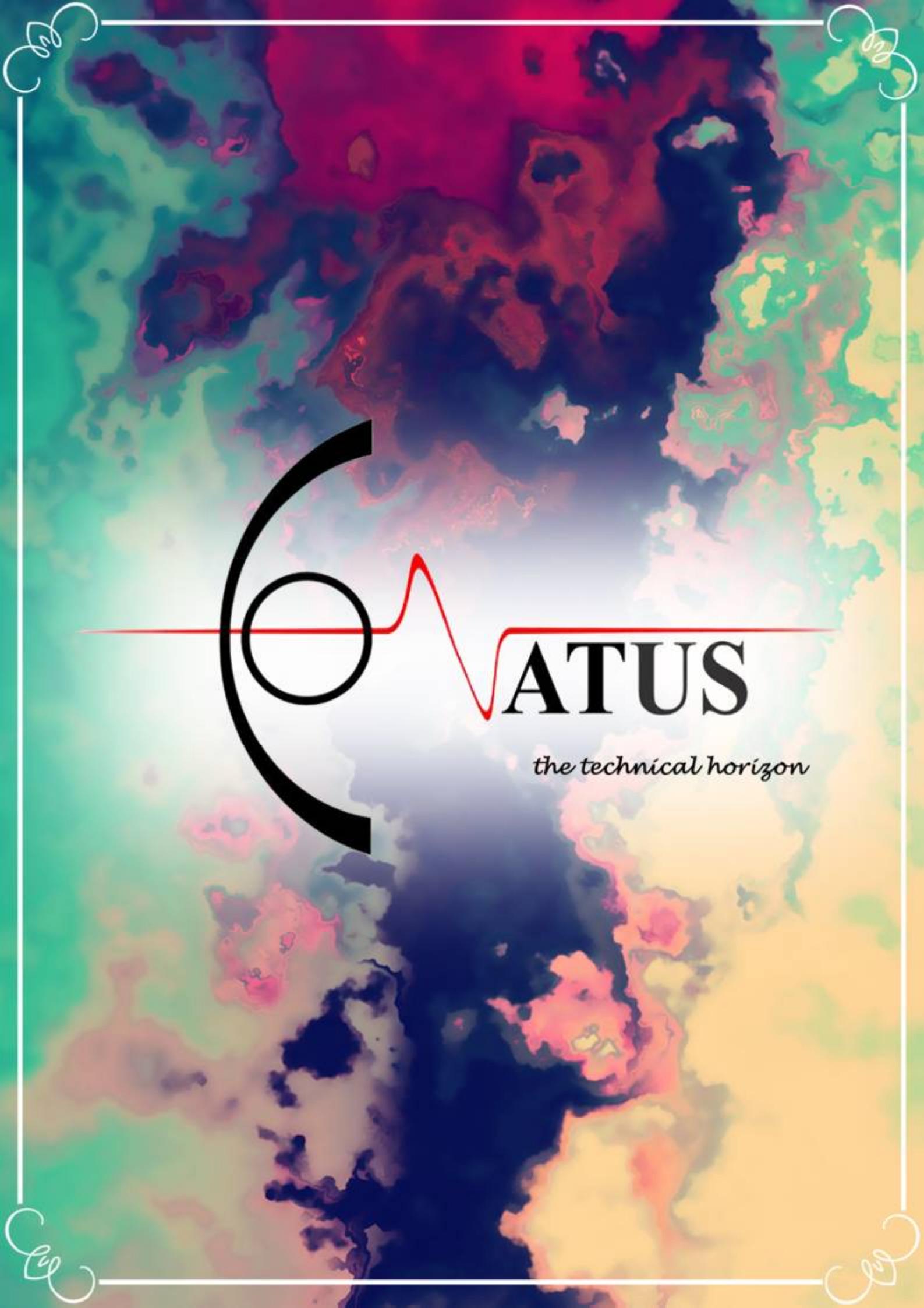
Computer is an electronic machine used to perform trillions of calculations, operations, etc.... Year by Year, day by day the speed of computers is increasing, today 4G technology has also been introduced which has the fastest sharing speed so far.

Scientists in the UK have developed the first ever memory chip that's entirely light-based and can store data permanently, and it could one day allow us to send and receive data at the speed of light. Right now, the speed at which our computers transmit data is slower than the speed at which they can process it, because we've hit the limit for how fast electrons can travel between the processor and the memory.

Making light-based computers isn't as simple as replacing electrons with light particles - or photons - in current computers.

While this speeds up the rate at which we can send data significantly, the silicon chips we have now still require the photons to be converted back to electrons when the data reaches our computer. This slows everything back down again and consumes a whole lot of extra energy, which actually makes it less efficient than if we'd just used electrons in the first place. Instead, need is to completely redesign the way our computers work.

The world's first all-photonic non-volatile memory chip has been invented. It stores data using the same material that's found in rewritable CDs and DVDs - a phase-change alloy of germanium-antimony-tellurium known as GST.. This material can be made to assume an amorphous state, like glass, or a crystalline state, like a metal, by using either electrical or optical pulses.



**C<sup>6</sup>NATUS**

*the technical horizon*