

MATRIX

TECHNICAL MAGAZINE

S5 **CS1**

COMPUTER SCIENCE DEPARTMENT
SCMS SCHOOL OF ENGINEERING AND TECHNOLOGY

APRIL 2018

THE INVISIBLE TECHNOLOGY THAT IS CHANGING THE WORLD BY ANSON PINHERO

One of the Biggest changes that internet made to our society was elimination of intermediaries. The influence of intermittent came down from marriage proposal to shopping. Everything started to become transparent. The world today relies heavily on Internet. But when the corporate intermediaries increased the power and put the people under control, we often forgot that they were middlemen.

We all know that the financial transaction was actually started by the barter system. And the Technology called Block Chain, at present capable of making a revolution in the sectors like banking, education, insurance, public health and even it can redraw the government.

I know that there are many people who still have not heard about bitcoins. And everyone may think that the concept is something complex. When the block chain technology was used for making financial transactions, it made the formation of bitcoin.

What is Blockchain?

A blockchain, originally block chain, is a growing list of records, called blocks, which are linked using cryptography. Each block contains a cryptographic hash of the previous block, a timestamp, and transaction data. With a blockchain, many people can write entries into a record of information, and a community of users can control how the record of information is amended and updated.

The distributed database created by blockchain technology has a fundamentally different digital backbone. This is also the most distinct and important feature of blockchain technology. Transactions are broadcast, and every node is creating their own updated version of events.

It is this difference that makes blockchain technology so useful — It represents an innovation in information registration and distribution that eliminates the need for a trusted party to facilitate digital relationships. Most cryptocurrencies use blockchain technology to record transactions. For example, the bitcoin network and Ethereum network are blockchain-based.

What is Bitcoin?

Bitcoin is a digital token that can be sent electronically from one user to another, anywhere in the world. Unlike traditional payment networks, no single company or person runs the Bitcoin network. Instead, it is a decentralized network of computers around the world that keep track of all Bitcoin transactions, similar to the decentralized network of servers that makes the internet work.

Because there is no central authority running Bitcoin, no one has the authority to force new users to reveal their identities. The network was designed this way to create a currency and a financial network outside the control of any government or single company.

Why are hackers using Bitcoin?

The digital currency Bitcoin has emerged as a favourite tool for hackers demanding a ransom for a simple reason: You can start accepting Bitcoin anywhere in the world without having to reveal your identity.

How do you buy Bitcoin?

There are companies in most countries that will sell you Bitcoin in exchange for the local currency. In India, BTC exchanges like Zebpay, UnoCoin will link to your bank account and then sell you the coins for Indian Rupee. Opening an account with these companies is similar to opening a traditional bank, with lots of verification of your identity needed.

For people who do not want to reveal their identities, there are services like LocalBitcoins that will connect local people who want to buy and sell Bitcoin for cash, generally without any verification of identity required.

To start accepting Bitcoin is even easier. One needs only to create a Bitcoin address, which can be done anonymously by anyone with internet access.

The price of Bitcoin fluctuates constantly and is determined by open-market bidding on Bitcoin exchanges, similar to the way that stock and gold prices are determined by bidding on exchanges.

What are the currency's origins?

Bitcoin was introduced in 2008 by a shadowy creator going by the name of Satoshi Nakamoto, who only communicated by email and social messaging. While several people have been identified as likely candidates to be Satoshi, as the creator is known in the world of Bitcoin, not one has been confirmed. So, the search for Satoshi has gone on.

Satoshi created the original rules of the Bitcoin network and then released the software to the world in 2009. Whether it is he, she or they, Satoshi largely disappeared from view two years later. Anyone can download and use the software, and Satoshi now has no more control over the network than anyone else using the software.

Today there are thousands of crypto currencies which are more strong and secure than bitcoins. The transformation of financial institutions from being the middlemen who handles the wealth of people to the act of being the real owners of people's wealth is questionable. Banning this technology and bitcoins is really trying to suppress the system, but in reality, the system is getting stronger.

The truth is present banking system will be upgraded to this technology soon. I think there is no difference that hospitals, universities acting like the financial institutions who's actually the middle men. The truth is that people started questioning things what's happening around. The decisions made by officials within the four walls won't really work in the future. Everything is going to be more transparent.

What blockchain technology doing to the financial sectors will be reflected back to its allied sectors. People who raised concerns about computers and had the opinion to ban them, is now trying to working with the system. So, there is no doubt that blockchain technology will make an impact in all sectors.

Quantum Computing "The cutting edge Technology"

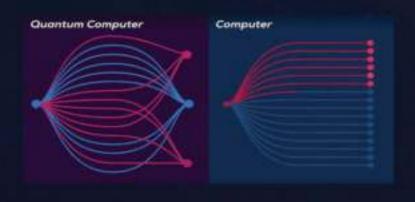
By - Aaron J Fernandez

Everything started way back in 1959 when Richard Feynman in his lecture "There's Plenty of Room at the Bottom" states the possibility of using quantum effects for computation.

Quantum Computing will be the beginning of a new era as it will replace the classical computers once it becomes practical. The working principle behind is the Quantum Mechanics Phenomena. It requires a "Quantum Computer" for computing.

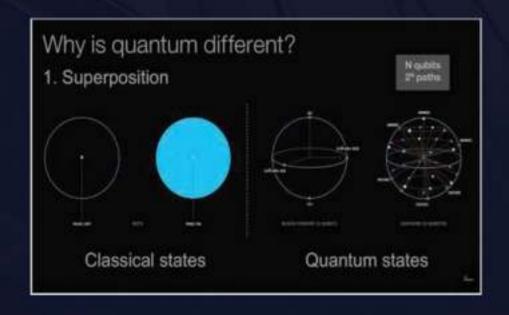
Digital computing requires that the data be encoded into binary digits (bits), each of which is always in one of two definite states (0 or 1), quantum computation uses quantum bits or qubits, which can be in superpositions of states. The main highlight of quantum computing is the speed or its calculating power, since "it uses superposition between 1 and 0 of a bit (binary digit) and that can be anywhere". The field of quantum computing was initiated by the work of Paul Benioff and Yuri Manin in 1980, Richard Feynman in 1982, and David Deutsch in 1985.

There does not exist a real quantum computer but experiments are taking place in which quantum computational operations were executed on a very small number of quantum bits. There also exist a small 20 qubit Quantum Computer at IBM as part of their "IBM Quantum Experience".



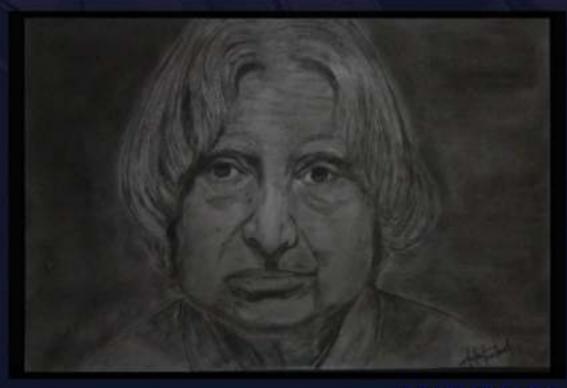
Potential, It can outshine the classical computers in the field of Cryptography, Search, Simulation, Annealing and Adiabatic Optimization, Complex problems, Solving Linear Equations and Quantum Supremacy. Both practical and theoretical research continues, and many national governments and military agencies are funding quantum computing research in additional effort to develop quantum computers for civilian, business, trade, environmental and national security purposes, such as cryptanalysis.

IBM says that the best classical computers will be beaten on some task within about five years. At 100 qubits a single quantum computer processor would, theoretically, be more powerful than all the supercomputers on the planet combined. We may be closer to that milestone than you think and the world isn't ready.





- ASHNA PARVEEN



- ANJANA P

GPUTURBO

AJAY KS AB

Huawei has seen gaming-centric phones from Razer and Asus, and has its own ideas about what will make the new generation of mobile gamers flock to its smartphones, and for a change, it doesn't involve buying a new model. Games rely on the Graphics Processing Unit (GPU) to perform well, and Huawei has a software update coming that will boost the efficiency of the GPU by 60 percent and cut down battery consumption by 30 percent. It's called GPU Turbo, and boosting the GPU's ability means even mid-range phones will be able to run complex mobile games at a higher frame rate, and with all those flashy HDR+ visual effects switched on. Huawei even believes some of the Honor phones (Huawei's sub-brand) with simple GPUs will be able to outperform phones with stronger GPUs with the help of this technology. This new 'technology' was something that was first introduced in June 2018 with the Chinese release of the Honor Play, and will be updated to a version '2.0' with the launch of EMUI 9.0 later in the year.

The company managed to achieve this by restructuring the traditional graphics framework at the lower level system. As the performance of a game is measured in frames per second, each new frame requires a high amount of CPU and GPU resources. However, often times the new frame is rendering the same image as the previous frame, ranging from textures to items and other levels of details, and here is where Huawei was able to capitalize. It managed to develop an intelligent algorithm in the GPU driver to tell the graphics processor and CPU what exactly needs to be rendered in the new frame. As a result, increasing the performance and efficiency of the phone.

Integrated Software and Hardware Solution

Ground-breaking hardware-software integration and graphics processing acceleration technology optimizes the mobile gaming experience.



12 0 6 3

LET'S PLAY A QUIZ

Ganesh Babu

- 1) How many computer languages are in use?
 - a) 2000
 - 6) 5000
 - 0)20
 - d) 50
- 2) Which of these is not an early computer?
 - a) SAGE
 - b) UNIVAC
 - c) ENIAC
 - d) NASA
- 3) Which of the following devices can be used to directly input printed text?
 - a) OMR
 - b) OCR
 - c) MICR
 - d) all of the above.
- 4) A communications medium that uses pulses of laser light in glass fibers.
 - a) fibre optic cables
 - b) cellular phones
 - c) telecommunication processors
 - d) telecommunication softwares
- 5) which protocol is used to receive email?
 - a) smtp
 - b) POP3
 - c) http



FACTS THAT WILL AMAZE YOU

- Ganesh Babu

- 1) The Firefox logo is a red panda, not a fox which is native to the temperate forests of the Himalayas.
- 2) The first coin operated video games was created in the 1970s.
- 3) Google Inc. owned over 1 million servers which is the largest in the world.
- 4) Google, Facebook, Twitter, YouTube and many other popular websites are banned in China.
- 5) The first public mobile phone was built on 3rd April 1973 by Martin Cooper.
- 6) Ninety-one percent of all adults have their mobile phone within arm's reach every hour of every day.