BYTE QUEST

Vasavi College of Engineering

Department of Computer Science and Engineering

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Contents:

Byte Quest is the article published by the CSE dept of Vasavi College of Engineering regarding the latest innovative Technologies and Software that have been emerged in the competitive world. The motto of this article is to update the people regarding the improvement in technology. The article is designed by the active participation of students under the guidance of faculty coordinators.

 Good, bad or indifferent if you are not investing in new technology, you are going to be left behind.

-Philip Green

 Once a new technology rolls over you, if you're not part of the steamroller, you're part of the road.

-Stewart Brand

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CRYPTOCURRENCY-THE STORY OF BITCOIN

Cryptocurrency, one of the most used buzzwords in 2018, is a digital asset designed to work as medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of assets. The advantages of using cryptocurrencies gave rise to various cryptocurrencies like Bitcoin, Ethereum, Ripple etc. As cryptocurrencies evolved markets saw a rapid growth. In 2018, the value of bitcoin has plunged and left people shocked who believed in its growth as of now bitcoin is trading at $3779.3. People who praised it for its advantages are now seen shutting their mouths. Bitcoin's value decreased drastically primarily due to manipulation using pumping. Huge capital investors pumped the value of cryptocurrencies by several means like tweets. Slowly several countries started closing down their exchanges through which cryptocurrencies can be traded like Unocoin, Coinex etc. As said by great investors it really became a bubble. There are still some people who are on it and we should wait and see what happens. Finally, one great thing Bitcoin did was introducing many people particularly young to the markets.

MANISH ALLE (CSE-A 3/4)

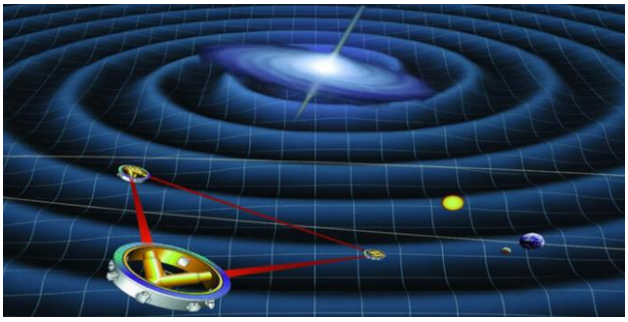
FLEXPAI ROYOLE-THE FUTURE BEYOND

FlexPai is the world's first commercial foldable smartphone with flexible display, a combination of smartphone and tablet. It can be used either folded or unfolded, giving it the portability of a smartphone plus the screen size of a high-definition tablet. FlexPai's screen is virtually unbreakable and extremely durable passing tests where the screen has been bent over 200,000 times. Its screen provides fantastic colour range, high contrast, wide angle, and high-resolution for outstanding picture quality. FlexPai's unique Water OS provides unparalleled viewing flexibility. The fully flexible display can be arranged as split screens depending if the display is folded or not. It's aspect ratios are: 4:3, 16:9 and 18:9. When folded, it's edge screen has a resolution of 390x1440 and an

aspect ratio of 21:6. Watch a video or work in app without interruption as all incoming calls, messages or emails are displayed as they are received. 45% faster CPU, powered by new architecture improvements and leading 7nm process technology. Upgradable to support 5G. It includes two quality cameras for taking photos or videos Its flexible display can be bended to capture objects at unique angles, and when folded either side has a camera ready to point and shoot.

ARSHIYA (CSE-B 2/4)

LASER INTERFEROMETER SPACE ANTENNA



Gravitational waves were first theorized by Albert Einstein. They are created during events such as super massive black hole mergers, or collision between two black holes that are billions of times bigger than our sun. LISA is a space-based gravitational wave detector constructed of three spacecraft separated by millions of miles. LISA consists of three spacecrafts that are separated by millions of miles and trailing tens of millions of miles, behind the earth as we orbit the sun.

WHAT IS L.I.S.A?

These three spacecraft relay laser beams back and forth between the different spacecraft and the signals are combined to search for gravitational wave signatures that come from distortions of space- time. A giant detector bigger than the size of earth is required to catch the gravitational waves from orbiting super massive black holes hundreds of millions of times more massive than our sun.

HOW L.I.S.A DETECTS GRAVITATIONAL WAVES?

Just like the moving objects on a surface of pond produces waves and ripples, massive objects moving in the space distort the fabric of space-time and produce gravitational waves. Some of these gravitational waves moving towards the LISA cause the three LISA spacecrafts to shift their position slightly with respect to each other, to produce a characteristic pattern in the combined laser beam that depends on the location and the physical properties of the source. Elaborately, It's three spacecrafts form a Michelson interferometer in which two "slave" satellites act as reflectors and the other "master" satellite act as the source and observer. Comparison between the observed laser beam frequency and the local laser beam frequency encodes the wave parameters. LISA pathfinder was launched on December 3, 2015 as a proof-of-concept that tests that the noise characteristics of free-floating test masses within the spacecraft are small enough to compared to an expected gravitational wave signal. Completing its mission in 2017, LISA demonstrated that it's key technology is well underway. There are many astrophysical phenomena that are either very dim or completely invisible in any form of light that astronomy has relied on for 400 years. Studying gravitational waves gives us enormous potential for discovering the parts of the universe that are invisible by other means, such as black holes, big bang, and other unknown objects. LISA will complement our knowledge about
the beginning, evolution and structure of our universe.

WHO IS INVOLVED?

The European Space Agency(ESA) is leading the LISA mission
and NASA will collaborate by leveraging the growing body of
knowledge from the U.S scientific community.

LISA is expected to be launched in 2034.

CHANDRA VAMSHI (CSE-B 2/4)