Maratha Vidya Prasarak Samaj's
Karmaveer Adv. Baburao Ganapatrao Thakare College Of Engineering
Nashik-13.
(NAAC ACCREDITED INSTITUTE WITH 'A++' GRADE)

DEPARTMENT OF ELECTRONICS &TELECOMMUNICATION ENGG.

Departmental TeChronicle **Month: -February 2024**

Vol. - 05, Issue – 4

Department Vision:-

To be recognized as an excellent department offering competent technical education to create competent electronics & telecommunication engineers for the benefit of the common masses.

Department Mission:-

Committed to serve the needs of society through innovative teaching learning processes, promoting industry-institute interaction to provide competent and cultured electronics and telecommunication engineers.

Program Educational Objectives:-

1. *To impart state of art technical education in the Electronics & Telecommunication Engineering.*
2. *To promote society beneficial projects and activities.*
3. *To develop soft skill, teamwork, professional ethics and multidisciplinary approach for the carrier enhancement.*
4. *To bridge the gap between Industry-Institute through collaboration with Industries, Institutions and Universities.*
5. *To provide suitable infrastructure and facilities in tuned with advancing technological evaluation.*

Greeting,

Department of Electronics and Telecommunication Engineering is celebrating national science day by unveiling technical newsletter "TeChronicle" VOL-5, ISSUE-4 on 28th February 2024.

28 Feb is observed as National Science Day, which is celebrated in India on each year to mark the discovery of the Raman effect by Indian physicist Sir C. V. Raman, for his discovery, Sir C.V. Raman was awarded the Nobel Prize in Physics in 1930.

Chandrayan -3

[Ms. Darshana Narkhede (TE E&TC)]

The idea of exploring lunar surface was come to existence when an American scientist Neil Armstrong successfully completed the first mission named Apollo 11 on moon in 1969. Finally, the journey of lunar probe missions started by ISRO in 2008 when first mission was launched Chandrayaan 1.

Chandrayaan-1 was the first Indian Lunar probe under Chandrayaan program. It was launched by the Indian Space Research organization in October 2008 and operated until August 2009 from Satish Dhawan space centre, Sriharikota operated until August 2009 from Satish Dhawan space centre, Sriharikota.

Chandrayaan-2 launched from the Satish Dhawan Space Center in Sriharikota, India. Chandrayaan 2 consists of 3 main vehicles rover, orbiter, and

Lander. The functionality of orbiter was done successfully but rover and Lander were not able to perform their operations successfully. Launch system is the vehicle which put the spacecraft in orbit around the earth or on an escape trajectory to a planet.

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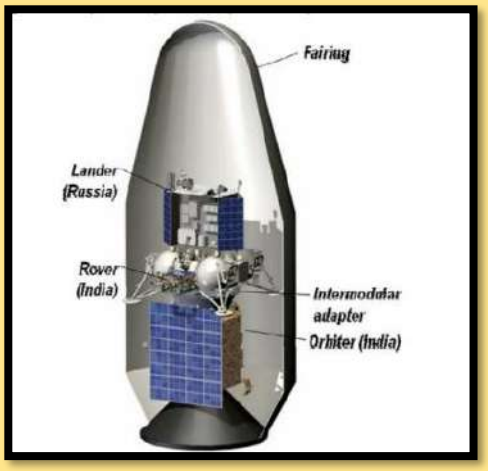
FAILURE OF CHANDRAYAAN 2

CHANDRAYAAN 2 (India's second mission to the Moon), had failed to make a soft-landing on the lunar surface. The lander and rover malfunctioned in the final moments and crash-landed, getting destroyed in the process.

Chandrayaan II deviated from its path and couldn't make a soft landing. To finish the objectives set for Chandrayaan II, Chandrayaan III is slated to be launched by 2022. Chandrayaan III will have a different design from the Chandrayaan II. It will have a lander and rover like that of Chandrayaan II but no orbiter will be present with Lander and rover. With the aim of again exploring the moon surface ISRO has announced the next Moon mission that is Chandrayaan-3. It would have a "similar configuration" to the previous mission which would only include a Lander and a rover because India already has a working orbiter at the moon. An unnamed scientist new Lander would have stronger legs to allow the spacecraft to withstand touching the surface at a higher velocity during landing.

The launch will be performed using the GSLV Mk III rocket. GSLV Mark 3 (GSLV Mk III) is a three-stage heavy lift launch vehicle that was also used for



launching the Chandrayaan 2 in 2019. It consists of a core liquid booster (L110), two solid rocket boosters (S200) on each side and a cryogenic upper stage (C25). India's biggest cryogenic engine CE-20 powers the upper stage. Two Vikas engines that burn 110t of fuel power the core stage.

The realization of Chandrayaan-3 involves various processes, including finalization of configuration, subsystem realization (manufacturing), integration, spacecraft-level detailed testing and a number of special tests to evaluate the systems performance on Earth.

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DATA OF CHANDRAYAAN-l, 978-1-4799-21744/13/ $31.00 © 2013 IEEE. https://en.wikipedia.org/wiki/Chandrayaan-3

Skylab: U.S first space shuttle

[Ms. Sejal More (TE E&TC)]

"SKYLAB", was united states first space shuttle launched by NASA, lived in 24 weeks between May 1973 and February 1974. Skylab was launched on May 14, 1973. Severe damage was sustained during launch and deployment, including the loss of the station's micrometeoroid shield/sunshade and one of its main solar panel. The launch is sometimes referred to as Skylab 1. The ATM (Apollo telescope mount) was attached to one end of the cylindrical workshop. It was used to study the sun, stars and Earth with no atmospheric interference. ATM had a length of 3.4 m and a diameter of 2.1 m.

Skylab had a mass of (90,610 kg) , length is 82.4 feet (25.1 m), width is 55.8 feet (17.0 m), 21.67 feet (6.61 m),it travelled (1,400,000,000 km) and included a workshop, a solar observatory, and several hundred life science and physical science experiments The station consisted of four major components: the Orbital Workshop (OWS), the Airlock Module (AM), the Multiple Docking Adapter (MDA), and the Apollo Telescope Mount (ATM).

Skylab's orbit eventually decayed, and it disintegrated in the atmosphere on July 11, 1979, scattering debris across the Indian Ocean and Western Australia. Skylab is very well known for its drastic incident that it is Unable to be re-boosted by the Space Shuttle, which was not ready until 1981, On January 28, 1986, the broke apart 73 seconds into its flight, killing all seven crew members aboard. 41 years ago, the impending crash of the Skylab space station defined the summer of 1979 for people across much of the southern hemisphere. The largest spacecraft ever to fall back to Earth was about to do so – but no one knew exactly when or where. Many people were genuinely frightened, no one has ever been killed by falling space debris, the cause of the incident Five years after the last Skylab mission, the space station's orbit began to deteriorate–earlier than was anticipated–because of unexpectedly high sunspot activity.

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Metaverse: Uplifitng Virtual Gaming

[Ms. Disha More (TE E&TC)]

This generation is all about digitization and computing. It's like everyone has computers in them genes. Creating another world in the digital world is a part of digitization, namely virtual reality. Virtual reality seems great to hear, isn't it? It's an amazingly fascinating field creating a buzz in today's generation. Now let us first see what virtual reality really is.

Virtual reality is a simulated experience that can be similar or may vary from the real world. It is a computer-generated environment with objects which seem very real which makes them more attractive to us humans. Virtual reality is further divided into many different parts one of them being, GAMING. Virtual reality transforms gaming into another level. Let me tell you how, Virtual reality uses VR software as well as some special effects to give the gamers an amazing experience.

WHAT IS METAVERSE?

Metaverse completes our dreams of experiencing a different life which we can build for ourselves. We

all see animated movies and dream of going into one and living in them, Metaverse can complete that dream of ours! So what is Metaverse? This concept has been with us for the longest time, but it has been on a rise since 2021. In The covid pandemic situation everyone was looking for something thrilling while sitting in homes. Games with virtual reality became our friend back then and since there is no looking back! Metaverse impacted our lives so much that it has now become a huge platform for different companies to showcase their abilities.

Metaverse uses blockchain technology to build its virtual world. The most amazing thing about Metaverse is that no one really has their impact on Metaverse. Metaverse is a platform for each one of us. No individual is a king here. There is a group of individuals who together create Metaverse. Metaverse is a combination of blockchain technology, as in if there is a game created using Metaverse, there may be digital streets or even NFT lands or anything you could ever imagine of. Metaverse has so much that one can always learn something or the other from it.

METAVERSE AND GAMING:

Virtual gaming has completely transformed after Metaverse has entered the gaming industry. Now the user can get access to games without any financial commitment, unlike before. Currently, Metaverse based gaming technologies are leading the gaming industry and leading the gamers experiences to a whole new level! Web 3 is another platform which allows the users to experiment more in their gaming experience. Web 3 allows the gamers to move their characters from one game to another, isn't that fascinating?

Metaverse is creating mind blowing hype within the gaming industries as well as gamers. Metaverse can transform the gaming industry and convert it into an After going through so much, most of us now agree that Metaverse has had a great impact on gaming technology and has transformed it isn't it? astonishing field. Metaverse is referred to as an internet-based world which is entirely based on visual reality. Metaverse has become a talk of the town which makes it touch the sky in just a few years. According to Fortune business insights Global visual reality in the gaming market was about 6.26 billion USD in 2020 which is about to boost to about 53.44 billion USD in 2028. What a jump!

CONCLUSION:

Looking at all the prospects we can conclude that Metaverse can transform various aspects of activities into a realistic and virtual experience. Without using any special gadgets, Metaverse gives us the ability to experience far more than just gaming. It gives us the real-life experience, as if we are hopping into the world of animations.

Another factor which makes Metaverse so special is multiplayer gaming. Multiplayer gaming allows the user to invite their friends from the real world and interact with them in the game itself. This also helps in building relationships with the players.

References: -

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Website: www.kbtcoe.org
Email Id: techronicle.etc@gmail.com