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SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING SHEGAON

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Google Stadia

Stadia is a cloud gaming service operated by Google. It is said to be capable of streaming video games up to 4K resolution at 60 frames per second with support for high-dynamic-range, to players via the company's numerous data centres across the globe, provided they are using a sufficiently high-speed Internet connection. It will be accessible through desktop Google Chrome web browser, on smartphones, smart televisions and tablets, or through Chromecast.

The service is integrated with YouTube, and its "state share" feature allows viewers of a Stadia stream to launch a game on the service on the same save state as the streamer. This has been used as a selling point for the service.

Stadia is not like Netflix, requiring users to purchase games to stream via Stadia rather than pay for access to a library of games. While the base service will be free, a Pro tier monthly subscription allows users to stream at higher rates for larger resolutions, and the offer to add free games to their library.

Known in development as Project Stream, the service was debuted through a closed beta running Assassin's Creed Odyssey in October 2018, with a public release planned in November 2019 in selected countries. It competes with Sony's PlayStation Now service, Nvidia's GeForce Now, and Microsoft's Xbox Project xCloud.

Hardware

Upon launch, Stadia's cloud hardware will initially use a custom Intel x86 processor clocked at 2.7 GHz, with AVX2 and 9.5 megabytes of L2+L3 cache.[10] It will also use a custom AMD GPU with HBM2 memory, 56 compute units, and 10.7 teraflops.[10] The service will also have solid-state drive storage, and 16GB of RAM (supporting up to 484GB/s bandwidth) shared between the GPU and the CPU.

Google developed the controller for Stadia. two sets of shoulder buttons, and five additional controller face buttons.

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Development

Project Stream was Google's first announced sign of interest in video gaming products. The company had previously been rumoured as working on a service called Project Yeti since at least 2016. Google had also hired gaming industry executive Phil Harrison and was seen recruiting developers during industry events in 2018.

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Fog Computing

Concept

Fog computing can be perceived both in large cloud systems and big data structures, making reference to the growing difficulties in accessing information objectively. This results in a lack of quality of the obtained content. The effects of fog computing on cloud computing and big data systems may vary. However, a common aspect is a limitation in accurate content distribution, an issue that has been tackled with the creation of metrics that attempt to improve accuracy

History

In 2010, the need to extend cloud computing with fog computing emerged, in order to cope with huge number of IoT devices and big data volumes for real-time low-latency applications.

On November 19, 2015, Cisco Systems, ARM Holdings, Dell, Intel, Microsoft, and Princeton University, founded the Open Fog Consortium to promote interests and development in fog computing. Cisco Sr. Managing-Director Halder Antunes became the consortium's first chairman and Intel's Chief IoT Strategist Jeff Fodders became its first president

Chandrayaan-2

Chandrayaan-2 (Candra Yana, transl. ”moon craft” is the second lunar exploration mission developed by the Indian Space Research Organisation (ISRO), after Chandrayaan-1. It consists of a lunar orbiter, the Vikram lander, and the Pragyan lunar rover, all of which were developed in India.[21] The main scientific objective is to map and study the variations in lunar surface composition, as well as the location and abundance of lunar water

The mission was launched on its course to the Moon from the second launch pad at Satish Dhawan Space Centre on 22 July 2019 at 2.43 PM IST (09:13 UTC) by a Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III). The craft reached the Moon's orbit on 20 August 2019 and began orbital positioning manoeuvres for the landing of the *Vikram* lander. *Vikram* and the rover were scheduled to land on the near side of the Moon, in the south polar region at a latitude of about 70° south at approximately 20:23 UTC on 6 September 2019 and conduct scientific experiments for one lunar day, which approximates two Earth weeks.

However, the lander deviated from its intended trajectory starting at 2.1 kilometres (1.3 mi) altitude, and had lost communication when touchdown confirmation was expected. Initial reports suggesting a crash have been confirmed by ISRO chairman K. Sivan, stating that the lander location had been found, and "it must have been a hard landing".

Objectives

The primary objectives of the Chandrayaan-2 lander were to demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface. Scientific goals include orbital studies of lunar topography, mineralogy, elemental abundance, the lunar exosphere, and signatures of hydroxyl and water ice.

Design

The mission was launched on a Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III) with an approximate lift-off mass of 3,850 kg (8,490 lb) from Satish Dhawan Space Centre on Sriharikota Island. As of June 2019, the mission has an allocated cost of ₹978 crore (approximately US$141 million) which includes ₹603 crore for space segment and ₹375 crore as launch costs on GSLV Mk III. Chandrayaan-2 stack was initially put in an Earth parking orbit of 170 km perigee and 40,400 km apogee by the launch vehicle.

Agricultural drone

Legality

As drones entered use in agriculture, the Federal Aviation Administration (FAA) encouraged farmers to use this new technology to monitor their fields. However, with the unexpected boom of agricultural drones, the FAA quickly retracted such encouragement, pending new rules and regulations. With incidents such as drones crashing into crop dusters, it was vital for the FAA and the AFBF (American Farm Bureau Federation) to agree on regulations that would allow the beneficial use of such drones in a safe and efficient manner.

Security and ethics

Other companies might start flying their drones in unregulated areas to survey their competition and get to know the condition of crops and agricultural yield. Such a scenario could lead to compromising vital company secrets. People want to know that they are safe and protected, so the burden doesn't just fall on the farmer, but on many of those around the farmer, too.

An **agricultural drone** is an unmanned aerial vehicle applied to farming in order to help increase crop production and monitor crop growth. Sensors and digital imaging capabilities can give farmers a richer picture of their fields. This information may prove useful in improving crop yields and farm efficiency.

Agricultural drones let farmers see their fields from the sky. This bird's-eye view can reveal many issues such as irrigation problems, soil variation, and pest and fungal infestations. Multispectral images show a near-infrared view as well as a visual spectrum view.

SHRI SANT GAJANAN MAHARAJ COLLGE OF ENGINEERING, SHEGAON

IEEE Students' Branch

CONTACT US:

SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING, SHEGAON

STB61661 WEB: https://edu.ieee.org/in-ssgmce/ EMAIL: ieee@ssgmce.ac.in

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