CLOUD COMPUTING

ABOUT THE CLOUD COMPUTING SERVICES

(Mahesh Chand,2021)

Examples of cloud computing service providers

Microsoft Azure *is Microsoft's public cloud computing platform. There are a range of software as a service (SaaS), platform as a service (PaaS) and infrastructure as a service (IaaS) options offered by Microsoft Azure for deploying applications and managing the application on Microsoft-managed data centers. With the help of an abstraction layer known as a hypervisor, it differentiates the coupling between the operating system and CPU by virtualization.*

Adobe Creative Cloud *is a set of applications and services for Mac OS and Windows computers which let subscribers access a collection of software used for graphic design, video editing, web development and photography. The applications for print design and newspaper are also included in Creative Cloud. They also provide mobile applications as well as computer applications for users.*

Google Cloud Platform *is a suite of public cloud computing services. It is offered by Google and it runs on the similar infrastructure that Google uses internally for its end-user products. It is basically used for Google search and YouTube. This platform offers varieties of services such as compute, storage, networking, Big Data, machine learning and so on. It also provides a strong security and stability.*

IBM Cloud *is a set of cloud computing services for businesses offered by IBM. Similar to other cloud service providers, the IBM cloud includes infrastructure as a service (IaaS), platform as a service (PaaS), and, recently, software as a service (SaaS). It is also offered through the deployment of public, private, and hybrid cloud.*

Oracle Cloud *is a cloud computing service offered by Oracle Corporation.Oracle Cloud provides a set of branded Software as a Service (SaaS), Platform as a Service (PaaS), Database as a Service (DaaB), and Infrastructure as a Service (IaaS) which are used to builds, integrates, deploys, and extends applications in the cloud. It also provides users with storage, servers, applications, network, and services through a global network of managed data centers.*

Reflection

In this age of advanced technology, cloud computing brings lots of convenience and benefits in many fields as the cloud is transformative for companies or government agencies, especially small and mid-sized businesses, meanwhile data analytics, artificial intelligence and other capabilities become available as services. (Joy Tan,2018). Have you ever wondered why it is called "cloud computing" but not "drive computing" or any other name? After reading several articles on the Internet, we came to the answer, why work in a closet when you can work in the cloud? On-premises hardware is rigid and limited. On the other hand, the cloud brings us limitless potential and epic proportions of creativity. From semiconductors to financial services to manufacturing, the powerful cloud solutions deliver a faster time-to-solution and to-market with superior product quality. (Altair, 2021)

Comparison among the cloud computing services providers

Microsoft Azure	Google Cloud platform	Adobe Creative Cloud	Oracle Cloud	IBM Cloud Computing
uses virtual machines for computing purposes.	offers Google Compute Engine for computation purposes.	–	–	–
Uses storage block bob which comprises blocks for storage.	Uses Google Cloud Storage for storing data.	Data stored locally (on your device and storage peripherals) and on Adobe's Creative Cloud storage.	offers a high-performance storage platform which cost-efficient data durability	offers persistent cloud storage and data encryption by default with IBM Cloud Object Storage .
Its pricing structure can be difficult to understand without considerable experience.	Offer "customer-friendly" prices that beat the list prices of other providers	Very expensive compared to other cloud computing services.	Cheaper price than other cloud computing services.	More expensive than other cloud computing services.

(https://intellipaat.com/blog/what-is-google-cloud/#)

(Justin Swanberg,2013)

(Ward, 2020)

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Amazon Web Service

Cloud-computing -The on-demand delivery of IT resources over the Internet with pay-as-you-go pricing

What is Cloud Computing?

Cloud computing is the need for delivery of computing resources, database, applications and other Information Technology resources by online transaction with pay-as-you-go pricing. It is meant by the cost model for cloud services that include both subscription-based and consumption-based models.

(Matt Dryfhout, Scott Hewer,2019)

Difference between traditional computing model and Cloud computing model

The traditional model is infrastructure as hardware. Traditional model requires space, staff, and physical security in order to protect the trade secrets which is crucial for a company. Traditional model includes a long hardware procurement cycle that requires provisioning capacity by anticipating theoretical maximum peaks in a company. By comparison, the Cloud computing model is infrastructure as software. It is flexible which can ease human jobs by changing with high speed, and cost-effectively compared to hardware solutions. Besides, Cloud computing can solve the undifferentiated heavy-lifting tasks. There are three cloud computing service delivery models named Software as a Service(SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS).

Advantages of Cloud Computing

- The advantages of cloud computing is it is able to trade capital expenses for variable expenses, for example, we only pay for the amount that we consume.
- It enables us to stop guessing capacity that the model will have such as overestimating and underestimating the server capacity.
- More productive by increasing the speed and agility of wanting and having resources.

Summary

Cloud computing services like AWS (Amazon Web Services) save businesses the time, money, and other resources they'd otherwise dedicate to maintaining their IT infrastructure. Cloud computing also provides backup systems for files, databases, source code, and more. In a worst-case scenario, any lost data can be restored from backups in no time. Therefore, cloud computing becomes more and more significant in this big data world.

(CEW, 2020)

Introduction to AWS

AWS is a secure cloud platform that provides a wide range of global cloud-based products.

AWS provides on-demand ways to compute, storage and other IT resources also management tools. AWS is flexible in which users only pay for the individual services that they need. There are many services which are included in AWS, such as computer services, storage services, database services, networking & content delivery services, AWS cost management services and others. To interact with AWS, users can contact via AWS Management Console, Command Line Interface (AWS CLI), or Software Development Kits (SDKs). Besides, AWS also includes AWS Pricing Calculator where users can estimate monthly costs and explore price points and calculations behind their estimation.

Reflection

Cloud computing is one of the 4th Industrial Revolution(4 IR) technologies. Cloud computing has gained widespread use over the last few years. With the development of technology, the 21st century has become a big data world. It becomes more difficult for individuals and organizations to keep all of their vital information, programs, systems and servers. Therefore, cloud computing has been founded in order to meet the demands of this big data world and advance the development of 4IR. Most people already use a variety of cloud computing services without realizing it. There are many cloud computing services that apply in many applications such as Google drive, Gmail, Facebook and Instagram. Therefore, AWS is an excellent platform which provides a wide range of global cloud-based services. People nowadays can use cloud computing to ease their heavy jobs as cloud computing can speed up the time that they used to accomplish something related to the internet. It is lucky to live in the 21st century where the 4th Industrial Revolution (IR) is rapidly growing to become more and more convenient with our daily life.

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Augmented Reality

Current trends of Augmented Reality in industry

Industry revolution 4.0 (4IR) is the digital transformation of manufacturing/production and it is related to industries and value creation processes. Augmented Reality (AR) is one of the technologies involved in 4IR. Therefore, many IT-related companies develop vigorously in this technology.

Future of Augmented Reality

Video games have the most expected revenue by industry by 2025 and are followed by healthcare, engineering, life events, video entertainment, real estate, retail, military and education.

Snapchat and Instagram will be the biggest users (about 3.5 million users) in mobile augmented reality users projected by 2022. 9/10 brands plan to use AR in their campaigns(about 15 billion revenue will be made) in Projected revenue generated by AR ads by 2022.
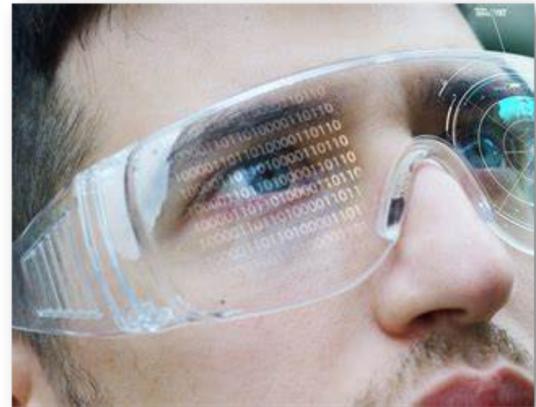
Types of AR

- Marker-based : image recognition, uses a camera and some type of visual marker
- Projection-based: projecting artificial light onto real-world surfaces replaces the original view of an object with a newly augmented view of that same object.
- Superimposition based: replaces the original view of an object with a newly augmented view of that same object.

6 Common positions in AR work

- AR/VR content developer • AR/VR content strategist
- AR/VR user experience designer
- Designer, animator or sound artist specializing in AR & VR
- AR/VR community manager • AR/VR project manager

Summary

Augmented reality is an enhanced version of the real physical world that is achieved through the use of digital visual elements, sounds or other sensory stimuli. This technology is to make things look as realistic as possible. We can foresee its fast development and evolution because of some key drivers such as an increasing number of phones and tablets and their extended functionality or increasing internet speed. Therefore, AR technology will be accessible in everyone's daily life one day.

The state of AR ,2018
https://mydigitalmate.com/the-state-of-augmented-reality-in-2018/

The Future of AR in 10 Use Cases

1. Education
2. Appliances, furniture and other large products
1. Clothing and fashion
2. JARVIS-Like Virtual Assistance
3. The creation of Metaverse
4. Outdoor and Indoor Navigation
5. Healthcare
6. Sporting events
7. Virtual user instructions
8. Assembly instruction

Reflection

Augmented Reality (AR) is very magical and has the true potential to disrupt every single industry on earth. This technology can be involved in many sectors such as education, healthcare, social media and business. As we know, the founder of Facebook has changed their company name to Meta because they are planning to create the next generation of "metaverse" internet. This project involves AR technology. AR technology makes our daily life more convenient. Other than Facebook, Google, Microsoft and others IT companies are also involved and develop this technology vigorously. With so many key players in the IT sector now putting the technology to use in the industrial sector, we can expect to see a lot more from AR over the next few years. Undeniably, AR has become more and more significant in this big data world. For example, with the convenience of AR technology, we can have interactive classes. Students can run scientific and mathematical simulations in 3D space and view the results.

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