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**ASSIGNMENT 2 : NEWSLETTER OF CLOUD COMPUTING SERVICE PROVIDER,
INDUSTRIAL TALK 3 AND INDUSTRY TALK 4**

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CLOUD COMPUTING SERVICE PROVIDER

CLOUD COMPUTING

Cloud computing is Web-based computing that have the function to use computing resources such as databases, virtual machines, web services, storage, communication, events, and pay-as-you-go which can be used by businesses and individuals.

5 Examples and Descriptions of Cloud Computing Service Provider

Microsoft Azure

Among others, one of the fastest-growing clouds. Azure delivers a wide range of business-oriented services. Microsoft Azure has more than 600 services. What makes Azure stand out among others is that Azure offers the most advanced and maximum number of intelligent products and services as well as security products and services that are cutting-edge. Azure has more data centers than any other cloud service provider on the globe.

IBM Cloud

IBM Cloud is a suite of cloud computing services for businesses developed by (International Business Machines Corporation) IBM. For AI and machine learning, analytics, databases, developer tools, IoT, networking, analytics, storage, and security, IBM offers 174 cloud services. IBM cloud network has 60 data centers. Other than that, IBM has six multi-zone regions spread over six continents, each with a heavy Internet traffic location.

Google Cloud

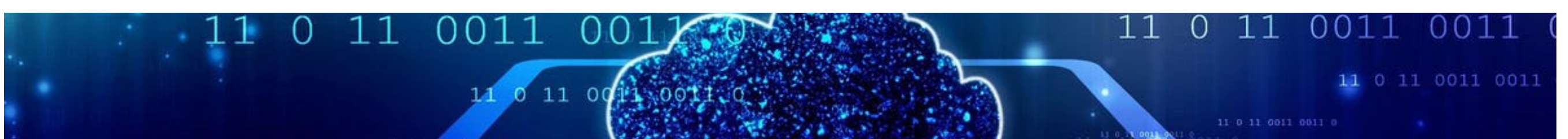
Google Cloud also provides a variety of services. These services have had a substantial impact on enterprise IT in the cloud deployment, scalability, and administration. Google Cloud is available in countries. North and South America, Asia-Pacific, and Europe are among the 25 regions covered. There are 76 zones and 144 network Edge points on the network. Products such as G Suite are some of the most popular ones.

Oracle Cloud

Oracle Cloud Platform is an Oracle-provided cloud service. Oracle Cloud has 65 cloud services available. An Autonomous Database is one of them, a service that uses machine learning to self-optimize and self-repair while also delivering high performance. Currently, Oracle Cloud offers 29 cloud regions worldwide. Oracle Cloud is unique in that it provides all of its services simultaneously in all of its worldwide areas.

Alibaba Cloud

Alibaba Cloud was designed from the ground up to support Alibaba's own e-commerce platform, but it is now available to the general public and Alibaba Cloud became China's largest cloud provider. Just like other cloud services, Alibaba Cloud also offers a wide range of products and services in a variety of industries. Alibaba operates in 23 different locations and has 69 different availability zones throughout the world. Within South Asia and China, Alibaba Cloud offers limitless bandwidth and a better infrastructure.



Comparison among the examples

When it comes to the cost of using cloud services, Microsoft Azure costs similar when compared to AWS while Google Cloud is more affordable than both AWS and Microsoft Azure. Google Cloud offers a pay-as-you-go model. It has a pricing calculator and customizable quotes that assist in understanding of costs according to the workloads, locations and other variables. Google Cloud also set up a program for startups and they can use a minimum of \$2,000 as initial startup credit. About Oracle Cloud's cost, the pricing models are more complex regarding payment models. The price varies with multiple factors like CPU and memory usage. Although Oracle Cloud is a bit expensive, it offers a pay-as-you-go model where the IaaS and PaaS services are charged only for the resources used. Alibaba Cloud has a lower cost compared to overseas cloud service providers. Alibaba Cloud has a slower response time in locations such as the USA than other cloud service providers. Alibaba Cloud makes up with its slow response time with a better CPU and memory utilization. Regarding the benefits worth highlighting for each cloud service provider, Microsoft Azure provides a more consistent service in the cloud service market and performs well in all use cases. Google Cloud customers are not forced to only use their service as the main Google offerings are open source which will eventually influence the deployment, scaling and management of enterprise IT in the cloud. Oracle is best known for its detailed architecture and its cloud services that is on par with other cloud providers. IBM Cloud offers up to 20 free cloud products and 11 short-term free trial products. The company also provides limited-time offers for its customers. Alibaba Cloud services have a better average network latency than the public ISP between the US and China. When it comes to network consistency for traffic between the US and China, Alibaba Cloud has the upper hand.



Reflection

Companies that create public clouds, operate private clouds or provide on-demand cloud computing components such as the Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS) are known as cloud computing service providers (SaaS). The business process costs can be reduced when using Cloud services when compared to on-premise IT. The business industry doesn't need to buy that expensive hardware to use the services.

When it's come to choosing a cloud service provider, we should consider the cost. The cost is usually based on how many utility models that we used, but we must review all the subscription details and provider-specific variations too. The cost is one of the main factors of our choices. Not only that, tools and features are also the reason why we are choosing the cloud service provider. It includes the features and tools that we need such as data management and security features. The physical location of the servers is also very important as if we are processing sensitive data, it must meet the storage regulations. Other than that, reliability is also important if our data must be accessible.

Having a cloud service provider with very good security should be at the top of our considerations. It makes a feel safer when using cloud services. The last factor is business strategy. The offerings and technical capabilities of a cloud provider should align with their organization's business requirements.

NEWSLETTER

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AMAZON WEB SERVICES CLOUD COMPUTING

Issues that discussed in talk

Cloud computing is on-demand access to computing resources—applications, servers (physical and virtual), data storage, development tools, networking capabilities, and more—hosted at a remote data center controlled by a cloud services provider and accessible via the internet (or CSP). The CSP charges a monthly subscription fee for these resources or bills them based on usage. – (Sai Vennam, Developer Advocate at IBM)

Cloud computing allows all users to stop thinking of infrastructure like hardware and start thinking of it as software instead. Infrastructure as well as hardware. Space, manpower, physical security, planning, capital expenditure, and a long hardware procurement cycle are all required by the user. In addition, infrastructure as hardware necessitates the user's provisioning capacity by predicting theoretical maximum peaks, which is both time-consuming and costly. Infrastructure as software, on the other hand, is more adaptable, can reduce undifferentiated heavy-lifting jobs, and can change more rapidly, conveniently, and affordably than a hardware solution.

In addition, there are three types of cloud service models: IaaS (Infrastructure as a Service), PaaS (Platform as a Service), and SaaS (Software as a Service) (Software as a service). IaaS gives you more control over your IT resources, whereas PaaS gives you somewhat more control and SaaS gives you less control. There are three types of cloud computing deployment models: cloud, hybrid, and on-premises (private cloud).

Summary of talk

This industry talk is about Amazon Web Services cloud computing, which allows all users to stop thinking of infrastructure as hardware and start thinking of it as software. In addition, there are three types of cloud service models: IaaS (Infrastructure as a Service), PaaS (Platform as a Service), and SaaS (Software as a Service) (Software as a service). There are three types of cloud computing deployment models: cloud, hybrid, and on-premises. AWS offered a variety of services, including storage, databases, migration and transfer, and more. Users only pay for the services they require for as long as they require them. To summarise, cloud computing offers greater benefits than traditional on-premises IT environments.



Storage, database, migration & transfer, administration & governance, media services, analysis, security, identification & compliance, application integration, business applications, end-user computing, and the internet of things were among the services offered by AWS.

For the advantage of cloud computing, users can invest their capital based on the forecast and pay only for the amount that users can consume. Also, users can stop guessing capacity. For example, overestimated server capacity is usually low in temperature but underestimated server capacity usually is high. Besides, before using cloud computing, consumers are always paying payroll, utilities, maintenance, landscaping, and hardware pay bill, which is very pricy. But after using cloud computing, users can stop spending money on running and maintaining data centers. Furthermore, users that use cloud computing can go global in a minute.

What are web services, exactly? Web services are any pieces of software that make themselves available via the internet and employ a standardized format for the request and response of an application programming interface (API) interaction, such as JavaScript Object Notation (JSON).

I also know what AWS is in this talk. AWS (Amazon Web Services) is a secure cloud platform that provides a wide range of worldwide cloud-based goods that are used like building blocks. AWS is a versatile cloud computing platform that gives users on-demand access to compute, storage, network, database, and other IT resources. Furthermore, consumers simply pay for the services they require for as long as they require them. Analysis, AR and VR, blockchain, business compute, media services machine learning, cost management, and other AWS services are just a few examples.

AWS Management Console, Command Line Interface (AWS CLI), and Software Development Kits were the three ways to connect with AWS (SDKs). AWS also provided a feature called AWS Pricing Calculator. The AWS pricing calculator can assist users in estimating monthly expenses, identifying ways to minimize monthly costs, modeling solutions prior to construction, exploring price points and calculations behind the user's calculations, and more.

AWS offers four different support plans: basic support, developer support, business support, and enterprise support.



REFLECTION

Cloud computing is a technology that uses the internet to deliver different types of services in today's society. It brings a lot of advantages to us compared to the traditional computing model. We can save a lot of costs on server, storage, network, IT labor, and the infrastructure we used. We also do not need to spend money on running and maintaining data centers for our project. Furthermore, we do not need to worry about the capacity of our project, as it can save to a remote database instead of keeping the files on a local storage device (flash drives and CDs) or a proprietary hard drive (HDD and SSD). As long as we have a web-enabled electronic device, we can have access to the data and run it by using software programs. Cloud computing also enables us to eliminate the undifferentiated heavy lifting associated with crunching and processing data away from the device that we carry around or sit and work at. By having cloud computing, our tasks can be easily solved as it can change more quickly, easily, and cost-effectively than hardware solutions. There are some reliable cloud computing platforms in today's society. For example, Amazon Web Services (AWS). It offers a wide range of services to the public. It also provides some support plans to assist customers who are experiencing difficulties.

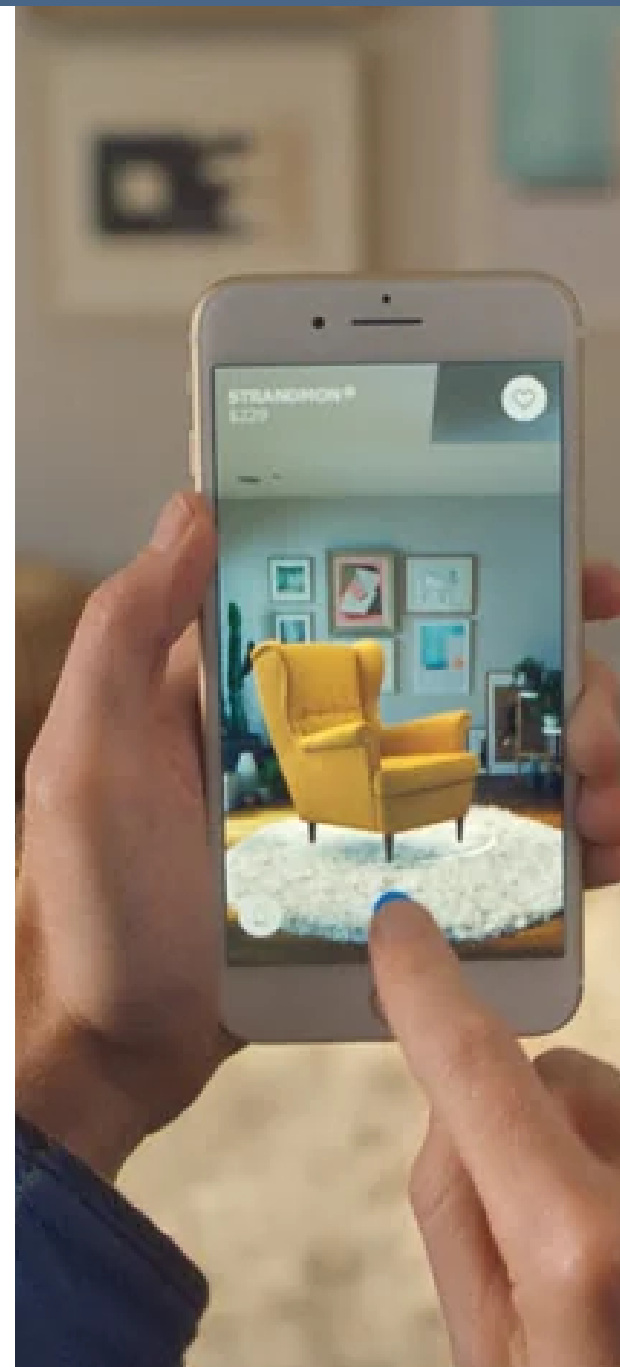
NEWSLETTER

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CURRENT TRENDS OF AUGMENTED REALITY IN INDUSTRY

Summary of talk

The talk is about the current trends of Augmented Reality, AR in the industries. Industrial Revolution 4.0, IR 4.0 aims to digitalize manufacturing and production and relate industries and value creation processes. AR will have an impact on life as the fundamental things begin to digitalize. AR is expected to generate respectable revenue in many sectors mainly in the gaming industry, healthcare industry, and engineering industry. AR will slowly be implemented in popular social media such as Instagram and in the campaign of most brands. Many types of AR will assist in improving education, business models, sporting events and et cetera. To prepare for future jobs opportunities related to AR, one must be innovative, cooperative with different people, decisive, and cognitively flexible to keep up with the changes of IR 4.0. Although job opportunities will diminish, humans are more superior in future jobs that require creative endeavors, socializing and physical agility and mobility. Thus, when it comes to career choices, one could strive for a job that robots do not excel in. Data science and checking on the job market frequently is essential to get some insight into jobs demands and salaries. The utilization of acquired data to ease decision-making and learn artificial intelligence would benefit one's future.



Issues that discussed in talk

Augmented reality (AR) is one of the 9 digital industrial technologies. Augmented reality is an enhanced version of the real physical world that is achieved through the use of digital visual elements, sound, or other stimuli. These inputs can include everything from audio to video, graphics, GPS overlays, and more. Augmented reality has progressed from a science-fiction concept to scientific reality. Until recently, the costs of augmented reality were so high that designers could only dream of working on design projects that included it; however, times have changed and augmented reality is now available on mobile handsets. That means that designing for augmented reality is now an option for UX designers of all shapes and sizes. The first concept of augmented reality appeared in a novel written in 1901 by Frank L Baum, in which a set of electronic glasses mapped data onto people; it was referred to as a "character marker". Location-based AR, projection-based AR, superimposition AR, and outlining AR are four different types of markerless AR. Today, augmented reality is a real thing, not a science-fiction concept.

Augmented reality may look funny in Snapchat filters and smartphone gaming like Pokemon Go, but AR is having a significant influence on the world's sectors. According to research, the future of augmented reality is expected to produce \$11.6 billion in revenue by 2025, with \$5.1 billion in the healthcare industry, \$4.7 billion in engineering, \$4.1 billion in life events, \$3.2 billion in video entertainment, \$2.6 billion in real estate, \$1.6 billion in retail, \$1.4 billion in the military, and \$7 million in education.

In 2016, 51% of consumers have put off home improvements because they couldn't imagine what the finished product would look like. As an example, the "Street Peak" Realtor App uses the user's location and orientation, as well as a proprietary algorithm, to allow smartphone users to point their Android device towards residences and instantly get property details from the database. This augmented reality feature provides home buyers with all the information they want about homes on any given street. Furthermore, when you point your phone at a residence, all information about it is pulled up, including the listing or rental pricing, recently sold price, estimated value, and the number of bedrooms and bathrooms. Ikea Place App scales furniture goods for your house with 98 % accuracy based on space dimensions scales, so you can view the fabric texture and how light and shadows improve your furniture.

Moreover, you can virtually 'place' IKEA furniture in your space with IKEA Place. All the products in IKEA Place, from couches and lamps to carpets and tables, are 3D and accurate to scale, allowing you to make sure they're the ideal size, design, and usefulness for your space.

Augmented reality has a variety of applications that can help students, especially those who are more visual learners, improve their learning experience. The capacity for a learner to inspect a 3D hologram from a variety of perspectives is one of the main advantages of augmented reality. They can better study and understand some concepts by moving around a virtual object or rotating it in space. This alone has the potential to transform learning in fields such as biology, anatomy, cosmology, geometry, and others. Students can also benefit from at-home practical learning with augmented reality. Students can execute scientific and mathematical simulations in three dimensions and observe the outcomes from all angles. Students can see how specific medications influence different organs in the human body. When compared to other ways, this type of learning is more likely to be recalled and understood by students.

10 Job Skills for the Future IR 4.0 asks for complex problem solving, critical thinking, creativity, people management, and cooperating with others are just a few of the skills you'll need. Emotional intelligence, judgment and decision-making, service orientation, negotiation, and cognitive flexibility are all skills that may be acquired. The most of augmented reality jobs now present are existing job titles with an AR description. an AR/VR content developer, AR/VR content strategist, AR/VR user experience designer, Designer, animator, or a sound artist specialist in AR & VR, AR/VR community manager, AR/VR project manager are among the more common roles.

There are three major locations, according to Graham Brown-Martin, where people beat robots that are critical to future employment creation: creative endeavors, social interaction, physical dexterity, and mobility. Creative endeavors include scientific research, creative writing, and entrepreneurship. Robots, for example, do not have the same high emotional intelligence as humans. As a result, humans can outperform machines in the field of social interaction. In addition, millennia of ascending mountains, swimming lakes, and dancing training have given humans amazing agility and physical dexterity.

When deciding on a career, there are five points to consider. Firstly, you must study data science or work in the data industry to gain experience in the field. Secondly, you need to pick a job that robots still can't do well, and you also need to focus on jobs that require skills such as creativity, problem-solving, and human-to-human communication. Thirdly, keep an eye on the job market to see which jobs are in demand and what the average salary is. Meanwhile, you need to be data-savvy. For instance, you must understand how to use data to make decisions and solve problems. Eventually, discover about artificial intelligence.

REFLECTION

Augmented reality (AR) is a technology that augments our physical world by superimposing a layer of digital information on top of it. It has become a common technology in today's society as the number of AR users and the revenue brought by AR will only be increasing from time to time. It brings a lot of advantages to our society from different aspects. For example, it can help the students to enhance and consolidate their concept by providing a virtual 3D object which the students can move around or rotating it to have a better view and understanding. It also helps to provide a preview for the customer who wants to buy furniture or appliances by showing how the furniture or appliances will actually look like in the place. The customer can take it into consideration before making a purchase. It also allows customers to get to see actually how a product like shirts or clothes might look like by providing a preview of how virtual versions of the shirts or makeup will look like on the people through smart mirrors or other AR appliances. As a result, we can say that AR is playing an important role in today's society because it allows us to have better life experiences. Nevertheless, it has some drawbacks if we become addicted to it or use it for inappropriate purposes.



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The Future of Augmented Reality: 10 Awesome Use Cases
<https://www.youtube.com/watch?v=WxzcD04rwc8>