CLOUD COMPUTING SERVICE PROVIDERS

TIS ASSIGNMENT 2, NEWSLETTER 1

UTM UNIVERSITI TEKNOLOGI MALAYSIA
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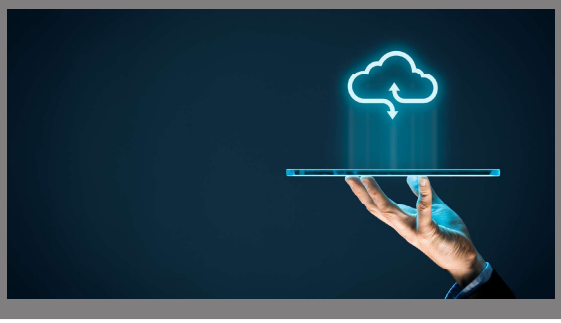
Alibaba Cloud · IBM · ORACLE · Microsoft Azure

INTRODUCTION

Cloud computing, defined roughly, is the delivery of computing services through the internet. Computing services comes in many categories, from applications and storages to processing power. Rather than to build and maintain an IT infrastructure or a data center, organizations from various backgrounds can now utilize the power of cloud computing through renting access to various services such as applications or virtual machines, from a service provider. Delivered through the internet on a pay-as-you-go basis, this allows for greater scalability of the services as it frees organizations from the hassles of building and maintaining their own IT infrastructures, thus reducing costs making Cloud Computing a highly revolutionary technology. Cloud Computing services comes in many forms to accommodate the needs of its clients, including software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS). Some of the examples of cloud services and their providers include:

1. Microsoft Azure by Microsoft
2. Google Cloud Platform by Google
3. Alibaba Cloud by Alibaba Group
4. IBM Cloud by IBM
5. Oracle Cloud by Oracle Corporation



Comparison among the 5 example cloud computing service provider

	Microsoft Azure	Google Cloud	Oracle	Alibaba Cloud	IBM Cloud
Virtual Servers	Azure Virtual Machine	Compute Engine	Oracle Cloud Infrastructure Compute	Alibaba Elastic Compute Service (ECS)	IBM Cloud Virtual Servers
Shared Web hosting	Azure shared app services	Firebase	Oracle APEX Shared Hosting	Web Hosting, Simple Application Server	Web Hosting Services
Event Driven Computing	Azure Functions	Cloud Functions	Oracle Functions	Function Compute	IBM Cloud Functions
Kubernetes Management	Azure Kubernetes Service (AKS)	Kubernetes Engine	Oracle Container Engine for Kubernetes (OKE)	Container Service for Kubernetes	IBM Cloud Kubernetes Service
Data Warehousing	Azure Synapse Analytics	BigQuery	Autonomous Data Warehouse Cloud	Alibaba MaxCompute ODPS	Db2 Warehouse on Cloud
Network Gateway	Azure VPN Gateway	Cloud VPN	Oracle VPN Connect	VPN Gateway	Classic IPSEC-VPN

DESCRIPTION

Microsoft Azure

Azure is a cloud computing platform provided by Microsoft. Its services are offered in various regions including the Americas, Europe, Africa, and the Asia Pacific regions. Azure offers services in many categories, including high performance computing, storage, networking, security, and management. Examples of Azure services include:

- Azure Virtual Machines
- Azure Shared App Services
- Azure Functions
- Azure Kubernetes Service
- Azure Synapse Analytics
- Azure VPN Gateway

Google Cloud Platform

Google Cloud Platform is a suite of public cloud computing services offered by Google. Originally developed as the App Engine, its original goal is to provide hosting services to web-based apps. Over time, new services are developed and added to compete with other providers such as AWS and Azure, turning the App Engine into a full fledged cloud service, offering service in many areas including machine learning, high performance computing, and data analytics. Examples of service included in the Google Cloud Platform include:

- Google Compute Engine
- Google Firebase
- Google Cloud Functions
- Google Kubernetes Engine
- Google BigQuery
- Google Cloud VPN

Oracle Cloud

Oracle Cloud is a cloud service offered by Oracle, made available in 2016. It's powered by 30 of Oracle managed data centers located around the world. It has gained fame being the preferred choice of household brands such as Zoom, for its data transfer capabilities and a relatively cheap cost. Being the newer player in the cloud computing industry, it has since looking forward to expand its services to compete with industry leaders such as Azure and AWS. Its services include:

- Oracle Cloud Infrastructure Compute
- Oracle APEX Shared Hosting
- Oracle Functions
- Oracle Container engine for Kubernetes
- Oracle Autonomous Data Warehouse Cloud
- Oracle VPN Connect

Alibaba Cloud

Alibaba Cloud is a cloud computing company, a subsidiary to the E-commerce giant Alibaba Group. Founded in 2009, it prides itself as the leading cloud services provider in the emerging markets, being the first in China and Asia Pacific and the third in the world in terms of market share. Like the other cloud service providers, it offers a myriad of services to cater to the various needs of its customers. Examples of Alibaba Cloud's services include:

- Alibaba Elastic Compute Service (ECS)
- Alibaba Web Hosting
- Alibaba Function Compute
- Alibaba Container service for Kubernetes
- Alibaba MaxCompute ODPS
- Alibaba VPN Gateway

IBM Cloud

IBM Cloud is the cloud computing service offered by IBM. Started at 2008 with the announcement of BlueHouse as a software for service collaboration suite, IBM took major strides to become one of the largest providers of cloud services with 60 data centers located across six continents and 20 different industries benefitting from its services. Examples of the services provided by IBM Cloud include:

- IBM Cloud Virtual Servers
- IBM Web Hosting Services
- IBM Cloud Functions
- IBM Cloud Kubernetes Service
- IBM Db2 Warehouse
- IBM IPSec VPN

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TIS Assignment 2 Newsletter 2:

AWS Cloud Computing

"Choose cloud computing, Choose Amazon"

What is cloud computing?

When asked what cloud computing is, the standard response from the community is "Google Drive for Windows and I-Cloud for MacOS." That was an illustration of the services that cloud computing provided to its clients. Not everyone understands exactly what cloud computing is. Cloud computing - What Is It? Cloud computing is a general term that refers to the delivery of many services via the Internet, including data storage, servers, databases, networking, and software. Amazon Web Service (AWS) is one of the leading cloud computing providers, offering more broad services to people, organizations, and large businesses. This is because it is more cost effective, saves time, and is more useful than traditional computing methods, which involve a great deal of work and require frequent maintenance. Cloud computing infrastructure is similar to software, but it is more adaptable and reduces the amount of storage on our devices.

Not only that, AWS's cloud computing services have benefited us significantly. Amazon is available in a large number of areas and is a server provider. For instance, if you are currently residing in Malaysia but wish to connect to a server in Brazil, all you need to do is select the server from the target place and you are good to go. We can connect to servers in over 50 countries around the world and, most importantly, it is secure. Do not be afraid about data or privacy being exposed because they are secured and receive a high level of protection due to the way they work together as building blocks implemented in blockchain. However, all we need is the speed and capability of our internet to take advantage of cloud computing to its best ability.

Cloud computing is classified into three broad categories: infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS) (SaaS). Each service supplied by Amazon has its own set of advantages and disadvantages and is best suited to the unique requirements of a business. For instance, SaaS is a methodology for distributing software services in which programmed are hosted and made discoverable to clients via the Internet. We can access it immediately via the network without installing any software, and it supports many users accessing the same data center. Considering Google Docs. When using Google Docs, things become much easier because everyone can work on the same page and it also saves time.

Why AWS?

It's simple since ASW is significantly easier and less expensive! To sign up for their services, all you needed was an email address and a credit card for billing. That was all there was to it. Most importantly, their pricing was as cheap and it calculates per hour and they offered a variety of services including game technology, augmented reality, and vr technology. It also provides a plethora of options for security services. AWS Shield and Amazon Cognito are two examples.

SUMMARY

Cloud computing is the new trend of the 21st Century. In the industrial talk, Dr Qual Al-Maatouk from has introduced the basic of cloud computing, the similarities and difference between the traditional computing model and cloud computing model, followed by similarities between Amazon Web Service (AWS) and traditional IT, and last but not least, an interesting walkthrough on AWS E2C instance.

In the view of Amazon Web Service Academy, cloud computing is an on-demand service of compute power, database, storage, application, and other IT resources via the internet with a pay-as-you-go pricing. It has definitely changed the way people think about computing, as now with cloud computing, the infrastructure has now changed its definition from a hardware which requires space, staff and physical security to a software which requires no physical space, as it 'exist on the cloud'. In an overall sense, cloud computing is more flexible and more cost-effective. Throughout the industrial talk, Dr Qusay has shown the students the advantages of cloud computing which further strengthens the cloud concepts among fellow students.

In the later session, Dr Qusay further demonstrates the wonders of AWS with the example of industrial usage solution and the available services. Much to the students' amusement, there is 3 ways to interact with AWS which includes AWS Management Console, Command Line Interface (AWS CLI) and Software Development Kits (SDKs), in which will come in handy for the students in the future as a developer. Other than the usage and concepts, Dr Qusay also shares to students about the cost of AWS, how to calculate the pricing based on the company needs and the support plans that AWS offers and lastly ended with the summary of case severity and response times of different plans.

AWS SERVICES INCLUDES

LARGE COMPANIES THAT USES AWS

Spotify airbnb NETFLIX

Reflection

Among the advancements in technology, there are several that continue to evolve and improve the quality of life, such as cloud computing and wireless communication. According to Flexera, the impact of the Covid-19 outbreak demonstrates the crucial function of cloud computing in this era of modernity. That is because during a pandemic, all of those activities had to pause and interactions would have to be conducted online. Considering online classes.

Throughout the lockdown period, all educational institutions used online classrooms rather than hybrid classes to limit the possibility of becoming infected by viruses. Of course, when everything goes online, we'll need laptops and other electronic gadgets capable of connecting to the internet in order to communicate with one another. Even now, the majority of textbooks have been converted to digitalized e-books. All of those documents must be downloaded, which takes up a lot of computer space and storage. However, with cloud computing, we can effortlessly view documents online without downloading them, thereby saving space on our PC. Numerous cloud services, such as I-cloud and Google Drive, featured file storage.

Not only that, cloud computing offers numerous services to end users like us, such as security utilities and bundled software such as Microsoft 365. It genuinely helps to limit storage on our devices and saves consumers money and time because once our devices' storage is full, we must upgrade to a larger capacity in order for them to run efficiently and without lagging. As a result, I encourage everyone to begin utilizing cloud computing services and to educate ourselves and other members about cloud computing because it saves space, time, and money.

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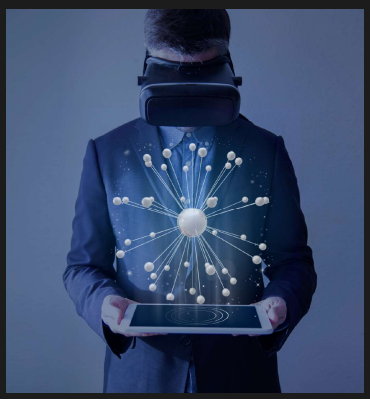
26th November 2021

TIS ASSIGNMENT 2
NEWSLETTER 3 :

AUGMENTED REALITY

SUMMARY

Dr. Ruzimi begins by discussing Industry 4.0 and the nine digital industrial technologies that make up that industry, one of them which is augmented reality (AR). He goes on to anticipate AR revenue by 2025 and the future of augmented reality. The most popular apps will be Snapchat and Instagram and 9 out of 10 brands plan to incorporate augmented reality in their advertising. Dr. Ruzimi next shows us a movie regarding the future of AR in ten use cases, followed by three forms of AR: marker-based, projection-based, and superimposition-based. He also discussed the abilities required for future careers in IR 4.0 and the most common AR positions. Last but not least, he stated that we should seek employment in areas where humans outnumber robots because this is the key to future job development, as well as the factors to consider when choosing a career.



ABOUT AUGMENTED REALITY (AR)

Augmented reality (AR) is one of the digital technologies of the fourth industrial revolution. It is a technologically augmented depiction of the real physical world that is made possible by the use of digital visual components, sound, or other sensory stimulation. AR is currently one of the most popular technology trends, and it will only become more popular as AR-capable smartphones and other devices become more widely available around the world. AR allows us to observe the real-world environment in front of us with a digital augmentation on top of it. The canines, for example, could be seen socializing with their cartoon counterparts, and the youngsters might be seen kicking past an alien spacecraft on their way to score a goal. These examples are not that dissimilar to what is now accessible on your smartphone, thanks to advancements in AR technology. The mobile game Pokemon Go, which was published in 2016 and soon became a worldwide phenomenon, is perhaps the most renowned example of AR technology. Pokemon figures appear in the real world, such as on the pavement, in a fountain, and even in your own toilet, and players must seek and capture them.

Besides, there are many uses for AR in our everyday lives. For example, AR is used in enhanced navigation systems to superimpose a route over a live image of the road, and broadcasters utilize augmented reality (AR) to draw lines on the field to illustrate and evaluate plays during football games. Aside from that, IKEA, the Swedish furniture and homewares giant, has developed IKEA Place, an augmented reality (AR) software that allows you to see how a piece of furniture will look and fit in your room before you buy it, an AR projection of a 3-D brain is occasionally used by neurosurgeons to assist them during procedures and AR can overlay old civilization views over today's ruins at historical places like as Pompeii in Italy, bringing the past to life.

TYPES OF AUGMENTED REALITY (AR)

AR comes in many forms. One of them is marker-based. The identification of markers/user-defined images is required for the function of this type of AR, also known as recognition-based AR or image recognition. An augmentation must be activated by a marker in marker-based AR. Markers are distinct patterns that cameras can instantly recognise and evaluate. They can be paper-based or real-world objects, and they are visually independent of their surroundings. To display an augmented experience like an object, text, video, or animation, maker-based AR works by scanning a marker with the device. It usually necessitates the usage of software in the form of an app that allows users to scan markers using their device's camera feed.

The projection-based AR is another type of AR. Projection-based AR, often known as "spatial Augmented Reality," is a method of delivering digital data to people in a fixed context. The AR zone is limited to the fields of view of both the stationary projector and the tracking camera. A beam of light is projected onto a specifically constructed work surface and, in certain situations, directly onto the parts on which a user is working by one or more optical devices (projectors). This provides clear direction to activities and avoids the need to interrupt operations to find information. In order to project Augmented Reality, a variety of stationary cameras can be found in offices. Cameras are used to track things, with or without fiducials. By changing the workplace environment, such as illumination, the tracking algorithms' computational cost is lowered.

Moreover, another sort of AR is superimposition-based. Either by replacing the entire view with an augmented view of the object or by replacing a portion of the object view with an enhanced view, AR-based superimposition produces a 'alternative' perspective of the object in question. Object identification is crucial in this scenario because, presumably, if the app doesn't know what it's looking at, it won't be able to replace the original view with an augmented one. For example, in education, superimposing an actual object with its internal view might be useful for studying bone anatomy.

REFLECTION

As we know, Augmented Reality is one of the technologies in 4th IR that are growing and gaining public attention year by year. During the pandemic, most shopping malls were closed due to lockdown. Citizens are not allowed to spend on other items except groceries. Therefore, people use websites like shopee to buy other things such as makeup. Some makeup brands gave customers the experience to test the makeup by using AR. For example, Maybelline cosmetic allowed customers to try the lipstick color by using a makeup virtual try-on. The customer doesn't need to go to the cosmetic shop just only to try the makeup. So, it makes it easier for people to shop online without leaving home to reduce the spread of covid-19 infection and it also reduces the use of time to shop.

Furthermore, some education applications use AR to enhance and help students to study. It is because the augmented reality application can create different experiences for them. For example, the Iskandar application by Ozel SDN BHD helps the OKU deaf community to learn the basics of Islam by using sign language. It makes it easier for students with disabilities to learn by using applications only without hiring others such as tuition teachers to teach the basics of Islam. So, It can save our money from paying the expensive tuition fees.

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