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Lesson title: Identify the different Operating Systems and various Platform Technologies **Learning Targets:** At the end of the module, students will be able to: 1. explain the operating system of the different platforms; 2. identify the different types of platforms; and 3. recall the previous topic in emerging technologies.	**Materials:** Student Module **References:** https://eng.libretexts.org/Courses/Delta_College/Operating_System

A. LESSON PREVIEW/REVIEW

Introduction

      Hello there how are you? Last time we already did the orientation and also an overview of platform technologies. Today, we will tackle the technology platform and its different types.

      The operating system acts as an intermediary between a computer user and computer hardware. The purpose of an operating system is to provide an environment in which a user can execute programs conveniently and efficiently.

An operating system is software that manages the computer hardware. The hardware must provide appropriate mechanisms to ensure the correct operation of the computer system and to prevent user programs from interfering with the proper operation of the system.

B. MAIN LESSON
Technology Platform
      A technology platform is a **structure on which users build or run successful business applications.** It acts as a building block for extending and developing an application, driving innovation, and fostering business growth.

Types of Technology Platforms
1. Operating System
- An **operating system** is a program that controls the execution of application programs and acts as an interface between the user of a computer and the computer hardware.
- A more common definition is that the operating system is the one program running at all times on the computer (usually called the kernel), with all else being application programs.

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- An **operating system** is concerned with the allocation of resources and services, such as memory, processors, devices, and information. The operating system correspondingly includes programs to manage these resources, such as a traffic controller, a scheduler, a memory management module, I/O programs, and a file system.

Functions of Operating System – The operating system performs three functions:

1. **Convenience:** An OS makes a computer more convenient to use.
2. **Efficiency:** An OS allows computer system resources to be used in an efficient manner.
3. **Ability to Evolve:** An OS should be constructed in such a way as to permit the effective development, testing, and introduction of new system functions at the same time without interfering with service.

Examples of Operating Systems

- Microsoft Windows.
- macOS.
- Linux.
- Android.
- Apple iOS.

2. **Computing Platforms**

A **computing platform** consists of hardware and an operating system on which you can run an application or a program.

Although computing platforms exist in different forms, you need to define the system and its underlying requirements and limitations.

Ultimately, all computing platforms have the same general hardware, including a processor, operating memory, and storage system. Some come with input or output devices that aid user interactions.

Examples of Cloud Platforms

- A personal desktop computer using Windows OS.
- An iPad running on the iOS system.
- A minicomputer utilizing the Linux OS alongside other variations.

3. **Database Platforms**

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- Database platforms are **cloud platforms that enable you to deploy and manage different database types** like relational, NoSQL, and in-memory databases.
- A database management system (DBMS) stands between end users, the database, and applications to help capture and analyze the data shared between these mediums.

Examples of Database Platforms
- Oracle
- IBM Db2
- Microsoft SQL
- MySQL
- PostgreSQL
- MongoDB

4. Storage Platforms
- Storage platforms allow the storage of files and objects. There are different storage platform types: object-based storage, software-defined storage, and data-defined storage.

- Object storage manages unstructured data as objects. Software-defined storage separates storage services from physical storage hardware. Data-defined storage combines the attributes of software and object-defined storage while adding data security and identity management.

Examples of Storage Platforms
- Google Drive.
- Dropbox.
- Onedrive.
- MediaFire.
- iDrive.
- Amazon Cloud Drive.

5. Application Platforms
- An application platform is a virtual platform that application programs rely on to conduct their standard operations**.** It provides an enabling environment for developing application software.

Examples of Application Platforms
- OutSystems
- Appery.io

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- Microsoft Visual Studio
- Adobe PhoneGap
- Google App Maker

6. Mobile Platforms

- A mobile platform combines software tools to create, design, and maintain mobile applications. It includes operating systems and environments that enable the development of mobile apps.

- Every mobile platform supports the development of mobile apps by using different programming languages and an application programming interface that encourages interactions between software packages.

Examples of Mobile Platforms

- BlackBerry.
- iOS.
- Android.
- Windows Mobile OS.

7. Web Platforms

- Web platforms allow for the discovery and sharing of information over the internet. They include web servers, web application servers, and digital elements that allow for the sharing of information online.

- A website that provides historical information about the United States of America is a great example of a web platform. Users can connect via the internet, type in the URL, and access the needed information.

Examples of Web Platforms

- Britannica.
- ResearchGate.
- Lexis Web.
- Wolfram Alpha.

8. Content Management System Platforms

- A Content Management System (CMS) platform **helps users to create, manage, and publish content, media, and documents.** This platform allows you to manage your content better and publish website content.

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- Companies use CMS platforms as a document management system, an intranet site, and to publish web content on their blogs and websites.

- Without a CMS platform, you must first understand programming languages and coding properly. Why? All web pages use HTML, JavaScript, and CSS programming languages.

- The main benefit you gain from a CMS platform is **the ability to create, edit, and store web content without needing technical expertise.**

Examples of Content Management System Platforms
- Joomla.
- HubSpot CMS Hub.
- WordPress.org.
- WooCommerce.
- Drupal.
- BigCommerce.
- Shopify.

9. Media Platforms
- The primary function of a media platform is to provide and deliver media to its users**.** However, most media platform owners are now allowing feedback from their users to make their platforms more interactive.

Examples of Media Platforms
- Facebook
- WhatsApp
- LinkedIn
- YouTube
- Local Newspaper
- Network TV
- Pinterest

10. API Platforms
- Application Programming Interface (API) is an intermediary software providing the means for different applications to communicate with each other.

- An API platform allows for the easy management of APIs and other related applications. This platform exposes data, its resources, and assets in a machine-readable format to other users.

Examples of API Platforms

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- Funnel.
- Make.
- Workato.
- Cyclr.
- DreamFactory.
- Maestro PMS

11. Analytics Platforms
- An analytics platform refers to any service or tool that allows users to capture, process, analyze, and visualize data for better decision-making**.** Organizations and different departments (strategic business units) use analytics platforms to make data-driven decisions.

- Analytics platforms allow companies to employ their platforms on-premises or in the cloud. Industries such as marketing, finance, management, information security, online systems, and software services are the most significant users of analytics platforms.

Examples of Analytics Platforms
- Microsoft Power BI Desktop.
- Qlik Sense.
- Looker.
- Sisense.
- Tableau.

12. Security Management System Platforms
- Security management system platforms are systems that provide security teams with a centralized hub for managing their network security. These platforms integrate with third-party security products and services for better and faster outcomes.

Examples of Security Management System Platforms
- Quantum.
- CloudGuard.
- Harmony.
- Horizon.

13. Robotics Platforms
- Robotic platforms are systems or tools that provide the framework for developing, managing, and using robotic programs or devices.

- A robotic platform makes it easy for people with little or no technical expertise to create robotic programs and devices.

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Examples of Robotics Platforms
- Google ROBEL.
- Microsoft AirSim.
- Apollo Baidu.
- iRobot AWARE.
- OpenJAUS.
- Yarp.
- Pyro.

14. Internet of Things Platforms
- The Internet of Things (IoT) is a network of interconnected physical objects with sensors and processing abilities that collect and share data through the Internet.

- IoT platforms are on-premise software or cloud services that bridge the gap between device sensors and data networks.

- An IoT platform is a set of technologies that allow developers to build software applications, remotely collect data, and manage device connectivity. This platform connects different sets of technologies or communications to ensure a seamless flow of data between devices.

Examples of Internet of Things Platforms
- Google Cloud IoT.
- Salesforce IoT Cloud.
- IBM Watson IoT.
- Amazon AWS IoT Core.
- Microsoft Azure IoT Hub.
- Oracle IoT.

15. AI Platforms
- Artificial Intelligence (AI) platforms offer AI-based services that enable you to build and manage your own AI.

- AI platforms provide an enabling environment for machine learning, such as a machine learning database that enables you to build your AI applications effectively.

- As an integrated set of technologies, AI platforms enable organizations to create, develop, and operate their AI applications at scale.

Examples of AI Platforms
- Google AI Platform.
- TensorFlow.

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- Microsoft Azure.
- Rainbird.
- Infosys Nia.
- Wipro HOLMES.

16. Gaming Platforms
- A gaming platform combines electronic or computer hardware and software to allow a video game to run efficiently. This platform is the supporting system that allows users to play multiplayer online games on different devices.

- The three most popular gaming platforms are personal computers, video game consoles, and mobile devices.

Examples of Gaming Platforms
- The Sony PlayStation.
- Microsoft's Xbox.
- Nintendo's Switch.
- PCs.
- Mobile.

Skill-Building Activities
Instruction: Read the questions carefully and choose your answer in the box below.

a. Gaming Platforms	i. Media Platforms
b. AI Platforms	j. Content Management System Platforms
c. Internet of Things Platforms	k. Storage Platforms
d. API Platforms	l. Database Platforms
e. Robotics Platforms	m. Application Platforms
f. Security Management System Platforms	n. Cloud Platforms
g. Analytics Platforms	o. Operating System
h. Mobile Platforms	p. Web Platforms

_____1. It is a platform that offers AI-based services that enable you to build and manage your own AI.

_____2. This platform makes it easy for people with little or no technical expertise to create robotic programs and devices.

_____3. It is an intermediary software providing the means for different applications to communicate with each other.

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_____4. This platform provides and delivers media to its users**.**

_____5. It is a network of interconnected physical objects with sensors and processing abilities that collect and share data through the Internet

"Don't waste your time with explanations: people only hear what they want to hear."
— ***Paulo Coelho***

Check for Understanding
Instruction: Match column A with the corresponding item in column B. Write the letter of your answer for each item.

_____1. Google AI Platform	a. Gaming Platforms
_____2. An iPad running on the iOS system	b. AI Platforms
_____3. Joomla	c. Internet of Things Platforms
_____4. WordPress.org	d. API Platforms
_____5. Harmony	e. Robotics Platforms
_____6. Infosys Nia	f. Security Management System Platforms
_____7. Qlik Sense	g. Analytics Platforms
_____8. Yarp	h. Mobile Platforms
_____9. WhatsApp	i. Media Platforms
_____10. Britannica	j. Content Management System Platforms
_____11. Microsoft Visual Studio	k. Storage Platforms
_____12. BlackBerry	l. Database Platforms
_____13. iOS	m. Application Platforms
_____14. Microsoft Windows	n. Cloud Platforms

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_____15. Microsoft SQL	o. Operating System p. Web Platforms

C. LESSON WRAP-UP
FAQs

1. What is an example of a technology platform?
    -   Amazon Web Services, Microsoft Azure, and Twilio are examples of Technology Platforms. Technology Platforms provide building blocks or services that are reused in a large number of products.

2. What are the 6 online platform categories?
    ● Learning Destination Sites.
    ● Traditional Commercial Learning Management Systems.
    ● Open Source Learning Management Systems.
    ● Modern Learning Management Solutions.
    ● Learning Management Ecosystems.
    ● Custom Built Platforms.

Thinking about Learning

a)   Mark your place in the work tracker which is simply a visual to help you track how much work you have accomplished and how much work there is left to do.

Period 1									Period 2							Period 3									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

b)   Think about your learning by filling up "My Learning Tracker". Write the learning targets, scores, and learning experiences for the session and deliberately plan for the next session.

Date	Learning Target/Topic	Scores	Action Plan

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What's the date today?	*What module # did you do? What were the learning targets? What activities did you do?*	*What were your scores in the activities?*	*What contributed to the quality of your performance today? What will you do next session to maintain your performance or improve it?*

Key to Correction
Skill-building:

1. b
2. e
3. d
4. i
5. c