

Name: رنا أشرف حمدي شريف

B.N:350

Topic: operating system

Github link: <https://github.com/rana-ashraf/ECE001-350/upload>

Github page:

Application brief:

What is an Operating System? An Operating system (OS) is a software which acts as an interface between the end user and computer hardware. Every computer must have at least one OS to run other programs. An application like Chrome, MS Word, Games, etc needs some environment in which it will run and perform its task. The OS helps you to communicate with the computer without knowing how to speak the computer's language. It is not possible for the user to use any computer or mobile device without having an operating system. As long as each application accesses the same resources and services in the same way, that system software -- the operating system -- can service almost any number of applications. This vastly reduces the amount of time and coding required to develop and debug an application, while ensuring that users can control, configure and manage the system hardware through a common and well-understood interface. Once installed, the operating system relies on a vast library of device drivers to tailor OS services to the specific hardware environment. Thus, every application may make a common call to a storage device, but the OS receives that call and uses the corresponding driver to translate the call into actions (commands) needed for the underlying hardware on that specific computer. Today, the operating system provides a comprehensive platform that identifies, configures and manages a range of hardware, including processors; memory devices and memory management; chipsets; storage; networking; port communication, such as Video Graphics Array (VGA), High-Definition Multimedia Interface (HDMI) and Universal Serial Bus (USB); and subsystem interfaces, such as Peripheral Component Interconnect Express (PCIe).



Benha University
Faculty of Engineering - Shoubra
Academic year 2019-2020



Types of Operating system: Batch Operating System-Multitasking/Time Sharing OS - Multiprocessing OS- Real Time OS -Distributed OS -Network OS -Mobile OS.

The advantage of using Operating System: (Allows you to hide details of hardware by creating an abstraction -Easy to use with a GUI -Offers an environment in which a user may execute programs/applications)

screenshots :

Operating systems

Links:

- [Introduction](#)
- [Types of Operating System](#)
- [Memory Management](#)
- [image](#)

Introduction

An Operating system (OS) is a software which acts as an interface between the end user and computer hardware.

Every computer must have at least one OS to run other programs.

An application like Chrome, MS Word, Games, etc needs some environment in which it will run and perform its task.

The OS helps you to communicate with the computer without knowing how to speak the computer's language.

It is not possible for the user to use any computer or mobile device without having an operating system.

Without an operating system, a computer is useless.





Benha University Faculty of Engineering - Shoubra Academic year 2019-2020



Operating Systems

- [Introduction](#)
- [Types of Operating System](#)
- [Memory Management](#)
- [image](#)

Types of Operating System

An Operating System performs all the basic tasks like managing file, process, and memory.

Thus operating system acts as manager of all the resources, operating system becomes an interface between user and machine.

Types of Operating Systems: Some of the mostly used operating systems are as following:

Type	Definition	Advantages
1. Batch Operating System:	It runs on a server and provides the server the capability to control data, users, groups, security, applications and other networking functions.	<ul style="list-style-type: none">• No mechanism to prioritise the processes.• No interaction between user and computer.• Multiple users can share the batch systems• The idle time for batch system is very less• It is easy to manage large work repeatedly in batch systems
2. Multiprocessor Systems	A Multiprocessor system consists of several processors that share a common physical memory. In multiprocessor system all processors operate under single operating system. Multiplicity of the processors and how they do act together are transparent to the others.	<ul style="list-style-type: none">• Enhanced performance• Execution of several tasks by different processors concurrently, increases the system's throughput without speeding up the execution of a single task.• system divides task into many subtasks and then these subtasks can be executed in parallel in different processors.
Distributed	These types of operating system is a recent advancement in the world of computer technology and are being widely accepted all-over the world and that too with a great pace. Various autonomous interconnected computers communicate each other	<ul style="list-style-type: none">• Electronic mail increases the data exchange speed• Less load on the Host Machine.• Fast processing

Operating Systems

Links:

- [Introduction](#)
- [Types of Operating System](#)
- [Memory Management](#)
- [image](#)

Memory Management

Memory Management is the process of controlling and coordinating computer memory, assigning portions known as blocks to various running programs to optimize the overall performance of the system.

Memory Addresses & Description

1. Symbolic addresses

The addresses used in a source code. The variable names, constants, and instruction labels are the basic elements of the symbolic address space.

2. Relative addresses

At the time of compilation, a compiler converts symbolic addresses into relative addresses.

3. Physical addresses

The loader generates these addresses at the time when a program is loaded into main memory.





Benha University

Faculty of Engineering - Shoubra

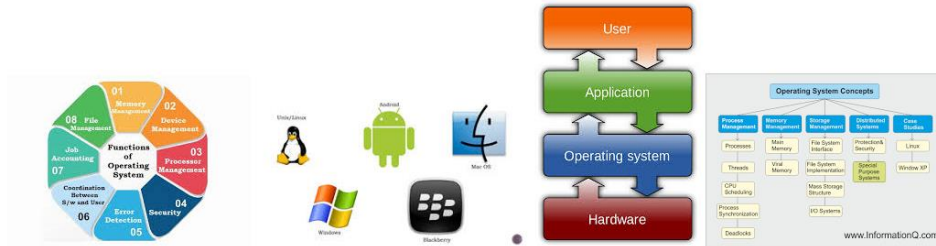
Academic year 2019-2020



Operating Systems

links

- [Introduction](#)
- [Types of Operating System](#)
- [Memory Management](#)
- [image](#)



```
<!DOCTYPE html>
<html>
<body>
<h1>Operating systems</h1>
<h3> Links: </h3>
<ul>
<li><a href="index.html">Introduction</a></li>
<li><a href="Types of operating systems1.html">Types of operating System</a></li>
<li><a href="Memory management.html">Memory Management</a></li>
<li><a href="images.html">image</a></li>
</ul>
<h3>Introduction</h3>
<p>An operating system (OS) is a software which acts as an interface between the end user and computer hardware.</p>
<p>Every computer must have at least one OS to run other programs.</p>
<p>An application like Chrome, MS word, Games, etc needs some environment in which it will run and perform its task.</p>
<p>The OS helps you to communicate with the computer without knowing how to speak the computer's language.</p>
<p>It is not possible for the user to use any computer or mobile device without having an operating system.</p>
<p>Without an operating system, a computer is useless.</p>

</body>
</html>
```



Benha University

Faculty of Engineering - Shoubra

Academic year 2019-2020



```
<!DOCTYPE html>
<html>
<body>
<h1>Operating Systems</h1>
<h3> Links: </h3>
<ul>
<li><a href="index.html">Introduction</a></li>
<li><a href="Types of operating systems1.html">Types of operating System</a></li>
<li><a href="Memory management.html">Memory Management</a></li>
<li><a href="images.html">image</a></li>
</ul>
<h3>Memory Management</h3>
<p>Memory Management is the process of controlling and coordinating computer memory, assigning portions known as blocks to various running programs to optimize the overall performance of the system.</p>
<h3>Memory addresses & Description</h3>
<h4>1. Symbolic addresses</h4>
<p>The addresses used in a source code. The variable names, constants, and instruction labels are the basic elements of the symbolic address space.</p>
<h4>2. Relative addresses</h4>
<p>At the time of compilation, a compiler converts symbolic addresses into relative addresses.</p>
<h4>3. Physical addresses</h4>
<p>The loader generates these addresses at the time when a program is loaded into main memory.</p>

</body>
</html>
```

```
<!DOCTYPE html>
<html>
<body>
<h1>Operating Systems</h1>
<ul>
<li><a href="index.html">Introduction</a></li>
<li><a href="Types of operating systems1.html">Types of operating System</a></li>
<li><a href="Memory management.html">Memory Management</a></li>
<li><a href="images.html">image</a></li>
</ul>
<h3>Types of operating Systems</h3>
<p>An operating system performs all the basic tasks like managing file, process, and memory.</p>
<p>Thus operating system acts as manager of all the resources, operating system becomes an interface between user and machine.</p>
<h3>Types of operating systems: Some of the mostly used operating systems are as following:</h3>
<table style="width:100%">
<tr>
<th>Type</th>
<th>Definition</th>
<th>Advantages</th>
</tr>
<tr>
<td>1. Batch operating System:</td>
<td>It runs on a server and provides the server the capability to control data, users, groups, security, applications and other networking functions.</td>
<td><li>No interaction between user and computer.</li>
<li>Multiple users can share the batch systems</li>
<li>The idle time for batch system is very less</li>
<li>It is easy to manage large work repeatedly in batch systems</li></td>
</tr>
<tr>
<td>2. Multiprocessor Systems</td>
<td>A Multiprocessor system consists of several processors that share a common physical memory. In multiprocessor system all processors operate under single operating system. Multiplicity of the processors and how they do act together are transparent to the others.</td>
<td><li>Enhanced performance</li>
<li>Execution of several tasks by different processors concurrently, increases the system's throughput without speeding up the execution of a single task.</li>
<li>System divides task into many subtasks and then these subtasks can be executed in parallel in different processors.</li></td>
</tr>
<tr>
<td>Distributed operating System</td>
<td>These types of operating system is a recent advancement in the world of computer technology and are being widely accepted all-over the world and, that too, with a great pace. Various autonomous interconnected computers communicate each other using a shared communication network. Independent systems possess their own memory unit and CPU.</td>
<td><li>Electronic mail increases the data exchange speed</li>
<li>Less load on the Host Machine.</li>
<li>Fast processing.</li>
<li>User at one site can utilize the resources of systems at other sites for resource-intensive tasks.</li></td>
</tr>
</table>

```

