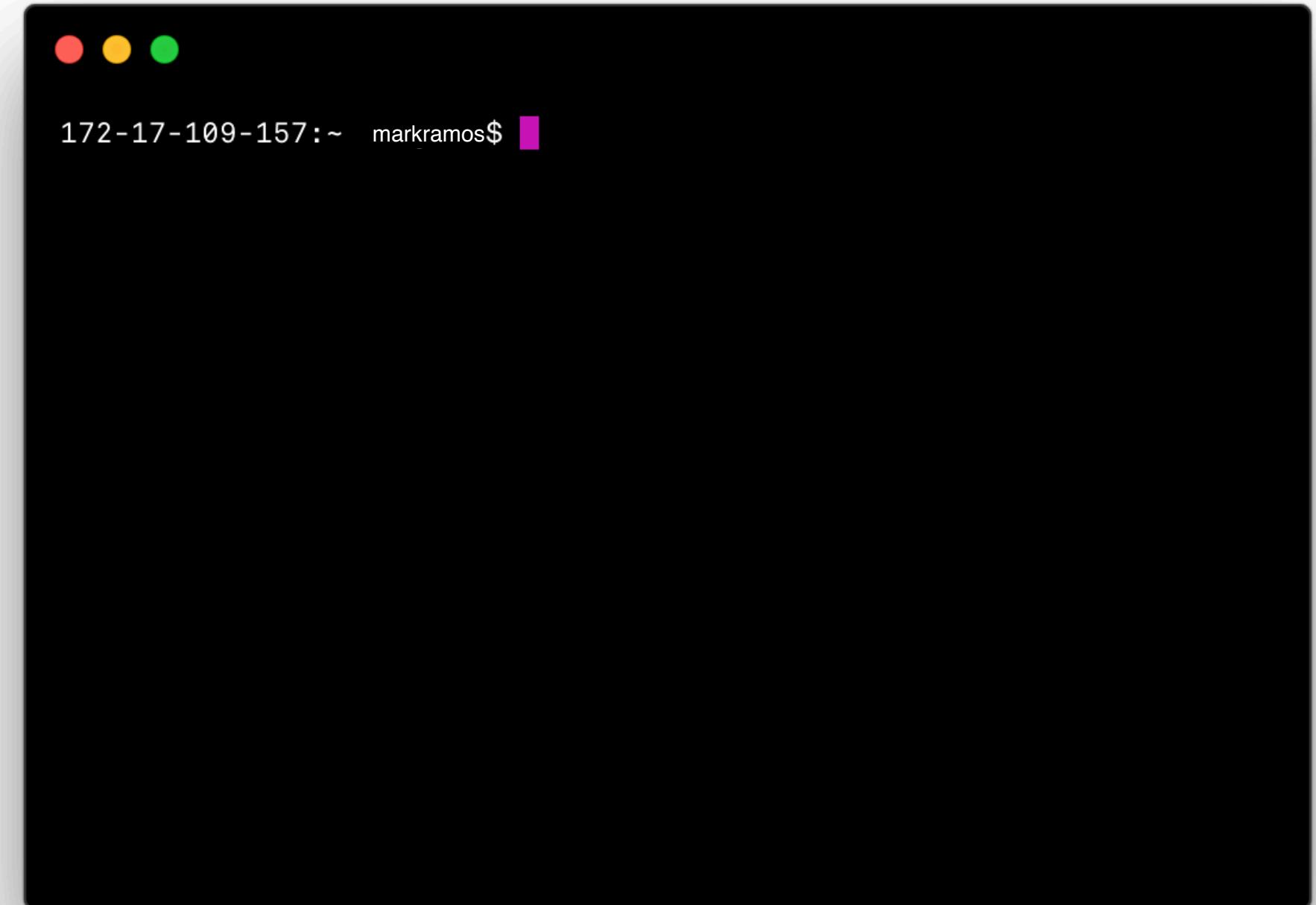


Introduction to Web Design

Operating Systems



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What is an operating system?

Operating Systems

Software that manages a computer's resources

Allocates resources among other programs

Resources include the central processing unit (CPU), computer memory, file storage, input/output (I/O) devices, and network connections

Runs indefinitely and terminates only when the computer is turned off

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Contemporary Examples

Operating Systems

Microsoft OS

Mac OS

Linux

iOS

Android

Symbian OS

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History

Operating Systems

First digital computers had no operating systems

Ran one program at a time, which had command of all system resources

A human operator would provide any special resources needed

First operating systems were developed in the mid-1950s

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OS Interface

Operating Systems

The graphical user interface (GUI) is most familiar to us.

It provides visual metaphors for the operations we perform on a computer.

A command line interface (CLI), on the other hand, receives typed commands for each operation.

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Unix

Operating Systems

An open source OS produced by AT&T Bell Labs

Originally developed in 1969

Command line interface

Portable, multi-tasking, multi-user

Free distribution, open system

Servers (including i6), workstations, mobile devices

Basis of Linux and MacOS

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Unix Commands

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\$ ls

\$ pwd

\$ cd

\$ cp

\$ rm

See the course website for more basic Unix commands.

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chmod Command

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Every file and directory has nine permissions associated with it

The Unix `chmod` command sets permissions of files and directories

Files and directories have three types of permissions (or none):

- r** (read)
- w** (write)
- x** (execute)
- (no permission)

The above permissions occur for each of the following classes or users:

- u** (user/owner)
- g** (group)
- o** (other/world)

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Permissions

U G W

 rwx rwx rwx

 rwx rwx r-x

 rwx r-x r-x

 rw- rw- r--

 rw- r-- r--

Unix Commands

`$ chmod 777 filename`

`$ chmod 775 filename`

`$ chmod 755 filename`

`$ chmod 664 filename`

`$ chmod 644 filename`

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Standard Website Permissions

Operating Systems

Standard file permission:
644

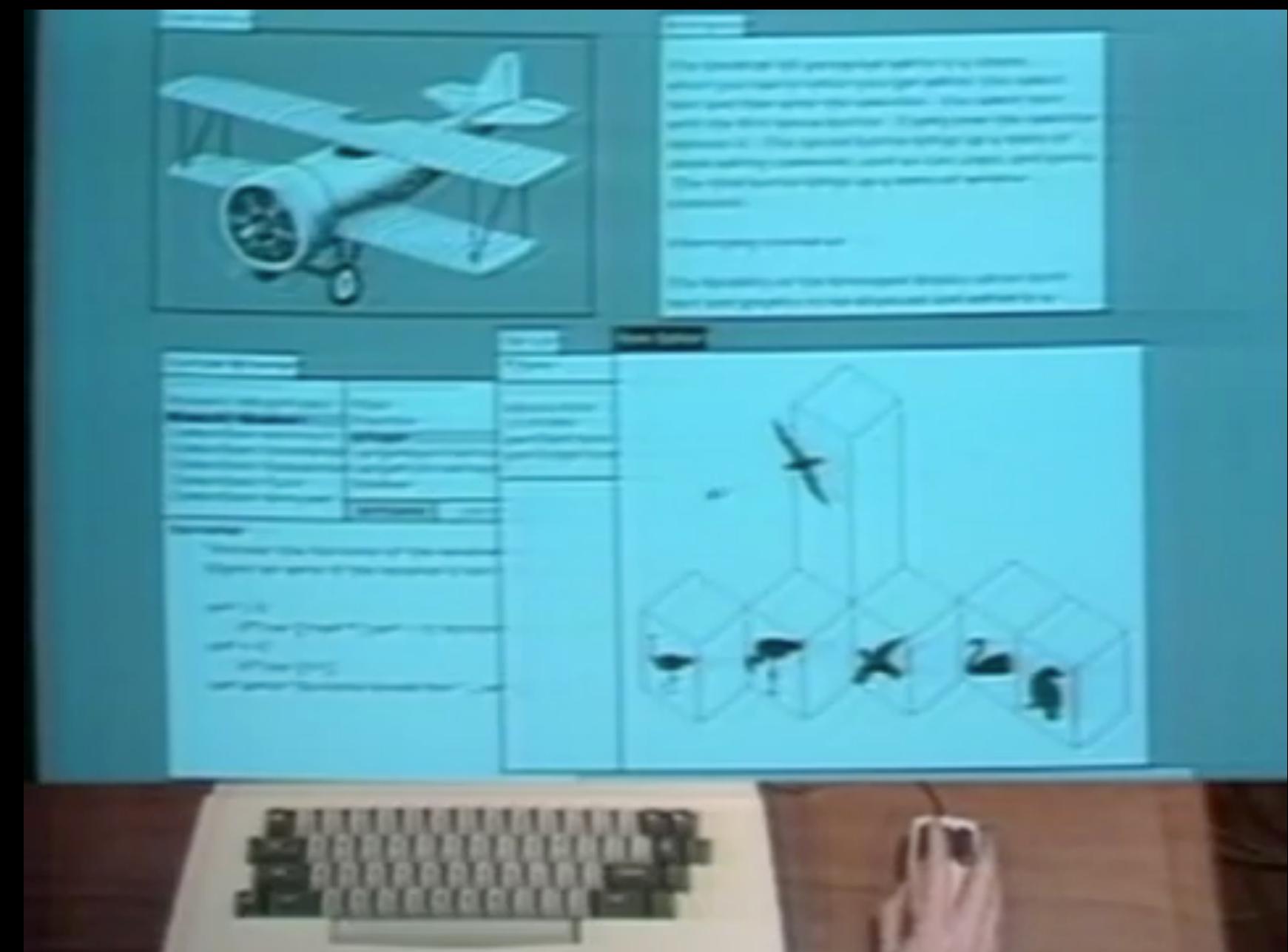
Owner can read and write file;
group can read file;
others can read file

Standard directory permission:
755

Owner can read, write and execute file;
group can read and execute file;
others can read and execute file

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Operating Systems



Triumph of the Nerds, 1996, PBS



Palo Alto Research Center, Incorporated, Courtesy of the PARC Library, 1970 ca.