TechOS

User Manual

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# 

# Overview of TechOS

Our TechOS is a command line OS that is being made so we can get a good perspective on how Operating Systems are made and operate. This version implements the final module created for the Operating Systems course, user management. The project is written in C and our group is using Git to keep track of files.

# Command Summary

## Misc. Commands

**Help:** Help either lists all the commands available to TechOS, or gives in-depth help on a particular command.

**Version:** Version shows the current version of TechOS and also displays the authors and the publishing date.

**Exit:** Exit triggers cleanup and terminates TechOS.

**Moo:** Queries user on relevant bovine behavior

## Date and Time Commands

**Date:** Display date in format specified by datefmt.

**Datefmt:** Show date in a specific format, and it can be changed using specific options.

**Setdate:** Update the system date

## Script Commands

**Script:** Run a list of commands from a text file

## PCB Commands

**Mkpcb:** Create a PCB and place it into a queue

**Rmpcb:** Remove a PCB from a queue and delete it

**Sspcb:** Suspend a PCB and place it back in a queue

**Rspcb:** Resume a suspended PCB and place it back into a queue

**Sppcb:** Set a PCB’s priority and reinsert into the appropriate queue

**Shpcb:** Display info for a PCB or an entire queue of PCBs

## Dispatching Commands

**Dispatch:** Dispatch all currently available processes

## File Commands

**Ls:** list files in current working directory

**Cd:** Change working directory

**Mkdir:** Create a file directory

**Rmdir:** Delete a directory

**Touch:** Create a file

**Rm:** Delete a file

## User Commands

**Mkusr:** Create a basic user, setting password on creation

**Rmusr:** Display info for a PCB or an entire queue of PCBs

**Pwd**: Change password for a user

**Toggleadm**: Toggle the admin status of a user (root user only)

# Command Descriptions

## Date/Time Commands

**Date:**

Syntax: date

Options: -h –help

Use: Displays the date in whatever date format is currently selected

Example of use: date

Possible error message(s): Didn’t use command line arguments properly

**Datefmt:**

Syntax: datefmt, datefmt -Option

Options: -I, -h, --help, -s, -d, -o

Use: Displays current date format and allows editing with -s options

Format Placeholders:

(for a complete list of special placeholders for entering a format, refer to the help menu)

Example of use:

TechOS(?)>datefmt

%Y-%m-%d %H:%M:%S

TechOS(?)>datefmt -s

Enter the new format: %a, %d %b %Y %T %z

Possible error message(s): Didn’t use command line arguments properly, Invalid format entered

**Setdate:**

Syntax: setdate, setdate -Option

Options: -h –help

Use: Set program date using current format

Example of use: setdate

Possible error message(s): Didn’t use command line arguments properly

**Time:**

Syntax: time, time – option

Options: -h -help

Use: Get and display the current time

Example of use: time

Possible error message(s): Didn’t use command line arguments properly

## Script Commands

**Script:**

Syntax: script <file-name> -Option

Options: -h –help

Use: Run a list of commands seperated by line from a fi;e

Example of use: script textfile.txt

Possible error message(s): Did not supply file name, invalid commands

## PCB Commands

**Mkpcb:**

Syntax: mkpcb [-h] [--help] <pcb-name> <priority> -Option

Options: class\_sys, class\_app

Use: Create a PCB and place it in the appropriate queue

Example of use: mkpcb testpcb 1 class\_sys

Possible error message(s): Did not supply priority, invalid arguments

**Rmpcb:**

Syntax: rmpcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

Use: Remove PCB from queue and delete it

Example of use: rmpcb testpcb –proc name

Possible error message(s): Did not supply name, invalid arguments

**Blpcb:**

Syntax: blpcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

Use: Block PCB and place it into appropriate queue

Example of use: blpcb testpcb –proc name

Possible error message(s): Did not supply name, invalid arguments

**Ubpcb:**

Syntax: ubpcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

Use: Unblock PCB and place it into appropriate queue

Example of use: ubpcb testpcb –proc name

Possible error message(s): Did not supply name, invalid arguments

**Sspcb:**

Syntax: sspcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

Use: Suspend PCB and place it into appropriate queue

Example of use: sspcb testpcb –proc name

Possible error message(s): Did not supply name, invalid arguments

**Rspcb:**

Syntax: rspcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

Use: Resume PCB and place it into appropriate queue

Example of use: rspcb testpcb –proc name

Possible error message(s): Did not supply name, invalid arguments

**Shpcb:**

Syntax: shpcb [-h] [--help] <pcb-name-or-id> -Option

Options:

-h --help

--proc [name | id] (name is selected by default)

--mode [pcb | queue]

--queue [ready | blocked | all]

Use: Display information on a single PCB or entire queue

Example of use: shpcb testpcb –proc name –mode queue -queue ready

Possible error message(s): Did not supply name, invalid arguments

## Dispatching Commands

**Dispatch:**

Syntax: dispatch, dispatch -options

Options:

-h --help

Use: Runs all processes in the ready queue

Example of use: dispatch

Possible error message(s): invalid arguments, no processes to dispatch

## File Commands

**ls:**

Syntax: ls, ls -Options

Options:

-h --help Show a short usage message

-l Also show the file sizes of the directory.

Use: Shows the files and folders that are in the current directory, or in a directory that is

specified by an option.

Example of use: ls -l

**cd:**

Syntax: cd <directory-name | directory-path>, cd -options

Options:

-h --help Show a short usage message

Use: Changes the current working directory to the one specified

Example of use: cd techos/

**mkdir:**

Syntax: mkdir <directory-name | directory-path> -options

Options:

-h --help Show a short usage message

Use: Creates a file directory with given name

Example of use: mkdir testdirectory

**rmdir:**

Syntax: rmdir <directory-name | directory-path>, rmdir -options

Options:

-h --help Show a short usage message

Use: Removes the directory specified

Example of use: rmdir System32

**touch:**

Syntax: touch <filename | path with filename>, touch -options

Options:

-h --help Show a short usage message

Use: Creates a new file at the current directory.

Example of use: touch text.txt

**rm:**

Syntax: rm <filename | path with filename>, rm -Options

Options:

-h --help Show a short usage message

Use: Removes a file that is in the current directory.

Example of use: rm text.txt

## User Commands

**mkusr:**

Syntax: mkusr <username> -options

Options:

-h --help Show a short usage message

Use: Create a user with designated username and prompts for password

Example of use: mkusr user1

**rmusr:**

Syntax: rmusr <username> -options

Options:

-h --help Show a short usage message

Use: Delete a user with designated username if one exists

Example of use: rmusr user1

**pwd:**

Syntax: pwd <username> -options

Options:

-h --help Show a short usage message

Use: Change user password

Example of use: pwd user1

**toggleadm:**

Syntax: toggleadm <username> -options

Options:

-h --help Show a short usage message

Use: Toggle a user’s admin prividges on/off

Example of use: toggleadm user1

## Misc. Commands

**Help:**

Syntax: help, help [command name], help -Option.

Options: -h, --help. Both provide help on a command

Use: Show a short summary of available commands, or get help with a specific command

Example of use: help help, or help date

Possible error message(s): Will display an error message if used with a command that currently does not have help available, and will return an error if more than one argument is used. Ex: “help help help”

**Exit:**

Syntax: exit

Use: Triggers cleanup of commands and other data and closes the OS

Example of use: exit

Possible error message(s): Didn’t use command line arguments properly, Did not enter Y or N properly

**Version:**

Syntax: version, version -Option

Options: -h --help.

Use: Show the current version and displays the authors and publishing date.

Example of use: version

Possible error message(s): Didn’t use command line arguments properly

**Moo:**

Syntax: moo, moo -options

Options:

-h --help Show a short usage message

Use: displays an image of Bos taurus and queries relevant information from the

user.

Example of use: moo