CS 450 OPERATING SYSTEMS STRUCTURE

**MPX User’s Manual**

WEST VIRGINIA UNIVERSITY

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Module 6 Deliverable

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**REVISION SHEET**

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**1. GENERAL INFORMATION**

**1.1 System Overview**

This manual provides detailed instructions for the Multi Programming Executive, or MPX project. MPX is an experimental platform designed to allow the study of realistic issues in the design of selected OS components. MPX operates in the command-line environment. The MPX project is still under development.

**1.2 References**

More information about this project can be found at the following site:

* csee.wvu.edu/~jdmooney/classes/cs450
* community.wvu.edu/~jad103/classes/CS450
* cs450.info
* https://github.com/Fatmusketeer2/mpx1

**1.3 Points of Contact**

Feel free to ask the programmers:

* Edgardo Antuna – [eantuna@mix.wvu.edu](mailto:eantuna@mix.wvu.edu)
* Bryan Turek – [turek.bryan@gmail.com](mailto:turek.bryan@gmail.com)
* Jake Ferguson - jfergus7@mix.wvu.edu

**2. USING THE SYSTEM**

**2.1 Help**

Provides help information for MPX commands.

Usage: help [command]

command – displays help information on that command

**2.2 Date**

Displays the current system date.

Usage: date

**2.3 Set date**

Sets the system date.

Usage: setdate [mm/dd/yy]

**2.4 Version**

Displays the current MPX version.

Usage: version

**2.5 Display Directory**

Displays all MPX files in current directory.

Usage: ls

**2.6 Exit**

Terminate MPX

Usage: exit

**2.7 Load Process**

Loads a process into the queue. Priority is optional.

Usage: load [NAME] [PRIORITY]

Priority – integer ranging from -128 to 127

**2.8 Terminate Process**

Deletes a PCB from the queue

Usage: terminate [NAME]

**2.9 Suspend**

Puts a PCB in the suspended state. Only works with APPLICATION processes.

Usage: suspend [NAME]

**2.10 Resume**

Puts a PCB in the unsuspended state. Only works with APPLICATION processes.

Usage: resume [NAME]

**2.11 Change Process Priority**

Changes a priority of a PCB. Only works with APPLICATION processes.

Usage: set\_priority [NAME] [priority]

Priority – integer ranging from -128 to 127

**2.12 Show Specific Processes**

Shows a PCBs information.

Usage: show\_pcb [NAME]

**2.13 Show Ready Processes**

Shows all of the PCB’s in the ready queues

Usage: show\_ready

**2.14 Show Blocked Processes**

Shows all of the PCB’s in the blocked queues

Usage: show\_blocked

**2.15 Show All Processes**

Shows every PCB

Usage: show\_all

**2.16 Special Correction for Error Messages**

|  |  |  |
| --- | --- | --- |
| **Error Message** | **Problem** | **Solution** |
| “That is not a valid command” | Command entered was not recognized. | 1. Check that the command is supported by the system by using the HELP command. 2. Check for spelling errors |
| "Invalid command, to many arguments " | Passed wrong number of arguments to command. | 1. Type help with 0 or 1 argument separated by a space. |
| "Incorrect command syntax:" | Passed to few arguments to command. | 1. Type help with 0 or 1 argument separated by a space. |
| “Date is invalid” | Argument passed to SETDATE command is invalid | 1. Type setdate with 1 argument separated by a space in the format of mm/dd/yyyy. |
| "Invalid priority, must be an integer between -128 and 127" | PRIORITY argument passed to set\_priority command is invalid. | 1. Check for spelling errors. 2. Type help with 0 or 1 argument separated by a space. |
| “Priority must be an integer between -128 and 127” | PRIORITY argument passed to load command is invalid. | 1. Check for spelling errors. 2. Type help with 0 or 1 argument separated by a space. |
| “That process name already exists” | Unable to load process because it is already loaded or there is a process in a queue with the same name. | 1. Terminate process in queue and try loading again. 2. Rename unloaded process and try loading again |
| “Process name must be 15 or less characters” | Process name exceeds buffer size. | 1. Rename process with shorter name and try loading again |
| “There is no process by that name” | Process was not found in queues | 1. Check for spelling errors 2. Try loading process again |
| “File not found in current directory” | Process trying to be loaded was not found in specified directory. | 1. Check for spelling errors |
| “File is not valid” | Process trying to be loaded is invalid or corrupt | 1. Try loading process again |
| “Unable to terminate SYSTEM processes” | Tried terminating SYSTEM process. | 1. MPX allows users to only terminate APPLICATION processes 2. Check for spelling errors 3. Type help with 0 or 1 argument separated by a space. |
| “Unable to suspend SYSTEM processes” | Tried suspending SYSTEM process | 1. MPX allows users to only suspend APPLICATION processes 2. Check for spelling errors 3. Type help with 0 or 1 argument separated by a space |
| “Unable to change priority of SYSTEM processes” | Tried changing priority SYSTEM process. | 1. MPX allows users to only change priority of APPLICATION processes 2. Check for spelling errors 3. Type help with 0 or 1 argument separated by a space. |
| “Unable to resume SYSTEM processes” | Tried resuming a SYSTEM process. | 1. MPX allows users to only resume APPLICATION processes 2. Check for spelling errors 3. Type help with 0 or 1 argument separated by a space. |