USER'S MANUAL

Mpx Operating System

Cs 450 Spring 2016

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Revision Sheet

Release No.	Date	Revision Description
Rev. 0	2/4/2016	Module 1 completion
Rev. 1	2/25/2016	Module 2 completion
Rev .2	3/17/2016	Module 3-4 completion

User's Manual
Authorization Memorandum

We fully accept the changes as needed improvements and authorize initiation of work to proceed. Based on our authority and judgment, the continued operation of this system is authorized.

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1.0 GENERAL INFORMATION

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1.1 System Overview

- This is the MPX operating system.
- This system will allow you to control your computer system through simple commands
- The design for this operating system build was created in C.
- The operating system is run in a Linux environment
- The system is booted using GRUB

1.2 Project References

References used for this system were slides provided in the CS450 class by Seth Theeke and Mason Greathouse.

1.3 Authorized Use Permission

Unauthorized duplication, distribution of this computer software is strictly prohibited.

1.4 Points of Contact

If any issues are found with this software and/or assistance is needed, call your mother because you're on your own.

1.5 Acronyms and Abbreviations

Process Control Block- PCB

2.0 SYSTEM SUMMARY

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2.1 System Configuration

This system will be used to demonstrate simple commands, and was designed to provide an experience in developing systems, and increase knowledge on how operating systems work with system hardware.
(Will add more as time goes on).

2.2 Data Flows

At the moment simple data flows are being used from input to the keyboard and output to the computer screen.

3.0 GETTING STARTED

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3.1 Logging On

To access the operating system an emulator system is used and an emulated booting sequence is initiated.

3.2 Command Line

This system uses a command line interface. Simple commands can be used. Where "[ ]" are used demonstrates where the user input will be entered. For this manual all user input entries inside of the brackets will be considered valid. Non valid entries from the user will display an error message in the mpx system.

3.2.1 Help

At any time while using this operating system you can type "help" and receive the list of commands that are available. Help gives an overview of all the commands available for use. Executed by typing "help".

3.2.2 Version

Shows the working version of the software. This is updated every time the software is updated and revised. Executed by typing "version"

3.2.3 Set Date

Allows the user to set the date for the operating system. Date is entered in the MM/DD/YY format. Executed by typing "setdate [MM/DD/YY]".

3.2.4 Get Date

Displays the date to the display. Date is displayed in the MM/DD/YY format. Executed by typing "getdate".

3.2.5 Set Time

Allows the user to set the time for the operating system. Time is set in the HH:MM:SS format. Executed by typing "settime [HH:MM:SS]" and entering the time in the correct format. NOTE: 24hr time is used with this system.

3.2.6 Get Time

Displays the time to the display. Time is displayed in the HH:MM:SS format. Executed by typing "gettime"

3.2.7 Suspend PCB

Gets Process Control Block (PCB) name from the user and Puts the PCB in the suspended state. Excuted using the command “suspendPCB [name]” There will be a confirmation of suspension with the display of a success message

3.2.8 Resume PCB

Puts process in not suspended state, might require the changing of queues if multiple queues are being used. Applicable process will resume. Command is executed by “resumePCB [name]” There will be a conformation the process has resumed with the display of a success message.

3.2.9 Set Priority

Gets Process Control Block (PCB) name and new priority from user, system checks validity and the changes the position of the PCB based on the new designated priority. Command is written as follows “setpriority [name] [priority]”

3.2.10 Show PCB

Gets Process Control Block (PCB) name from the user and displays all information about the PCB. Command is executed by writing “showPCB [name]”.

3.2.11 Show all Processes

Shows information for all Process Control Blocks (PCBs) in all queues. It displays the process name, the state, its status, and its priority. Command is written as “showall”.

3.2.12 Show Ready Processes

Shows all the processes that are in the ready state. Shows the processes in the order they are in the queue. Command is written as “showready”.

3.2.13 Show Block Processes

Shows all blocked processes in the blocked queue. Command is written as “showblocked”.

3.3 Temporary Commands

These commands are all temporary and will be removed at a later date.

3.3.1 Yield

Takes all commands pauses/delays and allows other processes to commence, voluntarily giving up important cpu time. This command is written as “yield”.

3.3.2 LoadR3

Load R3 is a process that takes in all processes from the file “proc3.c” and implements them into the ready state on the queue. To call this command “loadr3” is typed into the command prompt.

3.4 Exit System

3.4.1 Shutdown

Will safely shutdown the operating system. Loss of data and corruption could occur if not properly shut down. Executed by typing the command “shutdown”.

3.4.1.1 Confirmation

Shutting down will need a confirmation. Typing ‘y’ will confirm the shutdown procedure. Typing ‘n’ will cancel the shutdown procedure.