Florida State University

Department of Computer Science
Fall 2015 Semester

COP4610 - Principles of Operating Systems

Instructor:	Dr. Wang
Project No:	3
Project Title:	FileSystems
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Due Date:	12/2/15

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1. Problem Statement

This project is to learn three concepts of FAT32 file system i.e., basic file-system design and implementation, file-system image testing, and data serialization/de-serialization. This is done by designing a simple, user-space, shell-like utility which is capable of interpreting a FAt32 image. It has to understand basic commands to understand how to manipulate file system image.

2. Procedure.

When you start the program a prompt screen opens where you can type various commands to text the file system. the implemented commands include open, close, create, rm, size, cd, ls, mkdir, rmdir, read and write.

We used the REPL model from project 1 for our shell utility. We borrowed a lot of the parsing from project 1 but had to make adjustments for allowing quotes. The setup stage opens the fat32 image file and grabs all the vital information from the boot sector and stores it in a struct. To keep track of opened file, we used our own implementation of a singly-linked list where the nodes store the first file cluster since that is unique for every file. We used a struct for short and long file names and put them in a union for easy access to one or the other.

3. Problems Encountered

4. Known Bugs

1.) rm doesn't get rid of long name directory entries
2.) can't handle quotations in entry

5. Limitations / Incompleteness

1.) write is not implemented