

**University of Texas at Dallas--Computer Science Program**  
**CS 5348 Operating Systems Concepts Fall 2015**  
**Project 2**

Unix V6 file system has a current limitation of 16MB on file size. Use the single unused bit in the flags field to increase size from 24 bits to 25 bits. Now, design and develop a program called fsaccess which will allow a Unix user access to the file system of a foreign operating system, the modified Unix Version 6 or mV6.

Your program will read a series of commands from the user and execute them. You should support the following commands:

(a) **initfs**

initfs should accept three arguments:

- (1) the name of the file that physically represents the disk,
- (2) number n1 indicating the total number of blocks in the disk and
- (3) number n2 representing the total number of i-nodes in the disk.

An example is: initfs /user/venky/disk 1000 300.

The command line is terminated by the user typing a Return.

Initialize the disk by setting all of the data blocks to be free, and set all i-nodes as unallocated. Allocate n2 blocks to i-nodes.

(b) **cpin externalfile mv6-file**

Create a new file called v6-file in the current directory of the v6 file system and fill the contents of the newly created file with the contents of the externalfile.

(c) **cpout mv6-file externalfile**

If the v6-file exists, create externalfile and make the externalfile's contents equal to v6-file. If not, return an error.

(d) **mkdir mv6-dir**

If v6-dir does not exist in the current directory of the v6 file system, create the directory and set its first two entries . and .. and this is all you need to do.

(e) **q**

Save all changes and quit.

Some useful unix system calls are: lseek(), read(), write().

Due date: December 3, 2015 11:55 pm.

This is team project; same team as the second project.