

Cairo University

Faculty of Computers & Information

Advanced Operating System (2014-2015)

Assignment 4

## File System Simulator (Protection layer)

The Aim of this assignment is to build up a protection layer over the simple file system you've already created on assignment 2; the protection module will be responsible of the following activities:

- 1- Creating Users, Delete Users
- 2- Assign capabilities to users:
  - a. Each folder will have two capabilities Create/Delete
  - b. Initially, all users have no access at all till the administrator grant access to them.

After running the application a default user will be logged in to the system this user is called "admin" with the password "admin", the commands in the table below will be added to the list of the commands from assignment 2:

### New System Commands:

Command	Summary
TellUser	This command will display the name of the current logged in user.
CreateUser ahmed pass123	<p>This command used to create user named "ahmed" with the password "pass123".</p> <p>Comments:</p> <p>1- only the admin can use such command</p> <p>Pre-requests:</p>

	1- No user with the same name already created.
DeleteUser ahmed	<p>This command is used to delete user.</p> <p>Comments:</p> <p>1- only the admin can delete the user</p> <p>Pre-requests</p> <p>1- The user must exist, otherwise print this error message" There is no such user with this name".</p>
Grant ahmed root/folder1 10	<p>This command is used to grant the user "ahmed" Create and Delete Capabilities on the folder "root/folder1 10".</p> <p>Comments:</p> <p>1- only the admin can use such command</p> <p>2- This command is used for folders only</p> <p>Pre-requests:</p> <p>1- The path already exists</p> <p>2- The user already exists</p>
Login ahmed pass123	<p>This command is used to change the current logged in user with the user "ahmed"</p> <p>Pre-requests:</p> <p>1- The User already exists</p> <p>2- The password is correct</p>

<p><b>Wrong Command</b></p> <p>- <i>DeleteFolder root/folder1</i></p>	
Show_All	This command is used to display all the system users along with their capabilities.

### **Submission**

This assignment will be submitted **in groups of two** .