

01.10.2019

CMSE353 Fall 2019

Lab 2. Implementation of Linux-like access control model

Due date : 15.11.2019

Task.

1. Implement Linux-like access control model considered in Lab 1 and Lecture Notes. Implement Linux commands given in the Appendix
2. Conduct tests with your application to validate its correctness
3. Prepare (in Word) and printout a **paper report** on your assignment having:
 - Cover page
 - outline,
 - problem definition,
 - description of your team work (meetings, discussions, work break down, team members' responsibilities)
 - description of the data structures and algorithms for solving your problem,
 - description of tools you used for implementation of your problem and the details of their installation and preparation for usage
 - description of the developed program (parts of the program, ways of interaction, synchronization, etc.)
 - user guide (how to use your program – what and where should be installed, launched, how it should be interpreted)
 - description of conducted tests and their results with screenshots of the runs
 - conclusion
 - references on used sources (books, articles, web-sites, etc.)
4. Supply the report with a CD having all the Lab-related materials: doc-file with your report, sources and executables of your application, results of your tests, and instructions how to use your program
5. Copies are not allowed and will deserve 0 points

Grading policy: report – 40%, explanations – 60%

Appendix. List of Linux commands for implementation. We refer to Examples of Lab 1 where the commands are considered

1. ls with options -l (see Example 1), -i (see Example 2), -d (see Example 4)
2. sudo (see Example 3)
3. ln (see Example 3)
4. mkdir (see Examples 3, 14)
5. rm (see Examples 4, 5)
6. stat (see Example 6)
7. cat (see Example 7)
8. adduser (see Example 10)
9. output redirection > (see Example 12)
10. touch (see Example 14)

11. chmod (see Example 14-17, 33)
12. su (see Example 19)
13. usermod (see Example 21)
14. groupadd (see Example 22)
15. chown (see Examples 23, 24)
16. dir (see Example 25)
17. umask (see Example 26)
18. ps -af (see Example 29)
19. find (see Example 30)
20. getuid (), getgid (), geteuid(), getegid() (see Example 32)
21. Text editor similar to vi, editor, Kwrite or other (see Example 32, section 2.2)
22. setfacl, getfacl (see Example 36)