**Term Project Task “Secure MS Teams Class Notebook System”**

**CMSE-353 “Security of Software Systems”**

**Fall-2020, posted 07.11.2020**

1. The Term Project concerns developing a system similar to Microsoft Teams Class Notebook having actors: Students, Teachers, and System Administrator. The system has folders:

- Course\_materials, where Teachers can write and read, and Students can read

- Teachers\_materials, where Teachers only can read and write

- Students’ materials for each student individually; only Student-owner and Teachers have read and write access to each particular Student’s materials

- System administrator introduces Teachers and Students, creates folders and generates RSA (public, private) keys for them, give user name and initial password

-Authenticity of the documents is verified by RSA signature (number of bits is 31, hash function is 24-bit calculated as XOR of 3-byte words comprising a document padded if necessary by 0101..01 sequence of bits).

- Documents can be optionally encrypted by Caesar or another cipher

1. Term project will be made by the teams established for Labs.
2. Implement solution of your problem as a software application using any appropriate tools. You may reuse your Lab codes.
3. Conduct tests with your application to validate its correctness
4. Prepare (in Word) a **report** on your assignment having:

* Cover page
* outline,
* problem definition,
* description of work breakdown and task distribution between team members,
* description of algorithm for solving your problem,
* description of database structure designed
* 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.)

1. Supply the report with a Winrar archive having all the Term Project-related materials: doc-file with your report, sources and executables of your application, results of your tests, and instructions how to use your program
2. Submit the report to the Lab Coordınator and be ready to show your application working and to give necessary explanations about it. Reports shall be submitted latest by 11**.01.2021, Monday, 16.00. Exact place for submission will be spaecified later by Lab Coordinator Abdolrahman Farshgar. Later submission will be penalized (2 points/day).**
3. Presentation of your working applications will be held in the period 12.01-19.01.2021. Presentation time will be specified on the report submission. The report will be assessed out of 8 points, and 12 points – for presentation of the working application and its explanation