Department of Information Systems (DIFS)   Academic year 2020/2021

Bachelor's Thesis Specification

23591

Student: **Feranec Adam**

Programme: Information Technology

Title: **Application for Controlled Access to Remote Documents for Microsoft Windows**

Category: Operating Systems

Assignment:

1. Familiarize yourself with the requirements for secure access to documents in the Validated Data Storage (VDU) project. Explore the possibilities of virtual file systems and integration of applications into the desktop environment in the Microsoft Windows operating system.
2. Design a client application that will connect to the VDU repository and allow to access its content locally with a given one-time access token provided by the VDU system. The content will be accessed as a file in a virtual file-system and the client application will implement the access and version control. Also design automated tests of the application.
3. After consulting with the supervisor, implement the proposed application, including the automated tests.
4. Evaluate and discuss the results and publish the resulting software as open-source.

Recommended literature:

- An internal documentation of the Validated Data Storage project.
- VIRIUS, Miroslav. *Programování v C++: od základů k profesionálnímu použití*. Praha: Grada Publishing, 2018. Myslíme v. ISBN 978-80-271-0502-1.
- WinFsp: Windows File System Proxy. *GitHub* [online]. 2020 [seen 2020-10-26]. Available at [https://github.com/billziss-gh/winfsp]
- Dokany. *GitHub* [online]. 2020 [seen 2020-10-26]. Available at [https://github.com/dokan-dev/dokany]
- VFS for Git. *GitHub* [online]. 2020 [seen 2020-10-26]. Available at [https://github.com/Microsoft/VFSForGit]

Requirements for the first semester:

- Items 1, 2 and work started on item 3.

Detailed formal requirements can be found at https://www.fit.vut.cz/study/theses/

Supervisor: **Rychlý Marek, RNDr., Ph.D.**
Head of Department: Kolář Dušan, doc. Dr. Ing.
Beginning of work: November 1, 2020
Submission deadline: May 12, 2021
Approval date: April 1, 2021