

NON-TRADITIONAL IN-PROJECT COMMUNICATION

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1 INTRODUCTION

The solution of the research project financed by ESF and coordinated by ŠPÚ "Curricular transformation of Informatics teaching at high schools" has required developing of Storage that is attended for communication (in sense of file sharing) within the group of informatics. They should use that Storage to share all files created during the project progress. Administration and development of the Storage includes several related activities. The development activity is for example working out the modules programmed in web programming language PHP 4, which communicates with users by means of the web server Apache 2 in this installation. Administration of the server includes registration of user accounts, assignment of access privileges, backup of the data on the server for the cases of system failures, movement of data within the server disk space for better orientation of users and others. For storing all program data is designated database server MySQL – last installed version was 4.0.18-nt.

2 STORAGE

As was mentioned before, the Storage provides necessary work space for sharing of the files and information interchange. First suggestion for creating of such as storage was introduced during critical phase of project, when interchange of some files by e-mail became not very simple that is to say ineffective. Several participants did not have permanent access to their e-mail boxes and therefore they could not access to the files, as they wanted. That situation complicated the solution of the project. Storage allows access to the uploaded files from anywhere where the connection to the internet and access to the computer is.

Jivi aye ormation Reports Storage Change password Logout Ownership of files report File name doc. Ing. Martin Mišút, CSc. Informatika na SŠ - uvodna predstava.ppt doc. Ing. Martin Mišút, CSc. Informatika vo Velkej Britanii.zip doc. RNDr. Ivan Kalaš ACM USA.pdf doc. RNDr. Ivan Kalaš ICT Nat Curr.pdf doc. RNDr. Ivan Kalaš kalas Poskole 2005.doc doc. RNDr. Ivan Kalaš informatika v CR.rar PaedDr. Veronika Gabaľová doc. Ing. Martin Mišút, CSc MariSmreMetody.doc

Figure 1: Ownership of files report.

Access to the Storage is protected with registration and password authentication of users. Only administrator is allowed to register new users. He also grants necessary access privileges to the users. Then users are able to upload and download the files, modify access privileges to files in their ownership for other users, remove files in their ownership, and move items within the storage directory structure, but this also only within permissions granted for them. Privileged users have access to storage statistics. Example of statistics in the form of report is displayed on the Figure 1. Reports show for example tabled ownership of all files and statistics of each file downloads.



Figure 2: Storage root directory.

The Figure 2 displays an example of Storage root directory. Here are visible several Storage features like the ways of the list items sorting by icons over single columns. Longer lists are synoptic when sorted and items can be faster found in such as lists. At the same figure is visible small form for creating of new subdirectories. Only privileged users are able to create new subdirectories. The "New Subdirectory" form stays hidden for the others. This feature was added to the Storage later. As the number of files in the Storage grew up, the feature became essential.

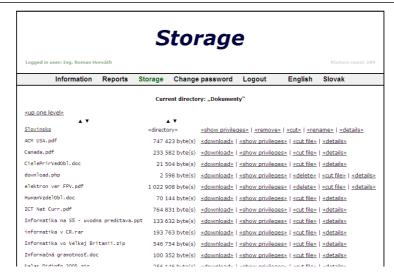


Figure 3: Listing of Storage directory named "Documents".

On the Figure 3 is shown the file listing of one of Storage directories. The right side of each listing item contains short list of all applicable functions on the single items. Each user is allowed only download or examine the files in ownership of another user. That behaviour can be changed by granting relevant privileges by administrator or owner of the file. Administrator can move files without any change of privileges.

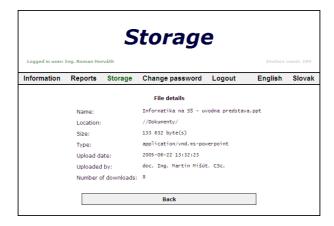


Figure 4: File details view.

The Figure 4 shows file details view. In this view, each user can see miscellaneous information about the file including the number of downloads. However, the system is not able to identify download failures and because that all attempts to download are included in this number. The Figure 5 displays the file privileges. Administrator and file owner can in addition to that change the file privileges in this view. All changes are applied immediately after pressing the given button.

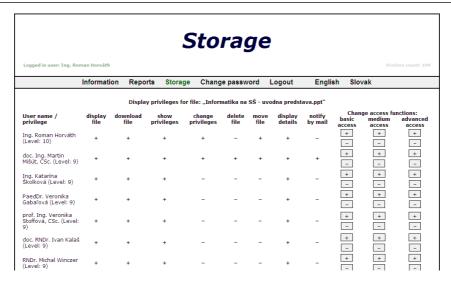


Figure 5: File privileges.

Last feature visible at Figures 2 and 3 is named "cut" and it is designated for moving the items within the Storage directory tree. This feature is also restricted with given privileges. It works similar like Windows clipboard. Each user can put only one item into the Storage clipboard. The Figure 6 shows new item "Paste here..." displayed every time immediately after pressing the "cut" item. This new item is displayed at the top of these directory listings in which the user the necessary privileges has granted. The file will be moved immediately after pressing that choice.



Figure 6: New item "Paste here..." displayed at the top of the file listing.

3 DATABASE AND ISSUES DURING IMPLEMENTATION

The entire Storage database contains overall 27 tables, where are stored data related to the user roles, accounts and privileges, site structure, and all the data necessary for keeping active user connections alive. The core of Storage database module contains four tables, which store data of the Storage directory tree, single files data and data about them (all the data that can be examined by the users etc.), and file and directory access privileges. Storage continuously stores all accessible data about user activities (uploads, downloads, and others) that can be processed later. As it was mentioned before, administrator and file owner have privilege to change all access privileges to its files for the other users (administrator is considered as owner of all files and directories).

During initial run of the Storage, several small bugs have been detected. However, they were eliminated quickly. After longer operation of the Storage one database server limitation that

has not been correctly documented was found out. Server did not allow to upload files larger than round about 1.2 MB. This limit has been determined empirically. Server signalised upload failure after exceeding that limit. At time of creation of this article, the server was reinstalled and the decision has been made that the Storage will be moved to new server, where new version of MySQL database will be installed. All data stored at the old server were exported so they could be imported into new database.

4 CONCLUSION

For covering the needs of informatics part of the ESF project team, which is dealing with curricular transformation, the Storage for sharing the files has been developed. The storage is serving to the given purpose very well. Its functions give more that before used e-mail interchange of files. Every participant has now entire package of files that have been created during the project solution at its disposal. This significantly simplifies the work of the whole part of the team.

References

- [1] BAKKEN, S. S. AULBACH, A. SCHMID, E. WINSTEAD, J. WILSON, L. T. LERDORF, R. ZMIEVSKI, A. AHTO, J.: *PHP Manual*. 2004.
- [2] MySQL Reference Manual for version 4.0.18.
- [3] Apache HTTP Server Version 2.0 Documentation.