

# Transferring multiple files

## Problem to be solved

Transferring several files in one upload transaction from a user to (a group of) user(s). All recipients will receive all files. Sending different files to different users in one transaction is out of scope.

## Terminology

container: the thing containing one or more files, possibly organised in folders.

transfer: the process of getting a container from client to server

User experience and probable client-side solutions:

### Upload

use HTML5 FileAPI. No legacy browser support. This probably works without too many fundamental issues but several challenges remain.

- we need a "transfer" concept. One fileSender transfer can consist of multiple directories and files. A transfer can be resumed.

- drag and drop?

- how to present the selected files to users?

- should we present upload status per file?

- needs more advanced upload status anyway. Probably upload status for whole "transfer" and indicate clearly which file is now up for transfer

- pause/resume?

- selective resent?

- how far should we go with file corruption checks?

- is there a checksum that does not take a long time to be calculated for very large files?

Would crc do the trick also for 100GB files?

challenge: select-and-upload a folder

Download

problem: how to get the multiple files on the recipients desktop using only the functionality available in browsers

options:

- html5 fileapi appears to have functionality to support such downloads. Quite likely not supported through built-in download manager (needs verification!) so requires a "click here to download" page.

- put all files in a zip file container server side and offer that container as downloadable. Do not compress files. That way a performance hit should be averted. Zip is supported by Windows and Mac standard file explorers. Click and use. this option would be good for "legacy browsers"

- offer individual download of files (only works with small amounts)

- create some "trigger download manager for each individual file" auto script. Suboptimal. Many times "save file here?" dialogues

what to do with direct downloads and multiple files?

Improved file verification (checksum, anti-corruption)

idea: (see email)