

Joint work on documents in dropbox

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2016-04-28

Abstract

This note provides advice how to writing documents, like publications or proposals, with several co-authors in dropbox.

1 Dropbox

Dropbox provides shared directories via a cloud-server. It is accessible via a webbrowser. It is more convenient when installed on your computer under Windows, Mac or Linux. When installed, the files are automatically updated whenever the computer has internet access.

Advantages: (1) Easy to use; (2) No password needed on the computer with installed dropbox folder; (3) Only one password needed for all documents when accessed via a webbrowser; (4) Free use for up to approximately 3 GB.

Disadvantages: (1) Many institutions don't allow dropbox installations over security concerns. Coauthors from many companies, the German Aerospace Centre and US military, for instance, would be excluded. (2) Indirect version control of files.

And the authors have to be disciplined which typically implies a disciplined PI.

Alternative: `svn` and the like. Now, you need to acquaint yourself with several systems and work with several passwords. After a dozen of documents, this procedure will become a pain.

2 File structure

I recommend to name directories after the target journal, funding agency, etc. followed by the principle investigator. An example listing is:

`DFG_Semaan`: This directory contains a proposal for the German science foundation (Deutsche Forschungsgemeinschaft) lead by Richard Semaan.

`JFM_Noack`: This directory contains a manuscript for the Journal of Fluid Mechanics (JFM) lead by Bernd Noack.

All contributing co-authors should have access to this folder. Dropbox should only be used for the documents you are working on. Most likely this number will not exceed the cardinality of your fingers and toes. Avoid the use of more subdirectories, like `Publication`, `Proposal`, etc., because you will loose the oversight of the projects and start collecting junk.

Each directory, here `JFM_Noack`, should have four folders, `Main` for the document in preparation, `Archive` for the outdated elements of the document, `Info` for additional informations relating to the document, and `2016` for official correspondence regarding the submission.

`2016`: This directory contains official correspondence regarding the document. An example of content is provided below:

```
20160103_JFM_Noack_Submitted.pdf
20160428_Email_JFM-Noack_Decision.pdf
20160428_Email_JFM-Noack_Review1.pdf
20160428_Email_JFM-Noack_Review2.pdf
20160428_Email_JFM-Noack_Review3.pdf
```

Advice: Follow the file nomenclature

```
YYYYMMDD_Where_Who_What.Ext.
```

Capitalize nouns, like in `Mathematica`.

`Main`: This directory contains the current version of the document. We assume a \LaTeX file.

`Main.tex` represents the root document to be compiled. It may be desirable to have one main file per author, e.g. `Main_A.tex`, `Main_B.tex`, `Main_C.tex`, etc. Thus, the documents can be compiled independently without creating conflicted versions. And sometimes, one author only wants to compile only one section.

`Main.bib` contains the bibliography. If several authors bring in several bibliographies, you may want to introduce `Main_A.bib`, `Main_B.bib`, `Main_C.bib`, etc. At the end of the production, these bibliography need to be merged. A better option may be a directory `Bib` containing one file for each bibliography. One example file is

```
2003_JFM_Noack.bib
```

with Noack2003jfm as identifier. The file name and the identifier encode the year, the initials of the Journal, and the last name of the first author.

Main.sty is the style file or represents several style files provided by the Journal, etc..

S1.tex is the file with first section, e.g. introduction, which is included in the Main document.

S[2...7].tex contains the next sections.

Figures is a directory containing the figures.

Advice 1: Make sure that each manuscript has one responsible Principle Investigator (PI), normally the first author. Make also sure that each section has only one sub-PI for a given interval of time.

Advice 2: Don't keep outdated files in the directory. They are just confusing and the directory becomes a garbage can.

Advice 3: Don't create new directories Main.V1 for new versions. Chances are that at some point different people will work on different directories and it will cost a lot of time to merge different versions.

Archive: This directory contains outdated versions of portions of the manuscript. Example files with self-explaining meaning are listed below.

20160103_Sources.tar.gz contains an archived versions of all documents.

20160403_Sources_LaTeX.tar.gz contains an archived versions of all L^AT_EX documents - no figures to save space.

20160428_S1.tex contains an archived version of S1.tex.

Info: This directory may contain information related to the document, like a publication, numerical data etc.

3 Producing a Journal article

For the following example of a work flow, we assume the existence of a manuscript skeleton with (1) title; (2) list of authors; (3) table of contents; (4) all figures; (5) all equations.

For simplicity, we also assume that the article has a classical structure: S1: Introduction; S2: Plant/Setup; S3: Methodology; S4: Results; S5: Conclusions.

The following scheme illustrates a time-line how many of our Journal publications were written in 4-5 days with a junior first author *A* and a senior second author *B*.

Day	Author <i>A</i>	Author <i>B</i>
Mo	S3	S4
Tu	S4	S3
We	S1	S5
Th	S5	S1
Fr	polish	polish

In this time-line, it is clear who owns which section at what time.

4 Fine points

The most frequent and most frustrating event with the work on shared documents are *conflicted versions*. This means two people have worked on the same file simultaneously. Suddenly, the two people have to communicate with each other figuring out who did what on the file. An even worse event is when conflicted versions are noticed several work days later. You can avoid them by following rules:

- Each section should have a clear PI. Ideally, the PI is mentioned in the section heading, e.g. 'Introduction [Bernd]'. If anybody else wants to work on the file, he/she should get the permission of the PI.
- Make sure that you archive the sections (L^AT_EX files only) after any significant (few hour) investment in the text in the Archive directory.
- Archive the dropbox folder in regular periods of time outside the dropbox. The contents might be accidentally deleted and the version control of dropbox is not the most convenient one. You can delete all these backups after submission of the documents.
- Close all files of the dropbox when you are not working on it. Suppose it is 8am and *A* opens S4.tex without working at it. At 9am *B* works on S4.tex and finishes proudly her/his work at 11pm *B*. The manuscript compiles and everything looks nice. The next morning *A* closes S4.tex and overwrites one day of work. After one week *B* realizes that Section 4 does not include his/her corrections. Now, hours may need to be spent to figure out what went wrong. Hence, the strict advice to archive finished sections in Archive.