Set my (pdf)pages free

David Walden

Experienced (LA)TEX users know that they can do many things with these systems. However, new users, for instance only having learned enough to typeset a thesis, may not think of some of the other possibilities. Below I describe one (admittedly trivial) use of LATEX for something other than typesetting a document.

With fair frequency I receive PDF files from which I wish to extract pages or images but cannot (my collaborators may not know their word processors are creating protected files). Maybe if I knew more about such security settings, I could undo the protection in other ways. However, I do know that the following tiny LATEX program has always "set my PDF pages free" in the way I wanted. The file for the following program is named `select-pages.tex`.

```
\documentclass{article}
\usepackage{pdfpages}
\begin{document}
\includepdf[pages=1-8]% omit for all pages
  {name-of-file-to-be-freed.pdf}
\end{document}
```

I put a copy of the file in the directory with the PDF I want to set free, and then change the file name in the `\includepdf` command to the name of the file I want to unlock. I compile this little LATEX program, and rename the result (which initially is `select-pages.pdf`) to be whatever I want it to be. Now I have a file which is no longer protected. (I don't know why this works, but it does.)

All the work is done by the **pdfpages** package (`ctan.org/pkg/pdfpages`). In the above example, pages 1 to 8 of the original document are processed into the output file. If the optional argument in square brackets is left out, the entire input document is processed into the output file. Other options for the **pages** parameter are available, and the **pdfpages** package has lots of other options; read about it at the above noted url.

Once the desired "free" pages are in the new file, I have found I can now extract pages and copy images which Acrobat and other applications on my Windows computer previously would not let me touch except to read.

This is one minuscule example of how (LA)TEX can do miscellaneous things for you. *TUGboat* has published many articles on using (LA)TEX as a more general purpose computing tool than typesetting alone, and no doubt would welcome more.

⋄ David Walden
walden-family.com/texland

Automatic generation of herbarium labels from spreadsheet data using LATEX

R. Sean Thackurdeen and Boris Veytsman

Abstract

LATEX, being a programmable language, has advanced capabilities for automatic generation of documents. While these capabilities are often considered the realm of advanced users, they are also attractive for entry-level users. The latter can use them to learn about LATEX while performing a typesetting task. The goal of this tutorial is to describe a method to typeset herbarium labels using data stored in a `.csv` file. This example is especially relevant for the botanical research community, where labels must be generated from standardized data sets to annotate physical plant collections.

1 Botanical primer

Botanical vouchers are the foundation of the study of the evolutionary history of plants, known as systematics, and the study of their classification, known as taxonomy. They are the ontological basis on which botanical theories and hypotheses of evolution are made. Additionally, the study of specii and their niches (ecology), and the study of their distributions across temporal and spatial scales (biogeography) are allied sciences which draw from these instances of recorded plant life.

Botanical vouchers are composed of two components: 1) a specimen, and 2) a label. The specimen commonly features fertile plant parts as well as other distinguishing characteristics, such as leaf arrangement, developmental variation, etc. When combined with DNA evidence, it is used for classification and identification of a plant. The label presents information grounding a specimen in physical space. It is the written manifestation of the specimen's identification, and includes collection information, geolocality data, and information about the habitat where the specimen was collected, in addition to other information about the specimen not apparent on the sheet.

Although not directly related to the present topic, readers may also be interested in the two articles by Joseph Hogg previously published in *TUGboat* (vol. 26, no. 1 and vol. 35, no. 2) on botanical typesetting: `http://tug.org/TUGboat/Contents/listauthor.html#Hogg,Joseph`.

2 Workflow

While botanists generally proceed by the adage, "by their fruits ye shall know them", it can be more apt to say that "botanists make labels".