Creating Pocket-sized Books Using LaTeX

D.V.L.K.D.P. Venugopal
Banaras Hindu University
Varanasi, India*

Abstract   This article deals with creating pocket-sized books of A7 size using LaTeX in a quick and dirty method.

1   The Need

For day-to-day work in an office or for personal use, many people like to keep telephone numbers and other contact information handy. For this purpose, at my institution we generally keep a small telephone diary in which to write names and numbers. Since we carry this in our pockets, there is danger of it getting torn or soiled preventing us from reading the numbers we wrote in it; and, if we lose it, then we have to start from square one. In addition, our university has a large Electronic Private Automatic Branch Exchange or EPABX system. For these reasons, it is desirable to have an institution-wide printed version of a pocket-sized booklet of telephone numbers.

2   Pre-LaTeX Era

Prior to 1995, we were wholly dependent on the telephone directory printed by our university press. There were fewer telephones then, so managing the information was easy. But from 1995 onwards there was an information technology revolution and the telephone, which was considered a luxury until then, became a necessity. Frequent change of telephone numbers due to establishment of new telephone exchanges was a feature of this period. As our office is the nerve center

---

*Correspondence: D.V.L.K.D.P. Venugopal, Personal Assistant, Vice-Chancellor's Office, Banaras Hindu University, Varanasi 221 005, India. E-mail : venugopal_duvvuri@rediffmail.com

of the university and we have to deal with many officials inside and outside of the university, it was natural for our office to want more frequent updates of the telephone book, and we started creating them ourselves.

Computers were introduced in our office in the year 1995. So we started compiling a telephone directory on a computer. As the word processor we used didn't have much capability, we originally prepared the telephone directory by photo-copying two A4 (210 × 297 mm) printed pages on to one A4 page by reduction. We prepared only one or two copies for our exclusive use.

Later versions of the word processor had a feature for printing booklets, and our work became somewhat less tiresome. Still, creating directories smaller than the size of an A5 page (148 × 210 mm) was a problem.

3 Tools Available in LaTeX

About four years after I began learning LaTeX, I had gained enough confidence to convert the telephone directory into LaTeX. Though converting the data to LaTeX was easy, creating a pocket-sized telephone directory without cutting and pasting was a challenge.

On a cursory glance through the ConTeXt manual [1], I found that one can typeset beautiful books using ConTeXt. As it was developed by a publishing company, it has all the facilities for creating quality books. But as I had never used it, I continued my search.

While studying the ProTeXt Package Manager, I discovered the `leaflet`, `twoup`, `booklet` and `pdfpages` packages. I first explored `leaflet` [2]. This package is useful for creating leaflets of conferences, symposia, etc., that contain six pages on an A4 page. In the `leaflet` documentation I found that it was inspired by the `booklet` and `twoup` packages. The `twoup` package uses the dvips route and requires the user to be familiar with Postscript files and their printing [3]. This `twoup` package is dependent on `2up`, a generic TeX package. The `booklet` package gives us the facility to create booklets of size A5 [4]. However, I wanted to create a booklet of size A7 (74 × 105 mm, or about 3 × 4.125 inches).

Then I stumbled upon the `pdfpages` package [5]. It has many tricks up its sleeve. Using this package one can combine many small PDF documents into a single document (useful for keeping separate publications together), create a new PDF document from selected pages of other PDF documents (useful to keep ab-

stract pages of many related articles together), or to insert diagrams from another PDF file.

4 Creating the pocket-sized booklet

For readers who are not familiar with the A series of page sizes, two A5 pages side-by-side in a portrait orientation fit on one A4 page in a landscape orientation, two A6 pages fit on one A5 page, and two A7 pages fit on an A6 page. Thus, eight A7 pages fit on one A4 page, and 16 A7 pages fit two sides of one A4 sheet of paper.[1]

Our first step in creating the A7 sized directory we desired was to create a telephone directory of A5 size, which came out to be 48 pages long. The telephone directory earlier created using the word processor was saved as a text file and edited appropriately for use with LaTeX. We used the `article` class and `longtable` package. The directory so created was named `pocket-td.pdf`.

4.1 Second Step

We then created another file, `pocket.tex`, consisting of the following lines of LaTeX, which processed the file `pocket-td.pdf`:

```
\documentclass[a4paper]{article}

\usepackage[final]{pdfpages}

\begin{document}
\includepdf[pages=-,nup=1x2,landscape,signature=48]{pocket-td.pdf}
\end{document}
```

LaTeXing `pocket.tex` placed pairs of our A5 pages on each A4 page in the resulting `pocket.pdf` file, creating 24 A4 pages from our initial 48 A5 pages.

---

1. For a full description of paper sizes see http://en.wikipedia.org/wiki/A4_Paper_Size.

4.2   Third step

Then we created another file named `pocket2.tex` with the following lines of LaTeX:

```
\documentclass[a4paper]{article}

\usepackage[final]{pdfpages}

\begin{document}
\includepdf[pages=-,nup=1x2,landscape,signature=24]{pocket.pdf}
\end{document}
```

Running `pocket2.tex` through LaTeX to process the file `pocket.pdf` produced a new file, `pocket2.pdf`, containing 12 A4 pages, each of which had four A6 size pages on it.

4.3   Final Step

Another file, named `pocket3.tex`, was created containing the following lines of LaTeX:

```
\documentclass[a4paper]{article}

\usepackage[final]{pdfpages}

\begin{document}
\includepdf[pages=-,nup=1x2,landscape,signature=12]{pocket2.pdf}
\end{document}
```

On LaTeXing the above file, we obtained the file `pocket3.pdf` containing the six A4 pages of a booklet of A7 size. (See the link to the file on the HTML page for this paper.)

Print these pages yourself on both sides of three A4- (or letter-) size pages, fold the pile of three pages at the center and cut along the fold to get A5 pages. Fold the pile of A5 pages at the center and cut along the fold to get A6 pages. Fold the pile of A6 pages in the center, staple pages at the fold, and, voilá, you get the telephone directory of A7 size.

4.4 Simplifying the process

In the above process we have seen that we have to compile four documents. But we may have to change or add numbers frequently in the telephone directory. Once we created the above files there is no need to follow all the steps. Instead we created a `pocket.bat` file (we are using MS Windows). The entries in the above batch file are as follows:

```
cd..
cd teldirtex
pdflatex pocket-td
pdflatex pocket
pdflatex pocket2
pdflatex pocket3
```

So whenever we make corrections in the main file, we save it and open the MS-DOS prompt and type `pocket`. All the files are LATEXed, simplifying a tedious process.

5 Conclusion

The above process is a quick and dirty method. TeXperts will be able to create better macros and an easier process. Our process is best suited for pocket-sized books containing up to 32 pages, and 48 pages is OK. If the pocket book contains more than 48 pages, we would have to follow another route.

Acknowledgments

Biography of the author

Mr. Venugopal is a secretarial assistant by profession. He has been using computers since the two-floppy PC stage. A former lover of WordPerfect, his first

encounter with TEX/LATEX was in the year 2000. At present his hobbies are exploring various TEX packages, experimenting with Omega, MetaPost and MetaFont, and teaching and/or explaining advantages of TEX/LATEX over word processors.

References

[1] Hagen, H. ConTEXt – The Manual. 2001. www.pragma-ade.com.

[2] Niepraschk, R., Schmidt, W. and Gäßlein, H. The document class `leaflet`. 2004.

[3] Hansen, M.L. The `twoup` Package. 2005.

[4] Wilson, P. Printing booklets with LATEX. 2005.

[5] Matthias, A. The `pdfpages` Package. 2004.