

# A new package for conference proceedings

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**Abstract** The new `confproc` package is a simple and efficient solution to build conference proceedings. Built from scripts developed for the DAFx-06 proceedings, it deals with various aspects: layout issues, table of contents, index of authors, maybe a general bibliography, etc. It combines the `pdfpages` package (to include PDF papers), the `hyperref` package (to provide hyper-links) plus other packages; and it runs pdfL<sup>A</sup>T<sub>E</sub>X.

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# 1 About this package

## 1.1 History

### 1.1.1 The Origins: a set of scripts

When building the proceedings of the 9<sup>th</sup> International Conference on Digital Audio Effects<sup>1</sup>, I wanted to provide the best quality proceedings possible. Even though valuable contributions explain how to generate PDF proceedings [1, 2, 3], I had to use many tricks and to develop my set of L<sup>A</sup>T<sub>E</sub>X commands in order to combine several packages, to build and automate a L<sup>A</sup>T<sub>E</sub>X with the features I wanted. Tricks used and choices made have been partially explained on the DAFx-06 website [4], and more deeply in an internal report [5]. After a while, a few people started to use those scripts for other conference proceedings including:

- 5<sup>th</sup> International Linux Audio Conference<sup>2</sup>, Marije Baalman, editor;
- 13<sup>th</sup> International Conference on Auditory Display<sup>3</sup>, Gary Scavone, editor;
- Journal on Multimodal User Interfaces<sup>4</sup> Christian Frisson, editor;
- 10<sup>th</sup> International Conference on Digital Audio Effects<sup>5</sup>, Sylvain Marchand.

So, I distributed a short example version to them.

### 1.1.2 A class?

The demand for these scripts prompted me to convert them to a class so that a wider community could benefit from them. To write the .cls file, I used the documentation for class and package writers [6].

### 1.1.3 A package!

Later on, I learned to use Docstrip and wrote a .dtx file that produces all necessary files (class, example, scripts, documentation), using Docstrip's documentation [7] and the very helpful documentation on how to package a package [8].

- 
1. DAFx-06, Sept. 2006, Montréal: <http://www.dafx.ca/proceedings.html>
  2. LAC2007, March 2007, Berlin: <http://www.kgw.tu-berlin.de/~lac2007/proceedings.shtml>
  3. ICAD'07, June 2007, Montreal: <http://www.music.mcgill.ca/icad2007/proceedings.php>
  4. JMUI 1, 2007: <http://www.jmui.org/index.php/JMUI/issue/view/>
  5. DAFx-07, Sept. 2007, Bordeaux: [http://dafx.labri.fr/dafx07\\_proceedings.html](http://dafx.labri.fr/dafx07_proceedings.html)

## 1.2 Description of the solution developed

Based on the `book` package, `confproc` lets you build a document containing:

1. preamble: definitions;
2. front matter: cover, publishing info, welcome letters, TOC (roman numbers);
3. main matter: compilation of papers (arabic numbers);
4. back matter: general bibliography, index of authors.

It runs pdfL<sup>A</sup>T<sub>E</sub>X and simplifies many processes by combining packages. It:

1. automatically (re)generates the proceedings (using L<sup>A</sup>T<sub>E</sub>X and Unix scripts);
2. concatenates PDFs papers with `pdfpages` [9];
3. provides ‘clickable’ links to corresponding pages from the TOC<sup>6</sup>, the index of authors and the full bibliography, using `hyperref` [10];
4. accesses an individual paper by clicking on one of its pages (from `pdfpages`);
5. left-numbers the TOC (using `titlesec`);
6. displays the TOC with 1 or 2 columns, the index of authors with 2 or 3 columns, and the full bibliography in 1 or 2 columns (hack derived from `twocolindex`, and using `multicolumn`);
7. organizes the bookmarks by proceedings’ sections: the preamble, the TOC, the days/sessions, the full bibliography, and the index of authors.
8. organizes the TOC: remove the TOC entry from itself (using `tocbibind`), authors’ names appear under their relative paper title (using `titlesec`);
9. gives a procedure to build a full bibliography.
10. allows for right-flushed back-references (this is not 100% efficient however).
11. enables fast L<sup>A</sup>T<sub>E</sub>X run, using the `draft` option of `pdfpages`: useful when correcting errors, changing the layout, merging bibliographies, etc.
12. orders all the packages the class uses without compatibility errors with `hyperref`. This is however **not** the case for the packages you add.

---

6. TOC: table of contents.

## 2 Options

This section provides similar information as the `confproc` documentation [11], but in a more condensed format.

As any other class, the `confproc` class is loaded with:

```
\documentclass{confproc}
```

You can and are encouraged to modify the behavior of `confproc` with options:

```
\documentclass[<options>]{confproc}
```

Some options are specific to `confproc`, others are also passed to the `book`, `hyperref`, or `pdfpages` packages.

### 2.1 Options specific to `confproc`

#### 2.1.1 Compilation step

An important option to set is `compil`<sup>7</sup>: it changes the speed of the L<sup>A</sup>T<sub>E</sub>X run, and page numbering. Depending on the building step, it uses one of the following 3 options:

- `compil=bibmerge`: should be used for the general bibliography merging process. Only the first and last page of each paper are inserted<sup>8</sup>, plus a page with all the current paper’s citations and back-references from the bibliography (as the `compil=bibbackref` option does, except that the page numbers are not the final ones).
- `compil=bibbackref`: should be used for all runs except the last, after the bibliography merging process (if any). It inserts all except the last page (replaced by a list of its citations to create proper back-references) of each paper. Several L<sup>A</sup>T<sub>E</sub>X runs will generate proper page numbering for the TOC and the index.

---

7. Use `compil` once the other options dealing with the layout suit you.

8. Page numbers are then not final, but L<sup>A</sup>T<sub>E</sub>X runs faster.

- `compil=last`: should be used only for the last L<sup>A</sup>T<sub>E</sub>X run. It assumes you’re done with: ordering the papers (program), generating the general bibliography, re-compiling all papers (if necessary to re-number them all and/or have them using the new bibliography), and having the proper page numbering and back-references.

To speed up the L<sup>A</sup>T<sub>E</sub>X run, you can use the `draft` option from `pdfpages` (e.g. when changing the layout, editing welcome letters, or working on page numbering). Each PDF page is replaced by an almost blank page. It is configured by default depending on the `compil` option you used, but you still can modify it.

### 2.1.2 Proceedings type: printed or electronic

Depending if the proceedings are to be printed or distributed as a PDF, choose:

- `printed` for links without<sup>9</sup> color (same as `colorlinks=false`); or
- `electronic` for links with colors (same as the default `colorlinks=true`).

Note that in both cases, all the hyperlink features will work properly.

### 2.1.3 Special sections layout

You may customise portions of the layout using:

- `onecoltoc/twocoltoc` to format the TOC with 1/2 columns;
- `tocnumleft/tocnumright` to place page numbers on the left/right of the TOC<sup>10</sup>;
- `twocolbib/onecolbib` to format the general bibliography with 2/1 columns;
- `threecolindex/twocolindex` to format the index of authors with 3/2 columns.

Note: the first one item of each pair above is the default setting.

---

9. Printing color is expensive, and printing in greyscale reduces the linking text readability.

10. Page numbers on the left seem to provide faster click access to the papers.

### 2.1.4 Headers/footers

The `headers` option has four exclusive values that defines which pages are added a header/footer :

- `headers=no` (default): no headers added to any pages;
- `headers=pdfonly`: added to PDF-included papers;
- `headers=exceptpdf`: added to all pages except PDF-included papers;
- `headers=allpages`: added to all pages.

For instance, if your paper templates do not have any headers, use `headers=allpages`. Conversely, if your paper template have a header and footer defined, use `headers=exceptpdf`. If you want to get proceedings without headers/footers (*e.g.* to add them in Acrobat [12] with other fancy fonts and layout), use `headers=no`.

If your paper templates have page numbers, you will have to renumber them. To check if the page numbers are identical for the papers and the proceedings, use `movepagenumbers` to move the footer by a few millimeters, combined with the `headers=allpages` or `headers=pdfonly`. You will see two footers appearing: the one from the paper, and below the one from the proceedings. Use it together with `compil=last`, or `compil=bibbackref` and `final`, to ensure you are seeing the final print ready version of the proceedings.

## 2.2 Options from other packages

There are 3 packages on which `confproc` is based, and to which options are passed, namely: `book`, `hyperref` and `pdfpages`. The following options are passed to `book`: `a4paper/letterpaper`, `10pt/11pt/12pt`, and `twoside/oneside`.

### 2.2.1 Options from `hyperref`

All unknown options are passed to `hyperref` and any existing options<sup>11</sup> documented in `hyperref` can be used. For a basic use, I suggest using only the following:

---

11. Refer to the `hyperref` documentation [10] for more complete and accurate descriptions.

- `colorlinks=true`, `colorlinks`, `colorlinks=false` to provide/remove color to links. They are equivalent to the `electronic/printed confproc` option.
- `citecolor=colorforcite`: uses the `colorforcite` color (to be defined by the user) for links to bibliography items cited.
- `linkcolor=colorforlink`: uses the `colorforlink` color for links, such as from the index of authors, TOC and general bibliography back-references.
- `urlcolor=colorforurl`: uses the `colorforurl` color for URL (*e.g.* in the general bibliography and the publishing information).
- `bookmarksopen=true/false`: opens/closes the bookmark in the PDF file<sup>12</sup>;
- `bookmarksopenlevel=0/1/2`: the bookmark is opened<sup>12</sup> till level 0 (resp. 1, 2).

The `confproc` use several default options<sup>13</sup> for `hyperref`. They change specific properties of hyperlinks you may wish to preserve for you electronic proceedings, so only change them if you know exactly what you are doing.

### 2.2.2 Options from `pdfpages`

Since `confproc` is also based on `pdfpages` for paper inclusion, you may use:

- `final`: inserts the PDF pages (slow  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  run); useful when working on the layout and during bibliography merging process.
- `draft`: replaces the PDF pages by an almost blank page (fast  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  run).

Note: the `final/draft` option pair is **not** exclusive: if using the two, the `final` option always ‘wins’. So, when using `draft`, be sure not to leave any `final` anywhere else!

## 2.3 Options by default

If not defined by the user, `confproc` options are defaulted to:

- `letterpaper`, `10pt`, `twoside` (passed to `book`);

12. To my knowledge, this is only supported by Adobe Acrobat [12].

13. The defaulted options are: `pdftex`, `raiselinks`, `hyperindex`, `backref`, `pagebackref`, `plainpages=false`, `pdfpagelabels`, `breaklinks`, `linktocpage`, and `pdfstartview=XYZ`.

- `electronic, twosidepapers, headers=no, compil=bibbackref, tocnumleft, oncoltoc, threecolindex, twocolbib`;
- `colorlinks=true, linkcolor=red, citecolor=blue, pagecolor=red, urlcolor=blue, bookmarksoopen=true, bookmarksoopenlevel=1` (passed to `hyperref`).

## 3 Exhibit and explain the exquisite example

The example file provided in the `confproc` documentation (`example.tex`) shows how to customize: the proceedings PDF metadata; the front page; the document layout; the document header/footer; the publishing information; the welcome letter(s); the titles for special section; the title/author style in the TOC and bookmarks; the color for links; the number of columns for the TOC, bibliography and index of authors; using appropriate commands and options. To generate the example file, run `confproc.ins` through  $\text{\LaTeX}$ . Then, run the bash script called `buildproc`: it will run all the steps for you.

### 3.1 Preamble

#### 3.1.1 Using the `confproc` class

The `confproc` class is called as would be the `book` class, and the standard options `a4paper`, `10pt` and `twoside` are simply passed to it. The `compil=bibbackref` option specifies the type of  $\text{\LaTeX}$  run; `headers=allpages` adds a header/footer to all pages (including papers inserted), `movepagenumbers` moves the page numbers (for checking them). The remaining options are related to the colors of color links.

```
\documentclass[a4paper,10pt,twoside,
  compil=bibbackref,headers=allpages,movepagenumbers,electronic,
  citecolor=colorforcite,linkcolor=colorforlink,urlcolor=colorforurl,
  pagecolor=colorforpage]{confproc}
```

#### 3.1.2 Using extra packages

Then, one should define the extra packages to be used. As previously mentioned, the packages used need to be correctly ordered to function correctly with

`hyperref`. Especially, any package that redefines some L<sup>A</sup>T<sub>E</sub>X internal macros should be inserted before the `hyperref` package. The packages used by the class have been properly ordered for that purpose. This is however not the case for packages added by the user after the document class insertion. Therefore, if a package that you have added does not behave as it should, it may be a package ordering issue. The only solution I know of at present consists in adding this package at the right place in the class file<sup>14</sup>.

Proceedings often start with welcome letters, the texts of which may have another line spacing than the papers, using the `setspace` package:

```
\usepackage{setspace}
```

You may then change the input and font encodings, *e.g.* to allow for running L<sup>A</sup>T<sub>E</sub>X on a document with accents (for the authors' names and the paper titles):

```
\usepackage[utf8]{inputenc}
\usepackage[T1]{fontenc}
```

You may change the default L<sup>A</sup>T<sub>E</sub>X font to Times as it displays better in PDF files. the best way to do so is:

```
\usepackage{mathptmx}
```

DAFx-06 proceedings' header contains a '9<sup>th</sup>', that requires to use:

```
\usepackage[super]{nth}
```

Note that the original DAFx-06 template used `times` and this has been changed accordingly in the `confproc` package (version 0.4b). Also, this template provides better the superscript ordinal by using the `nth` package, whereas the original templates used the `\textsuperscript` command. To tune the document header/footer so that they match the paper templates, use:

```
\usepackage{layout}
```

---

14. Please contact me if you know how to enforce the placement of a package insertion that is inserted after the class definition.

### 3.1.3 Define colors for links

You need to define the colors before using them:

```
\definecolor{colorforlink}{rgb}{0,0,0.8}
\definecolor{colorforpage}{rgb}{0,0,0.7}
\definecolor{colorforcite}{rgb}{0,0.8,0}
\definecolor{colorforurl}{cmyk}{1,0,0,0}
```

There are a few things you need to know about it:

- the way colors are declared is explained in the `color` package.
- `colorforlink` is for all links in the TOC, index, and back-references.
- `colorforpage` is not currently used in the example, as it concerns links to pages from the text.
- `colorforurl` is for URLs (*e.g.* in the preamble, or the general bibliography).
- `colorforcite` is useful only in two cases:
  1. without a general bibliography: if citing from the preamble (rare);
  2. with a general bibliography, except with the `compil=last` option.

### 3.1.4 Customize PDF metadata

The PDF metadata are informations about the proceedings electronic you get in the operating system. At least three metadata should be set:

- the PDF title (default: ‘Proceedings title’). The example uses:

```
\renewcommand{\procpdftitle}{DAFx-06 Proceedings}
```
- the PDF author (default: ‘Proceedings author/editor’). The example uses:

```
\renewcommand{\procpdfauthor}{V. Verfaillie, McGill University}
```
- a description (default: ‘Proceedings description’). The example uses:

```
\renewcommand{\procpdfsubject}{Proc. 9th Int. Conf. on %
Digital Audio Effects - Montreal, Quebec, Canada}
```

### 3.1.5 Special section titles

The titles of special sections can be redefined:

- the table of contents (default: ‘Conference Program’). The example uses:  
`\renewcommand{\contentsname}{Conference Program}`
- the general bibliography (default: ‘Full Bibliography’). The example uses:  
`\renewcommand{\bibname}{General Bibliography}`
- the index of authors (default: ‘Index of Authors’). The example uses:  
`\renewcommand{\indexname}{List of Authors}`

### 3.1.6 Declare files and paths

Indicate all file names/paths at the same place; first, the bibliography file name:

```
\newcommand{\procbibfile}{\BIBPATH exbiblio}
```

Then declare paths to folders containing files included by `example.tex` file: pictures (*e.g.* logos for the cover page and welcome letters), bibliographies, papers<sup>15</sup>, and texts (*e.g.* publishing informations, welcome letters, the paper switch):

```
\newcommand{\PICTPATH}{pictures/}  
\newcommand{\BIBPATH}{}  
\newcommand{\PAPERPATH}{papers/}  
\newcommand{\TEXTPATH}{}
```

### 3.1.7 Fine tune the document layout

To ensure a coherent layout throughout the whole proceedings, the main document layout should match the paper template layout. To do so, set options of the `geometry` package<sup>16</sup>, *e.g.* for the letter format:

---

15. This folder contains both the PDFs and all related folders to batch compile all papers at once.

16. See the `geometry` package manual for extensive options for setting the page layout, at [CTAN:cg-bin/ctanPackageInformation.py?id=geometry](http://CTAN:cg-bin/ctanPackageInformation.py?id=geometry)

```
\usepackage[width=175mm,height=229mm,voffset=-10.22mm,top=36.68mm,%  
headsep=7.05mm,footskip=11.29mm,twoside,left=20.44mm]{geometry}
```

Then, set the left/right and up/down shift of inserted PDFs files using:

```
\setlength{\LaTeXxShift}{0pt}  
\setlength{\LaTeXyShift}{-28pt}  
\setlength{\WordxShift}{10pt}  
\setlength{\WordyShift}{-40pt}
```

The values may differ depending if the papers were generated using a L<sup>A</sup>T<sub>E</sub>X template and a Word template, as the templates may not be perfectly identical. Then, set the left/right and up/down shift of the inserted PDFs files using:

```
\setlength{\LaTeXxShift}{8.45pt}  
\setlength{\LaTeXyShift}{-3pt}
```

### 3.1.8 Set headers and footers

If the paper templates have a header/footer, you may want to use the same header/footer for the proceedings. Then, redefine:

```
\renewcommand{\proclhead}{\em \small Proc.~of the \nth{9} %  
Int.~Conference on Digital Audio Effects (DAFx-06), Montreal, %  
Canada, September 18-20, 2006}
```

for the header and:

```
\renewcommand{\proccfoot}{\small DAFX-\thepage}
```

for the footer. If checking the page numbering (when inserting papers with page numbers), use the `movepagenumbers` option and set the vertical shift for the footer:

```
\setlength{\procoptfootskip}{3mm}
```

Trick: when setting the values for the page layout using the `geometry` package, remove the `movepagenumbers` option, change the headers and footers color (e.g. adding `\color{blue}` at the beginning of the redefinition) and zoom 1000%.

### 3.1.9 Title/author layout

The `\texorpdfstring` command allows for a different text in L<sup>A</sup>T<sub>E</sub>X and for the PDF (used to generate different bookmark titles and TOC entries). The default is to add a line break between the paper title and the authors' names in the TOC. You can customize the title font style using the `\papertitlestyle` command:

```
\renewcommand{\papertitlestyle}{\texorpdfstring{}{\scshape}}
```

that defines the paper's title in small capitals and no line break in the TOC between the paper title and the authors' names. You can also customize the author font style using the `\paperauthorstyle` command as in:

```
\renewcommand{\paperauthorstyle}{\texorpdfstring{, }{\break}}
```

This replaces the line break by a comma.

### 3.1.10 Index of authors

The last step is to make the index:

```
\makeindex
```

## 3.2 Front matter: cover, info, welcome and TOC

### 3.2.1 Start the document

We are now ready to start the document by using:

```
\begin{document}  
\frontmatter
```

You may print the document layout (using `\layout`) at the document's beginning (page numbering changes, but will not be forgotten) or end (page numbering does not change, but may be forgotten). You may also ensure that the proceedings' first page (the cover) is at number 1:

```
\setcounter{page}{1}
```

### 3.2.2 Cover/front page

To reduce the bookmark length, all front matter bookmarks (cover page, welcome letters, etc) except the TOC are under the same bookmark as sub-items. This first bookmark is added by hand (so that you can get rid of it):

```
\pdfbookmark[0]{Preamble}{preamble}
```

The cover page is generated either with the usual commands<sup>17</sup>:

```
\pdfbookmark[1]{Cover}{cover}  
\title{Proceedings of the \nth{9} International Conference\<\  
  on Digital Audio Effects\<\< Montreal, Quebec, Canada}  
\author{Vincent Verfaille, McGill University}  
\date{Sept 18--20, 2006}  
\maketitle
```

or as PDF image (if designing the cover with other tools):

```
\includepdf[noautoscale,pages=1,link]{\PICTPATH ex_1stpage.pdf}
```

### 3.2.3 Publishing information

Publishing information are then given on page 2, inside the cover.

```
\newpage  
\vspace*{1.7cm}  
\pdfbookmark[1]{Publishing information}{publishing}  
\thispagestyle{empty}
```

As it is printed in page 2, there are no headers nor footers on this page.

```
\noindent {\bf Published by:}\ Laboratory Name\ Department name\<\  
School Name\ University Name\<\  
\url{http:www.conferencesite.com}\
```

You may also indicate an ISBN and the credits:

---

17. This would require fine tuning of this page parameters and adding logos, images, etc.

```

\vspace*{0.15cm}\newline
\noindent {\bf ISBN: X-XXXX-XXXXXX}\\
\vspace*{0.35cm}\newline
\noindent {\bf Credits:}\\
Cover design: Firstname Lastname\\
Logo photo: Firstname Lastname\\
\LaTeX{} editor: Firstname Lastname\\
using \LaTeX's 'confproc' class (optional: by V. Verfaille)\\

```

Isn't it a good place to acknowledge for the time saved by using this package? To promote this work, please spread the word by explicitly naming `confproc`.

You may then indicate where and when the proceedings were printed:

```

\vspace*{0.35cm}\newline
\noindent Printed in City by Print-Company --- Month 20XX

```

<p><b>Published by:</b>  Laboratory Name  Department name  School Name  University Name  <a href="http://www.conferencesite.com">http://www.conferencesite.com</a></p> <p><b>ISBN: X-XXXX-XXXXXX</b></p> <p><b>Credits:</b>  Cover design: Firstname Lastname  Logo photo: Firstname Lastname  <math>\LaTeX</math> editor: Firstname Lastname  using <math>\LaTeX</math>'s 'confproc' class (optional: by V. Verfaille)</p> <p>Printed in City by Print-Company — Month 20XX</p>
--

Figure 1: *Example of publishing information.*

### 3.2.4 Welcome letters

To ensure next page is numbered and has proper headers/footers, use:

```
\otherpagestyle
```

This is where the roman page numbering starts. We include the welcome letters (e.g. from the faculty dean, the department dean, the conference chair, etc.):

```
\clearsingleordoublepage  
\vspace*{0.6cm}  
\thisotherpagestyle
```

create the corresponding bookmark entry:

```
\pdfbookmark[1]{Welcome from Firstname Lastname}{welcome}
```

and the corresponding section (and TOC entry):

```
\section*{Welcome from Firstname Lastname, Conference Chair}
```

Depending on the text length, change the line spacing (from `setspace`):

```
\vspace*{1.1cm}  
\begin{center}  
  \onehalfspace  
  \begin{minipage}[h]{14cm}  
    Text of the welcome letter, with 1.5 lines spacing, blah blah...  
    Text of the welcome letter, with 1.5 lines spacing, blah blah...  
  \end{minipage}  
\end{center}
```

### 3.2.5 Table of contents (TOC)

You may then insert the proceedings' TOC, also called the 'conference program':

```
\tableofcontents
```

that will appear as in Fig. 2. The bookmark is automatically generated (see Tab. 1).

<b>Conference Program</b>	
<b>Day 1</b>	
<i>Oral Session 1</i>	
1	Templates for One Author <i>Alfred Alabama</i>
7	Templates for One Author with Two Affiliations <i>Bob Boogie-Woogie</i>
<i>Poster Session 1</i>	
13	Templates for Two Authors <i>Alfred Alabama, Chris Christmas</i>
<b>Day 2</b>	
<i>Oral Session 2</i>	
17	Templates for Three Authors <i>Bob Boogie-Woogie, Chris Christmas, Don Didon</i>
23	Templates for Föür Authors <i>John Jõe, Kéñt King, Lòu Lóu, Månfréd J. Móstueki</i>
31	<b>Full Bibliography</b>
32	<b>Index of Authors</b>

Figure 2: Example of a conference program (table of contents).

---

▼ Preamble
Cover
Publishing informations
Welcome from Firstname Lastname
Program
▼ Day 1
▼ Oral Session 1
▶ Template for One Author
▶ Template for One Author with Two Affiliations
▼ Poster Session 1
▶ Template for Two Authors
▼ Day 2
▼ Oral Session 2
▶ Template for Three Authors
▶ Template for Föür Authors
Full Bibliography
Index of Authors

---

Table 1: Second-level opened bookmarks for a conference organized by days.

### 3.3 Main matter: the proceedings

#### 3.3.1 Prepare the main matter

The main matter contains the proceedings, *i.e.* the collection of articles:

```
\mainmatter
```

Note: this command switches to arabic page numbering and redefines the corresponding style for TOC entries.

#### 3.3.2 Days and sessions

You can organize the proceedings by day (see Tab. 1) or by session (for short conferences). A day creates a part and groups sessions in the bookmark:

```
\procdays{Day 1}
```

whereas a session creates a chapter:

```
\session{Oral Session 1}
```

### 3.3.3 Inserting a paper

We now can insert our first paper for this first session of the first day, using the `\procinsertpaper` command. It has 9 arguments:

1. X and Y shifts (with a space in between, as in {10 12});
2. the number of pages;
3. a reference (can be the PDF file name);
4. the title;
5. the list of authors;
6. the index entries;
7. the citations for the general bibliography;
8. the name of the PDF file to insert;
9. the bookmark entries for the authors.

If you often change the paper information, you may redefine local commands:

```
\renewcommand{\papertitle}{Templates for One Author}  
\renewcommand{\paperauthors}{Alfred Alabama}  
\renewcommand{\paperindex}{\index{Alabama, Alfred}}  
\renewcommand{\paperref}{\paperswitch}  
\renewcommand{\paperpagenum}{6}  
\renewcommand{\papercite}{Mitra:Kaiser:1993:DSP:handbook,%  
Haykin:1991:adaptive:filter,Moorer:2000:AES:audio:millenium,%  
Arfib:1998:DAFx}
```

before inserting the paper:

```
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{\paperpagenum}%
  {\paperref}{\papertitle}{\paperauthors}{\paperindex}{\papercite}%
  {01}{\pdfbookmark[2]{Alfred Alabama}{#2.author1}}
```

You can also directly pass arguments to the `\procinsertpaper` command:

```
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{5}{\paperswitch}%
  {Templates for One Author with Two Affiliations}% paper title
  {Bob Boogie-Woogie}% list of authors
  {\index{Boogie-Woogie, Bob}}% authors index entries
  {Haykin:1991:adaptive:filter,Serra:1996:sms,%
    Moorer:2000:AES:audio:millenium,Arfib:1998:DAFx}% cited bib items
  {02}{\pdfbookmark[2]{Bob Boogie-Woogie}{#2.author1}}
```

Even though it is less readable, this formatting is much shorter<sup>18</sup>: it is then easier to search in a file with dozens of paper definitions. We add a poster session:

```
\session{Poster Session 1}
```

with a single paper:

```
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{4}{\paperswitch}%
  {Templates for Two Authors}%
  {Alfred Alabama, Chris Christmas}%
  {\index{Alabama, Alfred}\index{Christmas, Chris}}%
  {Serra:1996:sms,Moorer:2000:AES:audio:millenium,%
    Arfib:1998:DAFx,Askenfelt:1976:automatic:transcription}%
  {03}{\pdfbookmark[2]{Alfred Alabama}{#2.author1}%
    \pdfbookmark[2]{Chris Christmas}{#2.author2}}
```

together with a second day, an oral presentations session and 2 papers:

```
\procdays{Day 2}
\session{Oral Session 2}
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{6}{\paperswitch}%
  {Templates for Three Authors}%
```

---

18. The `proswitchandtoc.pl` Perl script provided in `confproc` outputs such  $\LaTeX$  code from a `.csv` program file. It is useful if you not plan to change the papers' information in the `.csv` file.

```

{Bob Boogie-Woogie, Chris Christmas, Don Didon}%
{\index{Boogie-Woogie, Bob}\index{Christmas, Chris}%
 \index{Didon, Don}}%
{Arfib:1998:DAFx,Askenfelt:1976:automatic:transcription,%
 Egozy:1995:MIT:features:gesture}%
{04}{\pdfbookmark[2]{Bob Boogie-Woogie}{#2.author1}%
 \pdfbookmark[2]{Chris Christmas}{#2.author2}%
 \pdfbookmark[2]{Don Didon}{#2.author3}}

\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{7}{\paperswitch}%
{Templates f\'or F\'o"ur uthors}%
{J\o{}hn J"oe, K\'e~{n}t K~{\i}ng, L\'ou L\'ou, %
 M\'anfr\'ed J. M^ost\u{e}k\i}%
{\index{J"oe, J\o{}hn}\index{K~{\i}ng, K\'e~{n}t}%
 \index{L\'ou, L\'ou}\index{M^ost\u{e}k\i, M\'anfr\'ed J.}}%
{Arfib:1998:DAFx,Askenfelt:1976:automatic:transcription,%
 Egozy:1995:MIT:features:gesture}%
{05}{\pdfbookmark[2]{J\o{}hn J"oe}{#2.author1}%
 \pdfbookmark[2]{K\'e~{n}t K~{\i}ng}{#2.author2}%
 \pdfbookmark[2]{L\'ou L\'ou}{#2.author3}%
 \pdfbookmark[2]{M\'anfr\'ed J. M^ost\u{e}k\i}{#2.author4}}

```

### 3.4 Back matter: general bibliography and index

When done with the papers compilation, switch to the document back matter:

```
\backmatter
```

It redefines the corresponding style for TOC entries. The general bibliography is inserted with the style developed for DAFx-06:

```
\bibliographystyle{newapave}
```

It derives from newapa: the year indicated at the end (before the back-references), without parenthesis (see Fig. 3). Customize the introductory paragraph using:

```
\renewcommand{\procbibintro}{\it This bibliography is blah blah...}
```

## Full Bibliography

*This bibliography is a compilation of all bibliographic references from each paper. Page numbers that appear at the end of each entry link to the bibliography sections that include it. Please click on the URL or on the page number to access the linked item.*

- Arfib, D. Different ways to write digital audio effects programs. In *Proc. of the COST-G6 Workshop on Digital Audio Effects (DAFx-98)*, Barcelona, Spain, pp. 188–91, 1998. [6](#), [11](#), [16](#), [22](#)
- Askenfelt, A. Automatic notation of played music (status report). Technical report, STL-QPSR, Vol. 1, pp. 1–11, 1976. [16](#)
- Dutilleux, P. *Vers la machine à sculpter le son, modification en temps-réel des caractéristiques fréquentielles et temporelles*. PhD thesis, University of Aix-Marseille II, 1991. [29](#)
- Egozy, E. B. Deriving musical control features from a real-time timbre of the clarinet. Master’s thesis, Massachusetts Institute of Technology, 1995. [22](#)
- Fitz, K. and Haken, L. Current Research in Real-time Sound Morphing. Available at <http://www.cerlsoundgroup.org/RealTimeMorph/>, Accessed March 08, 2006. [29](#)
- Haykin, S. *Adaptive Filter Theory* (Second ed.). Englewood Cliffs: Prentice Hall, 1991. [11](#)
- Mitra, S. K. and Kaiser, J. F. *Handbook for Digital Signal Processing*. J. Wiley & Sons, 1993. [6](#)
- Moorer, J. A. Audio in the new millennium. *Journal of the AES*, 48(5), pp. 490–498, 2000. [6](#), [11](#), [16](#), [22](#), [29](#)
- Serra, X. *Musical Signal Processing*, chapter Musical Sound Modeling with Sinusoids plus Noise, pp. 91–122. G. D. Poli, A. Picialli, S. T. Pope and C. Roads, Eds. Swets & Zeitlinger, 1996. [6](#), [11](#), [16](#), [22](#), [29](#)

Figure 3: Example of a short general bibliography.

The bibliography is then inserted (depicted in Fig. 3):

```
{\footnotesize\bibliography{\procbibfile}}
```

For very long general bibliographies, change the font size (e.g. to `\footnotesize` in the previous line). Finally, insert the index (depicted in Fig. 4):

```
\insertindex  
\end{document}
```

Index of Authors		
<b>A</b>	<b>D</b>	<b>L</b>
Alabama, Alfred ..... 1, 13	Didon, Don ..... 17	Lóu, Lòu ..... 23
<b>B</b>	<b>J</b>	
Boogie-Woogie, Bob ..... 7, 17	Jöe, John ..... 23	
<b>C</b>	<b>K</b>	<b>M</b>
Christmas, Chris ..... 13, 17	Kîng, Kéñt ..... 23	Môstueki, Mànfréd J. .... 23

Figure 4: Example of a 3-column index of authors.

## 3.5 Turn the switch on, please!

### 3.5.1 Paper switch

When working on the conference program, you may need a switch to be able to work on the proceedings layout and information without yet knowing the final papers order. In the main matter, replace the papers inclusion by:

```
\input{\TEXTPATH expapersswitch}
```

Then define the program, *i.e.* the order of papers insertion, simply as:

```
\procdays{Day 1}
  \session{Oral Session 1}
    \paperid{45}{p_001}
    \paperid{21}{p_003}
  \session{Poster Session 1}
    \paperid{33}{p_005}
\procdays{Day 2}
  \session{Oral Session 2}
    \paperid{75}{p_007}
    \paperid{27}{p_009}
```

The `expapersswitch.tex` file contains the switch to all proceedings papers:

```
\newcommand{\paperid}[2]{
\renewcommand{\paperswitch}{#1}
\ifnum\paperswitch=21 %===== PAPER ID = 21 =====
```

```

\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{5}{\paperswitch}%
  {Templates for One Author with Two Affiliations}% paper title
  {Bob Boogie-Woogie}% list of authors
  {\index{Boogie-Woogie, Bob}}% authors index entries
  {Haykin:1991:adaptive:filter,Serra:1996:sms,% cited bib items
   Moorer:2000:AES:audio:millenium,Arfib:1998:DAFx}%
  {#2}{\pdfbookmark[2]{Bob Boogie-Woogie}{#2.author1}}
\ifnum\paperswitch=33 %===== PAPER ID = 33 =====
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{4}{\paperswitch}%
  {Templates for Two Authors}%
  {Alfred Alabama, Chris Christmas}%
  {\index{Alabama, Alfred}\index{Christmas, Chris}}%
  {Serra:1996:sms,Moorer:2000:AES:audio:millenium,%
   Arfib:1998:DAFx,Askenfelt:1976:automatic:transcription}%
  {#2}{\pdfbookmark[2]{Alfred Alabama}{#2.author1}}
  \pdfbookmark[2]{Chris Christmas}{#2.author2}}
\ifnum\paperswitch=45 %===== PAPER ID = 45 =====
\procinsertpaper{\LaTeXxShift{} \LaTeXyShift}{6}{\paperswitch}%
  {Templates for One Author}{Alfred Alabama}%
  {\index{Alabama, Alfred}}%
  {Mitra:Kaiser:1993:DSP:handbook,Haykin:1991:adaptive:filter,%
   Moorer:2000:AES:audio:millenium,Arfib:1998:DAFx}%
  {#2}{\pdfbookmark[2]{Bob Boogie-Woogie}{#2.author1}}
\fi} % and so on

```

### 3.5.2 Class option switch

To compile the example with a single Unix script, you need to switch between two options set for the class. The document class is inserted from a text file:

```
\input{exclass}
```

The first file (exclasspre.tex) is used for all L<sup>A</sup>T<sub>E</sub>X runs except the final one:

```

\documentclass[a4paper,10pt,twoside,%
  compil=bibbackref,headers=allpages,movepagenumbers,%

```

```
    citecolor=colorforcite,linkcolor=colorforlink,urlcolor=colorforurl,%
    pagecolor=colorforpage]{confproc}
```

This options set adds a header/footer on all pages (`headers=allpages`), and move the footer (`movepagenumbers`) so that we can check the page numbers. Also, the compilation option is `compil=bibbackref`, which creates the proper back-references. The second file (`exclasslast.tex`) is only used for the final L<sup>A</sup>T<sub>E</sub>X run:

```
\documentclass[a4paper,10pt,twoside,%
    compil=last,headers=exceptpdf,%
    citecolor=colorforcite,linkcolor=colorforlink,urlcolor=colorforurl,%
    pagecolor=colorforpage]{confproc}
```

This options set does not use `movepagenumbers`, and uses headers only on the pages where it is necessary (using `headers=exceptpdf`, as page numbering is now what will be used for generating the proceedings' final version). It also uses the `compil=last` option to insert the last page of each paper with proper back-references generated during the previous L<sup>A</sup>T<sub>E</sub>X runs. The Unix script copies and renames one of those two files into `exclass.tex` and runs L<sup>A</sup>T<sub>E</sub>X on `example.tex`.

## 4 Building the proceedings: mind your steps

### 4.1 Prepare the proceedings' final version

We now describe the steps to produce the final version of the example proceedings with some constraints. As paper templates have headers and footers, so the proceedings must have the same, in addition we want a general bibliography.

#### 4.1.1 Generate the paper switch

You may generate the paper switch corresponding to the program either by hand (check in the example); or using the `proswitchandtoc.pl` Perl script (described in the `confproc` documentation) to generate both the `exsessions.tex` and `expapersswitch.tex` files from the `exprogram.csv` program file.

### 4.1.2 Page numbering papers

1. make a first run with at least the following options:

```
\documentclass[a4paper,10pt,twoside,compil=last,%  
headers=allpages,movpagenumbers,electronic]{confproc}
```

2. update `expages.tex` by setting each paper's first page number:

```
\newcommand{\setpagenumber}[1]{  
  \newcommand{\paperswitch}{#1}  
  \ifnum\paperswitch=45 {\setcounter{page}{1}}\fi  
  \ifnum\paperswitch=21 {\setcounter{page}{7}}\fi  
  \ifnum\paperswitch=33 {\setcounter{page}{13}}\fi  
  \ifnum\paperswitch=75 {\setcounter{page}{17}}\fi  
  \ifnum\paperswitch=27 {\setcounter{page}{23}}\fi}
```

3. add the following in the preamble of each paper:

```
\input{../../expages.tex}\setpagenumber{45}
```

and of course replace 45 by the paper number;

4. (re)generate each paper (using the `buildpapers` Unix script from `confproc`);
5. make a second run with at least the `headers=allpages,movpagenumbers` options. Repeat the last 3 steps till the page numbers are ok.

### 4.1.3 General bibliography

We worked with three files in order to simplify the bibliography merging process:

- `exbibconcat.bib` containing all citations for all papers;
- `exbibcommon.bib` containing common bibliography items, added one by one during the merging process;
- `exbibstrings.bib` containing common strings (conference/journal names, etc), to ensure coherence among citations from same journal/conference.

Here is how those files are created and used:

1. create the complete bibliography:

- (a) for each paper:
    - i. change each bib item tag to a unique tag, *e.g.* paperID:origTag;
    - ii. correct the `\cite{}` according to those new tags;
    - iii. add all those bib items into `exbibconcat.bib`;
  - (b) set the proceedings bibliography file to
 

```
\renewcommand{\procbibfile}{\BIBPATH exbibconcat.bib}
```
  - (c) run L<sup>A</sup>T<sub>E</sub>X with the `compil=bibmerge` option. It uses `\nocite{*}`, so items are include twice (by the paper and globally).
2. merge the bibliographic items:
- (a) first, add `exbibcommon.bib` to the bibliography files list by setting:
 

```
\renewcommand{\procbibfile}{\BIBPATH exbibcommon.bib,%
  \BIBPATH exbibconcat.bib}
```
  - (b) for each item appearing multiple times:
    - i. create a corresponding entry in the `exbibcommon.bib` file;
    - ii. remove each appearance of it in `exbibconcat.bib`;
    - iii. correct inconsistencies: title, authors, page numbers, etc.
3. merge the bibliography strings:
- (a) add `exbibstrings.bib` to the bibliography files list by setting:
 

```
\renewcommand{\procbibfile}{\BIBPATH exbibstrings.bib,%
  \BIBPATH exbibcommon.bib,\BIBPATH exbibconcat.bib}
```
  - (b) merge the common strings. For each string shared by several items:
    - i. define the corresponding string in `exbibstring.bib`, *e.g.* for the IEEE Trans. on Acoustics, Speech, and Signal Processing, add:
 

```
@string{IEEE-TASSP = "{IEEE Trans. Acoust., Speech,
  and Signal Proc.}"}
```
    - ii. use IEEE-TASSP everywhere it should be used in `exbibconcat.bib`:
 

```
@article{paper027:McAulay86,
  Author = {Robert J. McAulay and Thomas F. Quatieri},
  Title = {Speech Analysis/Synthesis Based on a%
  Sinusoidal Representation},
  Journal = IEEE-TASSP,
```

```
Volume = {34}, Number = {4},  
Pages = {744-754}, Year = {1986}}
```

4. updating papers once the general bibliography is completed:
  - (a) for each paper:
    - i. create a new file (*e.g.* `p_027.bib` for `p_027.tex`) that only includes the non-shared items remaining in `exbibconcat.bib`;
    - ii. replace the bibliography inclusion command by:

```
\bibliography{../../exbibstrings.bib,%  
../../exbibcommon.bib,p_027.bib}
```

to provide coherent common to both local and general bibliographies (reminder: `p_027.tex` is placed in `papers/pdftex/p_027/`).
  - (b) re-run  $\text{\LaTeX}$  on all papers (*e.g.* using the `buildpapers` Unix script);
  - (c) if you did not use `buildpapers`, copy or move all PDF papers into `papers/`. The `buildcppdfpapers` Unix script can do it for you<sup>19</sup>.

## 4.2 Generate the proceedings' final version

The provided `buildproc` Unix script describes all compilation steps to produce the final version of the proceedings (considering you prior merged the bibliography items by hand). It requires several compilations to create valid TOC, index of authors, general bibliography, and proper back-references. It renames of the class insertion file (described in sec. 3.5.2), so that you do not need to run one more time after changing the `compil=backref` option to `compil=last`.

```
#!/bin/sh
```

We first set the user-dependent file name

```
TXF="example"
```

Then, we set the system-dependent variables, *e.g.* the path to  $\text{\LaTeX}$  binaries:

```
LATEXPATH="/usr/texbin/"
```

for TexLive 2007 on MacOSX. We then set the path to each  $\text{\LaTeX}$  compiler:

---

19. This script is especially useful if changing only some of the papers.

```
PDFLATEX=$LATEXPATH"pdflatex"  
BIBTEX=$LATEXPATH"bibtex"  
MKIDX=$LATEXPATH"makeindex"
```

We can now run L<sup>A</sup>T<sub>E</sub>X on the document with the following steps:

1. copy/rename the class insertion file: `cp exclasspre.tex exclass.tex`
2. creates the table of contents: `$PDFLATEX $TXF.tex`
3. generate the general bibliography: `$BIBTEX $TXF`
4. create the index of authors: `$MKIDX -s confproc.ist $TXF.idx`
5. include the index: `$PDFLATEX $TXF.tex`
6. create proper back-references: `$PDFLATEX $TXF.tex`
7. give proper page numbers to the TOC and back-references: `$PDFLATEX $TXF.tex`
8. copy/rename the class insertion file: `cp exclasslast.tex exclass.tex`
9. last run with full papers insertion: `$PDFLATEX $TXF.tex`

## 5 To conclude

`confproc` automates several tasks and processes during the making of a conference proceedings. It consists of a class, with full documentation, a working example, and a series of Unix and Perl scripts to simplify your life. It has been developed to serve the community. If you find it useful or interesting, then, please use it, share it, or recycle it. All users are very welcome to propose new functionalities.

Many thanks to Will Robertson for proposing many code improvements, and to Eoin Brazil for his contagious enthusiasm and for proofreading this paper.

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- [2] SLAC. eConf: Full-Text Proceeding Instructions and Templates. URL: [www.slac.stanford.edu/econf/editors/fulltext-template/instructions.html](http://www.slac.stanford.edu/econf/editors/fulltext-template/instructions.html), Retrieved on Sept. 2007.

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- [11] Vincent Verfaillie. The `confproc` package. CTAN: [macros/latex/contrib/conferences/confproc/](http://www.ctan.org/macros/latex/contrib/conferences/confproc/), Sept. 2007.
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