

This Way

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Manipulating the foreground
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This issue describes a way to collapse an existing document in a rather special way by manipulating overlays. Only read this document if you are familiar with PDF document inclusion and overlays.

There are several commands to include pages of a typeset document (in PDF format) into another document, for instance `\slice pages`, `\insert pages`, `\filter pages`, `\copy pages` and `\combine pages`. Especially the first command can be set up to reconstruct documents. The following setup was used to typeset TugBoat 21/4 which was a kind of facsimile of Hàn Thế Thành's thesis.

```
\starttext

% Tugboat is typeset in 10 points Computer Modern Roman in (more
% or less) letter format.

\setupbodyfont
  [10pt]

\setuppapersize
  [letter]
  [letter]

% The basine of the header line should be at 4pc from the top. For
% consistency we place the top of the footer line at 4pc from the
% bottom. Normally a tugboat does not have a footerline.

\setuplayout
  [topspace=0cm,
  header=\dimexpr(4pc+\dp\strutbox),
  headerdistance=1pc,
  bottomspace=0cm,
  footer=4pc,
  backspace=1in,
  width=middle,
  height=middle]

% We force the header and footer lines in a certain
% direction.

\setupheader[before=\vfill]
\setupfooter[after=\vfill]

% We use a doublesided layout, and do ou rown pagenumer placement.

\setuppagenumbering
  [alternative=doublesided,
  location=]
```

```

% There is the normal tugboat header ...

\setupheadertexts
  [TUGBoat, Volume 21 (2000), No. 4][pagenumber]
  [pagenumber][TUGBoat, Volume 21 (2000), No. 4]

% ... and a special footer.

\setupfootertexts
  [Micro-typographic extensions to the \TeX\ typesetting system]
  [\ifcase\slicedpagenumber\else\slicedpagenumber\fi]
  [\ifcase\slicedpagenumber\else\slicedpagenumber\fi]
  [Micro-typographic extensions to the \TeX\ typesetting system]

% Here starts the real thing. First the cover page:

\startstandardmakeup

  \centeredbox{Cover with graphic}

\stopstandardmakeup

% Next comes Barbara's introduction. We set the pagenumber to the
% one following issue 3.

\setuppagenumber[number=315]

\title{Defeating the Lion}

\startcolumns
  \dorecurse {149} {Barbara's introduction }
\stopcolumns

% We need to make sure that the thesis starts at a right page.

\page [right]

% Here comes the thesis.

\slicepages
  [xthesis.pdf]
  [n=0,                % triggers full page clipping
   voffset=1in,       % probably thanks origin
   height=23.55cm,    % a compromise for page 46

```

```
width=22cm,                % wide margins
offset=\dimexpr(-1in- 2pt)] % experimental value
[offset=\dimexpr(-1in+19pt)] % experimental value
```

```
\stoptext
```

The main command in this setup is `\slicepages`, a command that takes two or three arguments. Here we needed to specify a slightly different clipping area for left and right hand pages.

For quick and dirty jobs, this method is not that comfortable because it needs some experimenting and measuring. Nevertheless, when Tobias Burnus posted the following question to the `CONTEX`T mailing list, my first thoughts went to `\slicepages`.

I have a A5 document (as PDF file) which should be `nx=2,ny=1` placed on a landscape A4 paper.

The problem is that I want to have more whitespace on the left side for stapling/punching which can easiest be done by letting the included pages overlap. I tried `distance=-4cm` but it didn't work as expected.

Desired result:

```
+---+-----+-----+
| | first a5 . | second a5 |
| |           . |         |
| |           . |         |
| |           . |         |
+---+-----+-----+
|           ^^^ - included pages overlap
| extra wide margin
```

Since he tried to solve this with `\combinepages`, I decided to give that one a try.

First we make a small test file:

```
\setuplayout
[width=middle,height=middle,
header=0pt,footer=0pt]

\setupbackgrounds
[page]
[background=color,
backgroundcolor=gray]
```

```

\setupcolors
  [state=start]

\starttext

\definedfont[cmvtt10]

\dorecurse{100}{\input bryson (Bill Bryson)\blank}

\stoptext

```

It's often best to solve this kind of problems stepwise:

```

\setuppapersize
  [A4,landscape]
  [A4,landscape]

\setuplayout
  [height=middle,width=middle,
  header=0pt,footer=0pt]

\starttext

\combinepages
  [mag-0004-000.pdf]
  [nx=2,ny=1,
  background=verydirtytrick,
  frame=on]

\stoptext

```

This leads to figure 1. We need to shift this assemble to the right, so let's tune the layout a bit.

```

\setuppapersize
  [A4,landscape]
  [A4,landscape]

\setuplayout
  [height=middle,width=middle,
  header=0pt,footer=0pt,
  topspace=1cm,
  cutspace=1cm,backspace=3cm]

\starttext

```



```
\combinepages
[mag-0004-000.pdf]
[nx=2,ny=1,
background=verydirtytrick,
frame=on]
```

```
\stoptext
```

Figure ?? is still not what Tobias wants. Now, how do we shift the left (odd) pages to the right while `\combinepages` has no key for that?

The trick is in abusing the background handler (aka overlays). Many commands provide this option, and backgrounds are specified as:

```
..., background=whatever, ...
..., background={color,whatever}, ...
..., background={whatever,whoknows}, ...
..., background={whatever,foreground,whoknows}, ...
```

Here `foreground` is a special kind of overlay, being the content that gets the background. Normally we only use this overlay when we want to move the foreground to the back (i.e. put something else on top of it). The content itself is flushed with the command `\foregroundbox` and once flushed, it will not be used again.

```
\setuppapersize
[A4,landscape]
[A4,landscape]

\setuplayout
[height=middle,width=middle,
header=0pt,footer=0pt,
topspace=1cm,
cutspace=1cm,backspace=3cm]

\newcounter\DirtyTrickCounter

\startsetups[verydirtytrick]

\doglobal\increment\DirtyTrickCounter

\ifodd\DirtyTrickCounter
\hbox to \overlaywidth{\hskip1cm\foregroundbox}
\fi

\stopsetups
```

```
\defineoverlay
  [verydirtytrick]
  [\setups{verydirtytrick}]

\starttext

\combinepages
  [mag-0004-000.pdf]
  [nx=2,ny=1,
   background=verydirtytrick,
   frame=on]

\stoptext
```

So, we define a background layer, and for each odd page we flush the foregroundbox and shift it to the right. For even pages, we leave the foregroundbox untouched and as a result it will be flushed in the normal way.

source code of this document

```
\usemodule[mag-01,abr-02] % \setuplayout[grid=yes] \showgrid
```

```
\setvariables
```

```
[magazine]
[title={Manipulating the foreground},
author=Hans Hagen,
affiliation=PRAGMA ADE,
date=November 2003,
number=4]
```

```
\startbuffer[abstract]
```

This issue describes a way to collapse an existing document in a rather special way by manipulating overlays. Only read this document if you are familiar with `\PDF` document inclusion and overlays.

```
\stopbuffer
```

```
\starttext \setups [titlepage] \setups [title]
```

There are several commands to include pages of a typeset document (in `\PDF` format) into another document, for instance `\type {\slicepages}`, `\type {\insertpages}`, `\type {\filterpages}`, `\type {\coppypages}` and `\type {\combinepages}`. Especially the first command can be set up to reconstruct documents. The following setup was used to typeset TugBoat 21/4 which was a kind of facsimile of `\THANH`'s thesis.

```
\starttyping
```

```
\starttext
```

```
% Tugboat is typeset in 10 points Computer Modern Roman in (more
% or less) letter format.
```

```
\setupbodyfont
```

```
[10pt]
```

```
\setuppapersize
```

```
[letter]
```

```
[letter]
```

```
% The basine of the header line should be at 4pc from the top. For
% consistency we place the top of the footer line at 4pc from the
% bottom. Normally a tugboat does not have a footerline.
```

source code of this document

```

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  [topspace=0cm,
   header=\dimexpr(4pc+\dp\strutbox),
   headerdistance=1pc,
   bottomspace=0cm,
   footer=4pc,
   backspace=1in,
   width=middle,
   height=middle]

% We force the header and footer lines in a certain
% direction.

\setupheader[before=\vfill]
\setupfooter[after=\vfill]

% We use a doublesided layout, and do our own pagenummer placement.

\setuppagenumbering
  [alternative=doublesided,
   location=]

% There is the normal tugboat header ...

\setupheadertexts
  [TUGBoat, Volume 21 (2000), No. 4][pagenumber]
  [pagenumber][TUGBoat, Volume 21 (2000), No. 4]

% ... and a special footer.

\setupfootertexts
  [Micro-typographic extensions to the \TeX\ typesetting system]
  [\ifcase\slicedpagenumber\else\slicedpagenumber\fi]
  [\ifcase\slicedpagenumber\else\slicedpagenumber\fi]
  [Micro-typographic extensions to the \TeX\ typesetting system]

% Here starts the real thing. First the cover page:

\startstandardmakeup

  \centeredbox{Cover with graphic}

\stopstandardmakeup

```

source code of this document

```
% Next comes Barbara's introduction. We set the pagenumber to the
% one following issue 3.
```

```
\setuppagenumber[number=315]
```

```
\title{Defeating the Lion}
```

```
\startcolumns
```

```
\dorecurse {149} {Barbara's introduction }
```

```
\stopcolumns
```

```
% We need to make sure that the thesis starts at a right page.
```

```
\page [right]
```

```
% Here comes the thesis.
```

```
\slicepages
```

```
[xthesis.pdf]
```

```
[n=0, % triggers full page clipping
```

```
voffset=1in, % probably thanks origin
```

```
height=23.55cm, % a compromise for page 46
```

```
width=22cm, % wide margins
```

```
offset=\dimexpr(-1in- 2pt)] % experimental value
```

```
[offset=\dimexpr(-1in+19pt)] % experimental value
```

```
\stoptext
```

```
\stoptyping
```

The main command in this setup is `\type {\slicepages}`, a command that takes two or three arguments. Here we needed to specify a slightly different clipping area for left and right hand pages.

For quick and dirty jobs, this method is not that comfortable because it needs some experimenting and measuring. Nevertheless, when Tobias Burnus posted the following question to the `\CONTEXT\` mailing list, my first thoughts went to `\type {\slicepages}`.

```
\starttyping
```

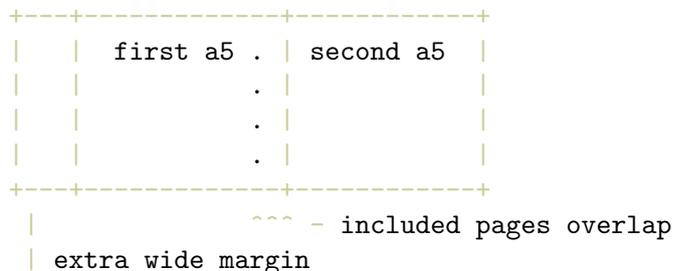
I have a A5 document (as PDF file) which should be `nx=2,ny=1` placed on a landscape A4 paper.

The problem is that I want to have more whitespace on the left side for stapling/punching which can easiest be done by letting the

source code of this document

included pages overlap. I tried `distance=-4cm` but it didn't work as expected.

Desired result:



`\stotyping`

Since he tried to solve this with `\type {\combinepages}`, I decided to give that one a try.

First we make a small test file:

`\typefile{mag-0004-000.tex}`

It's often best to solve this kind of problems stepwise:

`\typefile{mag-0004-001.tex}`

`\startpostponing`

`\placefigure`

`[here] [fig:step 1] {Step 1}`
`{\externalfigure[mag-0004-001.pdf] [frame=on,width=\textwidth]}`

`\placefigure`

`[here] [fig:step 1] {Step 2}`
`{\externalfigure[mag-0004-002.pdf] [frame=on,width=\textwidth]}`

`\stoppostponing`

This leads to `\in {figure} [fig:step 1]`. We need to shift this assemble to the right, so let's tune the layout a bit.

`\typefile{mag-0004-002.tex}`

source code of this document

```
\in {Figure} [fig:step 2] is still not what Tobias wants. Now, how
do we shift the left (odd) pages to the right while \type
{\combinepages} has no key for that?
```

The trick is in abusing the background handler (aka overlays). Many commands provide this option, and backgrounds are specified as:

```
\starttyping
..., background=whatever, ...
..., background={color,whatever}, ...
..., background={whatever,whoknows}, ...
..., background={whatever,foreground,whoknows}, ...
\stoptyping
```

Here `\type {foreground}` is a special kind of overlay, being the content that gets the background. Normally we only use this overlay when we want to move the foreground to the back (i.e. put something else on top of it). The content itself is flushed with the command `\type {\foregroundbox}` and once flushed, it will not be used again.

```
\typefile{mag-0004-003.tex}
```

So, we define a background layer, and for each odd page we flush the foregroundbox and shift it to the right. For even pages, we leave the foregroundbox untouched and as a result it will be flushed in the normal way.

```
\setups [listing] \setups [lastpage] \stoptext
```

the 1990s, the number of people in the UK who are employed in the public sector has increased from 10.5 million to 12.5 million (12.5% of the population).

There are a number of reasons for this increase. One is that the public sector has become a more important part of the economy. Another is that the public sector has become more efficient. A third is that the public sector has become more attractive to workers. A fourth is that the public sector has become more diverse.

The public sector has become a more important part of the economy. In the 1990s, the public sector accounted for 12.5% of the UK's GDP, up from 10.5% in the 1980s.

The public sector has become more efficient. In the 1990s, the public sector's productivity grew at an average rate of 2.5% per year, up from 1.5% in the 1980s.

The public sector has become more attractive to workers. In the 1990s, the public sector's share of total UK employment grew from 10.5% to 12.5%.

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