ConTEXt basics for users: Paper setup

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1 Basic setup

1.1 Setting paper size

Plain TEX and LATEX were primarily developed in the US. So, they default to letter paper, which is the standard paper size in the US. ConTEXt was developed in the Netherlands. So, it defaults to A4 paper, which is the standard paper size in Europe (and almost everywhere else in the world).

Changing the paper size is easy; for letter size:[1]

```
\setuppapersize[letter]
```

Similarly, to get A4 paper, use:

```
\setuppapersize[A4]
```

1.2 Predefined paper sizes

Both `A4` and `letter` are predefined paper sizes. ConTEXt predefines many other commonly used paper sizes. These include:

- `letter`, `ledger`, `tabloid`, `legal`, `folio`, and `executive` sizes from the North American paper standard;
- sizes `A0`–`A10`, `B0`–`B10`, and `C0`–`C10` from the A, B, and C series of the ISO-216 standard;
- sizes `RA0`–`RA4` and `SRA0`–`SRA4` from the RA and SRA series of the ISO-217 paper standard;
- sizes `C6/C5`, `DL`, and `E4` from the ISO-269 standard envelope sizes;
- `envelope 9`–`envelope 14` sizes from the American postal standard;
- sizes `G5` and `E5` from the Swedish SIS-014711 standard. These are used for Swedish theses;
- size `CD` for CD covers;
- size `S3`–`S6`, `S8`, `SM`, and `SW` for screen sizes. These sizes are useful for presentations. `S3`–`S6` and `S8` have an aspect ratio of 4 : 3. `S3` is 300pt wide, `S4` is 400pt wide, and so on. `S6` is almost as wide as a `A4` paper. `SM` and `SW` are for medium and wide screens; they have the same height as `S6`;
- a few more paper sizes, which I will not mention here. See `page-lay.mki(i|v)` for details.

1.3 Defining new paper sizes

The predefined paper sizes in ConTEXt cannot fit all needs. To define a new paper size, use

```
\definepapersize[exotic]
                [width=50mm, height=100mm]
```

which defines a paper that is 50mm wide and 100mm high; the name of this paper is *exotic* (we could have used any other word). All predefined paper sizes are defined using `\definepapersize`. For example, `A4` paper is defined as:

```
\definepapersize [A4] [width=210mm,height=297mm]
```

Use this new paper size like any of the predefined paper sizes. For example, to set the paper size to 50mm x 100mm paper, use

```
\setuppapersize[exotic]
```

1.4 Orientation

Most of the popular paper sizes default to a portrait orientation. To get landscape orientation, use

```
\setuppapersize[letter,landscape]
```

2 Changing paper setup mid-document

Normally, the paper size is set up once — in the environment file — and doesn't need to be changed later. But, occasionally, changing paper size mid-document is needed; for example, to insert a table or a figure in landscape mode. There are two ways to change the paper size mid-document. To illustrate those, let us first define two paper sizes for convenience:

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

One way to change the document size mid-document is simply to call `\setuppapersize`.

```
\starttext
 % ...
 % text with main paper size
 % ...
\page \setuppapersize[extra]
 % ...
 % pages in landscape mode
 % ...
\page \setuppapersize[main]
 % ...
 % back to main paper size
 % ...
\stoptext
```

The `\page` before `\setuppapersize` is necessary as `\setuppapersize` changes the size of the current page.

[1] The syntax used here only works with ConTEXt versions newer than February 2011. Before that, you had to use

```
\setuppapersize[letter][letter]
```

to get letter sized paper. You may wonder why we need to repeat the paper size twice. In most cases, these are the same. You only need to use different arguments if you want to print on a bigger paper and trim it later (see the section on print size for details).

Often times, a different paper size is needed only for one page. Rather than manually switching the paper size back and forth using `\setuppapersize`, a convenient alternative is to use `\adaptpapersize`, which automatically reverts back to the existing paper size after *one* page. For example:

```
\setuppapersize[main]
\starttext
Page 1. Portrait \page
Page 2. Portrait \page
\adaptpapersize[extra]
Page 3. Landscape \page
Page 4. Portrait
\stoptext
```

As with `\setuppapersize`, always use an explicit `\page` before `\adaptpapersize`.

Successfully printing a document with such mixed paper sizes requires setting appropriate options in the document viewer and/or printer controller.

3 Setting print size

Occasionally you may want to print on a larger paper than the actual page size. This could be because you want to print to the edge of the page — so you print on large paper and crop later — or because the page size that you are using is not standard.

For example, suppose you want to print an `A5` page on a `A4` paper (and crop later). For that, you need to specify that the paper size is `A5` but the *print paper* size is `A4`. This information is specified with the two-argument version of `\setuppapersize`:

```
\setuppapersize[A5][A4]
```

3.1 Changing page location

By default, this places the `A5` page on the top left corner of the `A4` paper. To place the `A5` page in the middle of the `A4` paper use:

```
\setuppapersize[A5][A4]
\setuplayout[location={middle,middle}]
```

Other possible values for `location` are:

- `{top,left}`, `{top,middle}`, `{top,right}`,
- `{middle,right}`, `{middle,left}`,
- `{bottom,left}`, `{bottom,middle}`, and `{bottom,right}`.

Since `{middle, middle}` is the most commonly used value, it has a shortcut: `location=middle`.

If you use `{*,left}` or `{*,right}` and print double-sided, then also add `duplex` as an option; for example `location={duplex,top,left}`. This ensures that the page paper is moved appropriately on even pages.

3.2 Crop marks

To get crop marks (also called cut marks):

```
\setuplayout[marking=on]
```

By default, the page numbers are also included with the crop marks. To get additional information like job name, current date and time along with the crop marks, use

```
\setuplayout[marking=text]
```

If you want just the crop marks, and no other text, use

```
\setuplayout[marking=empty]
```

3.3 Defining page and print size combinations

It is convenient to define paper-size/print-paper-size combination for later reuse. These are also defined using `\definepapersize`. For example, suppose you want to define two paper-size/print-paper-size combinations: `A4` paper on `A4` print paper for normal work flow, and `A4` paper on `A3` print paper for the final proofs. For that, use the following:

```
\definepapersize[regular][A4][A4]
\definepapersize[proof]  [A4][A3]
```

You can then combine these paper sizes with modes:[2]

```
\setuppapersize[regular]
\doifmode{proof}{\setuppapersize[proof]}
```

Then, when you compile the document in the normal manner, you will get `A4` paper on `A4` print paper; if you compile the document with `-mode=proof`, then you will get a `A4` paper on `A3` print paper.

4 Conclusion

Paper setup is one of the most basic requirements for creating your own style. In this article, I explained the basics of paper setup, deliberately leaving out more advanced setups that are described in the *Page Design* chapter[3] of the new ConTEXt manual.

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[2] See the previous article on *Conditional Processing* in this series, a slightly modified version of which is available on the ConTEXt wiki: `http://contextgarden.net/Modes`

[3] `http://context.aanhet.net/svn/contextman/context-reference/en/co-pagedesign.pdf`