PrintCSS
The missing parts.
The bad parts.

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ANDREAS JUNG

▸ background in electronic publishing since 1995

▸ freelancer and independent consultant since 2004

  ▸ large scale content management based on Plone CMS

  ▸ individual Python software development

  ▸ electronic publishing solutions

▸ founder of print-css.rocks project (2016?)

print-css.
rocks

▸ vendor-neutral information about "PrintCSS"

▸ information about tools

▸ tested tools:

  ▸ PrinceXML

  ▸ Antennahouse

  ▸ PDFreactor

  ▸ WeasyPrint

▸ tutorial and lessons

▸ "PrintCSS" related resources

LESSONS

Lessons

INTRO

Lesson	PDFreactor	PrinceXML	Antennahouse	Weasyprint
basic This section will show some basic CSS formatting features like bold or italic text and text in different font-sizes.	OK	OK	OK	UNTESTED
fonts The example shows the basic usage of arbitrary truetype or opentype fonts using @font-face in CSS.	OK	OK	OK	UNTESTED
images This example shows bitmap images and SVG graphics in original size and scaled down together with some CSS transformations. Some converters like PDFreactor and Antennahouse also support PDF as image format.	OK	OK	OK	UNTESTED

CONVERTER RESULTS

PDF files

Converter	Status	PDF Preview
PDFreactor 📄	OK	
PrinceXML 📄	OK	
Antennahouse 📄	OK	
Weasyprint 📄	UNTESTED	

HTML INPUT

HTML input

```
1.  <html>
2.      <head>
3.          <meta charset="utf8"/>
4.          <title>Sample</title>
5.          <link rel="stylesheet" type="text/css" href="styles.css" />
6.      </head>
7.      <body>
8.          <p id="block1">
9.              This is some sample text :-) üöäÜÖÄ
10.         </p>
11.         <p id="block2">
12.             This is some sample text :-) üöäÜÖÄ
13.         </p>
14.         <p id="block3">
15.             This is some sample text :-) üöäÜÖÄ
16.         </p>
17.     </body>
18. </html>
```

CSS INPUT

Stylesheet

```css
1.  @font-face {
2.      font-family: Font1;
3.      src: url(Chunkfive.otf);
4.  }
5.
6.  @font-face {
7.      font-family: Font2;
8.      src: url(AlexBrush-Regular.ttf);
9.  }
10.
11. @font-face {
12.     font-family: Font3;
13.     src: url(Forum-Regular.ttf);
14. }
15.
16.
17. #block1 {
18.     font-family: Font1;
19.     font-size: 36pt;
20.     color: red;
21. }
22.
23. #block2 {
24.     font-family: Font2;
25.     font-size: 36pt;
26.     color: blue;
27. }
28.
29. #block3 {
30.     font-family: Font3;
31.     font-size: 36pt;
32.     color: orange;
33. }
```

THE "STANDARD" (1/2)

▸ Draft: CSS Paged Media Module Level 3 (2018)

▸ Draft: CSS Generated Content for Paged Media Module (2014)

▸ various CSS Level 2-4 drafts and standards

▸ status of some drafts unclear
(unmaintained, work-in-progress, discontinued?)

▸ many vendor specific extensions
(development usually driven by customer needs)

▸ limited cross-platform compatibility and interoperability

THE "STANDARD" (2/2)

▶ conflicting implementations

▶ conflicting interpretations of the "standard"

▶ missing test suites

▶ adaptation of new CSS standards

  ▶ browsers: fast

  ▶ PrintCSS tool: slow

THE INCOMPLETE PARTS

- 🚫 table splits: repeated captions, page breaks within row spans.

- 🚫 deficiencies with page areas and running elements

- 🚫 floating of block elements is weak and incomplete (many vendor extensions)

- 🚫 image positioning, image floating and adaptive scaling (*CSS Figures, Håkon Wium Lie)*

- 🚫 Javascript support missing or only partly implemented

- 🚫 multi-column layouts (CSS Multi-column Layout Module Level 1)

- 🚫 consistent flex box and grid support

THE MISSING PARTS

- 🚫 CSS 3 Exclusions

- 🚫 Floating of whole-page block elements to named pages

- 🚫 Standard for hyphenation dictionaries and exceptions

- 🚫 Auto-sizing of text (general: blocks) to fit into container

- 🚫 Sidenotes are a huge mess
  (positioning, floating, multi column environments)

- 🚫 consistent rendering behavior

- 🚫 Tests, tests, tests

DEVELOPER EXPERIENCE WITH PRINTCSS

▸ 🚫 no professional development tools

▸ 🚫 rendering process is a blackbox process

▸ 🚫 no/few tracing/introspection options
    on the rendering process

▸ 🚫 lengthy trial-and-error development

▸ 🚫 no influence on the rendering process besides CSS

THE ECOSYSTEM

‣ CSS Paged Media tools:

  ‣ few commercial tools

  ‣ even fewer non-commercial, free tools

  ‣ limited options

‣ in-depth evaluation needed for advanced projects

‣ at one point you need to decide and pick one tool

#sigh