Package `hvqrurl`
Creating a QR-code of an URL in the margin
ver 0.01a

Herbert Voß[*]

December 1, 2019

This package allows to draw an URL as a QR code into the margin of a one- or twosided document. The following packages are loaded by default: `qrcode`, `marginnote`, `url`, `xcolor`, and `xkeyval`.

1 The macros

```
\hvqrset{key=value, …}
\hvqrurl [key=value, …] {URL}
\hvqrurl* [key=value, …] {URL}
```

With the default macro `\hvqrurl` the URL is printed as as QR code into the margin and in the the text as usual with the macro `\url`, for example https://mirror.ctan.org/pkg/hvqrurl. With `hyperref` you'll get the the same color for the QR code as for the URL link and, of course, is also a link. This example shows the default setting for a QR code.

With `\hvqrset` one can set the optional arguments globally. For example if one do not want all QR codes not as a link when using `hyperref`:

```
\hvqrset{qrlink=nolink}
```

2 Optional arguments

2.1 No link with `hyperref`

```
With \Lkeyset{qrlink=nolink} the QR code is no link: \hvqrurl[qrlink=nolink]{https://mirror.ctan.
    org/pkg/hvqrurl}.
The default setting is \Lkeyset{qrlink=link}.
```

[*]hvoss@tug.org

With `qrlink=nolink` the QR code is no link: https://mirror.ctan.org/pkg/hvqrurl. The default setting is `qrlink=link` . Without using `hyperref` this optional argument has no meaning.

2.2 Color of the QR code

Without using `hyperref` the default color is `black`. It can be changed by the optional argument `qrcolor`. The package `xcolor` is loaded by default, the reason why an extended color definition is possible. For this example we used

```
The package \LPack{xcolor}\hvqrurl*[qrcolor=red!40!white]{http://mirror.ctan.org/pkg/xcolor}
 is loaded by default, ...
```

2.3 Vertical position of the QR code

By default the baseline of the QR code is nearly at the same height as the baseline of the textline. However, when changing the size of the QR code it may be nessesary to move up or down the QR code. The default value of `qradjust` is `-1.5\normalbaselineskip`. Setting the value to `0pt` the QR code is moved down which is the default setting without a vertical adjustment.

```
The default value of \Lkeyword{qradjust} is \verb|-1.5\normalbaselineskip|. Setting the value
to 0pt the QR code \hvqrurl*[qradjust=0pt]{http://ctan.org/} is moved down which is the default
setting without a vertical adjustment.
```

2.4 Size of the QR code

By default the QR code is a square with height and width of 1cm. it can be changed by setting `qrheight` to another value, for example to 2cm: This is an exetremely long url where it may make sense to use a larger QR code.

```
it can be changed by setting \Lkeyword{qrheight} to another value, for example to 2cm:
\hvqrurl*[qrheight=2cm]{https://identity.fu-berlin.de/idp-fub/profile/SAML2/Redirect/SSO;
    jsessionid=71C984647E3B8F2E716CA067CB13387E?execution=e1s1}
This is an exetremely long url where it may make sense to use a larger QR code.
```

2.5 QR code level

The QR code specification includes four levels of encoding: Low (L) (https://www.tug.org/), Medium (M), Quality (Q), and High (H) (https://www.tug.org/), in increasing order of error-correction capability. In general, for a given text a higher error-correction level requires more bits of information in the QR code.

```
The QR code specification includes four levels of encoding:
Low (L) (\hvqrurl{https://www.tug.org/}), Medium (M), Quality (Q),
and High (H) (\hvqrurl[qradjust=0pt,qrlevel=H]{https://www.tug.org/}),
in increasing order of error-correction capability.
```

The first QR code has the default level `M` and the last one the level `H`. In general the user has not to set this keyword it will be controlled internally by the package.

3 The Package Source

```
1   %% $Id: hvqrurl.sty 1117 2019-11-28 20:54:41Z herbert $
2   %%
3   %% This file is distributed under the terms of the LaTeX Project Public
4   %% License from CTAN archives in directory  macros/latex/base/lppl.txt.
5   %% Either version 1.3 or, at your option, any later version.
6   %%
7   % Copyright 2019 Herbert Voss hvoss@tug.org
8   %%
9   \ProvidesPackage{hvqrurl}[%
10    2019/12/01 v.0.01a (Herbert Voss) Supports qr images into the margin (hv)]
11  %
12  \NeedsTeXFormat{LaTeX2e}
13  \RequirePackage{url}
14  \RequirePackage{xcolor}
15  \RequirePackage{marginnote}
16  \RequirePackage{qrcode}
17  \RequirePackage{xkeyval}
18
19  \newlength\qr@url@qrheight
20  \newlength\qr@url@qradjust
21
22  \define@key{hvqr}{qrheight}[1cm]{\setlength\qr@url@qrheight{#1}}
23  \define@key{hvqr}{qradjust}[-1.5\normalbaselineskip]{\setlength\qr@url@qradjust{#1}}
24  \define@key{hvqr}{qrcolor}[black]{\colorlet{qr@url@qrcolor}{#1}}
25  \define@key{hvqr}{qrlevel}[M]{\def\qr@url@qrlevel{#1}}
26  \define@key{hvqr}{qrlink}[link]{\def\qr@url@qrlink{#1}}
27
28  \setkeys{hvqr}{qrheight,qrcolor=black,qradjust,qrlevel,qrlink=link}% the default setting
29
30  \newcommand*\hvqrset[1]{\setkeys{hvqr}{#1}}
31
32  \def\hvqrurl{\@ifnextchar*{\@tempswafalse\hvqr@url}{\@tempswatrue\hvqr@@url}}
33  \def\hvqr@url*{\hvqr@@url}
34
35  \newcommand*\hvqr@@url[2][]{%
36    \begingroup
37    \providecommand*\qr@blank{0}%
38    \ifx\relax#1\relax \else\hvqrset{#1}\fi
39    \expandafter\qrset\expandafter{\qr@url@qrlink,height=\qr@url@qrheight,level=\qr@url@qrlevel}%
40    \if@tempswa\url{#2}\fi
41    \edef\reserved@a{\noexpand\marginnote{\noexpand\color{qr@url@qrcolor}\noexpand\qrcode{%
42      \detokenize\expandafter{#2}}}[\qr@url@qradjust]}%
43    \reserved@a
44    \endgroup
45  }
46
47  \endinput
```