

The dndicons package

A set of high-quality icons for use in notes for tabletop role-playing games

Jasper Habicht *

Version 1.8.2, released on 28 April 2024

1 Introduction

The dndicons package provides a set of high-quality icons for use in notes for tabletop role-playing games. The icons are meant to be used in the body text, but they can also be used in other contexts such as graphics or diagrams.

The package comes in two variants, a L3 variant based on the l3draw package which is loaded per default and a PGF veriant based on PGF/TikZ.

2 Loading the package

To install the package, copy the relevant package files dndicons.sty, dndicons-l3.sty and dndicons-pgf.sty into the working directory or into the texmf directory. After the package has been installted, the dndicons package is loaded by calling \usepackage{dndicons} in the preamble of the document.

13

The L3 variant of the package is loaded by default. To load it explicitly, the package can be loaded using the option 13. Alternatively, \usepackage{dndicons-13} can be called instead.

pgf

To load the PGF variant of the package the package needs to be loaded with the option pgf. Alternatively, \usepackage{dndicons-pgf} can be called instead.

^{*} E-mail: mail@jasperhabicht.de

2.1 Dependencies

The L3 variant of the package loads the l3draw package. If the package is loaded with the opacity option to enable transparency, the l3opacity package is also loaded.

The PGF variant of the package loads the tikz package which in turn loads the xcolor package. To make use of specific options these packages provide, you need to load the packages with the relevant options beforehand or use, such as \PassOptionsToPackage{svgnames}{xcolor}.

3 Main user commands

Regardless of the variant of the package, a set of user commands is always available. These are described in the following. Depending on the use of the L3 or the PGF veriant, certain specific commands or options are available that are explained in the following sections in further detail.

Because of the way the package defines the icons, every of the below described user commands can actually be used together with every shape. However, the combinations of shapes and commands as described in the following subsections are preferable.

3.1 Command \die

```
\die[<style>]{<shape>}[<options>]{<integer>}
```

The command \die prints an icon to depict a die with a certain number of sides. Two special icons exist for a two-sided die (which would be equivalent to a coin) and for a hundred-sided die (which typically comes in the shape of a sphere). There is also a special icon for a fudge die.

For the six-sided die, nine additional shapes exists representing the values one to nine as pips. Also, additional shapes exist representing the plus or minus side of a fudge die.

The command takes two mandatory commands, the first of which describes the shape (see the lists below) and the second can take an integer that is placed in front of the shape. For example, \die{eightside}{2} results in 2 \(\Q \) (meaning two eight-sided dice are rolled).

The command also takes two optional arguments, the second of which can take additional options to style the icon. The options affect the shape, not the integer when it is printed before the icon. These options differ depending on the package variant. See the relevant sections below.

The first optional argument can take the value normal or large, normal being the default value. With large given as argument, the icon is drawn larger and the additional integer is printed inside of the shape instead of before it. As an example, \die[large]{eightside}{2} results in

Note that the integer will always be printed on top of the shape, even if the shape does not have an open center as in the case of the fudge shapes or the shapes featuring pips.

Command	Icon	Shape
\die	0	twoside
	\triangle	fourside
		sixside
	\Diamond	eightside
	\Diamond	tenside
		twelveside
	\bigotimes	twentyside
	\bigcirc	hundredside
	<u>±</u>	fudge
	•	sixside one
	•.	sixside two
	٠.	sixside three
		sixside four

Command	Icon	Shape
	::	sixside five
	::	sixside six
	:::	sixside seven
	:::	sixside eight
	:::	sixside nine
	+	fudge plus
	_	fudge minus

3.2 Commands \ability and \saving

```
\ability[<style>]{<shape>}[<options>]
```

The command \ability prints icons depicting an ability of a character. The abilities are represented by animal-like shapes. The relevant shape should be given as mandatory argument to the command. The second optional argument can take additional options to style the icon.

The first optional argument can take the value positive or negative, positive being the default value. With negative given as argument, the icon is drawn negative inside a circle. As an example, \ability[negative]{charisma} results in .

```
\saving[<style>]{<shape>}[<options>]
```

The command \saving prints the icons that can be typeset using the \ability command inside a small shield. It can take the same values for the mandatory argument as the \ability command. The optional argument can take additional options to style the icon.

The first optional argument can take the value normal or empty, normal being the default value. With empty given as argument, the icon inside the shield is not printed. In this case, the mandatory argument can be left empty. As an example, \saving[empty]{} results in \subseteq.

Command	Icon	Shape
\ability	Ţĵ	strength
	\$	dexterity
	₩	dexterity alt
		constitution
	₹	intelligence
	ক্	wisdom
		charisma
	₩	resilience
	()	sanity
	**	perception
		luck
	世	armor
	¾	proficiency
\saving	\$\tag{\text{\$\pi\}}	strength
		dexterity
		dexterity alt
	a	constitution
	(F)	intelligence
	®	wisdom
		charisma

Command	Icon	Shape
	P	resilience
	(P)	sanity
	***	perception
		luck
	W	armor
	*	proficiency

3.3 Command \spell

```
\spell{<shape>}[<options>]
```

The command \spell prints icons depicting the effect of a spell or how it is to be effected. The optional argument can take additional options to style the icon.

Command	Icon	Shape
\spell	-	linear
	\triangleleft	conic
	•	quadratic
		cubic
		spheric
	\odot	cylindric
	\supset	verbal
	9	somatic
	\Diamond	material
	\oplus	focus

3.4 Command \spellschool

The command \spellschool prints icons that represent the school a spell belongs to. The second optional argument can take additional options to style the icon.

The first optional argument can take the value negative or positive, negative being the default value. Per default the icon is drawn in white inside a filled escutcheon. With positive given as argument, the icon as well as the escutcheon are drawn in the currently selected color. As an example, \spellschool[positive]{evocation} results in :

Command	Icon	Shape
\spellschool		abjuration conjuration divination enchantment evocation illusion necromancy transmutation

3.5 Commands \damage, \attack, and \condition

```
\damage{<shape>}[<options>]
```

The command \damage prints icons depicting the damage of an attack. The icon is printed inside a circle. The optional argument can take additional options to style the icon.

```
\attack{<shape>}[<options>]
```

The command \attack prints icons depicting the kind of an attack. The optional argument can take additional options to style the icon.

```
\condition{<shape>}[<options>]
```

The command \condition prints icons depicting a condition of a character. The optional argument can take additional options to style the icon.

Command	Icon	Shape
\damage	(a)	acid
		bludgeoning
	*	cold
	(a)	fire
	*	force
	(9)	lightning
	(1)	necrotic
		piercing
	@	poison
	6	psychic
	<u>©</u>	radiant
	®	slashing
	©	thunder
		healing
\attack	*	melee
	\Rightarrow	ranged
	هٔ	magic
	(Y)	singlehanded
	[E]	doublehanded
condition	Ø	buff
	Ø	blinded
	8	charmed
	I	deafened
	8	exhausted
		frightened
	章	grappled
	•	incapacitated
	0	invisible
	**	paralyzed
		petrified
		poisoned
	⊃°	prone
	<u>M</u>	restrained

Command	Icon	Shape
	**	stunned
	چې	unconscious
	9	hearing
	o	seeing

4 Specifics of the L3 package variant

The L3 variant of the package that uses the l3draw package is loaded by default or explicitly by either calling \usepackage[l3]{dndicons} or \usepackage{dndicons-l3} in the preamble of the document after having installed the files dndicons.sty and dndicons-l3.sty. The l3draw package is an experimental package that provides only basic drawing functionality. The L3 variant thus only supports a certain set of option for styling the icons.

The L3 variant of the package does not load the xcolor package, but makes use of the l3color module which uses a similar syntax like the xcolor package, but color defintions made using the l3color module are not directly usable via commands provided by the xcolor package. Therefore, setting a color using the \color macro provided by the xcolor package won't affect the color of the icons.

compat

The l3draw package is experimental and subject to ongoing updates. Loading the L3 variant of the package with the option compat will use macro definitions that have been available since the last major TeX Live release as replacement for certain functions that only became available in the most recent versions of the l3draw and related packages.

opacity

With the opacity option, the L3 variant of the package supports transparency using the functionality of the l3opacity package. Since transparency requires the management of certain PDF settings, it is necessary to call \DocumentMetadata{} before loading a \documentclass. The l3opacity package is experimental.

4.1 Icon commands

```
\DndIconsUseIcon[<options>][<integer>]{<shape>}
\DndIconsUseIcon*[<options>][<integer>]{<shape>}
```

\DndIconsUseIcon is the primary command to typeset icons using the L3 variant of the package. The commands \die , \ability , \saving , \spell , \spellschool , \damage , \attack and \condition are based on this command.

The \DndIconsUseIcon command has a starred version and two optional arguments as well as one mandatory argument. The mandatory argument holds the shape of the icon. The second optional argument can be used to add an integer when used with shapes for dice.

The starred version of the command is used to fill a frame with color instead of drawing its outline. Frames can be put around the shape via the relevant frame option.

The L3 variant of the package defines a set of commands on which the user commands \die, \ability, \saving, \spell, \spellschool, \damage, \attack and \condition are based. This set of commands can be used in cases where another package defines one of these user commands. These user commands are exact copies of this set of commands.

4.2 Icon options

```
frame
stroke
fill
text
color
background
stroke opacity
fill opacity
text opacity
text opacity
background opacity
line width
scale
scale inner
rotate
```

The \DndIconsUseIcon command and the commands \die, \ability, \saving, \spell, \spellschool, \damage, \attack and \condition can be used with certain options that each consist of a key-value pair and can be combined. When used with the \DndIconsUseIcon command or the other commands based on this command, these options should be used directly without wrapping them inside the style option.

For example, $\die{eightside}[color=blue, line width=0.8pt]{2} would result in 2 <math>\bigcirc$.

With the frame option, one of four different frames can be selected that are drawn around the shape of the icon. The values ability and damage draw a circle around the shape. The value saving draws a rounded shield and the value spellschool draws an angular shield around the shape. The commands \ability, \saving, \spellschool and \damage make use of the relevant frame.

Some icons can be used with a negative color scheme where the icon is drawn negatively inside a filled shape. Per default, the icons are drawn in white in such cases, but it might be desirable that the icons are in the same color as the background. To this end, the background option sets the color of the shape when it is printed over a filled frame which can be achieved by setting the negative option for the \ability or the \spellschool command or using the starred version of the \DndIconsUseIcon command.

The color option sets the color of strokes, fills and text in general while the stroke option, the fill option and the text option set the color only for strokes, fills or text respectively. Similarly, the opacity macro sets the opacity generally, while the options stroke opacity,

fill opacity and text opacity allow for setting the opacity of strokes, fill and text separately. The opacity styles are only available when loading the package with the opacity option (see the . The line width sets the line width for strokes. Using the scale and rotate options, the shape can be scaled and rotated.

The scale inner option can be used to change the scaling of the icon when placed inside a frame when using the \ability, \saving, \spellschool and \damage macros. The default value is 0.675.

```
accessible
accessible = basic
accessible = full
accessible = false
```

Using the accessible option with no value or the value basic, a replacement text to the relevant icon can be added which can be copied to the clipboard. The value full additionally places an \Alt mark in the PDF which means that the shape of the relevant icon is read by screen readers. For this to work, is necessary to call \DocumentMetadata{} before loading a \documentclass, preferably with tagging enabled to make use of the accessible option. The value full can be used to disable the function explicitly. Note that depending on the compiler and PDF viewer, there might be line breaks or no spaces before and after the replacement text.

```
every die
every ability
every saving
every spell
every spellschool
every damage
every attack
every condition
every <shape>
```

Styles following the pattern dnd icons/every followed by a space and the name of the command or the shape can be used to apply styles to every instance of this command or shape. For example, \dndiconsset{every die={color={red}}} can be used to draw in red all icons created using the \die command. Calling \dndiconsset{every charisma={color={red}}} will draw every instace of the charisma shape in red.

4.3 Setting options globally

\dndiconsset

Apart from setting the options to the commands directly, it is also possible to set them globally using the \dndiconsset command. Globally set options are overridden by options that are selected directly.

```
\dndiconsset{
        color=blue
}

\ability{charisma}
   \ability{charisma}[color=red]
   \ability{charisma}
```

```
before sep
after sep
baseline
```

The spacing before and after the icons can be set using the options before sep and after sep. The option baseline can be used to adjust the baseline of the icons. These options can also be applied to the icon commands directly.

```
Roll\die{eightside}{}a die!

Roll\Da die! \dndiconsset{

Roll \Da die! before sep={1cm}

}

Roll\die{eightside}{}a die!
```

4.4 Roll dice syntax

```
\roll{<roll syntax>}
\DndiconsRoll{<roll syntax>}
```

The \roll macro can be used to quickly typeset dice rolls with the relevant icons using the established dice rolling syntax. This syntax consists of a sequence of dice and numbers concatenated by mathematical operators (plus, minus or times). Typically, the letter d is used to denote a die with a certain number of sides. For example d6 denotes a six-sided die. A number can be added to specify the number of such dice that are rolled together. The letter to denote the die can be changed using the option roll syntax.

For example, 2d6 + 3d4 - 1 means "roll two six-sided dice and three four-sided dice and subtract one from the result". The command $\$ roll {2d6 + 3d4 - 1} results in 2 \square + 3 \triangle - 1.

The die notations d2, d4, d6, d8, d10, d12, d20 and d100 are defined. To denote a fudge die, dF can be used. To denote that the lowest or highest die should be removed from the result, the letters L and H can be used. The syntax 2d6 \times 2 or 2d6 \times 2 can be used to denote several rolls with the same set of dice.

If the dndicons package is to be loaded together with some other package that defines the command \roll, the command \DndiconsRoll can be used. This alternative command is an exact copy of the \roll command.

```
roll syntax
```

The option roll syntax can be used to change the character that denotes a die in the dice rolling syntax. Multiple characters can be given using a comma separated list. The default setting is d,D which allows notations such as 2d6 or 2D6.

With $\dndiconsset{roll syntax={w,W}}$, for example, notations such as 2w6 or 2W6 could be used.

5 Specifics of the PGF package variant

The PGF variant of the package is loaded by either calling \usepackage[pgf]{dndicons} or \usepackage{dndicons-pgf} in the preamble of the document after having installed the files dndicons.sty and dndicons-pgf.sty.

Since the commands to typeset the icons with the PGF variant of the package use tikzpicture environments, these commands should not be used inside another tikzpicture. However, because the package defines the icons as TikZ shapes, it is possible to use the icons in tikzpicture environments directly.

Apart from that, the PGF variant of the package provides a way to define custom commands to typeset the icons as boxed material which is safe to use in a tikzpicture context. Furthermore, the icons can be used as TikZ pics.

Once loaded, the PGF variant of the package defines a set of node shapes that can be used inside a tikzpicture environment.

```
pics
```

The PGF variant of the package provides the option pics. If the package is loaded with this option, every icon is also available as TikZ pic. On the use of pics, see section 5.6 below.

5.1 Icon commands

```
\dndiconsdie[<style>]{<shape>}[<options>]{<integer>}
\dndiconsability[<style>]{<shape>}[<options>]
\dndiconssaving[<style>]{<shape>}[<options>]
\dndiconsspell{<shape>}[<options>]
\dndiconsspellschool[<style>]{<shape>}[<options>]
\dndiconsdamage{<shape>}[<options>]
\dndiconsattack{<shape>}[<options>]
\dndiconscondition{<shape>}[<options>]
```

The PGF variant of the package defines a set of commands on which the user commands \die, \ability, \saving, \spell, \spellschool, \damage, \attack and \condition are based. This set of commands can be used in cases where another package defines one of these user commands. These user commands are exact copies of this set of commands.

5.2 Icon styles

Using the PGF variant of the package, all icons can by styled using arbitrary TikZ styles in general. As an example, \die{eightside}[blue, thick]{2} results in 2 \omega.

```
dnd icons/every die
dnd icons/every ability
dnd icons/every saving
dnd icons/every spell
dnd icons/every spellschool
dnd icons/every damage
dnd icons/every attack
dnd icons/every condition
dnd icons/every <shape>
```

Using TikZ styles, all instances of a certain command or a certain shape can be styled at once. These styles all follow the pattern dnd icons/every followed by a space and the name of the command or the shape. For example, \tikzset{dnd icons/every die/.append style={red}} can be used to draw in red all icons created using the \die command. To draw every instace of the charisma shape in red, \tikzset{dnd icons/every charisma/.append style={red}} can be used.

5.3 Setting styles lobally

```
dnd icons
```

All icons share the TikZ style dnd icons that has no options per default but can be used to style all icons at once. For example, if $\tikzset\{dnd\ icons/.append\ style=\{draw=red\}\}\$ is placed at the beginning of the document, all icons will be drawn in red. Per default, the icons are drawn in the color of the surrounding text.

Note that it may be necessary to add the TikZ option transform shape when applying transformations to the icons, because the icons are realised as TikZ nodes which are not affected by some transformations per default.

```
dnd icons/background color
```

Some icons can be used with a negative color scheme where the icon is drawn negatively inside a filled shape. Per default, the icons are drawn in white in such cases, but it might be desirable that the icons are in the same color as the background. To this end, the color can be changed using the TikZ option dnd icons/background color in the following way:

This feature can, of course, also be used to change the color of the icon independently from the color of the background.

```
dnd icons/before sep
dnd icons/after sep
dnd icons/baseline
```

The TikZ options dnd icons/before sep and dnd icons/after sep are used to define the width of the space that is added before and after the icons respectively. The default value of both lengths is 0.05 em. For example, setting the space before icons to 1 cm can be achieved as follows:

```
Roll\die{eightside}{}a die!

Roll\@a die!

Roll \@a die!

And icons/before sep={1cm}

Roll\die{eightside}{}a die!
```

The option baseline can be used to adjust the baseline of the icons. A larger value for the baseline will shift the icon downwards relative to the baseline of the surrounding text. The default value of the baseline is -3.5 pt.

5.4 Direct use of shapes

Because the icons are defined as TikZ shapes, they can directly be applied to TikZ nodes. However, the shapes don't have a shape border and no anchors except for the center anchor that sits exactly in the center of the shape. Therefore, if nodes with these shapes are connected using edges, the center anchor will be used to connect the nodes. If nodes with these shapes are being positioned, only the center anchor is available. Text content of these nodes is simply printed on top of the center of the node. Compare the following example.

5.5 Boxing of icons

Because the icons cannot simply be used inside tikzpicture environments, the PGF variant of the package provides a workaround to place icons inside of boxes for later use. Icons that are boxed this way can safely used inside tikzpicture environments. This might be necessary, if an icon should be used in inline text that sits inside a node.

```
\provideprotecteddndicon{command>}[<style>]{<shape>}[<options>]{<box name>}
```

The command \provideprotecteddndicon creates a box containing the icon that would be created using one of the regular commands this package provides.

\provideprotecteddndicon{die}[large]{eightside}[blue, thick]{mybox}, for example, stores the icon of an eight-sided die with the relevant style and TikZ options in a new box named mybox. Note that no integer can be added to the die command in this context.

Using the command \useprotecteddndicon, the previously defined box can be used to place the relevant icon. With the above definition, \useprotecteddndicon{mybox} would result in

Having created a boxed icon, it is safe to use it, for example, inside a TikZ node:

5.6 Icons as pics

If the PGF variant of the package is loaded with the option pics, every icon is also available as TikZ pic. The names of the pic always start with dnd icons followed by a space and the name of the relevant icon (see the lists above). For abilities, savings, spellschools and damages, additional pics

exists where the name has the suffixes ability, saving, spellschool, and damage respectively.

The icon is embedded as a node in the pic which has the name <code>-node</code>. Thus, it is possible to name the pic and refer to the node inside. Due to the fact that the icon is a node, the option 'transform shape' has to be used if transformations on the pic are to affect the node as well. It is easily possible to apply styles to the node using the TikZ option <code>every node</code> as shown in the following example.

```
dnd icons/create pic from shape
dnd icons/create pic from ability shape
dnd icons/create pic from saving shape
dnd icons/create pic from spellschool shape
dnd icons/create pic from damage shape
dnd icons/create every style
```

The PGF variant of the package defines five TikZ keys that are used to create pics using the relevant node shapes. Another key is defined to create keys that can be used to style all instances of a command or shape. In normal circumstances, it is not necessary to use these keys. They are mentioned here only for reference.

5.7 Roll dice syntax

```
\roll{<roll syntax>}
\dndiconsroll{<roll syntax>}
```

The \roll macro can be used to quickly typeset dice rolls with the relevant icons using the established dice rolling syntax. This syntax consists of a sequence of dice and numbers concatenated by mathematical operators (plus, minus or times). Typically, the letter d is used to denote a die with a certain number of sides. For example d6 denotes a six-sided die. A number can be added to specify the number of such dice that are rolled together. The letter to denote the die can be changed using the TikZ style dnd icons/roll syntax.

For example, 2d6 + 3d4 - 1 means "roll two six-sided dice and three four-sided dice and subtract one from the result". The command $\$ roll {2d6 + 3d4 - 1} results in 2 \square + 3 \triangle - 1.

The die notations d2, d4, d6, d8, d10, d12, d20 and d100 are defined. To denote a fudge die, dF can be used. To denote that the lowest or highest die should be removed from the result, the letters L and H can be used. The syntax 2d6 \times 2 or 2d6 \times 2 can be used to denote several rolls with the same set of dice.

If the dndicons package is to be loaded together with some other package that defines the command \roll, the command \dndiconsroll can be used. This alternative command is an exact copy of the \roll command.

dnd icons/roll syntax

The TikZ style dnd icons/roll syntax can be used to change the character that denotes a die in the dice rolling syntax. Multiple characters can be given using a comma separated list. The default setting is d,D which allows notations such as 2d6 or 2D6.

With $\tikzset{dnd icons/roll syntax={w,W}}$, for example, notations such as 2w6 or 2W6 could be used.

6 Changes

v1.1.0 (2023/08/15)

First public release.

v1.1.1 (2023/11/15)

Fudge dice icon added.

v1.1.2 (2023/11/16)

Bug fixed that caused wrong spacing when using dice icons without quantifier.

v1.2.0 (2023/11/20)

Corrections in the manual. Icons for six-sided dice with one to nine pips, plus sign and minus sign added.

v1.3.0 (2023/11/21)

Option to set background color added. Renamed global option.

v1.3.1 (2024/02/18)

Correction of initializing code. Correction of default value of after sep. Addition of pics.

v1.4.0 (2024/02/21)

L3 variant added.

v1.4.1 (2024/02/21)

Corrections in L3 variant.

v1.4.2 (2024/02/21)

Alternative set of commands in L3 variant defined.

v1.4.3 (2024/02/22)

Added option to L3 variant to enable upward compatibility.

v1.4.4 (2024/02/24)

Added styles for every instance of command or shape, correction of recent l3draw code.

v1.5.0 (2024/02/25)

Alternative set of commands defined, added support of styles in pics.

v1.5.1 (2024/02/28)

Addition of opacity to L3 variant.

v1.5.2 (2024/02/29)

Unification of scaling, minor corrections.

v1.5.3 (2024/03/03)

Optimisation of code in L3 variant.

v1.5.4 (2024/03/06)

Correction of baseline settings in L3 variant, added accessibility support for L3 variant.

v1.6.0 (2.024/03/15)

Four attribute icons added, minor correction of styles.

v1.6.1 (2024/03/16)

Unified size of negative attribute icon.

v1.7.0 (2024/03/16)

Macro for easy typesetting using roll dice syntax added in L3 variant, compatibility mode updated.

v1.8.0 (2024/03/24)

Unified wrapper to load either package variant.

v1.8.2 (2024/04/28)

Roll dice syntax for PGF variant.