customenvs [en]

Some custom environments,
or small patches.

Version 0.44c -- 2026/11/24

https://github.com/cpierquet/latex-packages/tree/main/customenvs

https://customenvs.cpierquet.fr

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1 History

`v0.44c`: Enhancements with subpackage **exams** (see doc)
`v0.44b`: Enhancements with subpackage **exams** (see **[fr]** doc)
`v0.44a`: Enhancements with subpackage **exams** (see **[fr]** doc)
`v0.43f`: Enhancements with subpackages (see **[fr]** doc)
`v0.43e`: Enhancements with subpackages (see **[fr]** doc)
`v0.43d`: New tikzpictos
`v0.43c`: Minor Bugfix
`v0.43b`: Enhancements with subpackages + new environements (see **[fr]** doc)
`v0.43a`: New mathpictos
`v0.42f`: New box *notebook*
`v0.42e`: Bugfix with **fa**
`v0.42d`: Enhancements + French keybord (see [fr] doc)
`v0.42c`: Enhancements + New icons + new mathpictos
`v0.42b`: New icons + new mathpictos
`v0.41f`: Enhancements + new pictos
`v0.41e`: Enhancements with subpackages + new environements (see **[fr]** doc)
`v0.41d`: Enhancements with subpackages
`v0.41c`: Enhancements with subpackages
`v0.41b`: Bugfix + pre-compatibility with **fa5/fa6/fa7** + new pictograms
`v0.41a`: Option **noinlinegraphicx** for compatibility with **MikTeX** + Bugfix
`v0.40f`: **WhatsApp** style for 'Chat'
`v0.40e`: **customenvs-icons** `v0.1.0`
`v0.40d`: Code enhancements (compatibility with twemojis) + **customenvs-tikzpictos** `v0.1.4`
`v0.40c`: PictoClippy (**customenvs-tikzpictos** `v0.1.3`) + Lengths macros
`v0.40b`: PictoCalendar (**customenvs-tikzpictos** `v0.1.2`) + enhancements
`v0.40a`: PictoTraffic (**customenvs-tikzpictos** `v0.1.1`) + enhancements
`v0.3.7`: Auxiliary package **customenvs-tikzpictos** for pictograms
`v0.3.6`: Picto *bullseye+arrow*
`v0.3.5`: Bugfix + pre-compatibility with **fa5/fa6**
`v0.3.4`: Pictoskill
`v0.3.3`: Annotate image
`v0.3.2`: Alt version of title banner
`v0.3.1`: Box for MCQ
`v0.3.0`: Bugfix with **beamer**
`v0.2.7`: Key for mixing answers in MCQ
`v0.2.6`: Whell of skills, speedometer
`v0.2.5`: Bugfix with exercices (**[fr]** macro)
`v0.2.4`: Small box *marker*
`v0.2.3`: Highway signs + sold banners (see **[fr]** doc)
`v0.2.2`: Flared arrow, with Ti*k*Z
`v0.2.1`: Enhancements for *stars skills* + AutoGrid for Ti*k*Z (see **[fr]** doc)
`v0.2.0`: Skills with stars (**fontawesome5** or Ti*k*Z)
`v0.1.9`: Title banner
`v0.1.8`: Score banner
`v0.1.7`: Small patch for **Vignette** macro (see `[fr]` documentation)
`v0.1.6`: Small patchs for **displayskip** + **pas-tableur** (see `[fr]` documentation)
`v0.1.5`: New macros for boxes with **tcolorbox** (see `[fr]` documentation)
`v0.1.4`: Create a SMS conversation
`v0.1.3`: Environment for exercise(s) (in french doc)
`v0.1.2`: Pencil of skills
`v0.1.1`: Skills table (only french for the moment...)
`v0.1.0`: Initial version

2 The package customenvs

2.1 Idea

The idea is to propose some classics environments with customizations (some are, for the moment, only in french):

- write in *multicols*, with spacings enhancements;
- present answers for a *MCQ*;
- create a list with *choosen items* (randomly or by numbers);
- present a skill table.

The globa idea is ti propose *user-friendly* environments, with explicit customizations, without using verbose syntax; but there's other solutions, using for example `\vspace` ou `\setlength` or `spacingtricks` package.

2.2 Loading

The package loads within the preamble with `\usepackage{customenvs}`.
Loaded packages are:

- `xstring`, `simplekv`, `listofitems`, `randomlist` and `xintexpr`;
- `enumitem`;
- `multicol`;
- `tabularray`;
- `fontawesome`;

Due to limitations, `enumitem`/`multicol`/`tabularray`/`fontawesome5/6`/`inlinegraphicx` can be *un*loaded by `customenvs` (user must load them manually) via options:

- ⟨`beamer`⟩ for using with beamer;
- ⟨`noenum`⟩;
- ⟨`nomulticol`⟩;
- ⟨`notblr`⟩;
- ⟨`noinlinegraphicx`⟩;
- ⟨`nofa`⟩;
- ⟨`fa6`⟩;
- ⟨`fa7`⟩.

```
%with all packages
\usepackage{customenvs}

%with option to no load some packages
\usepackage[option(s)]{customenvs}
```

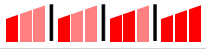
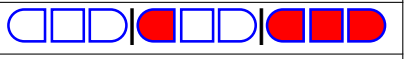
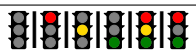
2.3 Subpackage customenvs-tikzpictos (v0.20d)

The package `customenvs-tikzpictos`, loaded within `customenvs` (but can be loaded independently), proposes small pictograms.

```
%\usepackage{customenvs-tikzpictos} %only if for standalone

\tkzpicto%
    [keys]
    <tikz options>
    {type=params}

%type= wifi/network/stars/speedo/bullseye/skills/pill/calendar
%params= nb/nblevels (except bullseye) or day/month (calendar)
%key height= len / auto (without depth) / dauto (with depth)
```

Wifi	
Wifi (bars)	
Network	
Stars	
Speedometer	
BullsEye	
Battery	
Battery (flip)	
Skills	
Pill	
TrafficLight	
MiniCalendar	
Clippy	
Dball	

2.4 Subpackage customenvs-icons (v0.1.5)

`customenvs` loads, for *small* icons, `customenvs-icons` package.
The idea is to propose small icons, independently of `customenvs`.

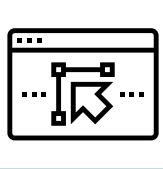
```
\usepackage{customenvs-icons}       %only if for standalon

\ceicon%
  [%
    educ=TF,                        %boolean style 'educ'
    design=TF                       %boolean style 'design'
    height=...,                     %(d)auto / height / height+depth
    (d)strut=...                    %box choices (for dim calc)
  ]%
  <includegraphics options>%
  {nom}
```

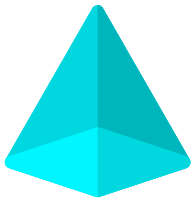
```
{\Huge X\ceicon{brush}\ceicon[height=auto]{brush}X}
```

X X

```
\ceicon[height=2cm,design]{browser-html}
```



```
\ceicon[height=1in,mathsymb]{pyramid}
```



3 Answers for a MCQ

3.1 Idea

The idea is to propose an environment to present answers for a MQC with `tabularray` (and not `multicols`). It's possible to use 2, 3 or 4 answers (and with 4 answers it's possible to use 2 columns.)

```
\AnswersMCQ[options]{list of answers}<tblr options>
```

The avalailable `options` are:

- `Width`: `0.99\linewidth` by default;
- `Lines`: `false` by default;
- `SpaceCR` for Columns/Rows spacing, within `col/row` or `global`: `6pt/2pt` by default;
- `NumCols`, 2 or 4: `4` by default;
- `Labels` for the labels: `a.` by default;
  - with `box` to use a *Box*;
  - with `a` to *enumerate* `a b c d`;
  - with `A` to *enumerate* `A B C D`;
  - with `1` to *enumerate* `1 2 3 4`;
- `FontLabels`: `\bfseries` by default;
- `SpaceLabels`: `\kern5pt` by default;
- `Shuffle`, for mixing answers: `false` by default;
- `Swap`, for ACBD instead of ABCD: `false` by default.

The list of answers must be given within `answA § answB § ...`.
Specific options for `tblr` are given between last optionnal argument, between `<...>`.

3.2 Examples

```
%default output
\AnswersMCQ{Answer A § Answer B § Answer C § Answer D}
```

a. Answer A **b.** Answer B **c.** Answer C **d.** Answer D

```
\AnswersMCQ[Lines]{Answer A § Answer B § Answer C § Answer D}

\AnswersMCQ[Lines,Shuffle]{Answer A1 § Answer B1 § Answer C1 § Answer D1}

\AnswersMCQ[Lines,Shuffle]{Answer A2 § Answer B2 § Answer C2 § Answer D2}
```

a. Answer A	**b.** Answer B	**c.** Answer C	**d.** Answer D
a. Answer A1	**b.** Answer B1	**c.** Answer D1	**d.** Answer C1
a. Answer A2	**b.** Answer B2	**c.** Answer D2	**d.** Answer C2

```
\AnswersMCQ[Lines,Labels=(1.),SpaceLabels={~~~}]{Answer A § Answer B § Answer C}
```

(1.) Answer A	**(2.)** Answer B	**(3.)** Answer C

```
\AnswersMCQ[Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A **B.** Answer B **C.** Answer C **D.** Answer D

```
\AnswersMCQ[Labels={1.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

1. Answer A **2.** Answer B **3.** Answer C **4.** Answer D

```
\AnswersMCQ[NumCols=2,Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A
B. Answer B
C. Answer C
D. Answer D

```
\AnswersMCQ[NumCols=2,Swap,Labels={A.},FontLabels={\color{red}\bfseries}]%
    {Answer A § Answer B § Answer C § Answer D}
```

A. Answer A
B. Answer B
C. Answer C
D. Answer D

```
\AnswersMCQ[Lines,NumCols=2,SpaceCR=6pt/10pt,Labels=box]%
    {Answer A § Answer B § Answer C § Answer D}
```

☐ Answer A	☐ Answer C
☐ Answer B	☐ Answer D

```
% checkedbox is \def\MCQanswersbox{\raisebox{-0.2ex}{\faSquare[regular]}}
\AnswersMCQ[Width=10cm,NumCols=2,Lines]%
    {$\displaystyle\frac1x$ § $1+\displaystyle\frac1x$ § $-2x^2+5$ § $-\infty$}
    <rows={1.5cm}>
```

a. $\dfrac{1}{x}$	**c.** $-2x^2+5$
b. $1+\dfrac{1}{x}$	**d.** $-\infty$

4 List with picked elements (random or not)

4.1 Global use

The idea is to:

- create a list of items, the base for choices;
- print the list with picked items.

```
\CreateItemsList{list}{macro}{listname}
```

```
\ListItemsChoice[keys]{macro}{listname}(numbers)<enumitem options>!beamer options!
```

The available `keys` are:

- `Type`: `enum` or `item`;
- `Random`: `false` by default.

The second argument, mandatory and between `{...}` is the macro for the list.
The third argument, mandatory and between `{...}` is the name of the list.
The fourth argument, mandatory and between `(...)` give:

- the number of random items to display, with `Random=true`;
- the numbers of picked itemps, within `num1,num2,...`.

The next argument, optional and between `<...>` gives specific options to `enumitem` environment.
The last argument, between `!..!` gives specific options to `enumitem` environment with `beamer`.

Controls are done:

- to verify that the list doesn't exist (for the creation);
- to verify that that the list still exist (for the display).

4.2 Examples

```
%creation of list ListItems, with macro \mylistofitems
\CreateItemsList%
    {Answer A,Answer B,Answer C,Answer D,Answer E,Answer F,Answer G,Answer H}%
    {\mylistofitems}{ListItems}
```

```
%items random
\ListItemsChoice[Random]{\mylistofitems}{ListItems}(5)
```

1. Answer E
2. Answer A
3. Answer H
4. Answer C
5. Answer D

```
%items picked
\ListItemsChoice{\mylistofitems}{ListItems}(1,4,3,8,2)
```

1. Answer A
2. Answer D
3. Answer C
4. Answer H
5. Answer B

```
%creation of list ListItemsB, with macro \mylistofitemsb
\CreateItemsList%
    {{$\int_0^1 x^2 dx$},{$\int_0^1 x^3 dx$},{$\int_0^1 x^4 dx$},...}%
    {\mylistofitemsb}{ListItemsB}
```

```
%items picked
\ListItemsChoice[Type=item]{\mylistofitemsb}{ListItemsB}(7,2,1,5,3)<label=$--$>
```

-- $\int_0^1 x^8 dx$

-- $\int_0^1 x^3 dx$

-- $\int_0^1 x^2 dx$

-- $\int_0^1 x^6 dx$

-- $\int_0^1 x^4 dx$

5 Pencil of skills

5.1 Global use

The idea is to:

- present of list of categories and skills;
- presented like a pencil.

The code (within CC-BY-SA 4.0 license) is adapted from:
https://tex.stackexchange.com/questions/504092/replicating-a-fancy-bordered-text-style-in-latex/504145#504145

```
\PencilSkills[keys]<tikz options>{listofskills}
```

The style is globally fixed, but there's some customization available.

5.2 The macro

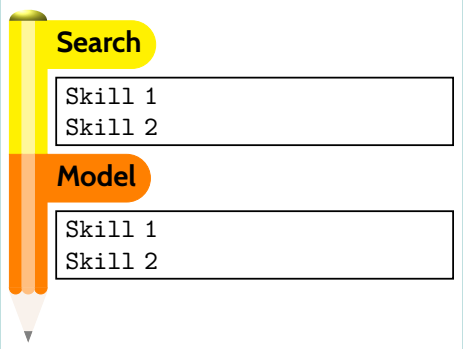
Available `keys` are:

- `FontCateg`: font for the categories;
- `FontBlock`: font for the skills;
- `Colors`: list of category's colors
  `BgCateg1/FgCateg1,BgCateg1/FgCateg1,...`
  (if `FgCateg1` est missing, `black` is used)
- `BlockWidth`: width of skill's block;
- `Scale`: global scale
- `BlackWhite`: boolean for B&W.

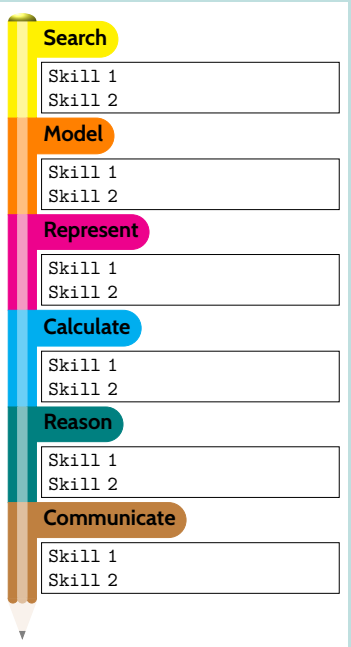
The second argument, optional and between `<...>` gives specific options to `enumitem` environment.
The last argument, mandatory and between `(...)` give the list of categories/skills, within `Categ1/ListSkills1,Categ2/ListSkills2,...`.

5.3 Examples

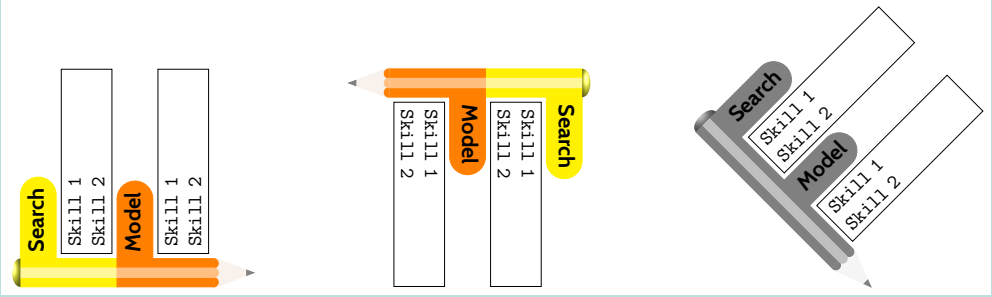
```
%default output
\PencilSkills{Search/Skill 1\\ Skill 2,Model/{Skill 1\\ Skill 2}}
```



```
\PencilSkills[Scale=0.75]%
    {Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2},%
    Represent/{Skill 1\\Skill 2},Calculate/{Skill 1\\Skill 2},%
    Reason/{Skill 1\\Skill 2},Communicate/{Skill 1\\Skill 2}}
```




```
\PencilSkills[Scale=0.75,BlockWidth=3cm]<rotate=90>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
\hspace{1cm}
\PencilSkills[Scale=0.75,BlockWidth=3cm]<rotate=-90>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
\hspace{1cm}
\PencilSkills[Scale=0.75,BlockWidth=3cm,BlackWhite]<rotate=45>{
    Search/Skill 1\\Skill 2,Model/{Skill 1\\Skill 2}}
```



6 Score banner

6.1 Global use

The idea is to insert a score banner, with customization.

```
ScoreBanner[keys]{number}
```

```
%default output
\ScoreBanner{}
```



6.2 The macro

Available `keys` are:

- `Height`: height of the banner (without the legend); `1` by default
- `Ratio`: ratio of boxes; `0.6` by default
- `Symbols`: labels; `A,B,C,D,E` by default
- `Legend`: legend (uppercase); `score` by default;
- `Font`: global font; `\bfseries\sffamily` by default
- `ShowLegend`: boolean for the legend; `false` by default;
- `Colors`: colors for boxes; `colorNS1,colorNS2,colorNS3,colorNS4,colorNS5` by default;
- `ScaleSymbols`: scale H/V of labels; `1.25,1.65` by default;
- `Colbg`: background color for select box; `white` by default.

If the list of colors doesn't fill all the boxes, `lightgray` color is used.

```
\ScoreBanner[Legend=Geometry,Height=2]{4}
```




```
%bg of lower part is yellow!25
\def\lstcouleurs{colorNS1,colorNS2,colorNS3,colorNS4,colorNS5,purple}
\ScoreBanner%
  [ScaleSymbols={1.33,2},Height=3.25,ShowLegend=false,Ratio=0.75,
  Symbols={1,2,3,4,5,6},Colors=\lstcouleurs,
  Colbg=yellow!25]{1}
```



7 SMS conversation

7.1 Global use

The idea is to present a conversation of SMS.

```
\begin{ChatSMS}[keys]{name}
  \InSMS(*){time}{msg}
  \OutSMS*(*){time}{msg}
\end{ChatSMS}
```

The style is globally fixed, but there's some customization available.

7.2 The environment

Available `keys` are:

- `height`: height of the window (auto or specific); `auto` by default
- `width`: width of the window; `7cm` by default
- `margin`: margin (L or R) for the bubble `1.5cm` by default
- `color`: *main* color (banner); `teal!75!cyan!75!white` by default;
- `colback`: color for background; `lightgray!5` by default
- `colorin`: color for incoming SMS; `lime!25` by default
- `colorout`: color for outcoming SMS; `teal!25` by default
- `writetxt`: text of sending zone; `Write` by default
- `fonttxt`: bubble's font; `\normalfont` by default
- `avatar`: avatar of contact; `\faAddressCard` by default
- `dispavatar`: boolean for displaying avatar near the bubbles; `false` by default
- `blackwhite`: boolean pour black&white. `false` by default

The argument, mandatory and between `(...)` give the name of the contact.

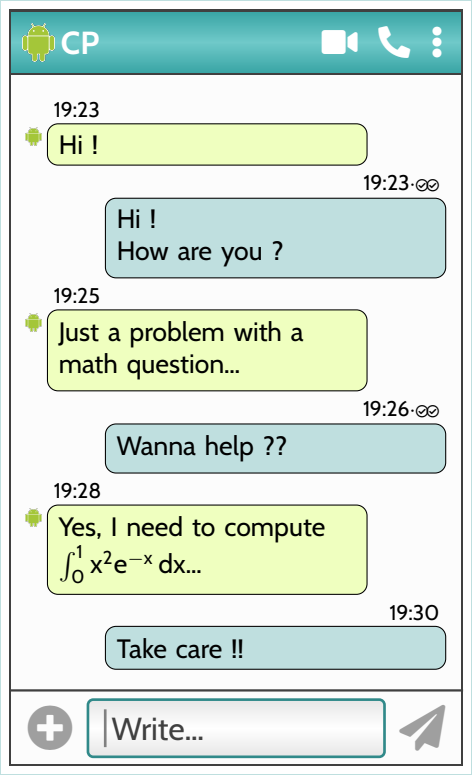
7.3 Macros for the bubbles

Regarding the bubble creation commands, `\InSMS` and `\OutSMS`:

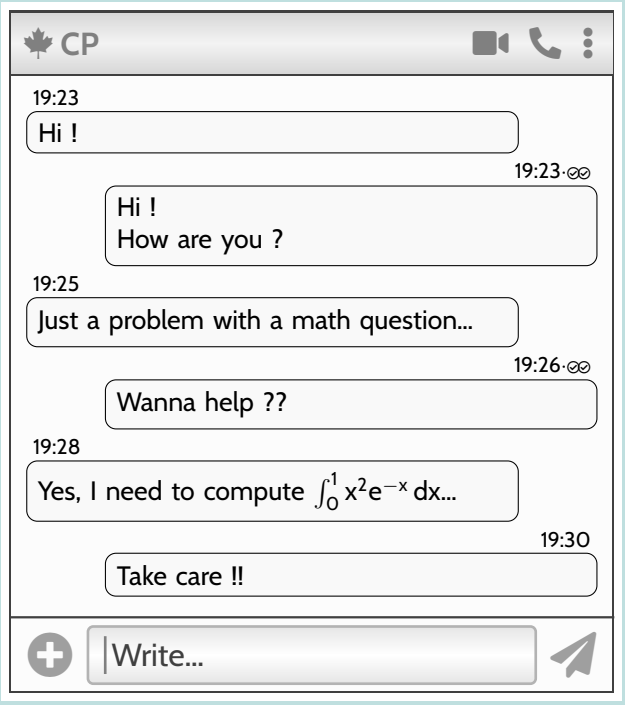
- the *starred* version does not display the *checkmarks* of *good reception*;
- the first mandatory argument is the time to display;
- the second mandatory argument is the message to display (including multi-lines).

7.4 Examples

```
%with a personal image
\begin{ChatSMS}%
  [width=6cm,fonttxt=\sffamily,height=10cm,avatar=img/android,dispavatar]{CP}
  \InSMS{19:23}{Hi !}
  \OutSMS{19:23}{Hi !\\ How are you ?}
  \InSMS{19:25}{Just a problem with a math question\ldots}
  \OutSMS{19:26}{Wanna help ??}
  \InSMS{19:28}{Yes, I need to compute $\mathsf{\int_{0}^{1} x^2e^{-x}\,dx}$\ldots}
  \OutSMS*{19:30}{Take care !!}
\end{ChatSMS}
```



```
\begin{ChatSMS}%
  [width=8cm,fonttxt=\sffamily,avatar=\faCanadianMapleLeaf,blackwhite]{CP}
  \InSMS{19:23}{Hi !}
  \OutSMS{19:23}{Hi !\\ How are you ?}
  \InSMS{19:25}{Just a problem with a math question\ldots}
  \OutSMS{19:26}{Wanna help ??}
  \InSMS{19:28}{Yes, I need to compute $\mathsf{\int_{0}^{1} x^2e^{-x}\,dx}$\ldots}
  \OutSMS*{19:30}{Take care !!}
\end{ChatSMS}
```

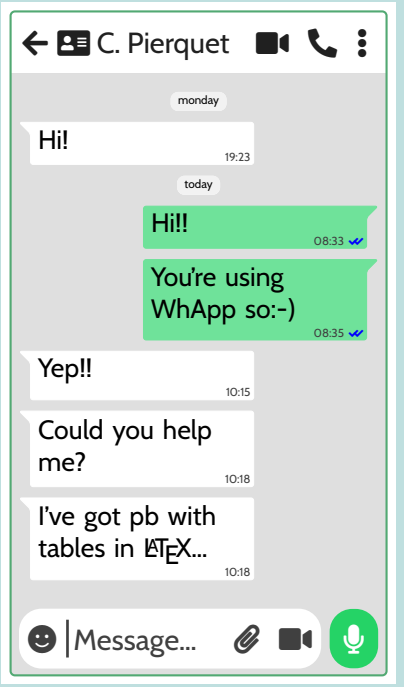


7.5 Style WhatsApp

Un style type *WhatsApp* est également disponible, avec un fonctionnement similaire à celui présenté précédemment.
Les clés disponibles sont:

- `height`: `auto` by default
- `width`: `5cm` by default
- `bgcolor`: `lightgray!50` by default
- `receivecolor`: `greenwa!66!white` by default
- `sendcolor`: `white` by default
- `txtwrite`: `Message...` by default
- `fonttxt`: `sffamily` by default
- `avatar`: `\faAddressCard` by default
- `showavatar`: `false` by default
- `bw`: `false` by default
- `txtwidth`: `0.55` by default.

```
\begin{EnvChatWA}{C. Pierquet}
 \WaDate{monday}
 \WaRec{19:23}{Hi!}
 \WaDate{today}
 \WaSend*{08:33}{Hi!!}
 \WaSend*{08:35}{You're using WhApp so:-)}
 \WaRec{10:15}{Yep!!}
 \WaRec{10:18}{Could you help me?}
 \WaRec{10:18}{I've got pb with tables in \LaTeX\ldots}
\end{EnvChatWA}
```




```
\begin{EnvChatWA}[bw,showavatar,avatar=Image/avatar]{C. Pierquet}
 \WaDate{monday}
 \WaRec{19:23}{Hi!}
 \WaDate{today}
 \WaSend*{08:33}{Hi!!}
 \WaSend*{08:35}{You're using WhApp so:-)}
 \WaRec{10:15}{Yep!!}
 \WaRec{10:18}{Could you help me?}
 \WaRec{10:18}{I've got pb with tables in \LaTeX\ldots}
\end{EnvChatWA}
```



8 Title banner

8.1 Global usage

The idea is to propose a banner, made with Ti*k*Z, to present for example a title.
The global style is fixed, but few customization are possible.

```
\tkzBannerTri[keys]{number}{title}
```

```
\tkzBannerTri{01}{Title of document}
```



Available `keys` are:

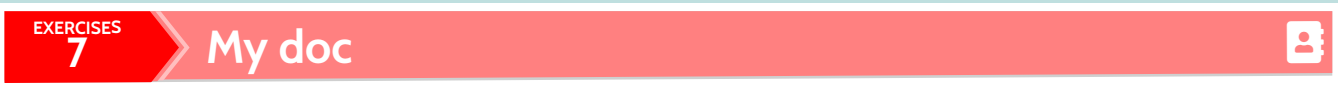
- `height` (`2.5em` by default)
- `width` (`\linewidth` by default)
- `blockwidth` (`2.75em` by default, but can be set to `auto`)
- `coltxt` (`white` by default)
- `fonttxt`
- `swap` (`false` by default, for an other style)
- `maincolor` (`darkgray` by default)
- `collight` (`darkgray!25` by default)
- `colmedium` (`darkgray!50` by default)
- `coldark` (`darkgray` by default)
- `logo`
- `type`
- `dispblock` (`true` by default)
- `num` (`true` by default)
- `customtype`
- `custommulti` (`false` by default)

8.2 Examples

```
\tkzBannerTri
  [maincolor=red,type=EXERCISES,blockwidth=auto,logo=\faAddressBook]
  {7}{My doc}
```




```
\tkzBannerTri
  [maincolor=red,type=EXERCISES,blockwidth=5em,logo=\faAddressBook]
  {7}{My doc}
```



```
\tkzBannerTri
  [maincolor=red,type=EXERCISES,blockwidth=auto,logo=\faAddressBook,swap]
  {07}{My doc}
```




```
\tkzBannerTri
  [dispblock=false,maincolor=teal,logo=\faSchool]
  {}{My doc}
```




```
\tkzBannerTri
  [maincolor=olive,customtype=TP,blockwidth=4em,logo=\faAddressBook,height=4em]
  {7}{My doc}
```




```
\tkzBannerTriAlt
  [maincolor=violet,type=UE3.1,blockwidth=1.25cm,logo=\faGraduationCap,height=1.25cm]
  {TP}{My doc}
```



9 Various commands

9.1 Difficulty levels with stars (fontawesome5)

```
\DiffLevelStars[max level (3)]{level}
```

```
\DiffLevelStars{0}\par
\DiffLevelStars{2.5}\par
\textcolor{teal}{\LARGE\DiffLevelStars[5]{4}}\par
\DiffLevelStars[5]{1.5}\par
```



9.2 Difficulty levels with stars (tikz)

```
\tkzLevelStars[colframe=...,colback=...,offset=...,maxlevel=...,valign=...]{level}
```

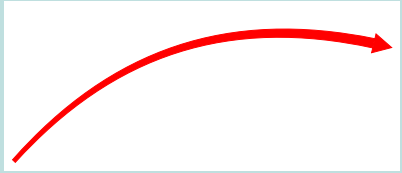
```
\tkzLevelStars{2.5}\par
{\LARGE We ty inline \tkzLevelStars{2.25} with score 2.25}\par
{\LARGE We ty inline \tkzLevelStars[valign=false]{1.75} with score 1.75}\par
\tkzLevelStars[colframe=red,colback=yellow,maxlevel=5]{3}
```



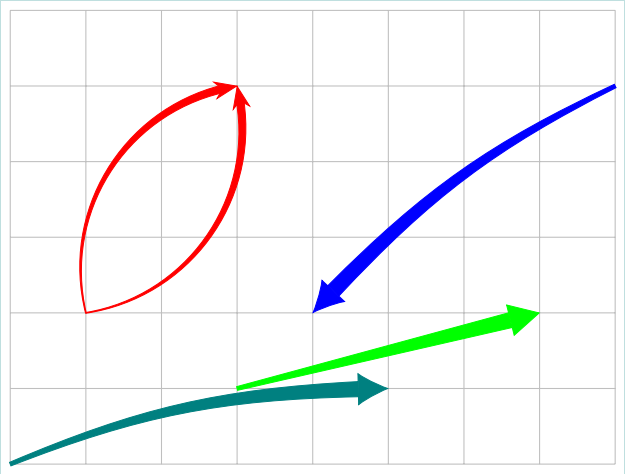
9.3 Flared arrow

```
\tkzFlaredArrow[%
  color=...,            %color of arrow
  arrowsize=...,        %size (auto or H/W )
  bend=...,             %empty for straigth or left/... or right/...
  thickness=...,        %size for the beginning
  factor=...,           %factor for calculing size for ending
  arrowstyle=...,       %style (arrows.meta)
  move=...              %boolean for moving instead coordinates
  ]%
  {begin}{end or move}
```

```
%arrow 0.5mm -> 1.25mm
\begin{tikzpicture}
\tkzFlaredArrow%
  [thickness=0.5mm,factor=2.5,bend=left/30,color=red,arrowstyle=Triangle]%
  {0,0}{5,1.5}
\end{tikzpicture}
```



```
\begin{tikzpicture}
  \draw[thin,lightgray] (-3,-1) grid (5,5);
  \coordinate (A) at (0,0); \coordinate (B) at (4,1);
  \coordinate (C) at (1,1); \coordinate (D) at (5,4);
  \coordinate (E) at (0,1); \coordinate (F) at (0,5);
  \coordinate (G) at (-2,0);
  \tkzFlaredArrow[color=green,arrowstyle=Triangle]{A}{B}
  \tkzFlaredArrow[color=blue,bend=right/10]{D}{C}
  \tkzFlaredArrow%
    [color=red,bend=left/45,arrowstyle=Stealth,thickness=0.1mm,factor=10]%
    {-2,1}{0,4}
  \tkzFlaredArrow%
    [color=red,bend=right/45,thickness=0.1mm,factor=10,arrowstyle=Stealth]%
    {-2,1}{0,4}
  \tkzFlaredArrow[color=teal,move,bend=left/10]{-3,-1}{5,1}
  \end{tikzpicture}
```



9.4 Small markerbox

```
\tbcmarker[color=...,width=...,font=...]{text}
```

```
\tbcmarker{my text}
```

my text

```
\tbcmarker[color=olive,font=\normalfont\normalsize]{my text}
```

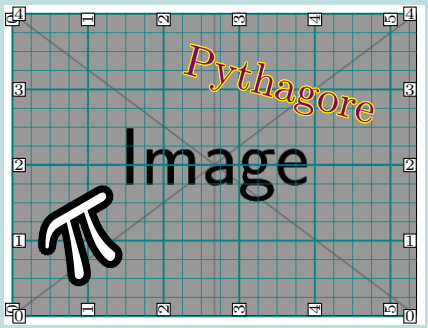
my text

9.5 Annotate an image

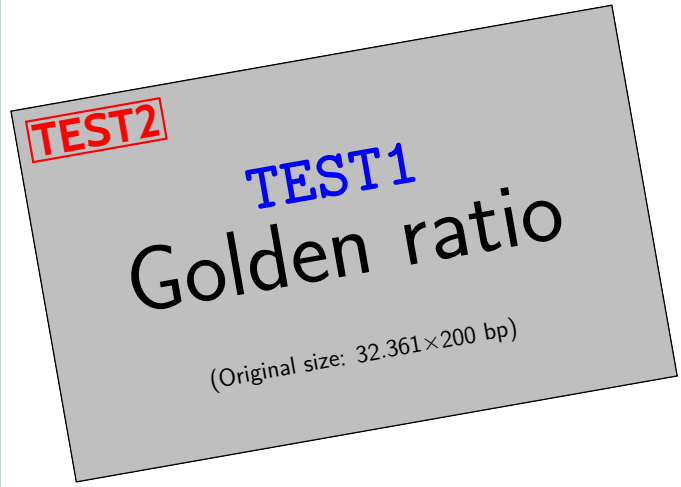
The idea is to provide a way of annotating an image, using an environment and a command which are linked to Ti*k*Z.

```
\begin{imgannotate}[keys][includegraphics options]{imagefile with extension}
  \puttxtonimg[tikz node options]{coordinates}{txt}
  \puttxtonimg*[tikz node options]{coordinates within percentage}{txt}
\end{imgannotate}
%====keys
%clip=...      : boolean for clipping img
%node=...      : node name for reusing (remember picture)
%grid=...      : optionnal value for showing helping grid
%subgrid=...   : integer value for subgrid
%gridcolor=...: grid color
```

```
%\usepackage[auto,outline]{contour}
\begin{imgannotate}[grid=1][height=4cm]{example-image.png}
  \puttxtonimg[scale=5,rotate=30]
    {1,1}{\contourlength{0.05em}\color{white}\contour{black}{$\pi$}}
  \puttxtonimg*[scale=1.5,rotate=-15]
    {0.66,0.75}{\contourlength{0.025em}\color{violet}\contour{yellow}{Pythagore}}
\end{imgannotate}
```




```
\begin{imgannotate}[node=IMGTEST][height=5cm]<rotate=10>{example-image-golden.pdf}
  %tikz usual commands
  \draw (IMGTEST.center) node[above=5mm,font=\Huge\ttfamily\bfseries,text=blue] {TEST1};
  \draw (IMGTEST.north west) node[draw,thick,red,inner sep=0.5mm,below
right=2.5mm,font=\LARGE\sffamily\bfseries,text=red] {TEST2};
\end{imgannotate}
```



9.6 Lengths

```
\getwideststring[\macro]{elt1,elt2,...eltn}

\halignmakebox[align option]{elt}{list of elements}
```

```
%widest string (\tmpwideststring by default)
\getwideststring{Exercise 1,Evaluation 2,Test n°3}\the\tmpwideststring
```

60.69586pt

```
%without
\sffamily\Large
Exercise 1 (10 points)\\
Evaluation 2 (8 points) \\
Test n°3 (4 points)
```

Exercise 1 (10 points)
Evaluation 2 (8 points)
Test n°3 (4 points)

```
%with
\sffamily\Large
\halignmakebox[l]{Exercise 1}{Exercise 1,Evaluation 2,Test n°3}
(\halignmakebox[r]{10}{10,8,4} points)

\halignmakebox[l]{Evaluation 2}{Exercise 1,Evaluation 2,Test n°3}
(\halignmakebox[r]{8}{10,8,4} points)

\halignmakebox[l]{Test n°3}{Exercise 1,Evaluation 2,Test n°3}
(\halignmakebox[r]{4}{10,8,4} points)
```

Exercise 1 (10 points)
Evaluation 2 (8 points)
Test n°3 (4 points)

```
%width
\storewidthtolength[delta]{box}{\macro}
%height
\storeheighttolength[delta]{box}{\macro}
%totalheight
\storetotalheighttolength[delta]{box}{\macro}
%depth
\storedepthtolength[delta]{box}{\macro}
```

```
\def\tmpbox{\large $1+\frac{1}{x}$}
%
\storewidthtolength{\tmpbox}{\mytmpboxwidth}\the\mytmpboxwidth

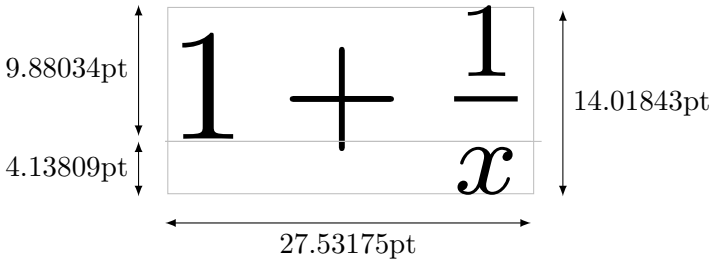
\storewidthtolength[10pt]{\tmpbox}{\mytmpboxwidthdelta}\the\mytmpboxwidthdelta

\storeheighttolength{\tmpbox}{\mytmpboxheight}\the\mytmpboxheight

\storetotalheighttolength{\tmpbox}{\mytmpboxtotheight}\the\mytmpboxtotheight

\storedepthtolength{\tmpbox}{\mytmpboxdepth}\the\mytmpboxdepth
```

27.53175pt
37.53175pt
9.88034pt
14.01843pt
4.13809pt




```
%starred version with box (tikz)
\fittexttobox(*){text}{width}{height}
```

```
%with box
\fittexttobox*{PHONE}{2cm}{1cm}\\
\fittexttobox*{\bfseries\sffamily PHONE}{7cm}{1cm}\\
\fittexttobox*{PHONE}{3cm}{1cm}\\
\fittexttobox*{\ttfamily PHONE}{3cm}{1cm}\\
\fittexttobox*{PHONE}{2cm}{2cm}\\
\fittexttobox*{CONGRATULATIONS}{10cm}{3.5cm}\\
\fittexttobox*{CONGRATULATIONS}{14cm}{1.25cm}
```




```
%w/o box
\fittexttobox{PHONE}{2cm}{1cm}\\
\fittexttobox{\bfseries\sffamily PHONE}{7cm}{1cm}\\
\fittexttobox{PHONE}{3cm}{1cm}\\
\fittexttobox{\ttfamily PHONE}{3cm}{1cm}\\
\fittexttobox{PHONE}{2cm}{2cm}\\
\fittexttobox{CONGRATULATIONS}{10cm}{3.5cm}\\
\fittexttobox{CONGRATULATIONS}{14cm}{1.25cm}
```



10 Small decorated boxes

10.1 Ornements box

```
\begin{tcboxornaments}[keys]{options tcbox}
%inhalt
\end{tcboxornaments}

%---Available keys:
%v size deco        = height of deco
%h size deco        = width od deco
%linewidth deco     = thickness of deco
%color deco         = color of dedo
%alt deco           = boolean for inner deco
%h stretch deco     = coeff v -> h
%inner size deco    = corner size
```

```
\begin{tcboxornaments}{}
\lipsum[1][1-5]
\end{tcboxornaments}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque.

```
\begin{tcboxornaments}
  [color deco=red!50!black,h size deco=3cm]
  {center,width=12cm,fontupper=\LARGE\sffamily,colupper=red!50!black}
CHAPTER 01: Logic
\end{tcboxornaments}
```

CHAPTER 01: Logic

10.2 Post 'forum' box

```
\begin{tcforumpost}[keys]{options tcbox}
%inhalt
\end{tcforumpost}

%---Available keys:
%height-pseudo  = height of pseudo/alt-pseudo box
%deco-length    = width of triangular deco
%left-margin
%pseudo
%right          = boolean for right position
%swap-title     = boolean for switching lines in avatar box
%alt-pseudo
%fill-color
%rule-color
%avatar         = code avatar (emoji, graphics, txt...)
```

```
\begin{tcforumpost}{}
\lipsum[1][1-5]
\end{tcforumpost}
```



Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque.

```
%txt pseudo styles (within l3e 'syntax')
\ExplSyntaxOn
\tikzset{
forum~style~post~font~pseudo/.style={%
 inner~sep=0pt,font=\ttfamily\bfseries,text=white},
forum~style~post~font~altpseudo/.style={%
 inner~sep=0pt,font=\ttfamily,text=\g_tcbox_forum_post_rule_color},
}
\ExplSyntaxOff
```

```
\begin{tcforumpost}%
  [%
    fill-color=pink!10,rule-color=magenta,%
    right,swap-title
  ]%
  {width=12cm}
\lipsum[1][1-5]
\end{tcforumpost}
```

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque.



10.3 'Box' style number

```
\tkzboxnumber[keys]{number}

%---Available keys:
%bg color       = darkgray
%shadow color   = gray
%font           = \bfseries
%shadow         = true
%shadow offset  = 0.25pt
%num color      = white
%width auto     = true
```

```
%global style (for 'width auto' key)
\setKVdefault[TikzBoxNumber]{font=\cabincondensed\bfseries}

\tkzboxnumber{1}~\lipsum[1][1]\par
\tkzboxnumber[width auto=false]{1}~\lipsum[1][1]\par
\tkzboxnumber[bg color=red]{2}~\lipsum[1][1]\par
\tkzboxnumber[num color=yellow,shadow=false]{4}~\lipsum[1][1]\par
$\ldots$\par
\tkzboxnumber{11}~\lipsum[1][1]\par
\tkzboxnumber{77}~\lipsum[1][1]\par
$\ldots$\par
\tkzboxnumber{697}~\lipsum[1][1]\par
\tkzboxnumber[width auto=false]{697}~\lipsum[1][1]\par
\tkzboxnumber{800}~\lipsum[1][1]\par
$\ldots$\par
\tkzboxnumber{1564}~\lipsum[1][1]\par
\tkzboxnumber[width auto=false]{1564}~\lipsum[1][1]\par
\tkzboxnumber{7124}~\lipsum[1][1]\par
```

1 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
1 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
2 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
4 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
...
11 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
77 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
...
697 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
697 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
800 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
...
1564 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
1564 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.
7124 Lorem ipsum dolor sit amet, consectetuer adipiscing elit.

10.4 'Box' notebook

```
%box
\begin{tcboxnotebook}[keys]{tcbox options}
%...
\end{tcboxnotebook}

%---Available keys are:
% orientation = orientation of box (V)
% bar         = bar, within v mode (false)
% bg          = backgroud color (white)
```

```
%title formating
\NewDocumentCommand\tcboxnotebooktitle{ O{blue!50!black} m }{%
  \hspace{2.5mm}%
  \textcolor{#1}{%
    \bfseries\large\sffamily{\vphantom{(qÉ)}#2}%
  }\par\smallskip
}
```

```
\begin{tcboxnotebook}[orientation=H]{width=10cm}
\tcboxnotebooktitle{Rappels utiles}
\lipsum[1]
\end{tcboxnotebook}
```

Rappels utiles

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

```
\begin{tcboxnotebook}[bg=violet!25]{}
\tcboxnotebooktitle{Rappels utiles}
\lipsum[1]
\end{tcboxnotebook}
```

Rappels utiles

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetuer id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.