USER MANUAL

WHATIDO

Version 3.0

Date	Version	Commentaire
10/04/17	V3.0	Initial Version of document
21/04/17	V3.0.1	Add sizes to image keyboard

Table des matières

1 Présentation of the application

1.1 General information

It is a utility that allows you to see on the screen the actions you do on the mouse (click / right / left / middle and the actions forward / back on the wheel of the mouse as well as actions on the keyboard (except numeric keypad).

The visualization is done through 2 transparent images of the mouse and the keyboard which remains in window always visible (except for some contextual menus where Windows is priority, but it is not very inconvenient).

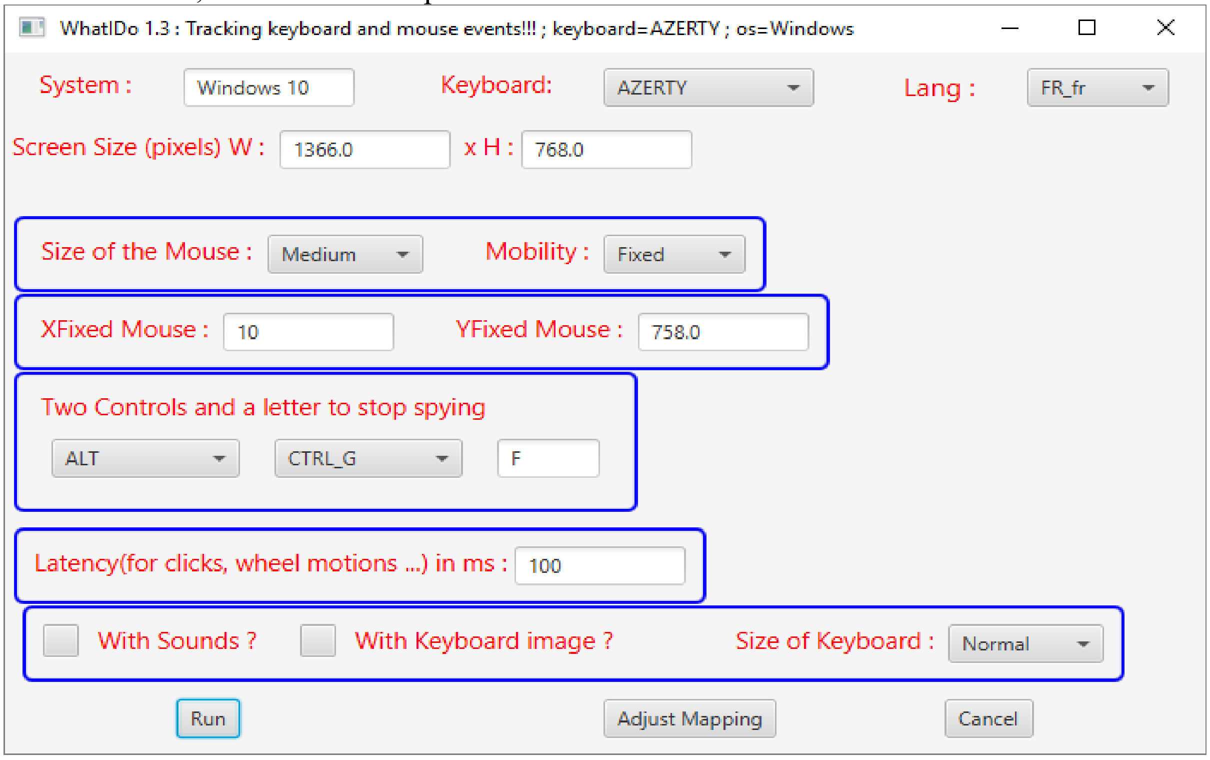
The software also works on Linux and certainly also on OS X (not tested by me on OS X, keyboard mapping to do), see in the appendix of this document how to realize a complete mapping if this software does not work correctly with your Micro / OS / keyboard. There may be deviations from the Windows / AZERTY mapping .

This software is based on the Library **JNativeHook** available at Github site : https://github.com/kwhat/jnativehook

The binary code is avaible on Maven Repo, I use the Version 2.1.0 : https://mvnrepository.com/artifact/com.1stleg/jnativehook/2.1.0

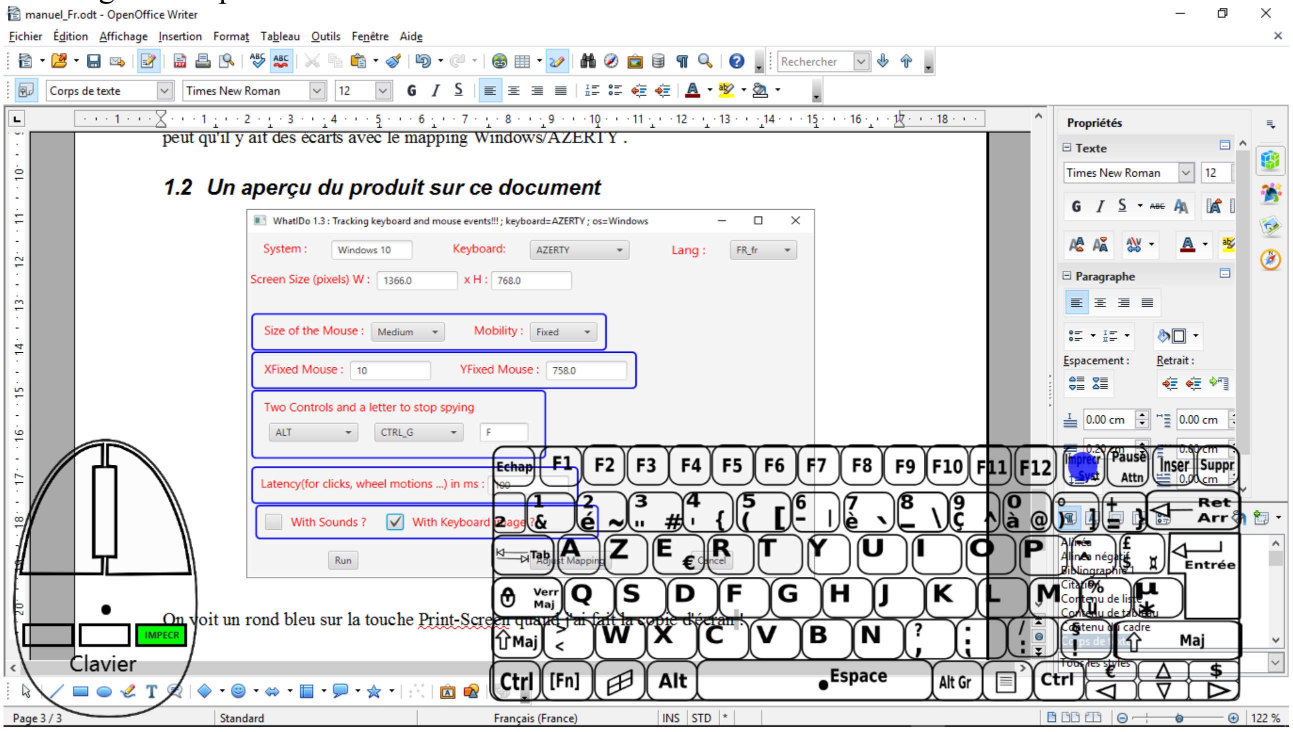
1.2 An overview of the product on this document

The launch screen, which will be explained in detail later in the document .


WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10
Keyboard: AZERTY
Lang : FR_fr
Screen Size (pixels) W : 1366.0 x H : 768.0
Size of the Mouse : Medium
Mobility : Fixed
XFixed Mouse : 10
YFixed Mouse : 758.0
Two Controls and a letter to stop spying: ALT CTRL_G F
Latency(for clicks, wheel motions ...) in ms : 100
With Sounds ?
With Keyboard image ?
Size of Keyboard : Normal

An image of the product in action:



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peut qu'il y ait des écarts avec le mapping Windows/AZERTY .

1.2 Un aperçu du produit sur ce document

WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10 Keyboard: AZERTY Lang : FR_fr

Screen Size (pixels) W : 1366.0 x H : 768.0

Size of the Mouse : Medium Mobility : Fixed

XFixed Mouse : 10 YFixed Mouse : 758.0

Two Controls and a letter to stop spying ALT CTRL_G F

Latency(for clicks, wheel motions ...) in ms : 100

☐ With Sounds ? ☑ With Keyboard Image ?

On voit un rond bleu sur la touche Print-Screen quand j'ai fait la copie d'écran !

We see a blue round on the Print-Screen key when I made the screenshot!

You can choose whether to display the keyboard or not, you can activate the sound that describes the actions performed on the mouse and keyboard.
The image of the keyboard can be reduced by a factor 2 or 1.33 by choosing the size in the combobox (Normal, Medium, Small) .

For the mouse, there are 4 sizes to choose from (Large, Medium, Small, Tiny) and being mobile for the 3 smallest sizes and being fixed for the 3 largest sizes.

For mice of the fixed type, the black button in the middle makes it possible to move it in another part of the screen when it impedes.

1.3 Use cases of the product

Whatido works well with video projectors.

Possible uses are:

- Introduction to computers for the presentation of mouse actions and the keyboard
- Live software presentation by viewing all mouse and keyboard actions
  - ex : Navigation in file explorer, copying / pasting mechanisms, use of office tools ...
- Creation of video tutorials by recording the screen with whatido activated.

Tip: you can run the product twice:

- Once with a fixed Large or Medium mouse
- The other time with the Tiny / Mobile mouse that will follow the Windows cursor during its movements.

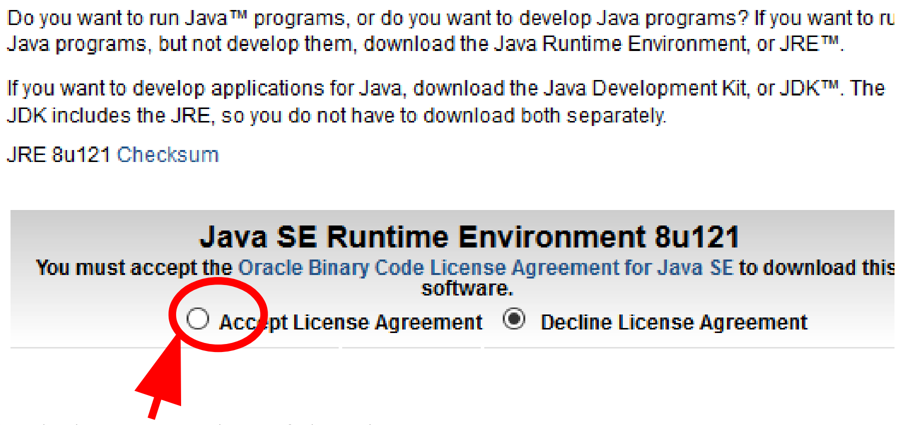
The two mice will show the actions performed.

Limitation with Powerpoint in Slideshow mode, the product (mouse image and / or keyboard image) does not appear in the foreground and can not be used in this case, it is necessary to remain in editing mode.

2 Installation

2.1 Prerequisites

Whatido requires the presence of a recent Java Virtual Machine version greater than 1.8.0_121. The 32-bit JRE version can be installed from the Oracle site:
http://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html

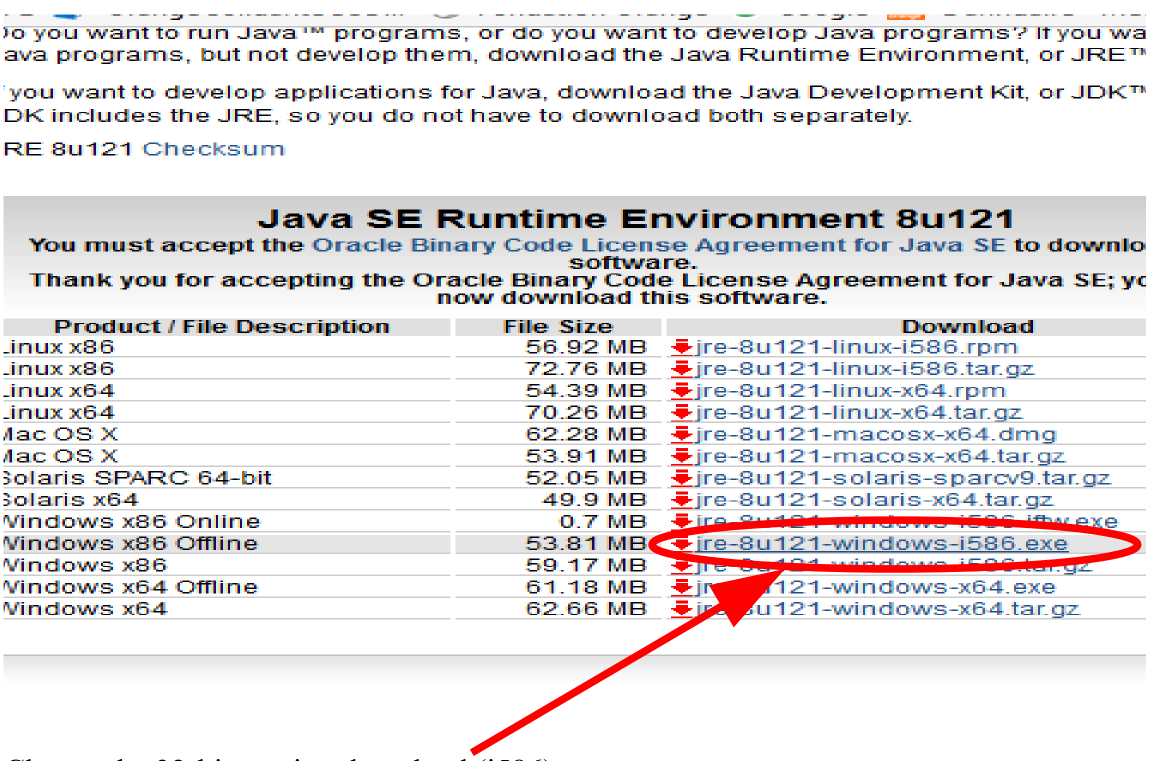

Do you want to run Java™ programs, or do you want to develop Java programs? If you want to ru
Java programs, but not develop them, download the Java Runtime Environment, or JRE™.

If you want to develop applications for Java, download the Java Development Kit, or JDK™. The JDK includes the JRE, so you do not have to download both separately.

JRE 8u121 Checksum

Java SE Runtime Environment 8u121
You must accept the Oracle Binary Code License Agreement for Java SE to download this software.
Accept License Agreement [✓ Decline License Agreement]

Check the acceptation of the License.


)o you want to run Java™ programs, or do you want to develop Java programs? If you wa
ava programs, but not develop them, download the Java Runtime Environment, or JRE™

you want to develop applications for Java, download the Java Development Kit, or JDK™
DK includes the JRE, so you do not have to download both separately.

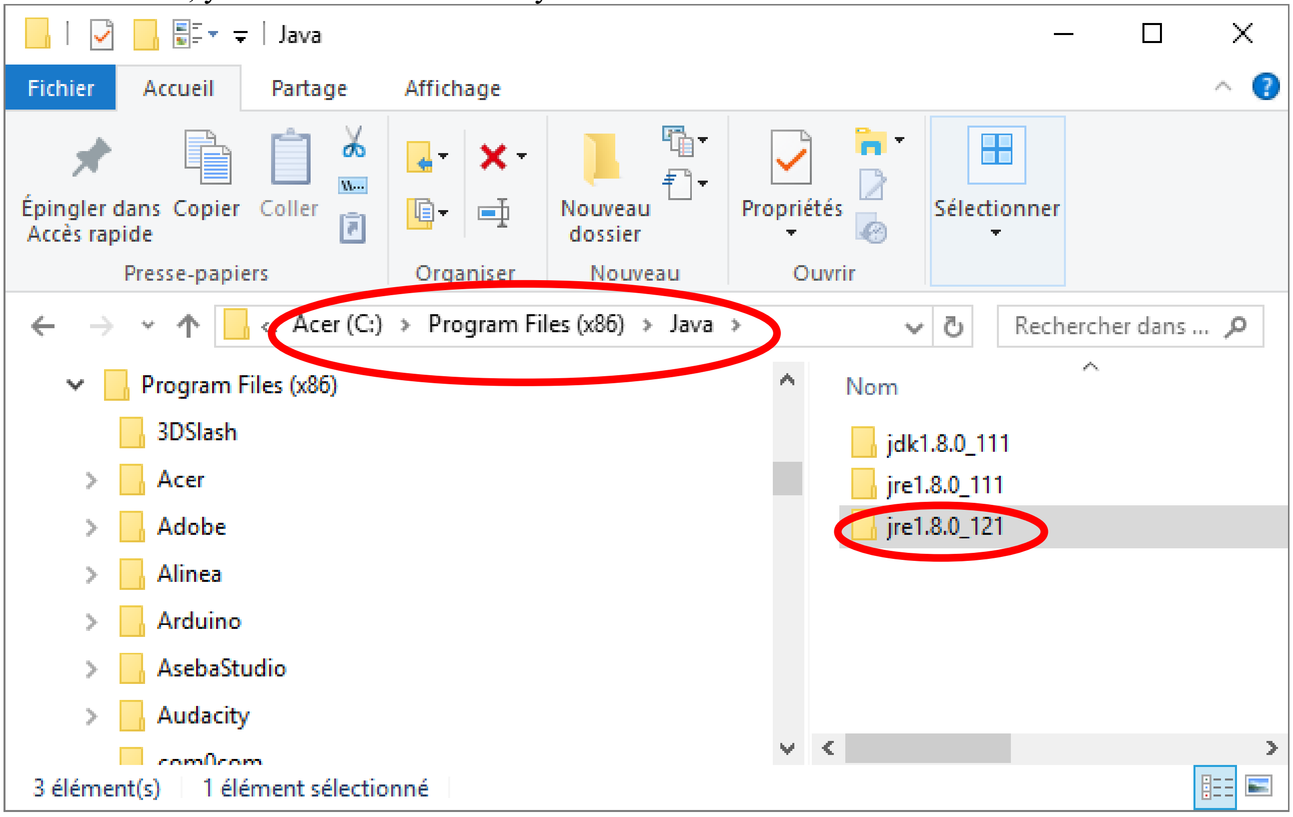
RE 8u121 Checksum

Java SE Runtime Environment 8u121
You must accept the Oracle Binary Code License Agreement for Java SE to downlo
software.
Thank you for accepting the Oracle Binary Code License Agreement for Java SE; yc
now download this software.

Product / File Description	File Size	Download
.inux x86	56.92 MB	jre-8u121-linux-i586.rpm
.inux x86	72.76 MB	jre-8u121-linux-i586.tar.gz
.inux x64	54.39 MB	jre-8u121-linux-x64.rpm
.inux x64	70.26 MB	jre-8u121-linux-x64.tar.gz
Mac OS X	62.28 MB	jre-8u121-macosx-x64.dmg
Mac OS X	53.91 MB	jre-8u121-macosx-x64.tar.gz
Solaris SPARC 64-bit	52.05 MB	jre-8u121-solaris-sparcv9.tar.gz
Solaris x64	49.9 MB	jre-8u121-solaris-x64.tar.gz
Windows x86 Online	0.7 MB	jre-8u121-windows-i586-iftw.exe
Windows x86 Offline	53.81 MB	jre-8u121-windows-i586.exe
Windows x86	59.17 MB	jre-8u121-windows-i586.tar.gz
Windows x64 Offline	61.18 MB	jre-8u121-windows-x64.exe
Windows x64	62.66 MB	jre-8u121-windows-x64.tar.gz

Choose the 32-bit version download (i586)
Version 8u121 is the available version, when i wrote this document. Take the last available version.
After downloading, it will be necessary to launch the corresponding .exe file in administrator mode (right click on the file, and choose launch in administrator mode).

Once installed, you should be able to see your JRE as shown below:



2.2 *Installation of Whatido*

The product is in the form of a zip whatido archive <Version> Exe.zip ex whatido3Exe.zip.

We assume for the rest of the installation that there is a C: \ opt directory on your computer, otherwise you will create it or you will adapt the procedure described below.

- Position the whatido3Exe.zip archive under C: \ opt and unzip
- Open the file C: \ opt \ whatido \ script \ whatido.cmd and adapt paths to red

```
Set PROJECT_HOME=C:\opt\whatido

Set CLASSPATH=%PROJECT_HOME%\lib\jnativehook-2.1.0.jar;.;%PROJECT_HOME
%\lib\whatido-3.0.0.jar;

Set JAVA_HOME=C:\Program Files (x86)\Java\jre1.8.0_121\bin

start "" "%JAVA_HOME%\javaw" -Droot=%PROJECT_HOME% -Dhome=%PROJECT_HOME% -cp
%CLASSPATH% com.jlp.whatido.Main

Exit
```

- Open the file C: \ opt \ whatido \ script \ testingMouseKeyBoard.cmd and adapt paths to red

```
Set PROJECT_HOME=C:\opt\whatido

Set CLASSPATH=%PROJECT_HOME%\lib\jnativehook-2.1.0.jar;.;%PROJECT_HOME
%\lib\whatido-3.0.0.jar;

Set JAVA_HOME=C:\Program Files (x86)\Java\jre1.8.0_121\bin

"%JAVA_HOME%\java" -Droot=%PROJECT_HOME% -Dhome=%PROJECT_HOME% -cp
%CLASSPATH%  com.jlp.whatido.MyMouseKeyboardListener
```

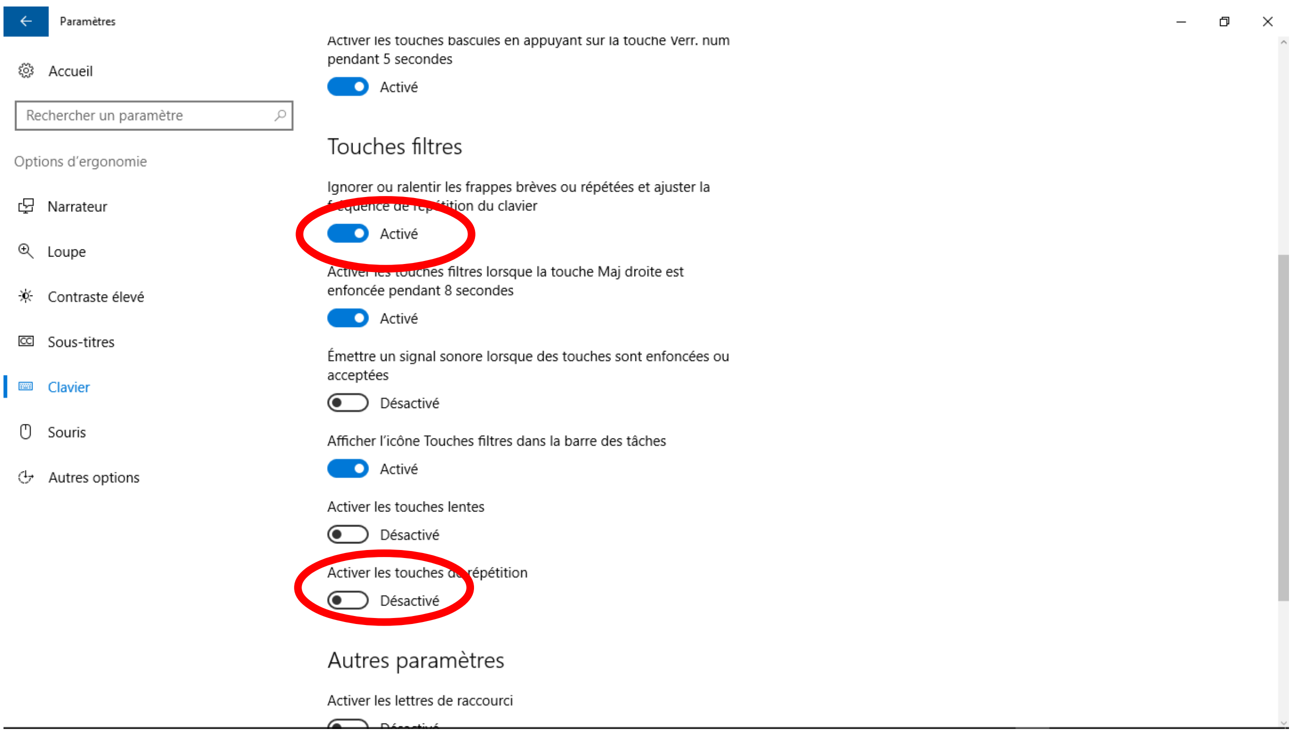
- Make a shortcut on the desktop for the file **C: \ opt \ whatido \ script \ whatido.cmd**
- Click on the shortcut to launch **whatido.**

3 User Manual

3.1 Configuring the Keyboard for Demonstrations

In order to avoid the unwanted repetition of keystrokes, when you hold down the key, the following settings must be made for Windows 10 (there are identical mechanisms for other versions of Windows as well as the different types of Windowing Linux: KDE, XFCE ... ; see tips.pdf): Settings → Ergonomics → Keypad → Activate the Filter Keys.

The configuration must conform to the following screen:



Activer les touches bascules en appuyant sur la touche Verr. num pendant 5 secondes
Activé

Touches filtres

Ignorer ou ralentir les frappes brèves ou répétées et ajuster la fréquence de répétition du clavier
Activé

Activer les touches filtres lorsque la touche Maj droite est enfoncée pendant 8 secondes
Activé

Émettre un signal sonore lorsque des touches sont enfoncées ou acceptées
Désactivé

Afficher l'icône Touches filtres dans la barre des tâches
Activé

Activer les touches lentes
Désactivé

Activer les touches de répétition
Désactivé

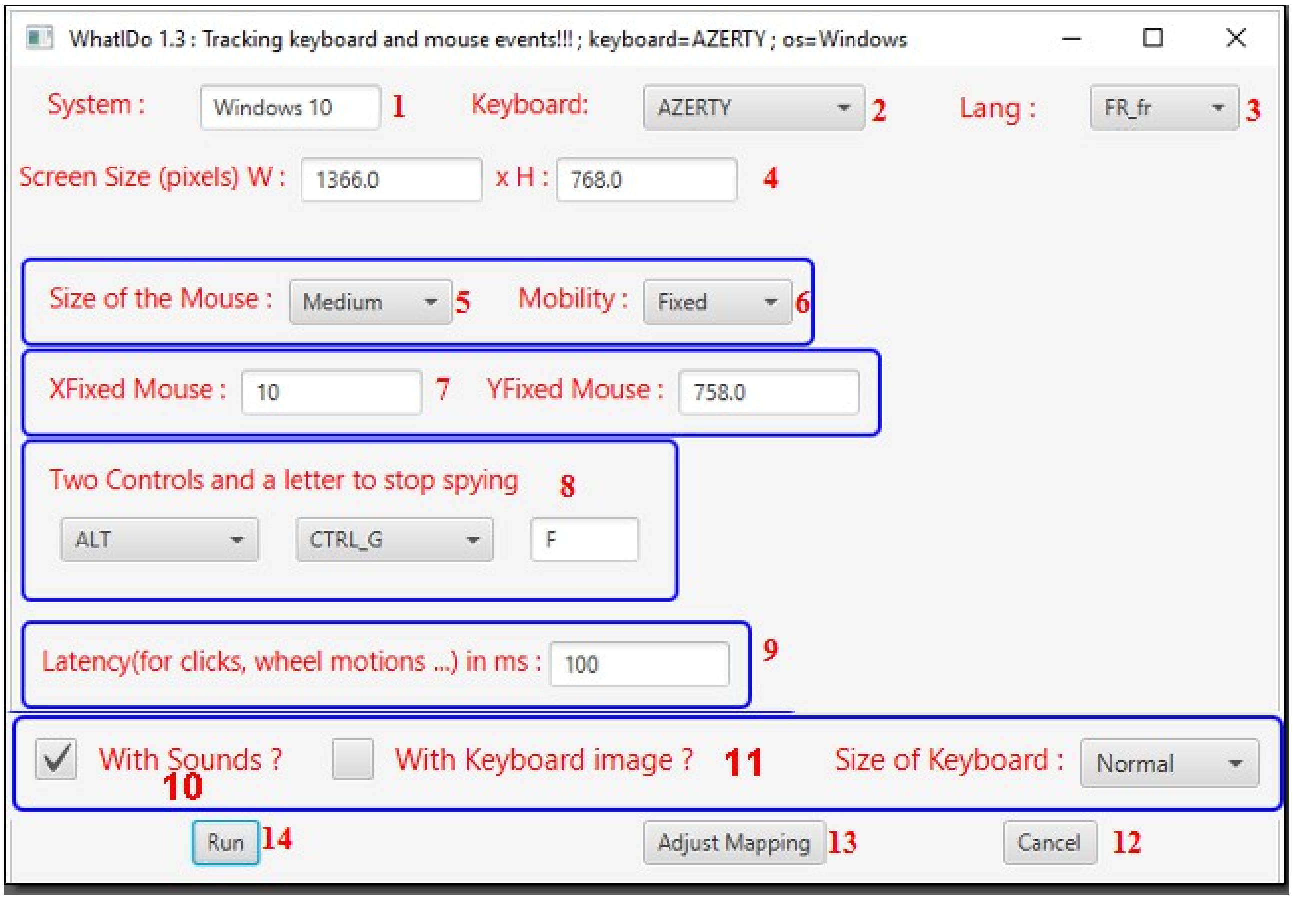
Autres paramètres

Activer les lettres de raccourci

You must activate the filter keys and deactivate the repetition of the keys.

3.2 Initial Setup Screen

Below this screen with the explanations for each object numbered in the image


WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10 1 Keyboard: AZERTY 2 Lang : FR_fr 3

Screen Size (pixels) W : 1366.0 x H : 768.0 4

Size of the Mouse : Medium 5 Mobility : Fixed 6

XFixed Mouse : 10 7 YFixed Mouse : 758.0

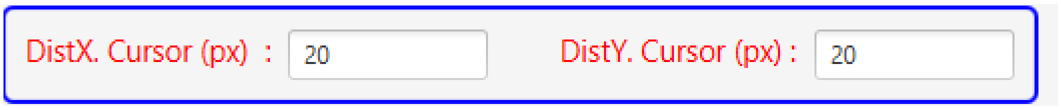
Two Controls and a letter to stop spying 8
ALT CTRL_G F

Latency(for clicks, wheel motions ...) in ms : 100 9

☑ With Sounds ? 10 ☐ With Keyboard image ? 11 Size of Keyboard : Normal

1: Automatic detection of the operating system, nothing to enter
2: Selecting the keyboard from a list. Linked to a different mapping based on Keyboard / OS. Choice to make. Keyboards can be added if necessary, see appendix.
3: Choice of language: especially used when the sound is activated. Available in French and English. See Annex for how to extend to other languages.
4: Automatic detection of the screen size (including the size available with a video projector). Do not modify
5: Choice to make on mouse size (Large, Medium, Small, Tiny)
6: Choice of the Fixed mouse behavior (still but moveable), or Mobile (follows the system cursor). Large can only be Fixed, Tiny can only be Mobile. Medium and Small have both possibilities.

7: In the Fixed case, sets the location of the mouse to whatido launch.
In the **Mobile** case we have:



DistX. Cursor (px) : 20
DistY. Cursor (px) : 20

which makes it possible to fix the distance in pixel between the system cursor and the image of the mouse .

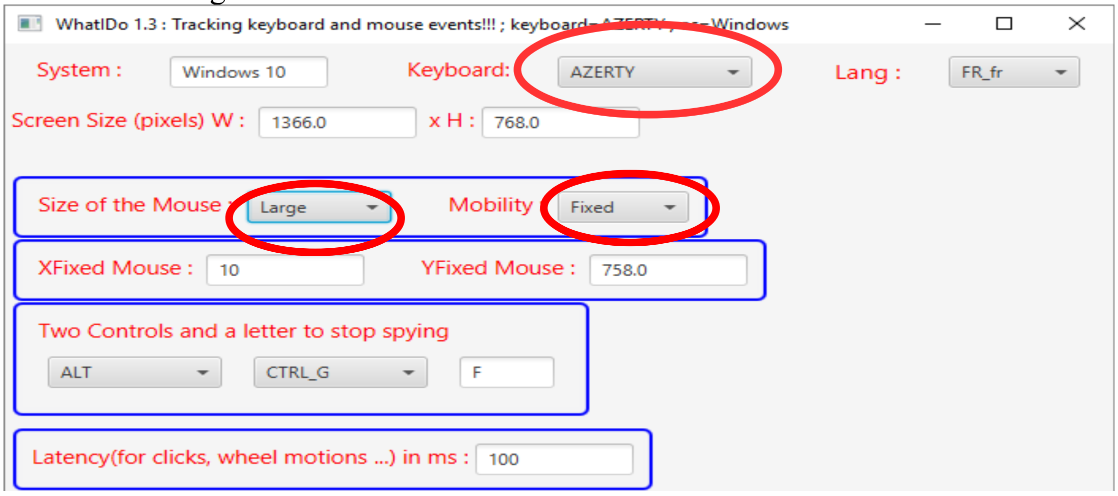
8: Combination of key to stop whatido (2 controls and one character ex: ALT CTRL_G F). You can also stop the application by closing the window of the Java icon in the taskbar.
9: To improve the visibility of the actions, it is possible to adjust the latency (in ms) of the mouse and keyboard images after releasing the mouse button or the keyboard key.
10: Possibility to put the sound that describes the actions done on the mouse and the keyboard (quickly tiresome!)
11: Activation of the keyboard display at the bottom right of the screen (3 available sizes : Normal, Medium, Small) . A black button in the middle of the spacebar allows to position it elsewhere on the screen.
12: Exit without launching the application
13: keyboard and mouse mapping button Explanations given in appendix, advanced use.
14: Launch button for the application.

3.3 *Mouse Fixed (Large, Medium, Small) only.*

The procedure is described for the Large size mouse, but it is identical for the other 2 sizes Medium and Small.

Turning the sound on or off does not affect the operation described below.

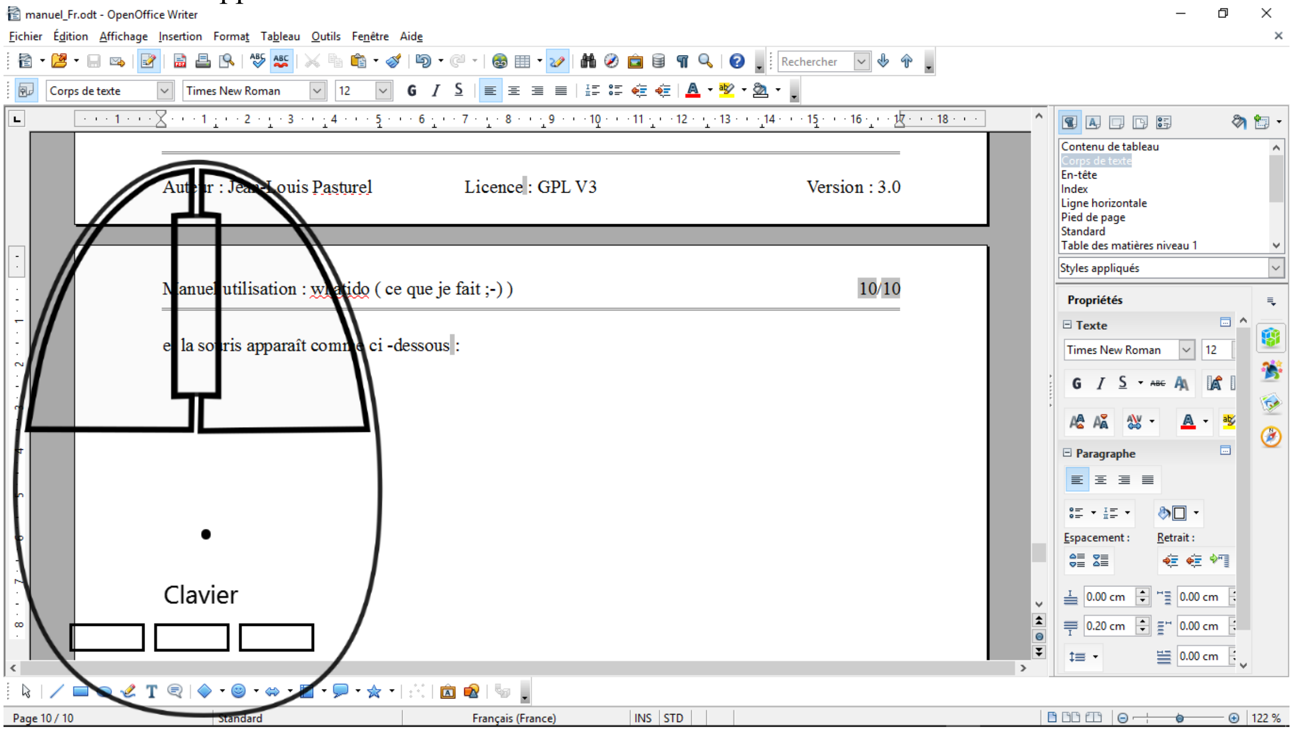
The initial configuration screen looks like this:



WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10
Keyboard: AZERTY
Lang : FR_fr
Screen Size (pixels) W : 1366.0 x H : 768.0
Size of the Mouse : Large
Mobility : Fixed
XFixed Mouse : 10
YFixed Mouse : 758.0
Two Controls and a letter to stop spying
ALT CTRL_G F
Latency(for clicks, wheel motions ...) in ms : 100

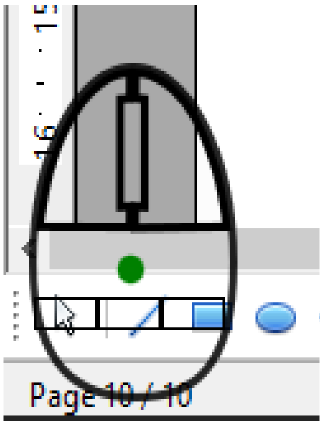
And the mouse appears as below:


manuel_Fr.odt - OpenOffice Writer
Fichier Édition Affichage Insertion Format Tableau Outils Fenêtre Aide
Corps de texte
Times New Roman
12
Auteur : Jean-Louis Pasturel
Licence : GPL V3
Version : 3.0
Manuel utilisation : whatido (ce que je fait ;-))
10/10
et la souris apparaît comme ci -dessous :
Clavier
Propriétés
Texte
Paragraphe
Page 10 / 10
Standard
Français (France)
INS STD
122 %

Each action on the mouse indicates the button pressed (blue for left button, red for right and center button, high roller move in red and blue down)

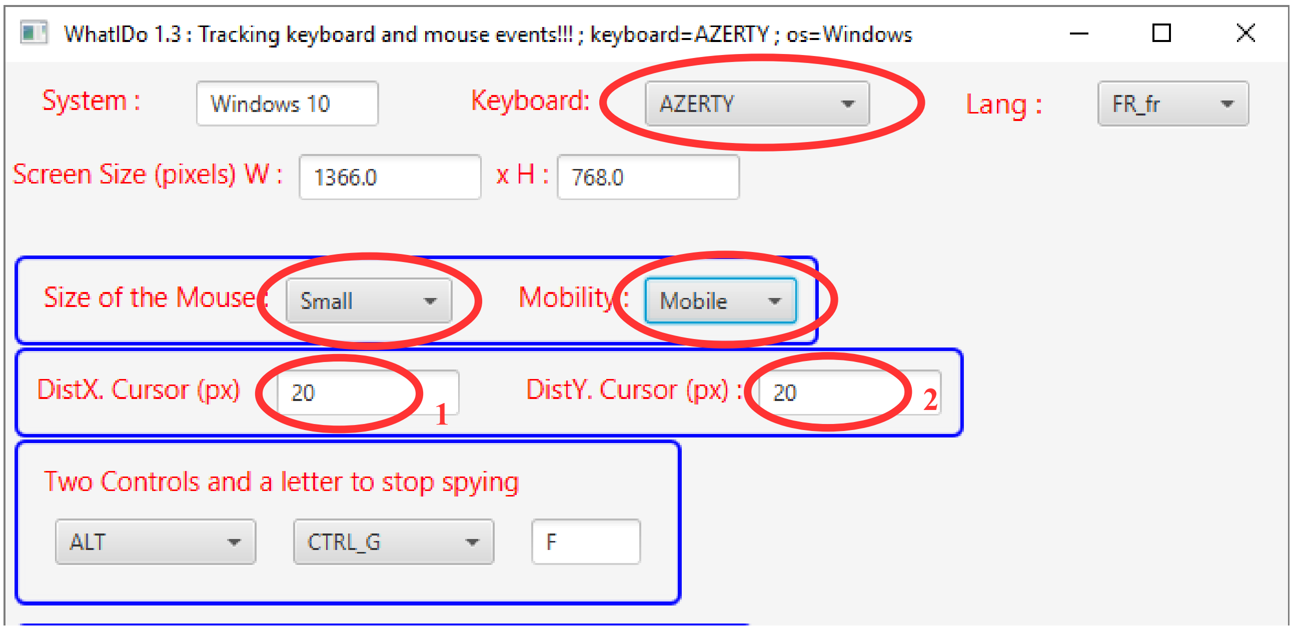
The 3 text boxes of the mouse indicate the controls entered (1st and 2nd), the third indicates the character of the keyboard.

If you click on the black mouse button, it becomes Green. If you click elsewhere on the screen, the mouse will relocate to the clicked region.



3.4 Mobile Mouse (Medium, Small, Tiny) only

The procedure is described for the Small size mouse, but it is identical for the other 2 sizes Medium and Tiny.
Turning the sound on or off does not affect the operation described below.
The initial configuration screen looks like this:

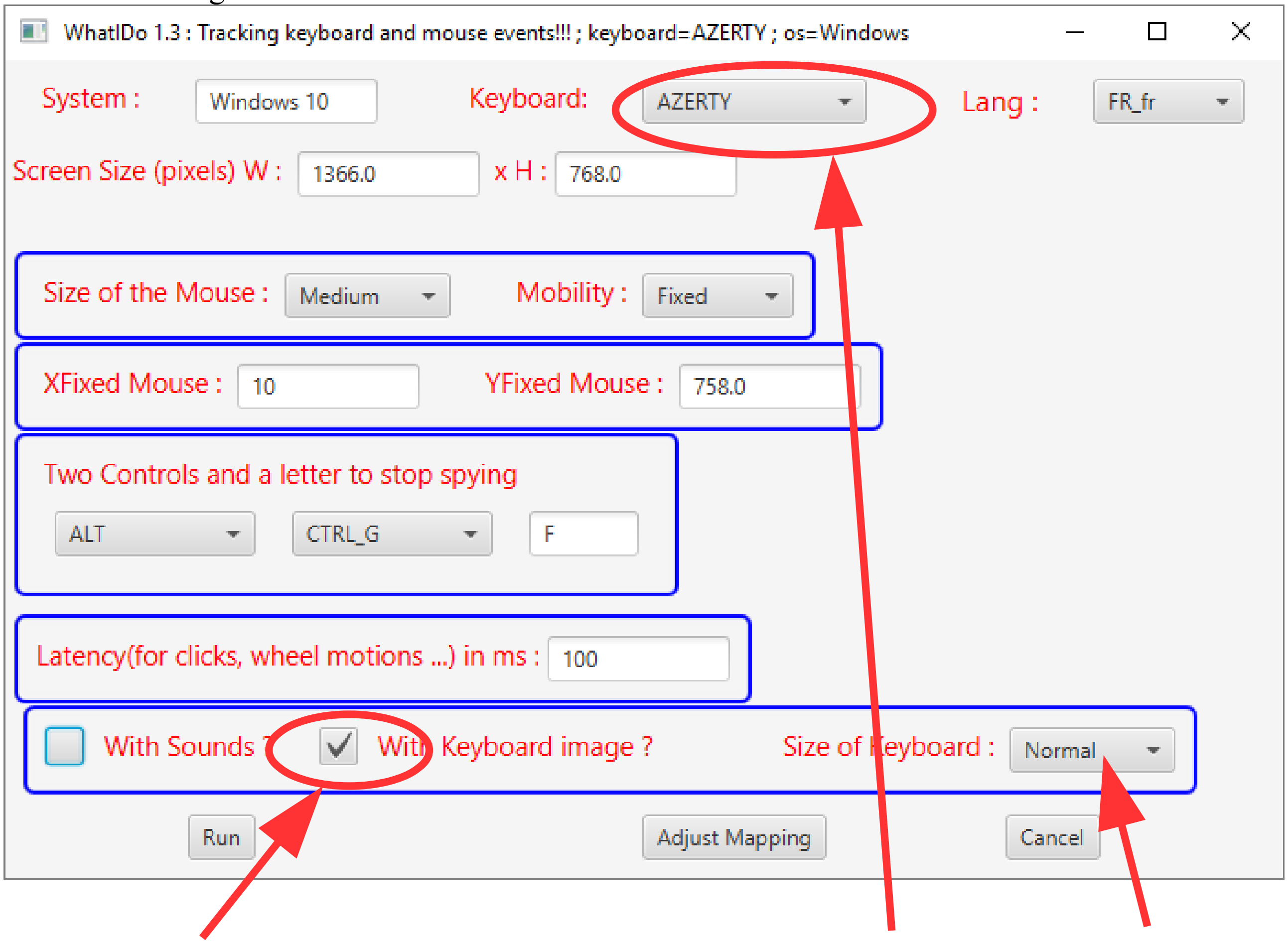

WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10
Keyboard: AZERTY
Lang : FR_fr
Screen Size (pixels) W : 1366.0 x H : 768.0
Size of the Mouse : Small
Mobility : Mobile
DistX. Cursor (px) 20 1
DistY. Cursor (px) : 20 2
Two Controls and a letter to stop spying
ALT CTRL_G F

After the launch, the mouse image will follow the system cursor when it moves. The distance is set by the parameters identified 1 and 2 in the image above.

3.5 *Enabling Keyboard Visibility*

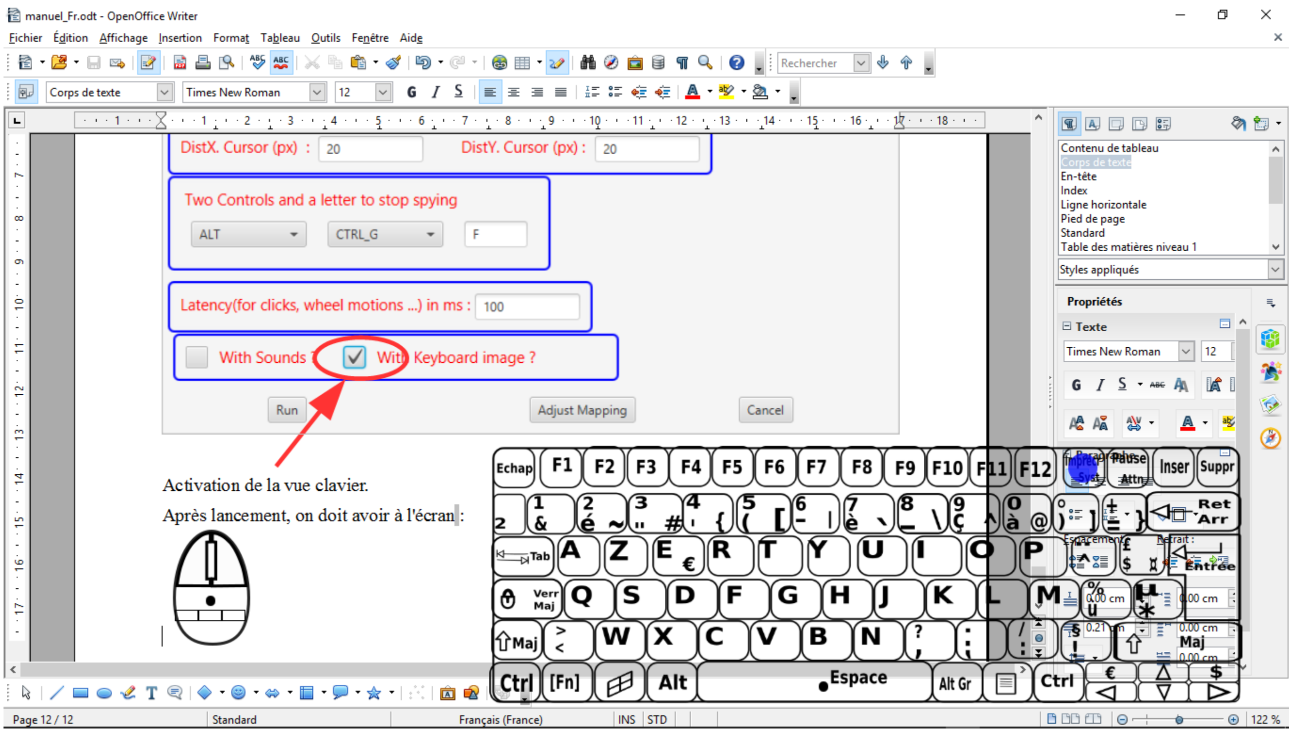
We're going to stay with the Small size mouse in mobile mode to activate the keyboard. The behavior of the mouse will not differ from the 2 cases seen just above.
The initial configuration screen looks like this:


WhatIDo 1.3 : Tracking keyboard and mouse events!!! ; keyboard=AZERTY ; os=Windows

System : Windows 10
Keyboard: AZERTY
Lang : FR_fr
Screen Size (pixels) W : 1366.0 x H : 768.0
Size of the Mouse : Medium
Mobility : Fixed
XFixed Mouse : 10
YFixed Mouse : 758.0
Two Controls and a letter to stop spying
ALT CTRL_G F
Latency(for clicks, wheel motions ...) in ms : 100
☐ With Sounds ? ☑ With Keyboard image ?
Size of Keyboard : Normal

Enabling the keyboard view after selecting the correct keyboard in the selection list and size

After launch, you must have on screen:



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DistX. Cursor (px) : 20 DistY. Cursor (px) : 20

Two Controls and a letter to stop spying: ALT, CTRL_G, F

Latency(for clicks, wheel motions ...) in ms : 100

With Sounds ? [ ] With Keyboard image ? [✓]

Activation de la vue clavier.

Après lancement, on doit avoir à l'écran :

In addition to the mouse actions, it appears on the keyboard image of the red circles (Control type CTRL, ALT, ALTGR) and a blue round according to the keys pressed.

The black dot in the middle of the space bar relocates the keyboard image by clicking it once to make it turn green and then clicking elsewhere on the screen to move the image of the keyboard.

4 Appendix

4.1 Preamble

If you have not found your keyboard, you can add one but this section will require some computer knowledge, especially for the creation of keyboard images, the use of drawing tools like Inskape: https://inkscape.org/fr/telecharger/windows/

There are versions for Linux and OS X.

To scale the keyboard (800px * 275px), you can use PhotoFiltre 7: http://www.photofiltre-studio.com/pf7.htm

The configuration of the mouse and keyboards is outsourced to text files located in the config directory. Each line (which is not a comment) of these files is a pair type:

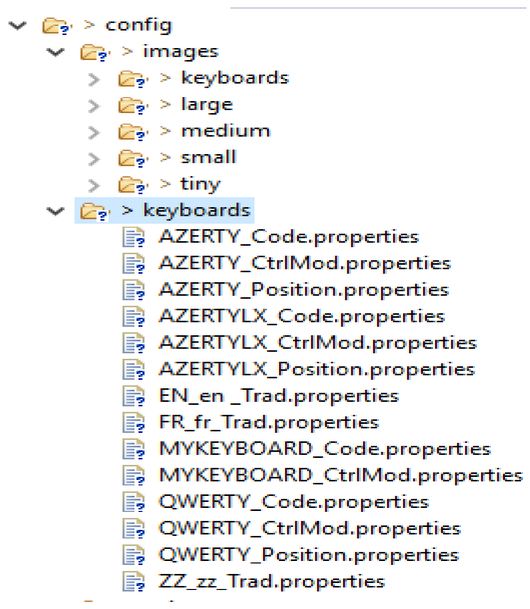
key = value

As far as the mouse is concerned, we only manage 3 buttons, the configuration file is for Windows: **config/windowsWheel.properties** :

```
#Mapping Mouse L: Left/Gauche
# R : Right/Droit
# M: Middle/Milieu
#Tue Feb 28 08:57:31 CET 2017
3=M
2=R
1=L
```

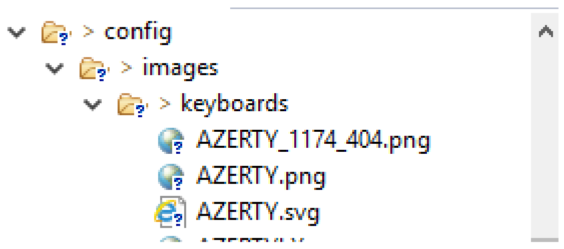
One can have, for some mice, a reversal of rank between the central button and the right button. To correct in this file.

config/keyboards :



```
> config
    > images
        > keyboards
        > large
        > medium
        > small
        > tiny
    > keyboards
        AZERTY_Code.properties
        AZERTY_CtrlMod.properties
        AZERTY_Position.properties
        AZERTYLX_Code.properties
        AZERTYLX_CtrlMod.properties
        AZERTYLX_Position.properties
        EN_en _Trad.properties
        FR_fr_Trad.properties
        MYKEYBOARD_Code.properties
        MYKEYBOARD_CtrlMod.properties
        QWERTY_Code.properties
        QWERTY_CtrlMod.properties
        QWERTY_Position.properties
        ZZ_zz_Trad.properties
```

config/images/keyboards :


config
images
keyboards
AZERTY_1174_404.png
AZERTY.png
AZERTY.svg

The file actually used is, in the case of the QWERTY keyboard, AZERTY.png. If you use only the image of the mouse in your demonstrations, you can do without creating the image of your keyboard, but it is necessary to configure the mapping code part of your keyboard.

4.2 Keyboard Mapping

Folder **: config/keyboards**

One point to note is that the names of the configuration files are very important, you must respect the rule in this naming by paying attention to the case (uppercase / lowercase).

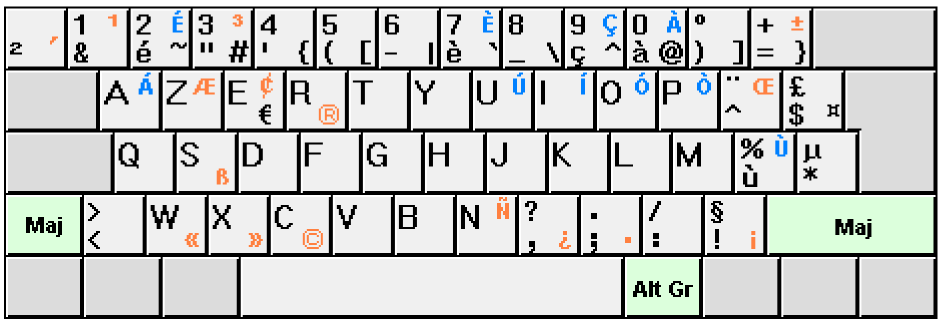
4.2.1 Giving an identifier to the keyboard

As said more, this name will constitute the identifier of the keyboard, and it must of course be unique. For this document, I will take the identifier:
OCCITAN

Note: For information, there is a software which, from the AZERTY keyboard, adds key combinations for the accented capital letters necessary for Occitan (kbdoc):

http://www.panoccitan.org/le-logiciel-de-clavier-pour-loccitan/

The keyboard is this one:



Le clavier **kbdoc** complet.

We are not going to actually realize this mapping, but we will show how we could do it. In this case, we could start from the AZERTY mapping and complete the missing characters.

4.2.2 The files to be created for the keyboard mapping:

Starting with the name OCCITAN, as far as the keyboard is concerned, it will be necessary to create:

- **config/keyboards/OCCITAN_Code.properties**
- **config/keyboards/OCCITAN_CtrlMod.properties**
- **config/keyboards/OC_oc_Trad.properties**

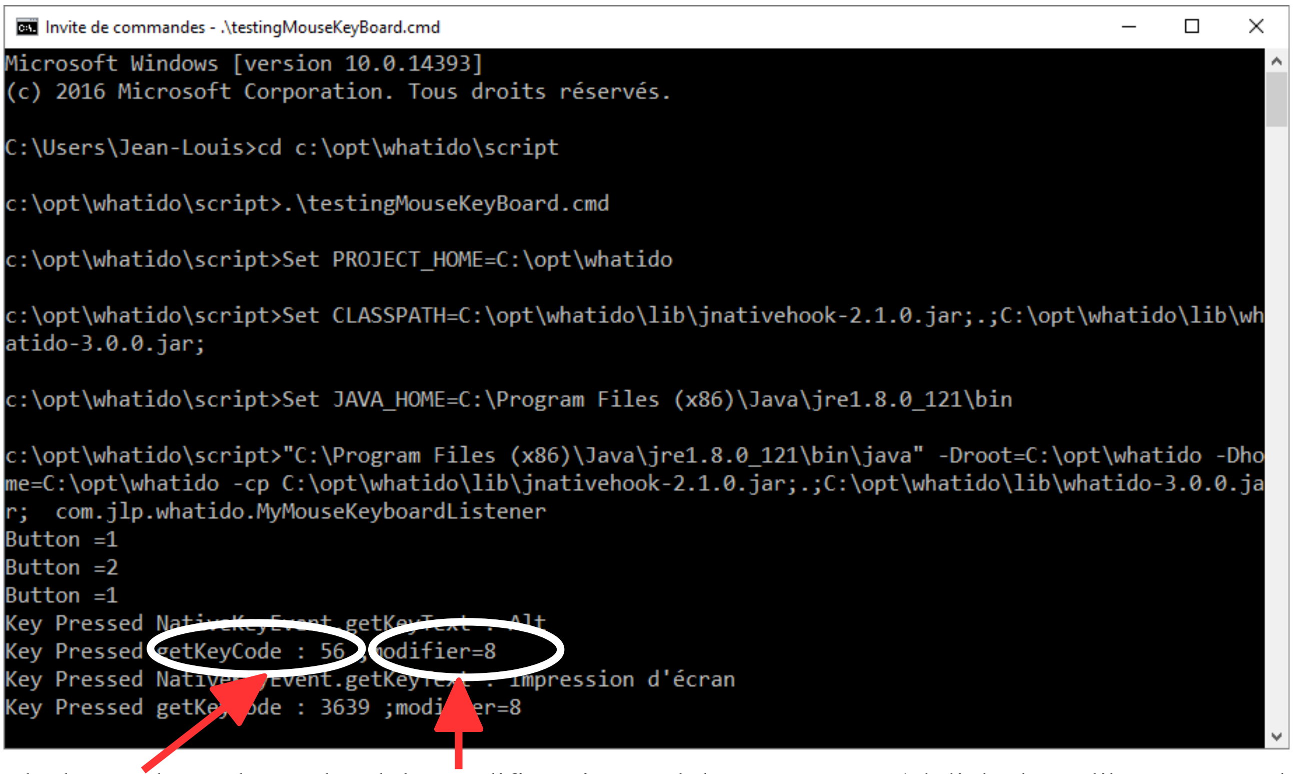
4.2.2.1 config/keyboards/OCCITAN_Code.properties

The structure of each line of this file is given below:
<keycode>_<modifiers> = <keystroke-identifier>

Lines starting with # are comments, and are not taken into account by whatido, when reading the file.

How do I get the **keycode** and the **modifiers**?

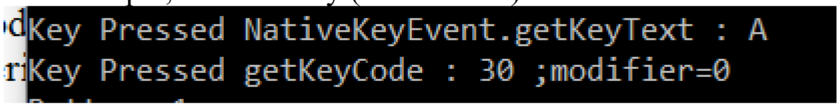
- Run a command console windows,
- To move under **whatido / script**
- Launch .**TestingMouseKeyboard.cmd**
- Then close the helloWord window.


Invite de commandes - .\testingMouseKeyBoard.cmd

```
Microsoft Windows [version 10.0.14393]
(c) 2016 Microsoft Corporation. Tous droits réservés.

C:\Users\Jean-Louis>cd c:\opt\whatido\script

c:\opt\whatido\script>.\testingMouseKeyBoard.cmd

c:\opt\whatido\script>Set PROJECT_HOME=C:\opt\whatido

c:\opt\whatido\script>Set CLASSPATH=C:\opt\whatido\lib\jnativehook-2.1.0.jar;.;C:\opt\whatido\lib\wh
atido-3.0.0.jar;

c:\opt\whatido\script>Set JAVA_HOME=C:\Program Files (x86)\Java\jre1.8.0_121\bin

c:\opt\whatido\script>"C:\Program Files (x86)\Java\jre1.8.0_121\bin\java" -Droot=C:\opt\whatido -Dho
me=C:\opt\whatido -cp C:\opt\whatido\lib\jnativehook-2.1.0.jar;.;C:\opt\whatido\lib\whatido-3.0.0.ja
r;  com.jlp.whatido.MyMouseKeyboardListener
Button =1
Button =2
Button =1
Key Pressed NativeKeyEvent.getKeyText : Alt
Key Pressed getKeyCode : 56 ;modifier=8
Key Pressed NativeKeyEvent.getKeyText : Impression d'écran
Key Pressed getKeyCode : 3639 ;modifier=8
```

The key code can be read and the modifier Disregard the getKeyText (pb linked to a library external to the product)

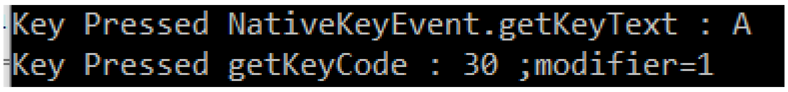
For example, for the a key (lowercase a):



```
Key Pressed NativeKeyEvent.getKeyText : A
Key Pressed getKeyCode : 30 ;modifier=0
```

We will put in the file :
30_0 = a

For the capital A:

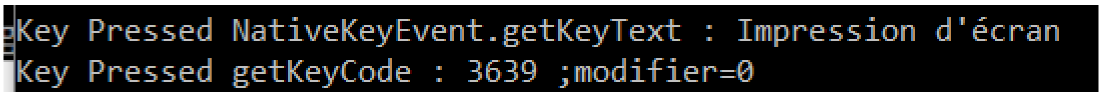


```
Key Pressed NativeKeyEvent.getKeyText : A
Key Pressed getKeyCode : 30 ;modifier=1
```

and :

30_1 = A

For another button like **Print Screen:**



```
Key Pressed NativeKeyEvent.getKeyText : Impression d'écran
Key Pressed getKeyCode : 3639 ;modifier=0
```

We will put in the file :
3639_0 = PRECR

The PRECR value is arbitrary and can then be translated into the OC_oc_Trad.properties file (see below). This should be done for all keys that are not a letter or a number (use the AZERTY_Code.properties file to name these special characters)

It is necessary to pass all the keys of the keyboard except the numeric keypad, and for each key to play with the controls (CTRL, SHIFT, ALTGR) to have one line, in the configuration file, for each character available on the keyboard. For an AZERTY keyboard, we have about 175 lines (it's a little tedious).

Make the distinction for duplicate keys (Left and Right Shift, Left and Right Control)

4.2.2.2 config/keyboards/OCCITAN_CtrlMod.properties

This file lists the keyboard controls and modifications. It is sufficient to report here the part of code found in the previous configuration for these keys only with the inversion of the key and of the value.

We should have a file identical to:

```
SHFT_L = 42_1

CTRL_L = 29_2


ALT = 56_8

ALTGR = 56_130

CTRL_R = 29_32

SHFT_R = 3638_16
```

4.2.2.3 config/keyboards/OC_oc_Trad.properties

This file allows a translation of the special characters for a display in one of the 3 fields of the

mouse. If you do not match this file, you will see the value of the OCCITAN_Code.properties file. In java, it is necessary to avoid working directly with characters specific to the language (eg French, accented characters, c cedille ...). This file allows translation into a universal character encoding called unicode.
Example in our case for é **(e acute accent)**:
We noted in our file **OCCITAN_Code.properties** the line:

```
# é eacute
3_0 = EACUTE
```

In our file **OC_oc_Trad.properties** on aura :

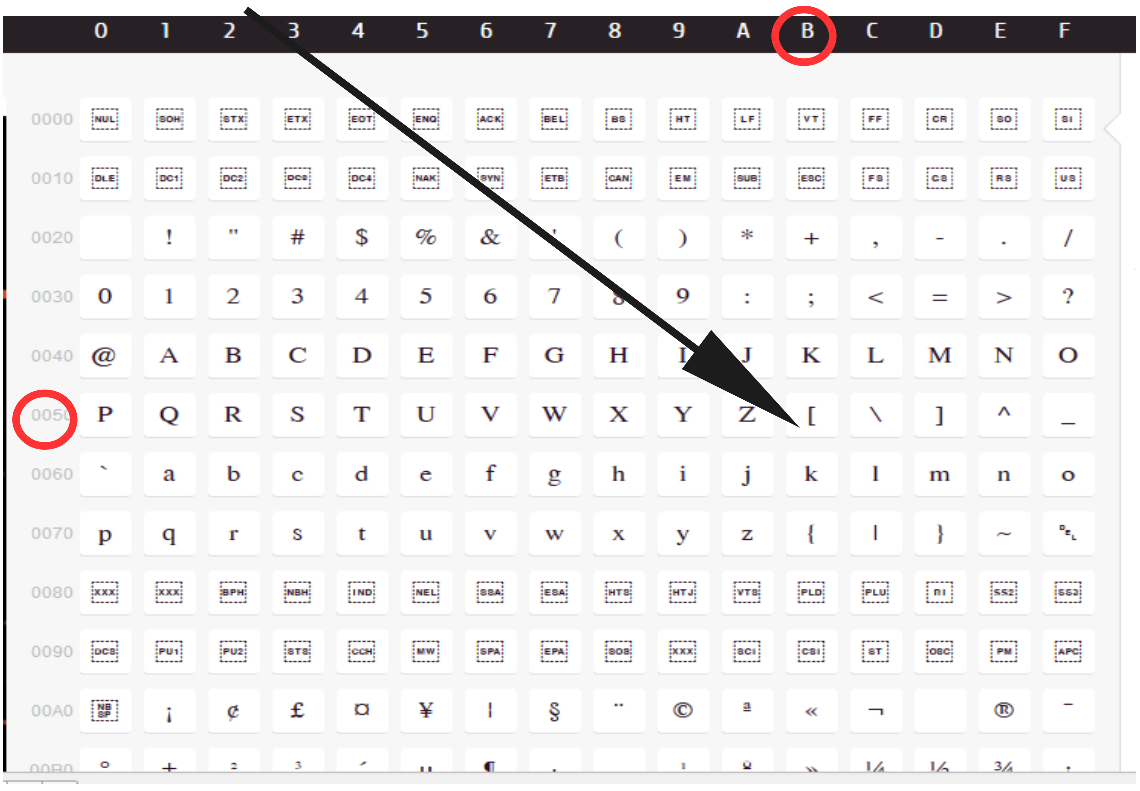
```
# é eacute
EACUTE = \u00E9
```

The unicode codes are made up for java of **\u<codeHexaOfCharacter>**

The Hexadecimal code of unicode characters is given here:

https://unicode-table.com/fr/#control-character

For example: [=> \u005B



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	HT	LF	VT	FF	CR	SO	SI
0010	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
0020		!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
0030	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
0040	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
0050	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
0060	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
0070	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	DEL
0080	XXX	XXX	BPH	NBH	IND	NEL	SSA	ESA	HTS	HTJ	VTS	PLD	PLU	RI	SS2	SS3
0090	DCS	PU1	PU2	STS	CCH	MW	SPA	EPA	SOS	XXX	SCI	CSI	ST	OSC	PM	APC
00A0	NBSP	¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬		®	¯
00B0	°	+	²	³	´	µ	¶	·		¹	º	»	¼	½	¾	¿

4.3 Viewing the Keyboard

This visualization is carried out through 2 files:

- A png image of the keypad for AZERTY keyboard:
  - **config\images\keyboards\AZERTY.png** size (800*275 px)
- A configuration file for the location of the keys on the AZERTY keyboard image**:**
  - **config\keyboards\AZERTY_Position.properties**

In our case, the name **AZERTY** must be replaced by **OCCITAN.**

4.3.1 Png image of the OCCITAN keyboard

The goal is to get a **config\images\keyboards\OCCITAN.png** image size of 800 * 275 px (this size is not required but it is correct for screens or video projectors)

The explanation of the use of Inskape and PhotoFiltre is beyond the scope of this document.

You can start from the file :
config\images\keyboards\AZERTY.svg copied to **config\images\keyboards\OCCITAN.svg.**

Inskape is then opened, and the characters of the keys are moved / added / deleted in order to put them back on the right key and in place (up / down / right / left) in the key to resemble the actual keyboard.

Then we export the part of the keyboard to the png format under the same directory giving the size in the name: ex **config\images\keyboards\OCCITAN_1100*400.png**

We close Inkscape by saving in svg format, we run PhotoFiltre and load the image **config\images\keyboards\OCCITAN_1100*400.png**

We duplicate the image, then we pass the size of the image to 800 * 275 px (We can activate the distortion to have this size).

Afterwards save it as **config\images\keyboards\OCCITAN.png.**

You must duplicate the image 800*275 with a size of 400*138 and call it **OCCITAN_S.png**
You must duplicate the image 800*275 with a size of 600*206 and call it **OCCITAN_M.png**

4.3.2 Localisation of keystroke in the image

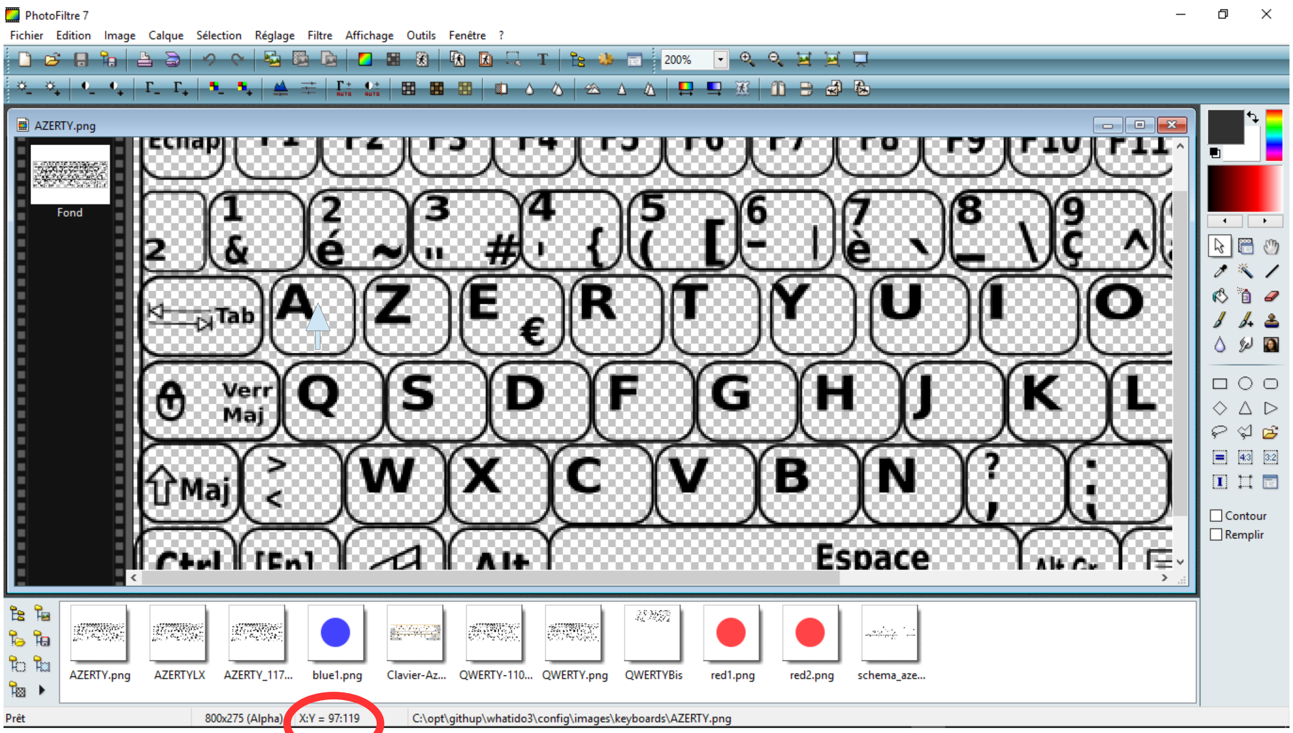
The **config\keyboards\OCCITAN_Position.properties file** will be used by the product to locate the coordinates of the keystrokes in the keyboard image. It must be done with the normal image (800 px * 275 px)

The structure of each line of this file is as follows:
keycode_Modifier = X_Y on image keyboard (800px * 275px) File **OCCITAN.png**

To complete this file, you must:

- Launch the utility **.\testingMouseKeyboard.cmd** already seen above
- Load **OCCITAN.png** image into **PhotoFiltre**.

- Then position each key and note the coordinates provided by PhotoFiltre. See image below.



```
Prêt    800x275 (Alpha)    X:Y = 97:119    C:\opt\github\whatido3\config\images\keyboards\AZERTY.png
```

For example, by positioning the cursor on the A key (positioning itself in the center of the key), the following coordinates can be read:
X:Y = 97:119

We will then have in the file **config\keyboards\OCCITAN_Position.properties** the following line :

```
# A
30_0 = 97_119
```

It is thus necessary to parameterize all the keys of the keyboard (without modifiers / modifiers) without taking into account the possibilities linked to the modifiers (one will have for the characters the modifier modifier by default 0) However for the control keys, it will be necessary to add the possibilities of double keys (ALT + CTRL_G ...) including the modifier, see the file: **AZERTY_Position.properties**.

Example for a Right Control modifier:

```
# Ctrl D Ctrl R
29_32 = 607_250
29_40 = 607_250
29_33 = 607_250
```

4.4 Putting Sound

For each action on the mouse or keyboard, you can add a sound description. The sound files are in .wav format.

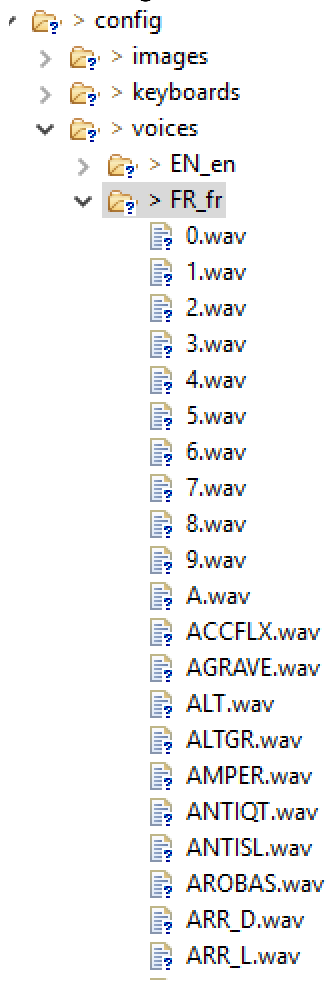
To record sounds, you can do this in two ways:

- Record using your computer's microphone and recording software (Audacity)

- Using Text To Speech software, that's what I did with balabolka

4.4.1 Voices Files

The voice configuration tree is as follows:



```
config
  images
  keyboards
  voices
    EN_en
    FR_fr
      0.wav
      1.wav
      2.wav
      3.wav
      4.wav
      5.wav
      6.wav
      7.wav
      8.wav
      9.wav
      A.wav
      ACCFLX.wav
      AGRAVE.wav
      ALT.wav
      ALTGR.wav
      AMPER.wav
      ANTIQT.wav
      ANTISL.wav
      AROBAS.wav
      ARR_D.wav
      ARR_L.wav
```

The .wav files must be located under the directory: **config/voices/OC_oc** for our example.
The prefix of the file name corresponds to the key of the corresponding line of the file:
config/keyboards/OCCITAN_Code.properties