



VirtualKeyboard

Robotic Research Team

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Virtualkeyboard User Manual and Frequently Asked Questions

• What is VirtualKeyboard?

VirtualKeyboard is a free program that simulates a real keyboard in the screen of a computer. Keystrokes are generated by clicking on the virtual keyboard with the mouse.

VirtualKeyboard is specially designed for people who can not use a conventional computer keyboard. It includes prediction and learning functions so as to increase writing speed.

Demonstrative videos on YouTube:

<http://www.youtube.com/watch?v=ahPHn3Lnl94>

http://www.youtube.com/watch?v=S4hWL_ttuv5

<http://www.youtube.com/watch?v=SsihCggEwss>



• Where can I download the last version of VirtualKeyboard?

From the Universidad de Lleida web: <http://robotica.udl.cat>

From Tecnologías Accesibles web: <http://www.tecnologiasaccesibles.com>

It is recommended to use these servers to access to the last version of VirtualKeyboard.

In the Universidad de Lleida web you can access to the Basic version of the program (1.0).

• Should I pay or register to use it?

Thanks to the support and sponsorship of Indra and Fundación Adecco, VirtualKeyboard is a free tool that does not require any registration.

The modification or adaptation of VirtualKeyboard is not allowed.

• Can VirtualKeyboard be use in a company, educational centre or training centre?

Yes, this is the purpose for which VirtualKeyboard was designed.

- **How can I install it?**

Run the installation software and follow the instructions.
You can select the language and the installation folder.

It is not required the un-installation of previous versions.
VirtualKeyboard can be installed again to correct malfunctions.

- **What is required to use VirtualKeyboard?**

Virtualkeyboard only requires a compatible pointer device (conventional mouse, HeadMouse, etc.) to control the displacement of the pointer in the screen of the computer.

- **What operating systems support the program?**

VirtualKeyboard is compatible with Windows XP, Vista and Windows 7.

It is not available in operating systems like Linux, MacOS, iPad or Android.

• Quick Guide: How can I use VirtualKeyboard?

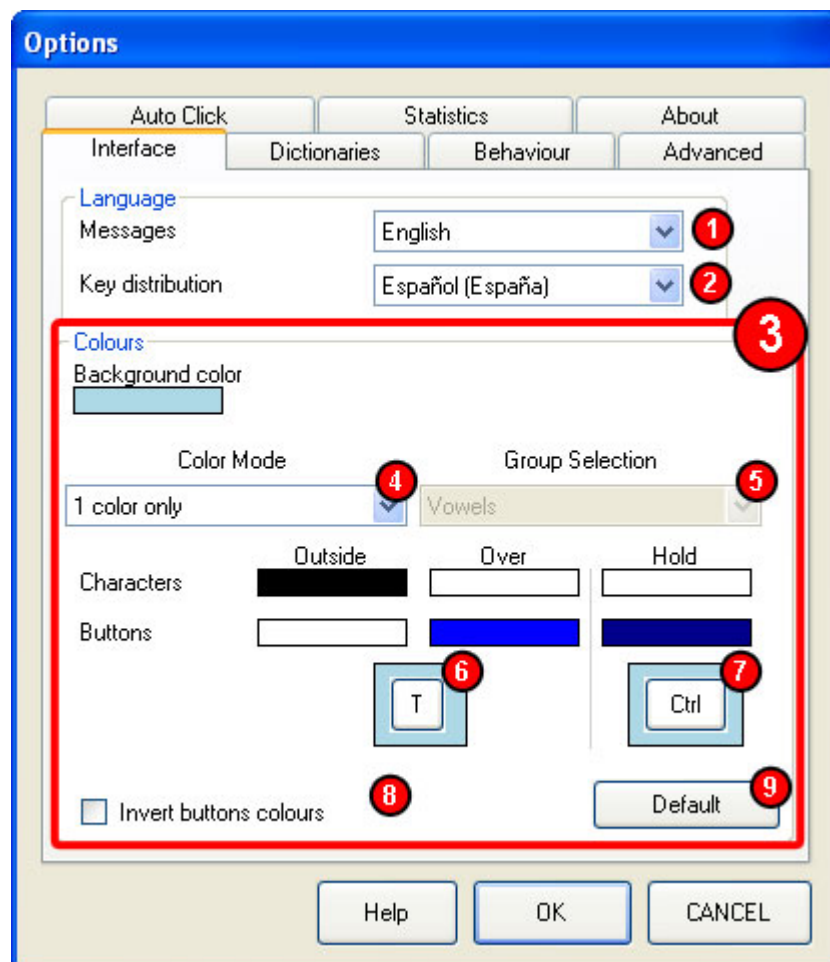
This section summarizes the functionalities of the main keys and buttons of VirtualKeyboard:



The functionality of the elements of the image are:

1. Empties the text display.
2. Shows the keystrokes performed. You can drag VirtualKeyboard when clicking on it.
3. Writes privately in the display, replacing each letter with an asterisk (*).
4. Activates or deactivates keyboard transparency. You can adjust the transparency in the options menu.
5. Opens the options menu.
6. Minimizes VirtualKeyboard.
7. Closes VirtualKeyboard.
8. Shows or hides the extended keyboard (numeric keys).
9. Places the cursor at the beginning or end of the line.
10. Resizes the keyboard using default sizes. If the right mouse button is pressed, a menu with different default sizes is shown.
11. Rollback tab. (Shift Tab).
12. Prediction buttons: they have two functions: A) If you press left click on the button, the predicted word followed by a space will be typed. B) If you press right click, the selected word can be removed from the dictionary.
13. Places the keyboard on the center and bottom of the screen and the window active above the keyboard.
14. Undoes (Ctrl Z) and redoes (Ctrl Y) the last change.
15. Delete the previously typed word.
16. Copies (Ctrl C), cuts (Ctrl X) and pastes (Ctrl V) from the clipboard.
17. Types one dot point (.) and inserts a new paragraph.
18. Space key. It can be configured to show the name of the active window (where we type) by configuring the options menu.
19. Displays some special symbols.
20. Dictionary selector.
21. Typing stylus selector. You can choose between literary or informal stylus.
22. Deletes a word displayed on the prediction buttons. After press the button you should press the prediction button.
23. Fast access of prediction type: with learning, without learning or on a macro mode.
24. Makes a screenshot (Print Screen).
25. Scrolls through the pages of a document.
26. VirtualKeyboard is placed in different positions of the screen.
27. Show typing statistics. This option is set in the option menu.

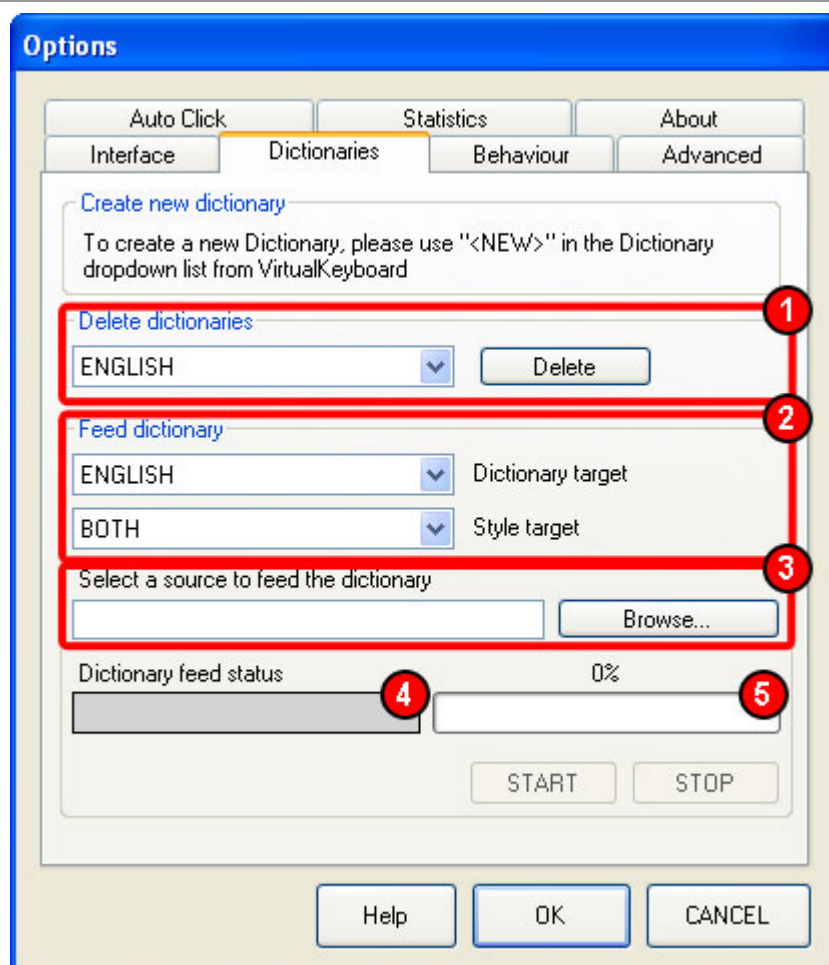
• Quick Guide: Menú de Opciones – Interfaz



The functionality of the elements of the image are:

1. Sets the language of the interface (text messages).
2. Defines key distribution of VirtualKeyboard.
3. Changes the colours of the keyboard interface.
4. The keys can have a unique or different group of colours.
5. List of key groups which allow changing its colour.
6. Shows the colours chosen for keys.
7. Shows the colours chosen for a pressed key.
8. Reverses the keyboard images from black to white. It is optimal for a keys using dark colours.
9. Returns to the default colour settings.

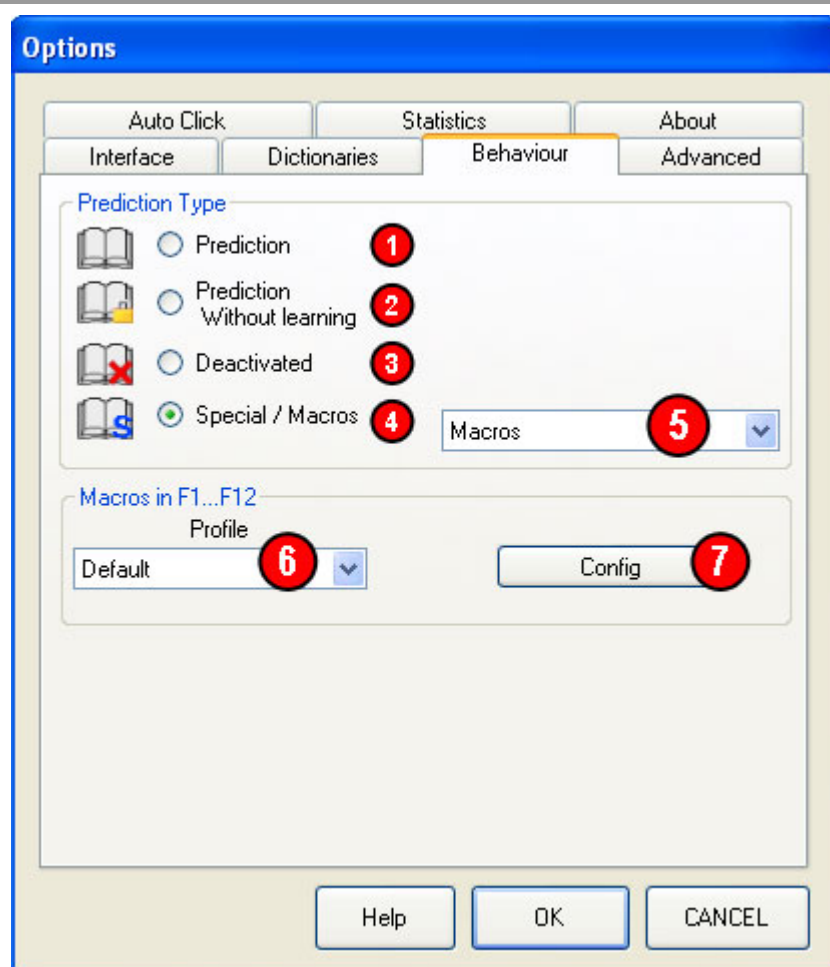
• Quick Guide: Options menu – Dictionaries



The functionality of the elements of the image are:

1. Deletes a dictionary permanently.
2. Selects a dictionary where to add new words from a text file using.
3. Select a text file (in *UNICODE* format) to add all its words to the selected dictionary.
4. Show the words currently being added in the dictionary.
5. Progress bar of the process.

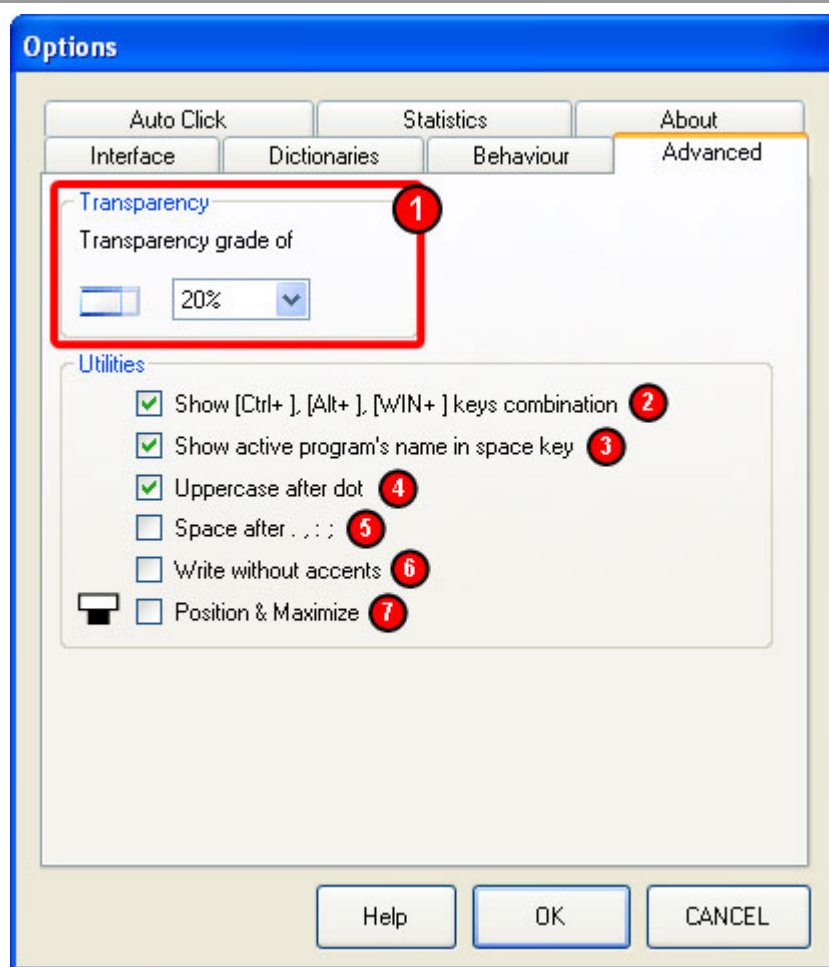
• Quick Guide: Options menu – Behaviour of the keyboard.




The functionality of the elements of the image are:

1. Enables the prediction and learning capabilities of the keyboard (recommended).
2. Enables the prediction capability city but not the learning.
3. Disables the capabilities of prediction and learning.
4. Enables the operation in macro mode, this option allows to realize a sequence of actions by pressing only one macro key. This mode doesn't disable the capabilities of prediction and learning of the virtual keyboard.
5. Assigns predefined and custom functions to the macros.
6. Selects a macro profile defined by the user.
7. Opens the window which shows the custom options of the macros profiles.

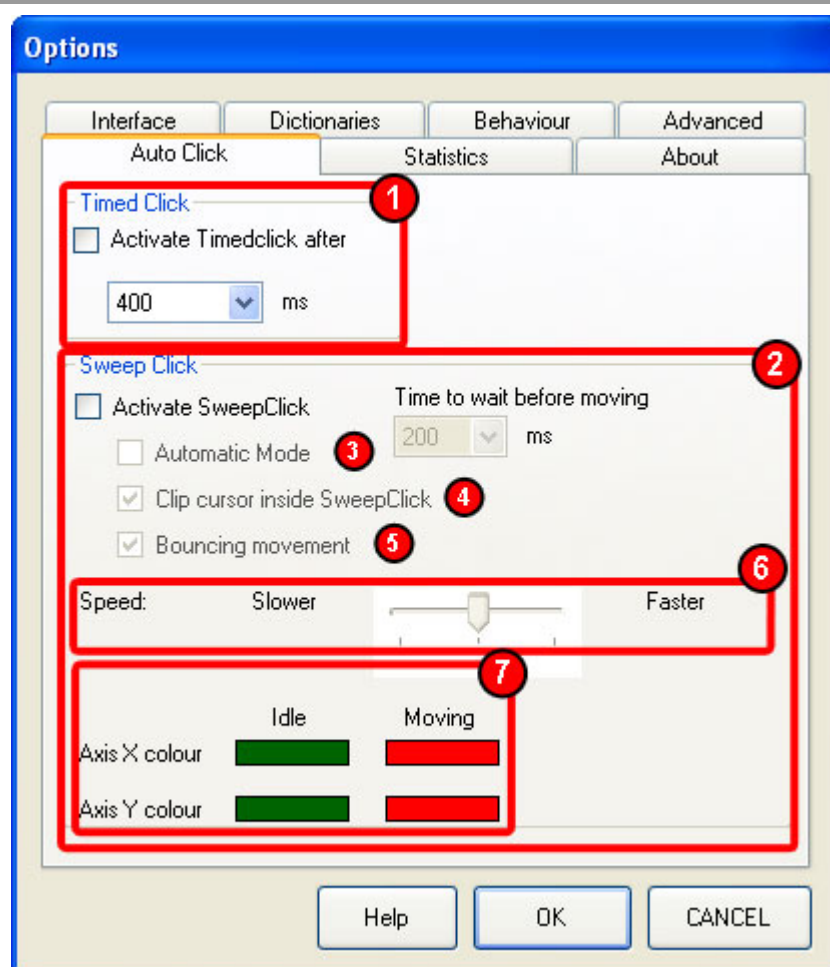
• Quick Guide: Options menu – Advanced options.



The functionality of the elements of the image are:

1. Transparency selection.
2. Enables or disables the visualization of shortcuts.
3. Enables or disables the visualization of the active window (on which are sent the keystrokes) on the space bar.
4. Enables automatically the key [capital letters] after to write a dot point (.).
5. Adds automatically a space after write (.), (,), (:), or (;).
6. Allows the writing without accents in the words.
7. If this selection is active; when pressing  the program where we type is located above the keyboard and it is maximized automatically.

• Quick Guide: Options menu– Autoclick

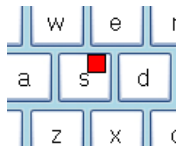


The functionality of the elements of the image are:

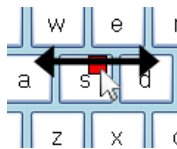
1. Enables and sets an automatic timer click, it's generated automatically when keeping the cursor on a key the time selected.
2. Enables and sets a sweep click which doesn't require pointer displacement. The system generates two reference lines that move over the keyboard and they stop when a click is performed; the key located on the intersection of the two lines is typed automatically.
3. Enables the automatic mode which activates automatically the displacement of the reference lines after typing over a key.
4. Confines the cursor in a keyboard's zone to prevent the involuntary deactivation of the SweepClick scanning system.
5. Enables a bouncing SweepClick motion. The reference lines invert their motion direction when reaching the limits of the keyboard.
6. Defines the speed of the sweep (references lines).
7. Defines the colors of the references lines in the states of motion and wait.

- **What means timed click?**

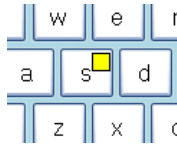
Timed click is an option that allows using VirtualKeyboard without performing clicks; the typing is simulated automatically while keeping the pointer over a key. When the predetermined time is reached the automatic click is performed (a small red square appears on the key).



If the cursor is moved laterally several times over a key already pressed then this keystroke is deleted.

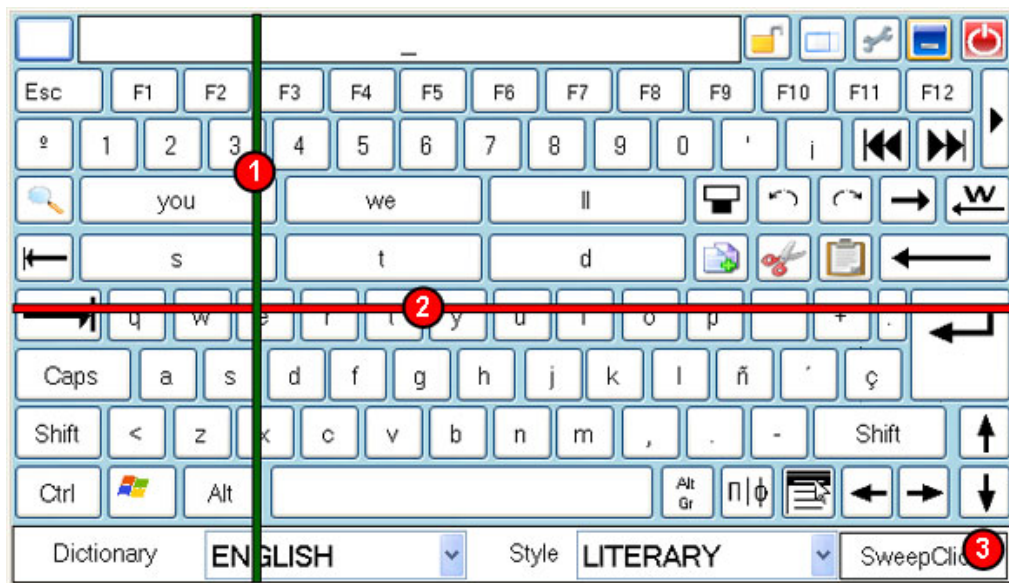


This delete action is labeled with the apparition of a small yellow square on the key.



- **What means Auto click by sweep?**

Auto click by sweep allows using VirtualKeyboard without displacing the pointer; the user should just realize a click action to control both references lines (1 and 2) shown on the keyboard. The run the system with this option the cursor must be located in the square SweepClick area (3) of the keyboard.



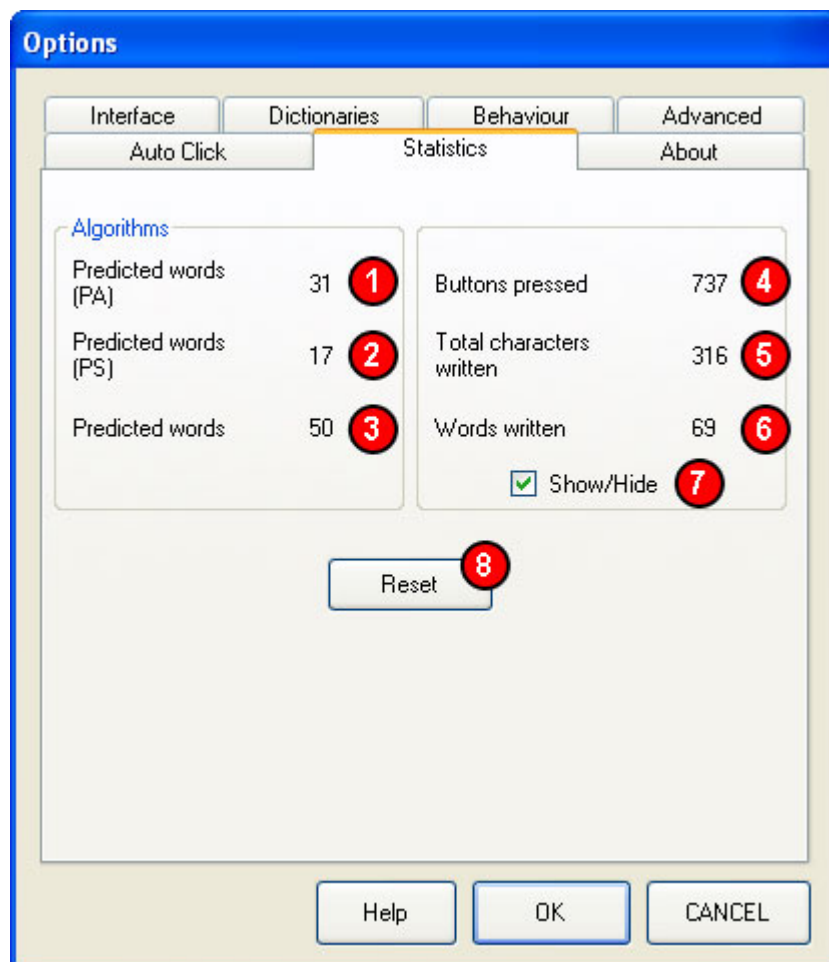
Each click realized changes the operating state of the sweep:

After a first click, the vertical line (1) begins to move. This vertical motion is stopped when another click is done. This second click activates the motion of the horizontal line (2). This horizontal motion is stopped when another click is performed. After this third click the key defined by the intersection of both lines is automatically pressed.

If the "Automatic mode", the vertical line starts to move automatically after the time defined in the options menu.

If the "Confine cursor" option is activated, the cursor will not be able to go out of the SweepClick area (3). **To exit this mode, the user should place both references lines on the SweepClick area and perform one click.**

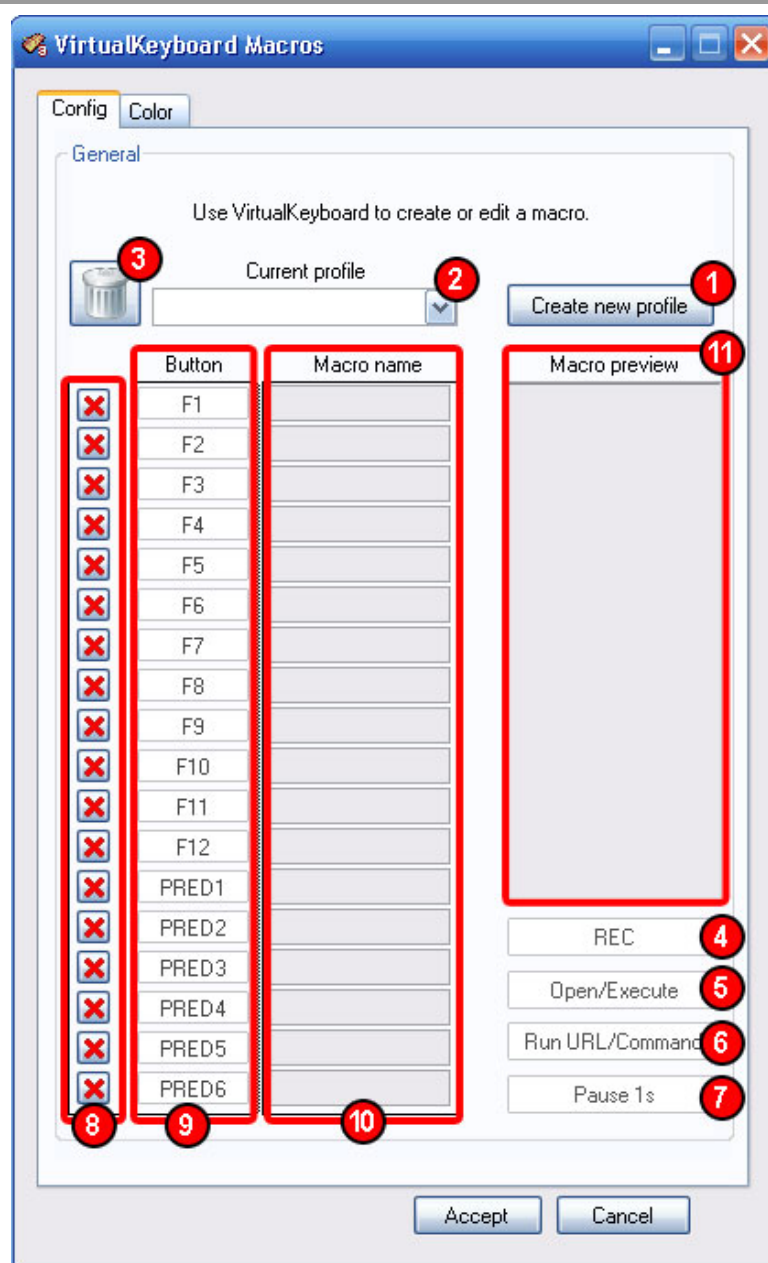
• Quick Guide: Options menu – Usage statistics.



These statistics refer to the use of the keyboard from the first start-up or last reset.

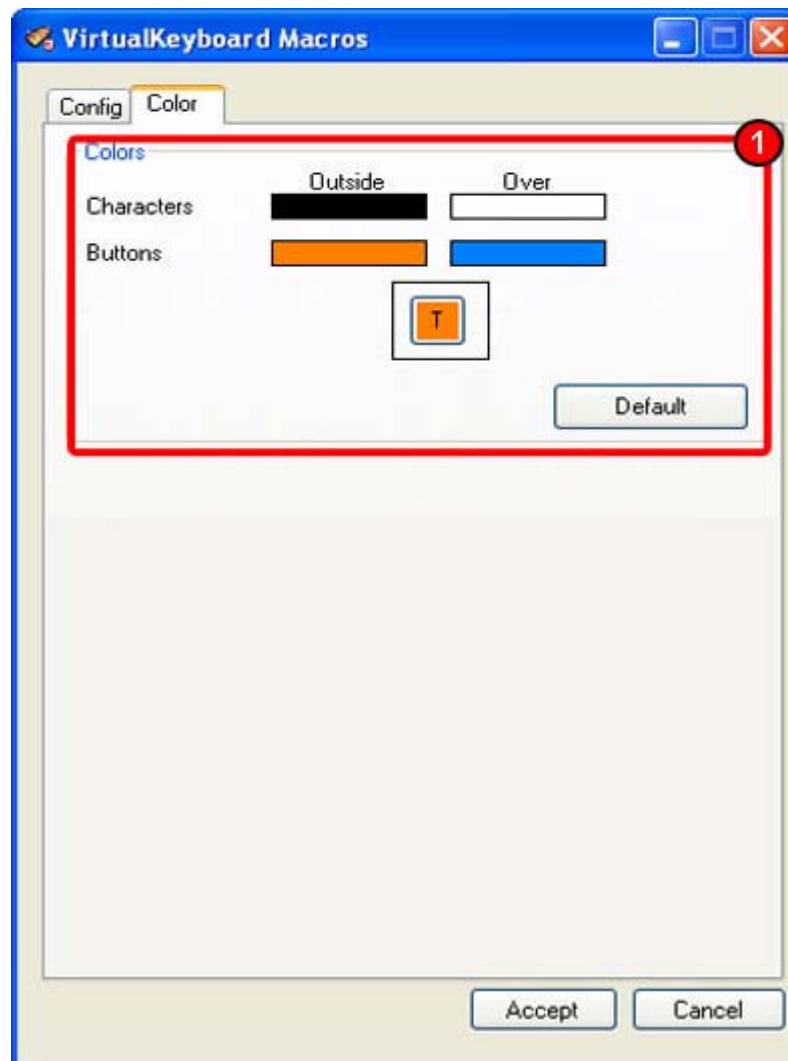
1. Displays the number of words predicted by the Actual Word (AW) algorithm.
2. Displays the number of words predicted by the Next Word (NW) algorithm.
3. Displays the total number of words predicted by VirtualKeyboard.
4. Displays the number of keystrokes.
5. Displays the number of letters written.
6. Displays the number of words written.
7. Displays or hides the 3 statistics of VirtualKeyboard.
8. Resets the counters.

• Quick Guide: How can I configure the macros?



The functionality of the elements of the image are:

1. Create a new macro profile.
2. Shows the current macro profile under configuration.
3. Deletes the current macro profile.
4. Macro record button. Saves and shows in the preview the keystrokes pressed. It is recommended to record the macro while using the program which will use the macro. Recording is finished pressing the button again.
5. Allows selecting any file to be executed (if it is an executable file) or opened (if it is a doc, .txt, .bmp, .jpg, .mp3, .wav, etc...) by the default program.
6. Allows writing the name of the program, folder, document or Internet resource (for example <http://www.google.com>) that should be opened.
7. Introduces 1 second of pause between different actions of a macro. It can be used to add a certain delay between two consecutive actions defined in a macro.
8. Option to delete the sequence of keystroke assigned to the button.
9. Keyboard buttons which can be set to execute macros: PRED1 indicates the prediction button 1.
10. Name which will be visualized on the keyboard when entering in macro mode.
11. Preview of the keyboard sequences selected.



The functionality of the elements of the image are:

1. Allows changes in the colours of the keys configured in macro mode.

• **If VirtualKeyboard is reinstalled, the dictionaries will be lost?**

No, when reinstalling VirtualKeyboard older dictionaries will not be deleted.

• **If I have problems with the dictionaries, what I can do?**

Delete them manually and install VirtualKeyboard again.

• **Can I use VirtualKeyboard with HeadMouse?**

Yes, they are complementary tools.

• **Can I use VirtualKeyboard to enter my password when Windows starts session?**

At the moment that's not possible.

• **Can I use the keyboard and VirtualKeyboard jointly?**

Yes, they operate independently.

• **How can I realize a shortcut or key combination?**

When clicking on the keys [Ctrl], [Alt], [Alt Gr] o [Shift] they remain activated until another keystroke is performed.

• How can I create a new empty dictionary?

When clicking over the name of the dictionary a dropdown shows the available dictionaries.

To create a new dictionary you should select the last option of the list (<NEW>), type the name of the new dictionary, and pulse [ENTER].

Each dictionary allows typing using two different writing styles. The predicting accuracy is improved with the use.

• How to resize the VirtualKeyboard?

It can be resized in the following ways.

- Dragging the edges of VirtualKeyboard.
- Making a left click on the magnifying glass.
- Making a right click on the magnifying glass and selecting one of the sizes of the list.

• How can I move VirtualKeyboard?

Pressing on the text display the keyboard is dragged; another click stops the dragging.

• What does the text written in the space bar mean?

If you have the option selected in the configuration, you can view the name of the active program or window on the space bar.

• How a word from the dictionary can be deleted?

There are two ways to delete a word from the dictionary:

- Clicking on the word delete button and then on the desired prediction button.
- Making a right click on the desired prediction button and choosing the option delete word.

• Is there any scientific publication describing VirtualKeyboard usage?

Yes, check the publications page of the Robotic Research Team of the Universidad de Lleida at:

<http://robotica.udl.cat>

• How comes out the idea of VirtualKeyboard?

The original idea of VirtualKeyboard comes out as a consequence of the development of the virtual mouse HeadMouse which allows the control of the cursor's displacement on the computer screen through head's movements. The initial objective was to apply the simplicity of use of HeadMouse to a virtual keyboard with predictive and learning capacities with more functionalities which make easy its use.

The idea of VirtualKeyboard is currently available as a free program thanks to the work performed by the Robotic Research Team of the University of Lleida and the support and sponsorship of Indra and Fundación Adecco.



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