

Passguard: User Manual

martilux2580

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Chapter 1

User Manual

1.1 Introduction

This section will include the Passguard user manual, so that a user of any level knows how to use the application and how it behaves according to the actions performed.

1.2 Main application view

When starting the application we get the main view of the application, which has five important parts that can be interacted with:

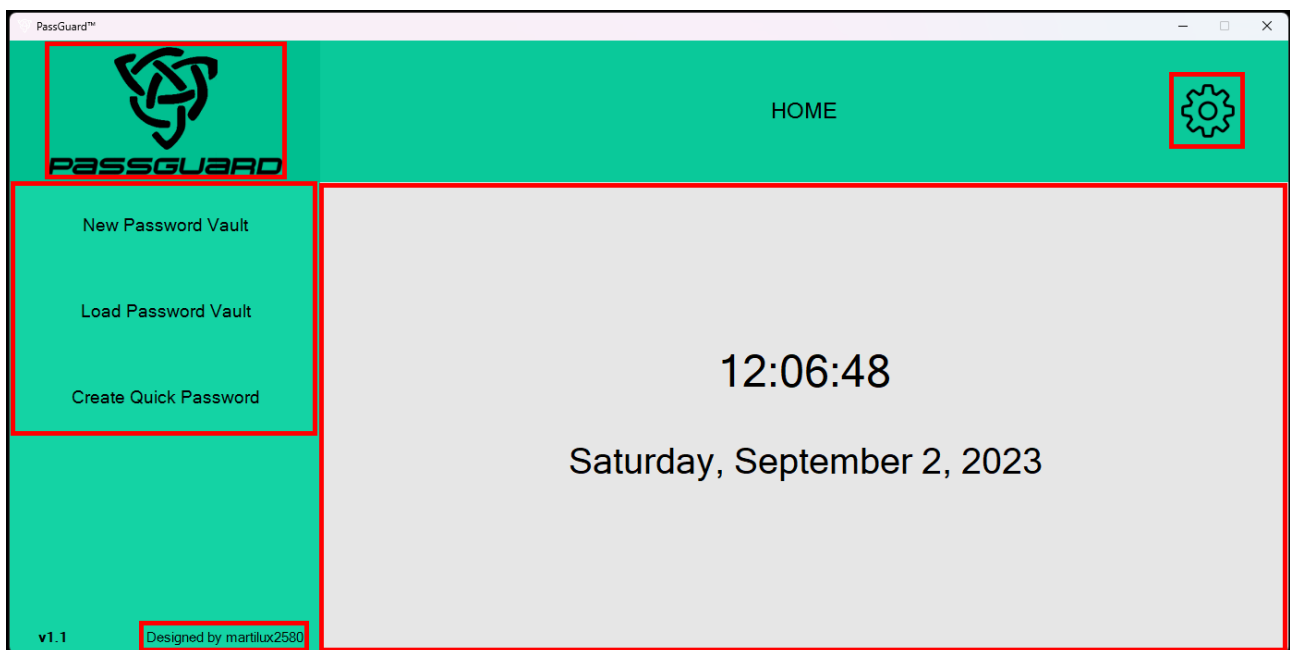


Figure 1.1: Main view of the application with four important parts.

In the upper left part we have the logo and name of the application, at any moment of interaction with the application if we want to return to this main view we will only click on that logo with the name and we will return to this main view.

Below that logo we have a panel with a slightly different color, where we find buttons to, in order, create a new Passguard Vault, load a new Passguard Vault or create random passwords quickly. In the future more buttons may appear in this part, we will see later what happens when each of these three buttons is pressed. At the bottom left we have a text that says

Designed by martilux2580, if we click on that text we will see that it is a link that will open in the user's favorite browser and directs to the GitHub profile of the creator of this application.

On the other hand, in the central part of the application and in clear theme in this case we have the panel of contents of the application. Since we are in the main view of the application what is shown in this panel is the date and time in real time, as we interact with this application the contents will be displayed in this panel. It should be noted that the application can be minimized, but the size of the application window is fixed.

In the upper right part of the application we have a button with a gear image, this is the options button, this button and its options will be explained in a future section.

Of all the previous image, the areas with green outline color are those that will always remain visible, the white area is the content panel and will change as we interact with the application.

1.3 Create a new PassGuard Vault

Being in the main view of the application, if we click on the New Password Vault button we will access the following view of the application:

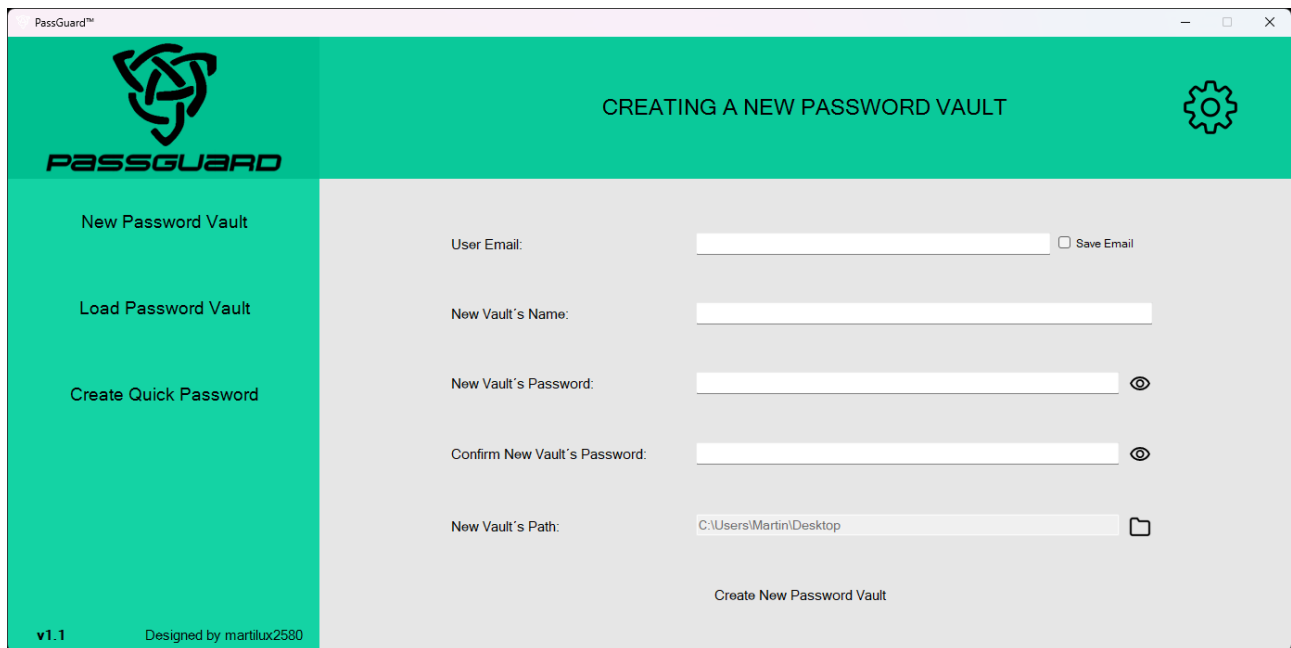
The screenshot shows a web application window titled "PassGuard™". The interface has a teal header bar with the PassGuard logo on the left, the title "CREATING A NEW PASSWORD VAULT" in the center, and a gear icon on the right. A teal sidebar on the left contains three buttons: "New Password Vault" (highlighted), "Load Password Vault", and "Create Quick Password". The main content area is white and contains a form with the following fields: "User Email:" with a text input and a "Save Email" checkbox; "New Vault's Name:" with a text input; "New Vault's Password:" with a text input and an eye icon; "Confirm New Vault's Password:" with a text input and an eye icon; and "New Vault's Path:" with a text input showing "C:\Users\Martin\Desktop" and a folder icon. At the bottom of the form is a "Create New Password Vault" button. The footer of the sidebar shows "v1.1" and "Designed by martilux2580".

Figure 1.2: View of the creation of a new Passguard Vault.

As you can see in the image, when creating a new Passguard Vault you need an email address, a name for the file, a password to confirm and a path to save the file to. No emails will be sent to the email provided, and the Save Email box can be clicked so that when the user wants to log into the created Passguard Vault they can copy the email instead of typing it in. The password must contain upper and lower case letters, numbers and symbols, and be at least 16 characters long. The eye buttons to the right of the password and password confirmation fields are for altering the visibility of their respective text field. The default passwords are shown with hidden characters, if we click on that button the respective text field will be shown in plain text, if we click again on the button with the closed eye image the password value will be hidden again. In the case of the path, the user must click on the button with the folder icon and choose a path from his device.

Once the data is entered, it will be checked that the password and email have the correct form, that the password and its confirmation match and that the name is not composed only of

symbols, as this could be a problem, and that there is not a Passguard Vault with that name already saved in that path. If the conditions for these fields are met, a window with information will pop up, this information is basically the data that we cannot lose in order to access the Passguard Vault (the email, the password, and the Security Key (SK) generated), in addition to certain actions that have been performed when creating it. The window looks like this:

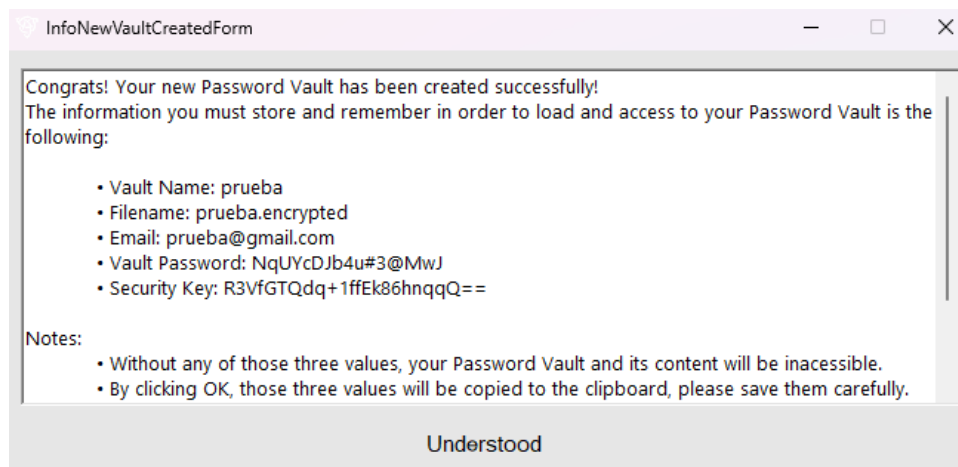


Figure 1.3: Pop-up window after a Passguard Vault has been successfully created.

As soon as the previous window exits, important contents such as email, password and Security Key are copied to the clipboard for the user to save them conveniently, however, it is recommended to check that the copied data is actually in the clipboard before closing the window with the data. In case of creating new Passguard Vaults the data is saved in memory and the saved data is discarded, so the user must be careful in such cases not to lose access credentials to their Passguard Vaults.

In case any input data when creating the Passguard Vault is not correct, the program will warn us with a pop-up message as follows:

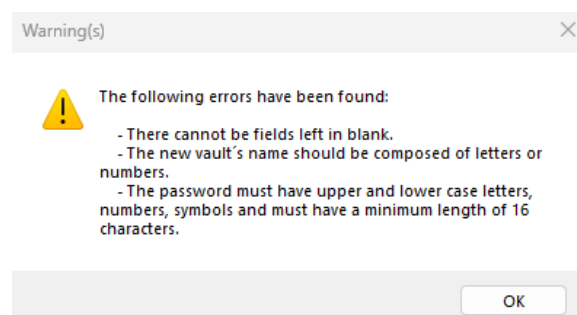


Figure 1.4: Pop-up message in case of errors in the creation of a Passguard Vault.

Once the Passguard Vault has been successfully created, the contents of the text fields (except email) will be reset in case the user wishes to create another Passguard Vault.

1.4 Load a Passguard Vault

If we are in the main view of the application and click on the Load Password Vault button, it will take us to the next login view:

In this view we will have to enter the three fundamental fields to access the Passguard Vault and the path to the specific Passguard Vault. In the case of the email, we must enter the email used to create the Passguard Vault, and in case we have it saved we can click on the Load

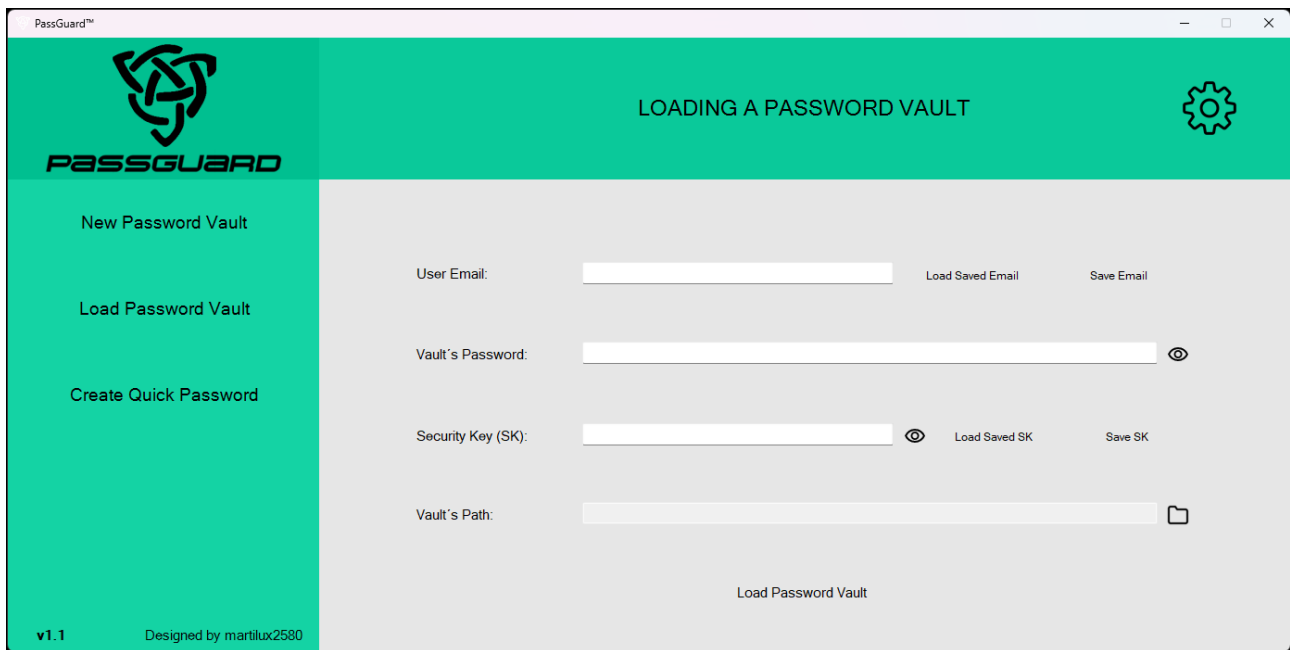


Figure 1.5: Login or upload view of a Passguard Vault.

Saved Email button to automatically paste it in the corresponding text field. If we want to save an email, we must first type an email in the corresponding text field and then click the Save Email button to save it. The password and Security Key fields have the characters hidden, but with the buttons with open or closed eye icons we can give visibility in clear text or not to those fields. The Security Key is a field that was randomly generated when creating the Passguard Vault, and just after creating it was saved in the program (although in the popup window it comes up and can be copied and saved), so if we hit the Load Saved SK button it should be loaded in the corresponding text field. Otherwise, the user will have to type in the corresponding text field the Security Key associated to that Passguard Vault, and in case he/she wants to save it, he/she will have to click on the Save SK button. Then the user will choose the path of his Passguard Vault (it is his file with .encrypted extension) by clicking on the folder icon button and once selected, he will be able to click on the Load Password Vault button to load it. In case there is any error with the input data or credentials, the user will get a pop-up error message with a description of the error, otherwise the user will be taken to the password table view, where the password data will be displayed.

1.4.1 Main view with the contents of a Passguard Vault

As soon as the user logs in or loads his Password Vault through the login view, he will access a view where the encrypted password table will be displayed, along with several buttons and fields to interact with it.

In this case, data has been added to the Passguard Vault so you can see what it looks like. First, we have a table with eight columns and their respective headers. Below those headers we have in most of the columns buttons, although in another column we have checkboxes. Below the table we have a horizontal line with a search field and three buttons, and below that horizontal line we have another one with six buttons.

If we click on some column headers we will get a list of options to sort the data in the table by that column, the orders are normal (the order in which the data is displayed when you log in), and ascending or descending alphabetically. The drop-down list looks like this, and is available for some columns:

By clicking on any option, the data in the password table will be reset and redisplayed in

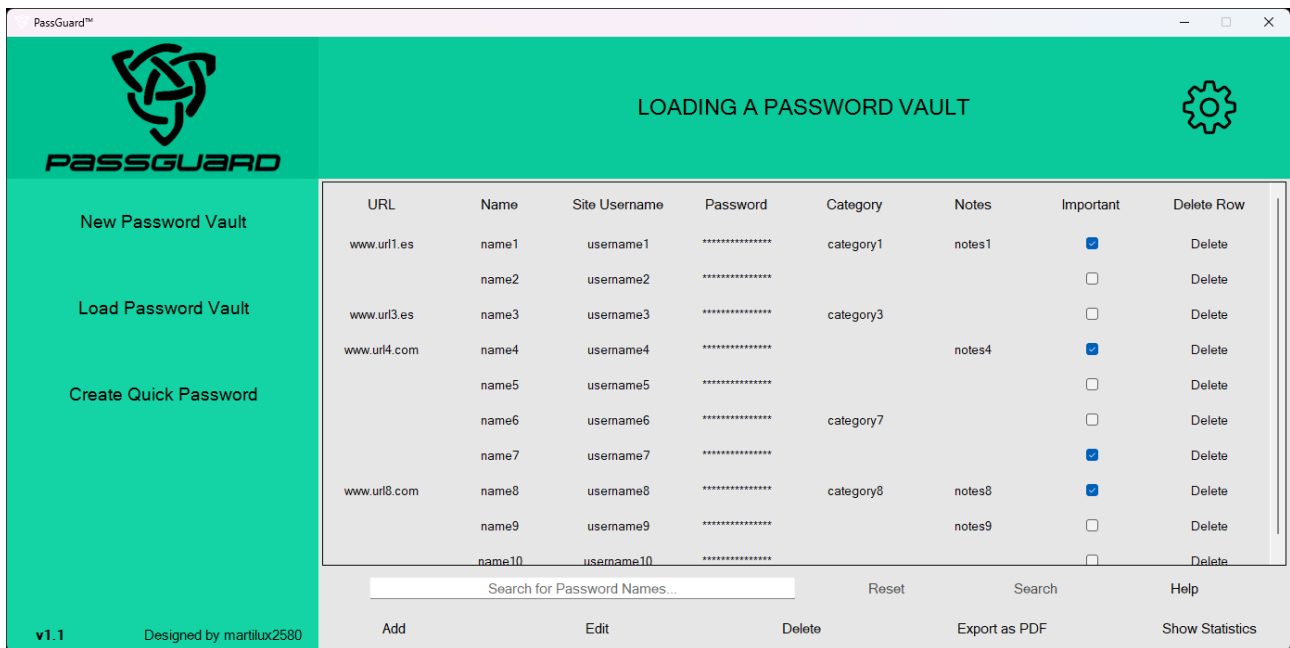


Figure 1.6: Password table view.

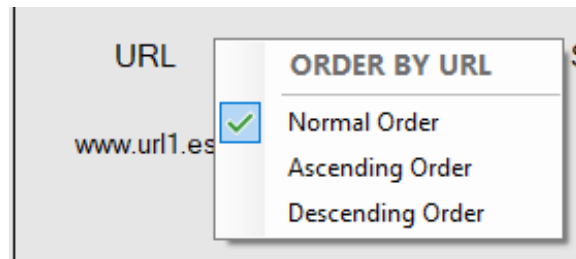


Figure 1.7: List of ordering options.

the order chosen.

The password table is mainly composed of buttons, the text of these buttons are the data of the saved passwords, although they do not appear in full for reasons of size they are there. In all the columns of buttons except in the Delete Row column, in case of clicking on a button the content will be copied to the user's clipboard, the password field is censored with asterisks, but if it is clicked its plain text data is also copied to the clipboard. In the Delete Row column there are buttons to delete that password (the one in the row it is associated with) from the Passguard Vault. Deleting data is an irreversible action, so before deleting, you will be asked for confirmation with the following pop-up message:

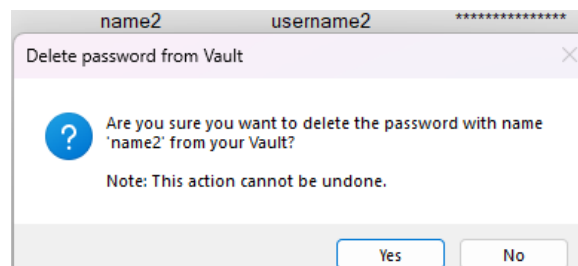


Figure 1.8: Password deletion confirmation pop-up message.

The Important column indicates the passwords that have been marked as important, if the box is checked it indicates that the password is important. When sorting the passwords by importance, the important ones will always appear at the top and will be sorted according to

what you have specified, in case of a tie they are sorted by name. When marking or unmarking a password as important, you can click on the corresponding checkbox and a message will appear confirming the change, if the user accepts it, the password table will be reloaded with the updated data.

The password search field searches for passwords by the name column, since it is the column with unique values for each password. As soon as there is text in that field the Search button will be activated to execute the search, what will happen is that the password table will be updated showing the result of the search. The Reset button will reset the password table with the data stored in the Passguard Vault and empty the search text field. The Help button will open a popup window with text detailing how this password view can be used and what data it has, if in doubt it is recommended to read the information in that popup window.

Clicking on the Add button will pop up a window with text fields to enter the url, name, username, password, category, notes and a checkbox to select if the password is important or not. The name, username and password text fields are mandatory, and the name must not be a name that is already stored in the Passguard Vault. If any requirement is not met a pop-up message will be displayed, otherwise the window will close and the password table will be reloaded with the updated data. A screenshot of this window will not be shown as it is very simple and self-explanatory.

Clicking on the Edit button will pop up a window that at the beginning only has a drop-down list enabled, clicking on that drop-down list will show all the saved password names. When the user selects a password name that is not blank, the text fields below the drop-down list will show the data related to that password, i.e. url, password name and username, password and category, notes and password importance. That data will be editable, and as soon as the Edit Element button is clicked it will check that the password name does not exist in the database (unless the name is the name you were editing) and the checks that were performed when you add a new password to the Passguard Vault.

If we click on the Delete button we will access a pop-up window similar to the Edit button, but slightly different. In this case we will also have a drop-down list to choose the password to delete, and as soon as we choose it we will be able to delete it. The difference in this pop-up window is that there is a check box that allows you to activate a button to delete all passwords in the Passguard Vault. In the case of deleting one or all passwords, pressing the Delete Element button will ask for confirmation to delete, as it is an irreversible process. The pop-up window for deleting passwords is as follows, and with it you can deduce the appearance of the edit window:

If you click on the Export as PDF button, the table of contents will be exported as a PDF document in the Documents folder of the Windows OS operating system. As soon as this document has been generated, a pop-up message like the following one will appear:

Finally, if we click on the Show Statistics button we will access a large window where we will have a drop-down list with types of statistics and Reset and Search buttons. This window can be accessed if the Passguard Vault with which we are operating has a minimum of ten saved passwords, in order to have a minimum number of passwords to work with. As soon as a type of statistics has been selected, the Reset and Search buttons will be enabled. The Search button searches for the necessary data and generates the graphs, the Reset button resets the drop-down list and the generated graphs. The large statistics window once some statistics have been generated looks as follows:

Once the statistics have been generated, a button will be displayed below each corresponding graph where details of the statistics can be downloaded in JSON format to the Documents folder of the Windows OS operating system. These details will simply tell us the names of which passwords have fallen into each part of the statistics. There are some statistics that may take longer to generate, this depends on the number of passwords contained in the Passguard

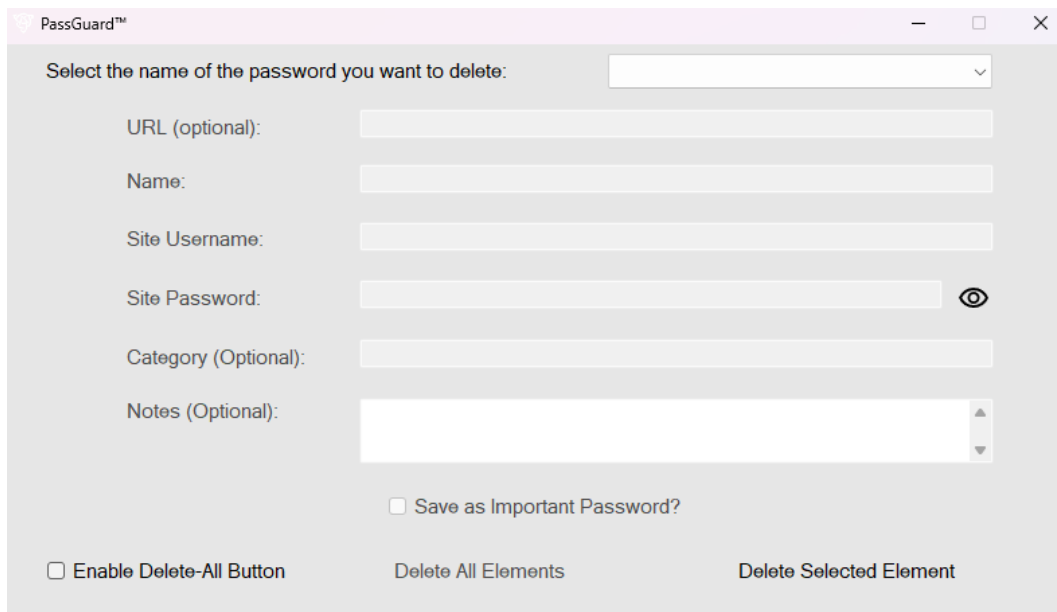


Figure 1.9: Pop-up window for deleting passwords in a Passguard Vault.

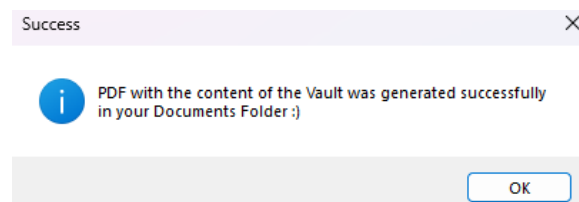


Figure 1.10: Pop-up message of successful export of a Passguard Vault as PDF..

Vault.

1.5 Creation of fast random passwords

In the main view of the application if we click on the Create Quick Password button we will access the following view with five different parts:

The first important part contains the boxes dedicated to select uppercase letters, lowercase letters or numbers. The second important part includes a checkbox to include symbols, which if checked will then enable many checkboxes to select different symbols, plus a button to enable or disable all symbols, and a button with a note regarding symbols, which will show a popup message which informs that, even if multiple symbols are chosen, it is highly unlikely that all of those symbols will appear in the generated passwords, but it is guaranteed that at least one of the generated symbols will appear.

The third important part contains two NumericUpDown components to choose on the one hand the number of passwords to check, which can be from one to 512 passwords, and to choose the length of the passwords, which can be from 5 or 16 characters up to 52 characters. The minimum value of the password size depends on the fourth important part, which is the checkbox to choose whether we want to generate passwords that have not been compromised in previous security breaches. Next to this box the user has a button with an information icon that if clicked will display a pop-up window with information on how this process is performed. If this box is checked then the minimum password size must be 16 characters and at least some type of letters must be enabled, otherwise the minimum will be 5 characters.

The fifth important part is the text box where the passwords will appear as soon as the user clicks the Generate Passwords button. In case any parameter is not valid then the user will be

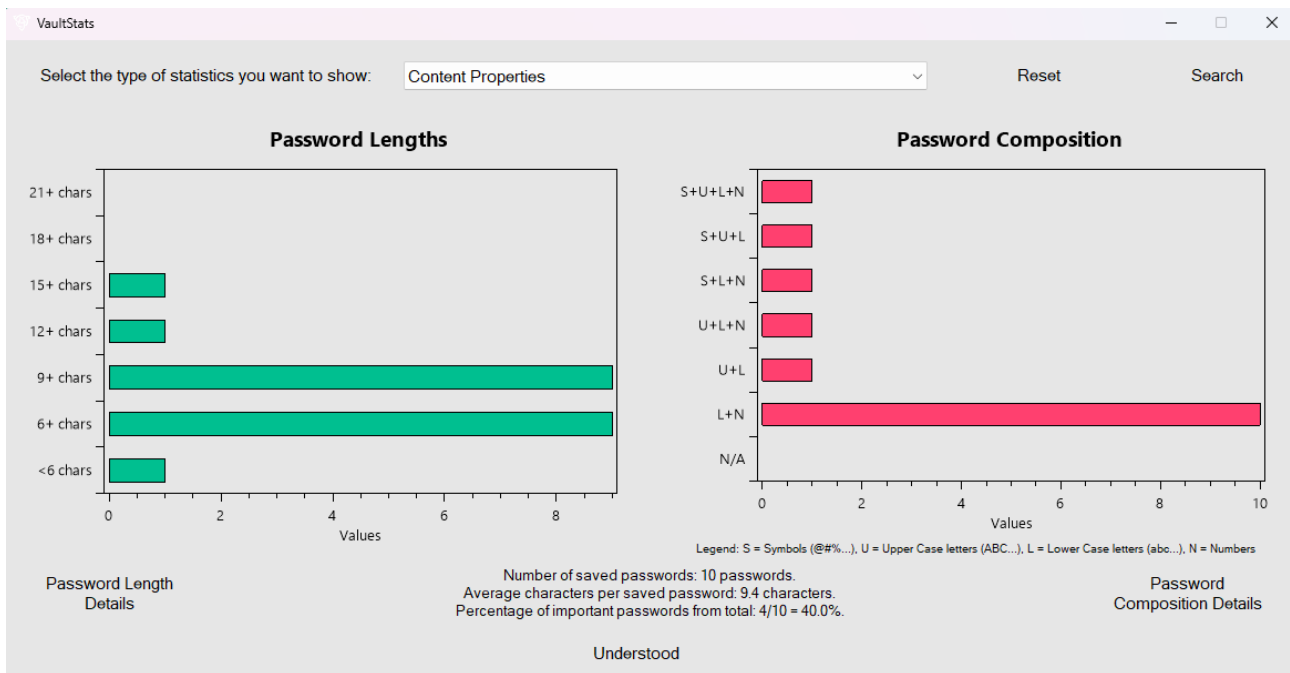


Figure 1.11: Statistics generation window.

notified with a popup message, otherwise the passwords will start appearing until the user's request is completed. Once the request is completed, the user can click on the button to the right of the password box with a paper icon to copy the contents of the box to the clipboard.

1.6 Options menu in the main view

If we are in the main view of the application and click on the button with a gear icon, the following menu of options will be displayed:

If we click on the Change Theme option we will see a second drop-down list with the options for light theme and dark theme. As soon as we click on any of them the program will ask us if we want to save this configuration, not only for this run, but also for future runs of the application. The user's answer will be saved appropriately and the theme will be changed.

When clicking on the options to export contents as PDF, in the case of exporting the configuration colors as PDF it will be done immediately, however, for the contents of a Passguard Vault we will access a modified view but very similar to the loading view of a Passguard Vault, where we must enter the credentials and click on the Export Vault as PDF button to export the data as PDF. In both cases these PDF files will be exported to the Windows OS Documents folder.

The option to set Passguard to start or not with Windows can be activated from this options menu, and before doing so will ask for confirmation to the user, if this option is enabled as soon as the user turns on the device and load Windows will also start Passguard, this option can be disabled in the same place where it was activated. On the other hand, the option to set Passguard to open and minimize in the background will also ask for confirmation to the user, if this option is activated instead of closing completely the application will be put in the background, we will know this because the Passguard icon will be in the Windows Tray, that is, on the right side of the taskbar. If both options are open, as soon as the Passguard application is started it will start in the background. This option can also be disabled where it was enabled.

The Save Changes + Close Passguard option simply closes the application, which depending on the mode set will either close it completely or just minimize it and continue running in the background.

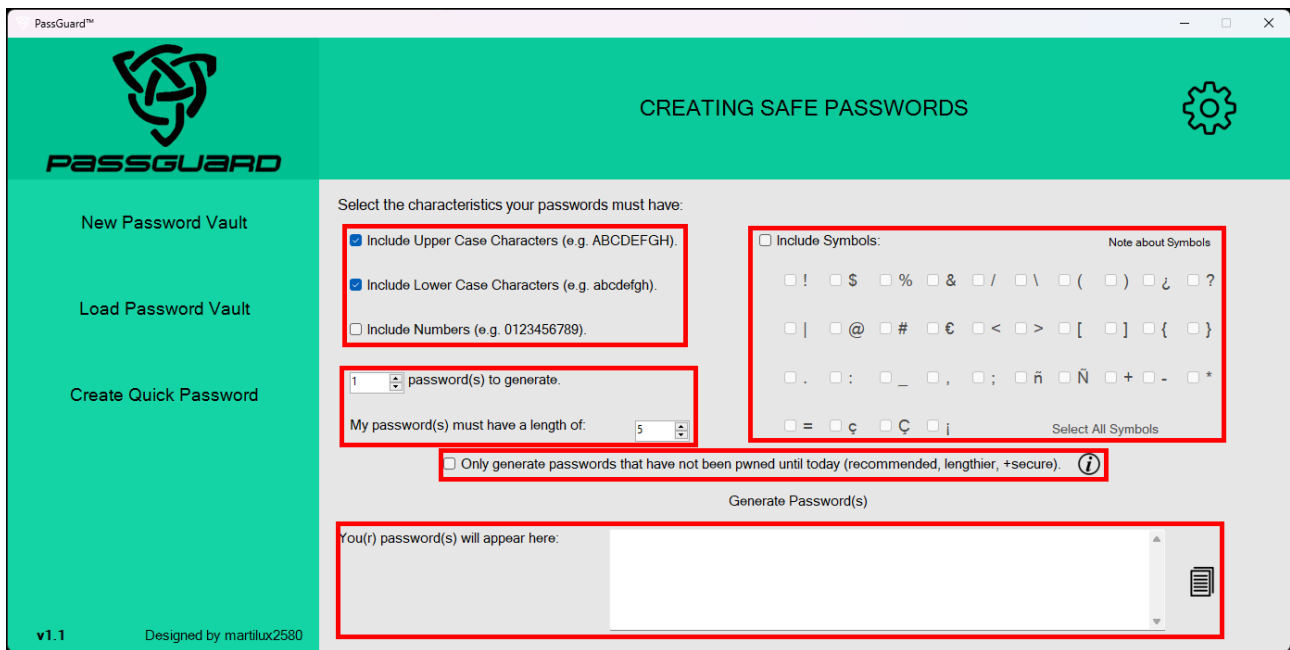


Figure 1.12: Fast random password creation view with five important parts.

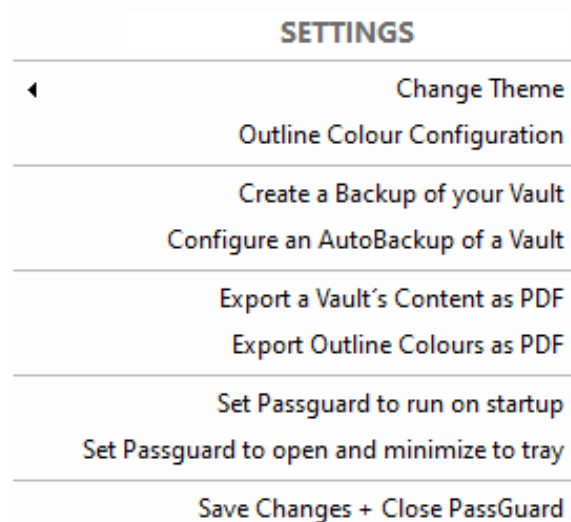


Figure 1.13: Options menu in the main view.

In the following sections we will develop the rest of the options not discussed so far in the options menu.

1.6.1 Creating a backup of a Passguard Vault

If we click on the Create a Backup of your Vault option, the following pop-up window will appear:

Using the buttons with folder icons we can first choose the path of the Passguard Vault to be backed up, and secondly the path where we want to save the generated backup. If the data entered is correct, a backup copy named BackupVaultName-yyyymmdd-hhmmss.encrypted will be generated in the specified path, which will be accessible with the same credentials as the original Passguard Vault and the program will warn us with a pop-up message of successful completion. In case any input parameter is invalid or a backup with the same name already exists in the same location, then the user will be warned with a pop-up error message.

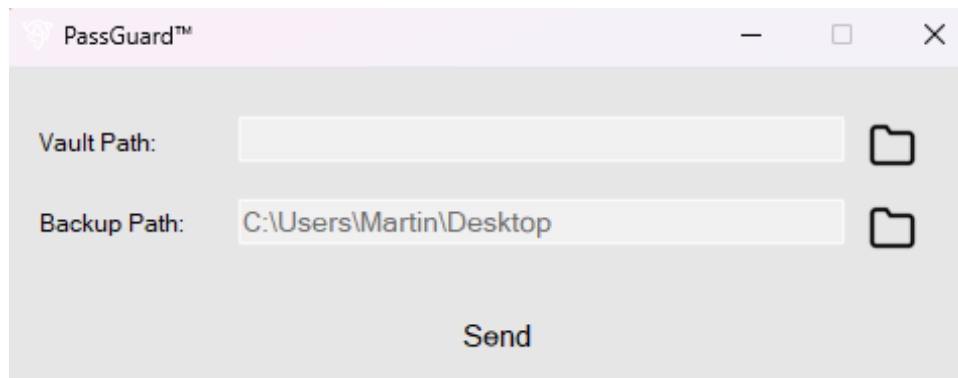


Figure 1.14: Pop-up window for creating a backup copy of a Passguard Vault.

1.6.2 Creating automatic backups of a Passguard Vault

If you click on the Configure an Autobackup of a Vault option, a pop-up configuration window will appear. The first thing we see in this window is a check box to enable or disable automatic backups. If this box is unchecked, the backups will also be unchecked; if it is checked, we will be able to access the Autobackup configuration fields. Firstly, we must specify the path where the Passguard Vault that we want to activate the automatic backups is located, secondly, we must specify the path where we want these backups to be stored. These two steps can be carried out with their respective buttons with folder icons. After this we have a drop-down list to choose the frequency with which we want the copies to be made, there are five available frequencies: right after any change in the Passguard Vault, when closing Passguard, every one day, every seven days (week) or every thirty days (month).

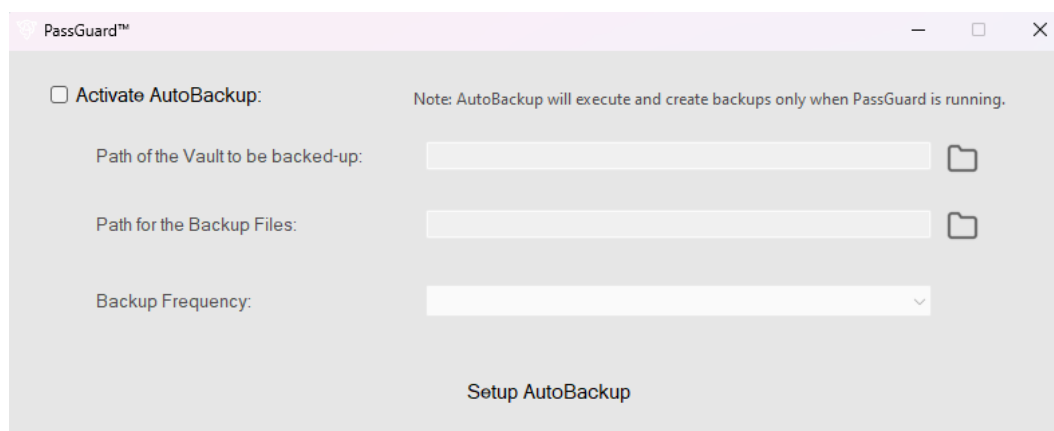


Figure 1.15: Automatic backup configuration pop-up window for a Passguard Vault.

Once all the parameters have been chosen correctly, clicking on the Setup button will launch a pop-up message of correct configuration in that case, or a pop-up error message otherwise. It is worth noting two important aspects of how Autobackup works, the first is that if when performing the automatic backup there is a problem, for example, that the Passguard Vault is not in the specified path, or that the automatic backup save path disappears, then the user will get a pop-up error message at the time of the automatic backup informing him that there has been an error while making the backup and to review possible reasons, then the user will get a pop-up error message at the time of automatic backup informing him that there has been an error while backing up and to check the possible reasons, this automatic message will pop-up every one minute until the user fixes the errors or disables Autobackup in the options menu. The second important aspect is that automatic backups are only performed when Passguard is running, that is, if at a certain time it is time to make the automatic backup because a specific

interval has passed (one day, seven or thirty days), if the user does not have Passguard open and running that backup will not be performed, the user must open the application and it will check the dates and if it is time to create an automatic backup will create and save it properly, there is a note at the top right of the window where it warns of this operation.

1.6.3 Change Passguard outline colors

Being in the options menu of the main view of the application, if we click on the Outline Colour Configuration option we will see a pop-up window with the outline color configuration manager. At the top right of the image we have a button with a question mark icon, if the user clicks on that button will open your web browser of choice with a web page to select a color visually and know its RGB combination, which is ultimately what this color manager works. In the view highlights on one side a table with eight columns and two pre-saved color configurations, below that table we have a search text field and two associated buttons, and below that we have six NumericUpDown components distributed in two rows and three columns with RGB values of colors. From the right side we have seven buttons to perform different actions, excluding the button with question mark icon.

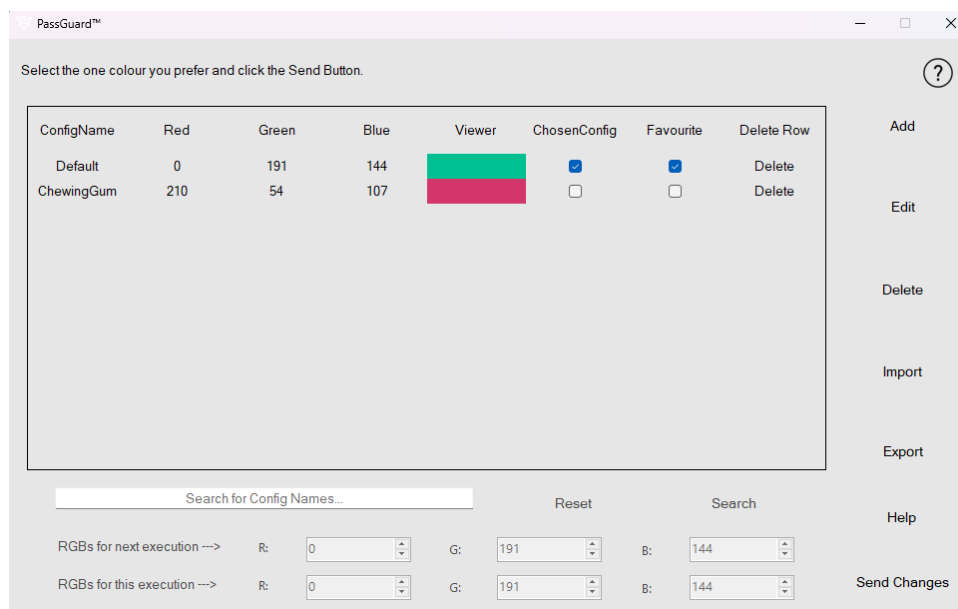


Figure 1.16: Outline color settings manager pop-up window.

The table has eight columns, six of them are composed of buttons and two of them of checkboxes: the name of the configuration, the values of Red, Green and Blue, a viewer where you can see the color described by the previous three columns, a column to know if that color is being used in this run or not, a column to mark a configuration as favorite, and finally a column with buttons to delete that row (and, therefore, that configuration) saved. If we click on some headers we will jump to a list of options to sort the contents of the table by that column and in the selected order, which can be normal, ascending or descending alphabetically. This works in a similar way to the sorting of the password table explained in previous sections. The table is composed of buttons and boxes, in the case of the buttons you can copy the text of the buttons (which are the saved data of the configuration, due to size issues it is possible that not all the information appears) to the clipboard by clicking on the buttons that contain text, except for the buttons in the Delete Row column. Only one configuration can be selected in the ChosenConfig column, which will be the configuration used at this moment (in case you have it saved). In case you want to use another saved configuration, just click on the checkbox associated to its row and a popup message will appear asking if you want to keep

this configuration only for this run or also for future runs of the application, depending on what the user decides, his preferences will be saved appropriately. In the case of clicking on the column to mark or unmark a configuration as favorite, a pop-up message will appear asking for confirmation of the action, depending on the user's answer the preferences will be saved. In the case of wanting to quickly delete a saved configuration, the user can click on the Delete button associated to the row of that configuration, he/she will be asked to confirm the action and depending on his/her answer the table with the saved configurations will be reloaded or not.

Below the table there is a text field to search for columns by the ConfigName column, as soon as text is entered in it the two associated buttons Reset and Search will be activated. The Search button will perform the search, and the results will be displayed in the configuration table, the Reset button will empty the text field and display in the configuration table the color configurations saved so far. Below this text field and its two buttons we will have the six NumericUpDown components mentioned above. The three components located in the first row show the saved RGB value to be used in future runs, the three components located in the second row show the saved RGB value to be used in this run, as soon as the color manager is closed and the changes are sent.

On the right side we will begin to write about the operation when each of the seven buttons are pressed. Clicking the Add button will take us to the following pop-up window:

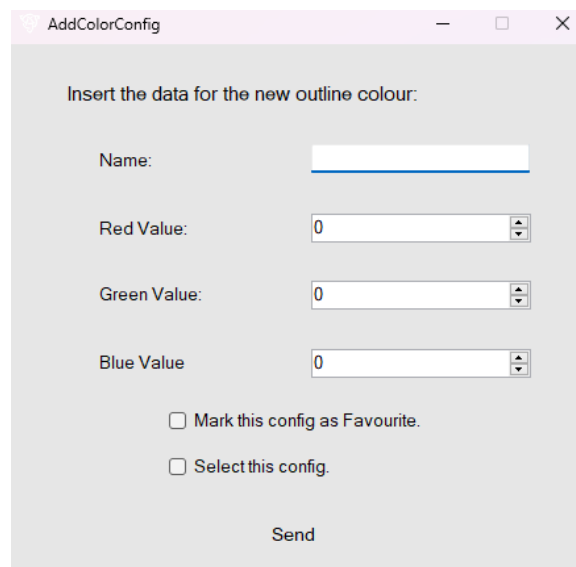


Figure 1.17: Pop-up window to add a color configuration.

In this window we must enter the data for the configuration name (unique, it must be different from the names of already saved configurations), the RGB combination (unique, there cannot be two color configurations with the same RGB value) and the configuration can be marked as a favorite. It should be noted that very light or dark RGB settings are not allowed as they may hinder the use of Passguard, the criterion is that the brightness associated with the color is between 20 and 90 percent, and this comes from the HSL scale, where L stands for lightness. Once done, if we hit the Send button and there is a problem we will be notified with a pop-up message, otherwise the configuration will be added and automatically selected to be used in this run of the application, if you want to use it for future runs in the Add window you can check the Select this config option.

If the Edit button is clicked, a pop-up window similar to the one in the same case for the password table will appear. In this window we will have a drop-down list with the names of the configurations, and as soon as one is selected the fields below will be activated to modify its properties, once they are modified the user will click on Edit and the new data will be checked,

these checks are similar to those made when adding a new configuration. If there has been any problem the user will be notified with an error message, otherwise it will be edited correctly and the user will return to the previous view.

If we want to delete a configuration we can either click on the Delete button located inside the table and associated to the configuration row, or click on the Delete button outside the table, which will open a pop-up window similar to the one that appears with the same action in the password table view. In the drop-down list we will select the name of the password to delete and we can click on the Delete Selected Element button to delete that password, or we can check the box to enable the button that deletes all the saved color configurations. In that case we will click the Delete All Elements button to delete all the configurations. In both cases the user will be asked to confirm the action, since these are irreversible operations, and if all the settings are deleted, the default settings will be added.

If we want to import configurations that we have previously exported in JSON format, the user must click on the Import button. In this case, the user will be prompted with a pop-up warning message, stating that, if importing data from a JSON, all previously saved configurations shown in your configuration table will be irreversibly lost, as they will be replaced by the configurations you import through that JSON file, and the user will be asked if he/she agrees to continue once this is understood. In case of agreement, the user will be able to choose a JSON file and Passguard will validate the form and content of the file, in case it is correct the file will be imported and the configurations of that file will be shown in the configurations table, they will also be saved in memory. In case there is any error with the form or content of the indicated JSON file the user will be informed with a popup error message.

The user will be able to export the content of his configuration table to a file by clicking on the Export button. In this case a pop-up window will appear with two options to choose, whether to export the content as a JSON file or as a PDF file. As soon as you choose one and hit the Export button the data will be exported to the Documents folder of your Windows OS with the file name ColoursTable-yyyymmdd-hhmmss.pdf in case of PDF file, and will end in .json in case of JSON file.

If the user has doubts about how this view with the color settings table works, he can click on the Help button, which will open a pop-up window where he can read information about how this view works. All views with operation information look similar to the following, in this case the help popup window for using the outline color settings manager is shown:

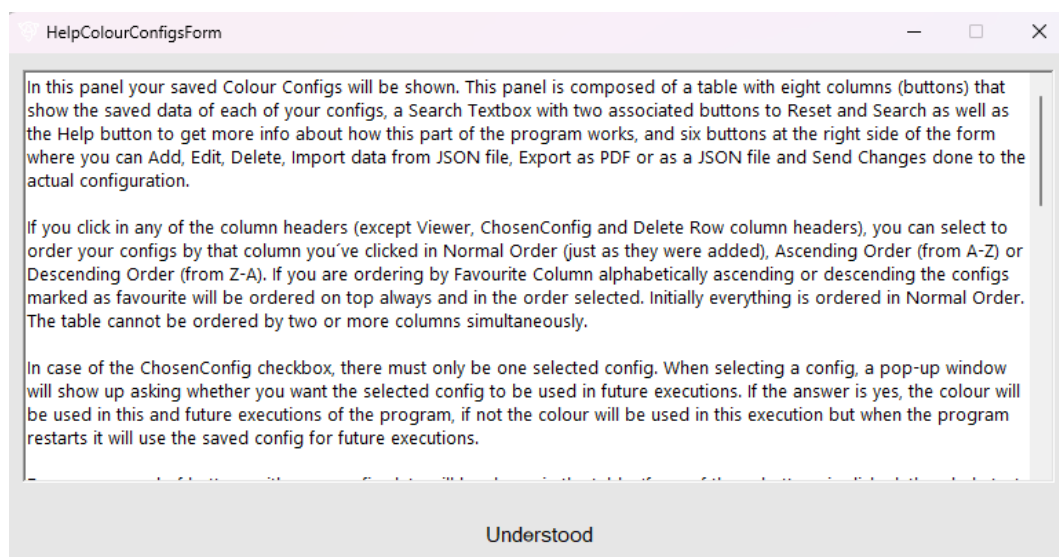


Figure 1.18: Pop-up window to help with the operation of the view with table of environment color settings.

The Send Changes button, finally, closes this window with the configuration table and

applies the changes definitively, i.e. if the color for this run has changed then it refreshes the main application window and displays the new color, and definitively saves the set color for future runs.