**Final Project Report**

Algorithm and Programming (COMP6047001)

Notepad

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**Project Overview**

This project is a text editor program, where the user can take notes. The inspiration for this project came from how hard it is to take a fast note for a class, and from how other simple text editor program lack some sort of personalization for the user. This notepad can change font color and background color, which other simple text editor don’t have. For me, this is a quite important feature, since sometimes you need to change color for some key notes

This notepad has some basic feature like usual “File Tab”, “Edit Tab”, “Format Tab”, and “Help Tab”. Some basic text formatting options such as “Font Type”, “Font Size”, “Bold”, “Italic”, “Underline”, and “Strikethrough (overstrike)”. I added an option to add date too, so it will be easy to mark the date of the note. I also add some color to the note (font color, background color) so it won’t be a simple, boring, dull looking white note with black text.

**Design**

**File Tab**

Graphical user interface, application

Description automatically generatedThis tab includes “New”, “Open”, “Save”, “Save As”, and the “Quit” option.

**Edit Tab**

Graphical user interface, text, application

Description automatically generatedThis tab includes “Copy”, “Paste”, “Cut”, “Find”, “Undo”, “Redo”, and “Select All” with shortcut key.

**Format Tab**

Graphical user interface, text, application

Description automatically generatedThis tab includes “Change Background”, Change Font Color”, “Font”, “Size”, “Bold, “Italic”, “Underline”, “Overstrike”, and “Add Date”.

**Help Tab**

A picture containing graphical user interface

Description automatically generatedThis tab includes “About”.

**Implementation and Explanation of The Code**

This project has 5 files, 1 main files, and 4 additional files for each tab options. This project uses module from Tkinter. There are 4 classes separated by files, each class for each tab options.

**filetab.py**

**A screenshot of a computer

Description automatically generated with medium confidence**

Starting from the ‘File’ class, this class will include what kind of options you will get when you click the tab class.

newFile is used for when the user wanted a new clean window to work with. The .filename have “untitled” as the default name, and the .delete will clean the window.

Text

Description automatically generated saveFile is used to save the file the user is working with. The .write and .close signify that the user is saving the file.

saveAs is used to save with the default extension of .txt. When it fails to save (the user closes the save as window) it will show an error that said “Unable to save file”.

openFile is used when the user wanted to open a file that has been saved.

Text

Description automatically generated

quit is used when the user wanted to quit using the quit option, the program will ask if the user wanted to quit or no, if the user say yes then the program will destroy all the widgets and exit the mainloop.

\_\_init\_\_ method to initialize the whole .filename, .text, and .root.

Graphical user interface, text, application

Description automatically generated

The main method is used for calling the menubar for the filetab.

The add\_command method is used to command the program to do what the user want. The add\_separator method is used to add a separator line for the whole tab.

The add\_cascade creates a new hierarchical menu by associating a given menu to parent menu.

Config() is used to access an object’s attributes after the initialization.

**edittab.py**

Text

Description automatically generated

The ‘edit’ class will include what kind of options you will get when you click the tab class.

The rightClick.post in popup method is used to “post” a menu at a given position.

The copy method uses \*args to allow to take in more arguments, with the selection\_get() to select the text that has been selected. Clipboard is used to store data when copying.

The paste method uses insert to insert some string which in this case is a text from the clipboard that has been copied.

Text

Description automatically generated

Cut is used when the user wanted to delete the text or words that has been selected, by using the delete() function, the text will get deleted.

selectAll method is when the user wanted to select all of the text on the noted, from the very start to the “END”.

undo method is to undoes the last edit action that the user did. Using edit\_undo() the program will undo the last action.

Redo method is to redoes the last edit action that the user did. Using edit\_redo() the program will redo the last action.

Text

Description automatically generated

The find method is used when the user wanted to search for some specific word or text. First the program ask the user to input the word or text, then the program will search for some “pattern” then stop if there is no text, but if the text is there, the program will highlight it to blue.

\_\_init\_\_ method to initialize the whole .clipboard, .word, and .rightClick.

Text

Description automatically generated

The main method is used for calling the menubar for the edit tab.

The add\_command method is used to command the program to do what the user want. The add\_separator method is used to add a separator line for the whole tab.

The add\_cascade creates a new hierarchical menu by associating a given menu to parent menu.

Bind\_all is used to bind some keys and call some functions.

Text

Description automatically generated

This rightClick command is when the user right click their mouse and the option will show up.

The .bind will put the popup when the user right click.

Config() is used to access an object’s attributes after the initialization.

**formattab.py**

**Text

Description automatically generated**

The ‘format’ class will include what kind of options you will get when you click the tab class.

\_\_init\_\_ method to initialize word. changeBackgroundColor and changeFontColor is a method where the user will choose a color from the color palette and then the program will configure.

Text

Description automatically generated

Bold is an option for the text format, here the tag\_names method will return a sequence of all the tag names that are associated, then the tag\_remove will remove the tagname from all characters between “sel.first” and “sel.last”.

The tag\_add associates the tag named with a region starting just after “sel.first” and extending into “sel.last”. If you omit “sel.last”, only the character after “sel.first” is tagged

The tag\_cget is to retrieve the value of the given option for the tag.

The tag\_configure is to change the value of options for the tag, pass in one or more (options) pairs.

A screenshot of a computer

Description automatically generated with medium confidence And it is the same for the *italic*, underline, and the ~~strikethrough~~.

Text

Description automatically generatedText

Description automatically generated

Text

Description automatically generated

This addDate method is used to add dates when the note was taken to the note. From import time, we can get the localtime(), day, month, and year. Then on the “date”, we put all the day, month, and year together with the “/” as separator.

Text

Description automatically generated

The main method is used for calling the menubar for the format tab.

Here the default font option is set to “arial” and with the size of 10.

The tearoff function is to detach the menu to be a floating menu.

For the fontoptions the floating menu consist of many font options, while for the value font size it is available from size 1 until 31, the label will take str(value) when the user clicks it.

Graphical user interface, text, chat or text message

Description automatically generated

The add\_command method is used to command the program to do what the user want.

The add\_cascade creates a new hierarchical menu by associating a given menu to parent menu.

Bind\_all is used to bind some keys and call some functions.

The grid\_columnfigure is to configure column index of a grid, while the resizable() is for the window to change its size according to the user.

**helptab.py**

**Text

Description automatically generated**

Last but not least is the ‘help’ class. The ‘help’ class will include what kind of options you will get when you click the tab class.

Here when the user clicks the help tab, the “about” option will show up and when the user clicks it, the message “This is a notepad (smiley face)” will show up.

The main method is used for calling the menubar for the help tab.

The add\_command method is used to command the program to do what the user want.

The add\_cascade creates a new hierarchical menu by associating a given menu to parent menu.

**References and Helpful Links**

https://www.tutorialspoint.com/python/tk\_menu.htm

https://docs.python.org/3/library/dialog.html

https://www.programcreek.com/python/example/95889/tkinter.filedialog.asksaveasfilehttps://www.geeksforgeeks.org/right-click-menu-using-tkinter/

https://stackoverflow.com/questions/67433258/tkinter-undo-and-redo-the-formattings-made-to-a-text-widget

https://www.tutorialspoint.com/python/tk\_text.htm

https://docstore.mik.ua/orelly/other/python/0596001886\_pythonian-chp-16-sect-6.html

https://pythonguides.com/python-tkinter-search-box/

https://www.tutorialexample.com/python-tkinter-bind-ctrlkey-python-tutorial/

**Pictures of The Program**

**Graphical user interface, application

Description automatically generated** **Graphical user interface, text, application

Description automatically generated** Graphical user interface, application

Description automatically generatedGraphical user interface

Description automatically generated Graphical user interface, application

Description automatically generated

**Graphical user interface, text

Description automatically generated** **Graphical user interface, text, application

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