ClointFusion

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Contents

CHAPTER 1

Description:

Cloint India Pvt. Ltd - Python functions for Automation (RPA)

CHAPTER 2

What is ClointFusion ?

ClointFusion is a company registered at Vadodara, Gujarat, India. ClointFusion is our home-grown Python based RPA platform for Software BOT development. We are working towards Common Man's RPA using AI.

Build BOT using DOST with No Coding by just drag & drop : Blockly based BOT Builder

Test Drive ClointFusion on Google Colabs

> Click here for Release Notes : https://github.com/ClointFusion/ClointFusion/blob/master/Release_Notes.txt

CHAPTER 3

Installation on your local computer

ClointFusion is now supported in Windows / Ubuntu / macOS !

1. Please install Python 3.9.7 with 64 bit: Python 3.9.7 64 Bit. Windows users may refer to these steps to Install ClointFusion in Windows Operating System: https://dev.to/fharookshaik/install-clointfusion-in-windows-operating-system-clointfusion-2dae
2. It is recommended to run ClointFusion in a Virtual Environment. Please refer these steps to create one, as per your OS: Creating a virtual environment in Windows / Mac / Ubuntu
3. Install ClointFusion by executing this package in command promt (with Admin rights):

```
pip install -U ClointFusion
```

1. Open a new file in your favorite Python IDE and type:

```
import ClointFusion as cf
```

PS: Ubuntu users may need to install some additional packages:

```
sudo apt-get install python3-tk python3-dev fonts-symbola scrot libcairo2-dev libjpeg-
↪dev libgif-dev libgirepository1.0-dev python3-apt python3-xlib
```

CHAPTER 4

ClointFusion First Run Setup:

When importing ClointFusion for the first time, you'd likely to be prompted with **ClointFusion Automated Selftest**, a tool designes and developed to check the compatibility of ClointFusion with your PC settings & configurations. On a successful event, you'll recieve an email with self-test report.

CHAPTER 5

Now access more than 100 functions (hit ctrl+space in your IDE)

You can find and inspect all of ClointFusion's functions using only one function i.e. `find()`. Just pass the partial name of the function.

```
cf.find("sort")
cf.find("gui")
```

6 gui functions, to take any input from user:

Function	Description
cf.gui_get_any_input_from_user()	Generic function to accept any input (text / numeric) from user using GUI. Returns the value in string format.
cf.gui_get_any_file_from_user()	Generic function to accept file path from user using GUI. Returns the filepath value in string format.Default allows all files.
cf.gui_get_consent_from_user()	Generic function to get consent from user using GUI. Returns the string 'yes' or 'no'
cf.gui_get_dropdownlist_values_from_user()	Generic function to accept one of the drop-down value from user using GUI. Returns all chosen values in list format.
cf.gui_get_excel_sheet_header_from_user()	Generic function to accept excel path, sheet name and header from user using GUI. Returns all these values in disctionary format.
cf.gui_get_folder_path_from_user()	Generic function to accept folder path from user using GUI. Returns the folderpath value in string format.

4 functions on Mouse Operations:

Function	Description
cf.mouse_click()	Clicks at the given X Y Co-ordinates on the screen using ingle / double / tripple click(s). Optionally copies selected data to clipboard (works for double / triple clicks)
cf.mouse_move()	Moves the cursor to the given X Y Co-ordinates
cf.mouse_drag_from_to()	Clicks and drags from X1 Y1 co-ordinates to X2 Y2 Co-ordinates on the screen
cf.mouse_search_snip_return_coordinates_x_y()	Searches the given image on the screen and returns its center of X Y co-ordinates.

6 functions on Window Operations (works only in Windows OS):

Function	Description
cf.window_show_desktop()	Minimizes all the applications and shows Desktop.
cf.window_get_all_opened_titles_windows()	Gives the title of all the existing (open) windows.
cf.window_activate_and_maximize_windows()	Activates and maximizes the desired window.
cf.window_minimize_windows()	Activates and minimizes the desired window.
cf.window_close_windows()	Close the desired window.
cf.launch_any_exe_bat_application()	Launches any exe or batch file or excel file etc.

5 functions on Window Objects (works only in Windows OS):

Function	Description
cf.win_obj_open_app()	Open any windows application.
cf.win_obj_get_all_objects()	Print or Save all the windows object elements of an application.
cf.win_obj_mouse_click()	Simulate high level mouse clicks on windows object elements.
cf.win_obj_key_press()	Simulate high level Keypress on windows object elements.
cf.win_obj_get_text()	Read text from windows object element.

8 functions on Folder Operations:

Function	Description
cf.folder_read_text_file()	Reads from a given text file and returns entire contents as a single list
cf.folder_write_text_file()	Writes given contents to a text file
cf.folder_create()	When you are making leaf directory, if any intermediate-level directory is missing, folder_create() method creates them.
cf.folder_create_text_file()	Creates text file in the given path.
cf.folder_get_all_filenames_as_list()	Get all the files of the given folder in a list.
cf.folder_delete_all_files()	Deletes all the files of the given folder
cf.file_rename()	Renames the given file name to new file name with same extension.
cf.file_get_json_details()	Returns all the details of the given section in a dictionary

28 functions on Excel Operations:

Function	Description
cf.excel_get_all_sheet_names()	Gives you all names of the sheets in the given excel sheet.
cf.excel_create_excel_file_in_given_folder()	Creates excel file in the desired folder with desired filename
cf.excel_if_value_exists()	Check if a given value exists in given excel. Returns True / False
cf.excel_create_file()	Create a Excel file in fullPathToTheFile with filename.
cf.excel_copy_paste_range_from_to_sheet()	Pastes the copied data in specific range of the given excel sheet.
cf.excel_get_row_column_count()	Gets the row and coloumn count of the provided excel sheet.
cf.excel_copy_range_from_sheet()	Copies the specific range from the provided excel sheet and returns copied data as a list
cf.excel_split_by_column()	Splits the excel file by Column Name
cf.excel_split_the_file_on_row_limit()	Splits the excel file as per given row limit
cf.excel_merge_all_files()	Merges all the excel files in the given folder
cf.excel_drop_columns()	Drops the desired column from the given excel file
cf.excel_sort_columns()	A function which takes excel full path to excel and column names on which sort is to be performed
cf.excel_clear_sheet()	Clears the contents of given excel files keeping header row intact
cf.excel_set_single_cell()	Writes the given text to the desired column/cell number for the given excel file
cf.excel_get_single_cell()	Gets the text from the desired column/cell number of the given excel file
cf.excel_remove_duplicates()	Drops the duplicates from the desired Column of the given excel file
cf.excel_vlook_up()	Performs excel_vlook_up on the given excel files for the desired columns. Possible values for how are “inner”,”left”, “right”, “outer”
cf.excel_describe_data()	Describe statistical data for the given excel
cf.excel_change_corrupt_xls_to_xlsx()	Repair corrupt excel file
cf.excel_get_all_header_columns()	Gives you all column header names of the given excel sheet
cf.excel_convert_to_image()	Returns an Image (PNG) of given Excel
cf.excel_split_on_user_defined_conditions()	Splits the excel based on user defined row/column conditions
cf.excel_apply_format_as_table()	Applies table format to the used range of the given excel
cf.excel_convert_xls_to_xlsx()	Converts given XLS file to XLSX
cf.isNaN()	Returns TRUE if a given value is NaN False otherwise
cf.convert_csv_to_excel()	Function to convert CSV to Excel
cf.excel_sub_routines()	Excel VBA Macros called from ClointFusion
cf.excel_to_colored_html()	Converts given Excel to HTML preserving the Excel format and saves in same folder as .html

3 functions on Keyboard Operations:

Function	Description
cf.key_hit_enter()	Enter key will be pressed once.
cf.key_press()	Emulates the given keystrokes.
cf.key_write_enter()	Writes/Types the given text and press enter (by default) or tab key.

5 functions on Screenscraping Operations:

Function	Description
cf.scrape_save_contents_to_notepad()	Copy pastes all the available text on the screen to notepad and saves it.
cf.scrape_get_contents_by_search_copy_paste()	Gets the copy paste of the screen by searching given text using crtl+f and performs copy/paste of all data. Useful in Citrix applications. This is useful in Citrix applications
cf.screen_clear_search()	Clears previously found text (crtl+f highlight)
cf.search_highlight_tab_enter_open()	Searches for a text on screen using crtl+f and hits enter. This function is useful in Citrix environment.
cf.find_text_on_screen()	Clears previous search and finds the provided text on screen.

11 functions on Browser Operations:

Function	Description
cf.browser_activate()	Function to launch browser and start the session.
cf.browser_navigate_h()	Navigates to Specified URL.
cf.browser_write_h()	Write a string on the given element.
cf.browser_mouse_click_h()	Click on the given element.
cf.browser_locate_element_h()	Find the element by Xpath, id or css selection.
cf.browser_wait_until_h()	Wait until a specific element is found.
cf.browser_refresh_page_h()	Refresh the page.
cf.browser_quit_h()	Close the Helium browser.
cf.browser_hit_enter_h()	Hits enter KEY using Browser Helium Functions
cf.browser_key_press_h()	Type text using Browser Helium Functions and press hot keys
cf.browser_mouse_hover_h()	Performs a Mouse Hover over the Given User Visible Text Element

4 functions on Alert Messages:

Function	Description
cf.message_counter_down_timer()	Function to show count-down timer. Default is 5 seconds.
cf.message_pop_up()	Specified message will popup on the screen for a specified duration of time.
cf.message_flash()	Specified msg will popup for a specified duration of time with OK button.
cf.message_toast()	Function for displaying Windows 10 Toast Notifications. Pass website URL OR file / folder path that needs to be opened when user clicks on the toast notification.

Function	Description
cf.string_remove_special_characters()	Removes all the special character.
cf.string_extract_only_alphabets()	Returns only alphabets from given input string
cf.string_extract_only_numbers()	Returns only numbers from given input string

Loads of miscellaneous functions related to emoji, capture photo, flash (pop-up) messages etc:

Function	Description
cf.clear_screen()	Clears Python Interpreter Terminal Window Screen
cf.print_with_magic_font()	Function to color and format terminal output
cf.schedule_create_task_windows()	Schedules (weekly & daily options as of now) the current BOT (.bat) using Windows Task Scheduler. Please call create_batch_file() function before using this function to convert .pyw file to .bat
cf.schedule_delete_task_windows()	Deletes already scheduled task. Asks user to supply task_name used during scheduling the task. You can also perform this action from Windows Task Scheduler.
cf.show_emoji()	Function which prints Emojis
cf.dismantle_code()	This functions dis-assembles given function and shows you column-by-column summary to explain the output of disassembled bytecode.
cf.ON_semi_automatic_mode()	This function sets semi_automatic_mode as True => ON
cf.OFF_semi_automatic_mode()	This function sets semi_automatic_mode as False => OFF
cf.email_send_via_desktop_outlook()	Sends mail using Outlook from Desktop email application
cf.download_this_file()	Downloads a given url file to BOT output folder or Browser's Download folder
cf.pause_program()	Stops the program for given seconds
cf.string_regex()	Regex API service call, to search within a given string data
cf.ocr_now()	Recognize and read the text embedded in images using Google's Tesseract-OCR
cf.update_log_excel_file()	Given message will be updated in the excel log file of output folder
cf.create_batch_file()	Creates .bat file for the given application / exe or even .pyw BOT developed by you. This is required in Task Scheduler.

CHAPTER 6

ClointFusion's Semi Automatic Mode

1. If you pass all the required parameters, function works silently. So, this is expert (Non-GUI) mode. This mode gives you more control over the function's parameters.
2. If you do not pass any parameter, GUI would pop-up asking you the required parameters. Next time, when you run the BOT, based upon your configuration, which you get to choose at the beginning of BOT run:
    - If `Semi-Automatic mode` is OFF, GUI would pop-up again, showing you the previous entries, allowing you to modify the parameters.
    - If `Semi-Automatic mode` in ON, BOT works silently taking your previous GUI entries.
    - Toggle `Semi-Automatic mode` by using the following command

```
cf.ON_semi_automatic_mode   # To turn ON semi automatic mode
cf.OFF_semi_automatic_mode  # To turn OFF semi automatic mode
```

3. GUI Mode is for beginners. Anytime, if you are not getting how to use the function, just call an empty function (without parameters) and GUI would pop-up asking you for required parameters.

Outlook Email BOT implemented using ClointFusion:

CHAPTER 7

We love your contribution !

Contribute by giving a star / writing article on ClointFusion / feedback / report issues / bug fixes / feature enhancement / add documentation / many more ways as you please..

Participate in our monthly online hackathons & weekly meetups. Click here for more details: https://sites.google.com/view/clointfusion-hackathon

Please visit our GitHub repository: https://github.com/ClointFusion/ClointFusion

CHAPTER 8

Date with ClointFusion:

This an initiative for fast track entry into our growing workforce. For more details, please visit: https://lnkd.in/gh_r9YB

CHAPTER 9

Aknowledgements:

ClointFusion thanks to all it's dependent packages for the great contribution, which made ClointFusion possible!

Please find all the dependencies *here <https://openbase.com/python/ClointFusion/dependencies>*

CHAPTER 10

ReadMe File Maintainer:

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CHAPTER 11

Contact us:

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