CSE2005
Operating Systems
Review 2

Details:

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Project Title : Expect-Lite Program

Abstract:

A command to create custom command line commands that can be webbed together to create a personalized command line interface. The command will allow users to automate tasks and chain existing commands using bash scripts which can be executed by a single word. We will also be creating a customized command line interface to exhibit the capabilities of this project.

Keywords:

Command Line Interface, Expect-Lite, Bash scripts, Task automation, custom commands

Introduction:

A lot of the terminal commands that we use are chained. Meaning, to acheive a particular output, we go through typing a few seperate commands that could very well be combined into a single command. Effectivly automating tasks for the user.

For example:

When using a python IDE such as pycharm, it is recommended to use a virtual environment to prevent errors due to pycharm's updates. Every time pycharm is opened, the user has to manually create a new environment. Also, if the project files are present on a storage medium that hasen't been mounted yet, the disk needs to be mounted and pycharm has to be given access to the mounted disk.

The complete process specified above can be automated and linked to a single command.

The major issue with creating said commands is that the process is fairly complex and the aim of this project is to reduce that complexity by effectivly automating the task of automating tasks.

Related Works:

We have borrowed the aim of this project from **Expect-Lite**.

"*Expect-lite is a mature, quick and easy command line automation tool. Written in expect, it is designed to directly map an interactive terminal session into an automation script. expect-lite scripts use special character(s) at the beginning of each line to indicate the action. Basic expect-lite scripts can be created by simply cutting and pasting text from a terminal window into a script, and adding '>' '<' characters. No knowledge of expect is required!"*

Unilike **Expect-Lite**, our project will not use 'expect' language. Also, the user will be asked to code the bash scripts on a text editor instead of copying and pasting the terminal commands.

Algorithm:

The following is the algorithm to create a user-defined terminal command :

1. Start
2. Open text editor
3. Code the desired bash script
4. Save it
5. Ensure that the user has full access to the location at which the file is saved
6. Ensure that name of the file is the same that you want your command to be
7. Open the properites of the text file and make it executable
8. Get root permissions on the terminal
9. Use mv command on the terminal to move this file to */usr/bin*
10. Close the current terminal window and open a new one
11. Stop

The following is the algorithm of the proposed terminal command:

1. Start
2. Wait for command to be called
3. Ask user for command name
4. Open text editor and allow user to code the bash script
5. Save the code with the entered command name /tmp directory
6. Run the bash script to ensure there is no error
7. Change the permissions of the file and make it executable
8. Move the file to *usr/bin*
9. Close the current terminal window and open a new one
10. Stop

References:

https://www.geeksforgeeks.org/
https://expect-lite.sourceforge.net/