

Shell Interpreter With C Syntax

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March 2024 - May 2024

Project Overview:

This project aims to develop an improved version of the BASH (Bourne-Again Shell) interpreter and command line utilities for Linux. The goal is to develop a more humanly readable syntax for the end user in the terminal, making the process of scripting and writing commands easier and more straightforward by using a more familiar and commonly used syntax, in this case; the C syntax.

Objectives:

1. **Using The GNU Shell Utilities:** The shell includes most of the GNU BASH utilities, including the file navigation utilities, and the find utilities.
2. **Improved Command Syntax:** Command syntax that is more readable and more intuitive to the end user in the terminal, making the process of the remembering commands and typing them much easier.
3. **Improved Scripting Syntax:** Scripting syntax that is less conflicting and draws a more visual distinction between variables, strings, and environment variables.
4. **Add-Ons and Custom Commands:** A file where the user can define specific commands and their custom flags.

Potential Challenges:

1. **Creating A Runtime Environment:** The interpreter runs in a dedicated runtime environment that executes the commands and scripts.

2. **Possible Conflicts In C Syntax And The Shell:** Conflicts in syntax between the C and the shell syntax, which requires careful resolution and certain characters to be defined.
3. **Integrating GNU Shell Utilities:** The GNU shell utilities integration requires some modification to the source code of GNU-utils.

Application Areas:

1. **Linux Distributions:** Helping linux users to have a more amiable terminal environment where the shell is easier to use.
2. **Safer Usage:** Preventing obscure scripting mistakes from happening such as the Steam incident where the installation script removed the root directory of a linux user. This is through better syntax declaration

Expected Outcome:

A functioning shell with a custom syntax that includes the most of the BASH utilities and can be used by the average linux user to perform main terminal tasks.