SPL1 Project Proposal Form, 2022
Institute of Information Technology (IIT)
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Project Description: I will recreate a simple Linux Shell (Bash) that includes basic shell operations namely executing commands (will implement a few of them due to time limitations), customizing command (alias), suggesting tentative commands, customizing text color. The motive that encourages me to take that project is to observe how the system process, I/O redirection, pipelines works. Therefore I want to enrich my knowledge about system-level programming by building the shell from scratch. Initially, I will take the command prompt from the user. Later I will parse and tokenize the command line and sort out the commands and respective arguments. Then I will check whether the parsed command is built-in or an external command for further execution. If the command is built-in I will simply execute the command and show the result in stdout/stderr. Otherwise, for external commands, I will have to search for the executable file in the system and then I will execute the command and demonstrate the result as stdout/stderr. Then they will again enter another command prompt and this process will be continued till the user exits the program. And this process of Read-Evaluate-Print-Loop is known as REPL in terms of shell process execution. The process diagram is as follows:

Continue till the user exit the console

```
Reading      →  Parse and    →  Check if the  →  If the command is  →  Otherwise     →  Show the
commands        Tokenize the    command is       external search       execute the      result in
from stdin      commands        external or      for executable        builtin          stdout.
                                builtin          files                 commands         Otherwise
                                                                                        show stderr.
```

Languages or Tools to be used: C++

Supervisor's Name: Dr. Kazi Muheymin-Us-Sakib

Signature of the supervisor:

Date: 07/01/2022

Before the Midterm Presentation:

I confirm that the progress is satisfactory and I am forwarding it for midterm presentation.

Signature of the supervisor: _____

Date: _____

Midterm Presentation Feedback: