

2015 Spring CS281 Final Project Specification

1. Team Members

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2. Project Description

Implement a simple shell interface that has the following functionalities:

- Run a foreground command and yield to it the control of the terminal
- Launch a background job while retaining control of the terminal
- Run a background command with auto recovery mode: restarting it automatically if it dies due to any reason other than a SIGSEGV or a SIGKILL
- Allow querying of the status and resource consumption metrics of a previously launched process.

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Specifics:

- Commands supported:
cd, ls, query, show, clear, exit
- Mode of the operation will be indicated by a modifier in front of the command, and a failure to include this modifier will generate an error:

Run in foreground -> fg

Run in background -> bg

- Retrievable information about a launched process using command
“query <pid>”
Pid, state

3. Error conditions to handle

- Report when commands not supported by the simple shell is entered
- Possible errors returned from system calls like fork(), exec(), wait() etc.

4. Timeline

- Checkpoint 1 on Apr.9, finish all the commands
- Checkpoint 2 on Apr.16, finish query, start writing up documentations
- Final report on Apr.21

5. Tools

- Language: C++
- OS: XUbuntu