

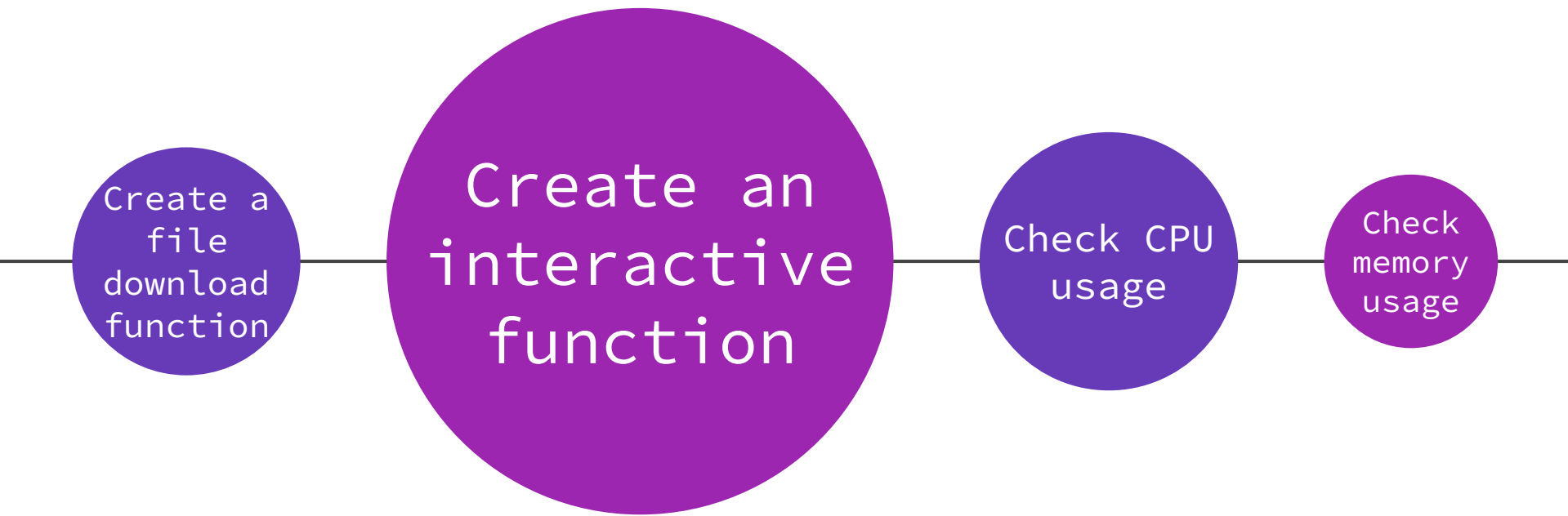
Shell Script Problem: Project

By Lucien Lin & Yasmina Belabid

The Problem Statement & Modules Developed

System administrators need a reliable tool to monitor CPU and memory usage, alerting them when usage exceeds critical thresholds to prevent performance issues. The tool should also identify top CPU-consuming processes and generate detailed reports for analysis and troubleshooting.

Individual Contribution to the Project: Lucien



Individual Contribution to the Project: Yasmina



Create a
top CPU
usage
function

Create a top
memory usage
function

Color the
output and
improve
aesthetics

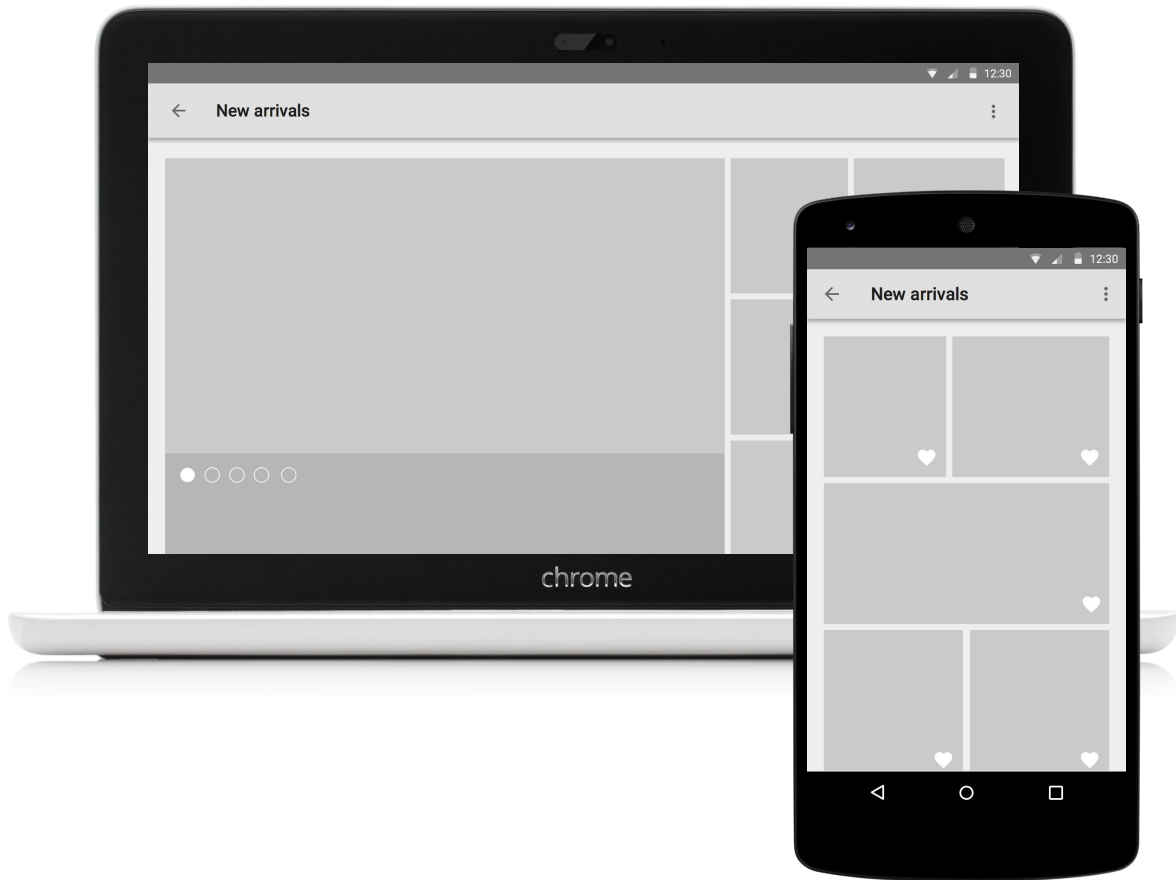
Create a
disk usage
function

Git Usage with Regards to this Project

Git

— — —

- We use GitHub issues to collaborate
- We create multiple branches on GitHub to ensure we can work independently without breaking each other's code



```

[ec2-user@ip-172-31-42-157 Yasmina-and-Lucien-Shell-Problem-Project-Friday-26-July]$ ./main.sh
1) All Reports
2) Memory Usage
3) CPU Usage
4) Top CPU Processes
5) Quit
Please select an option: 1
Generating report...
System Monitoring Report - Fri Jul 26 09:31:58 UTC 2024
-----
CPU Usage: 0.2%
CPU usage is within normal range.
-----
Top 3 CPU consuming processes:
1946 1 /usr/sbin/rngd -f%
1 0 /usr/lib/systemd/systemd --%
2 0 [kthreadd] 0.0%
-----
Memory Usage: 12.5998%
Total Memory: 949MB
Used Memory: 119MB
Memory usage is within normal range.
-----
./main.sh: line 55: top_memory_processes: command not found
./main.sh: line 57: check_disk_usage: command not found
-----
Report generated: report.txt

Would you like to download the report? (yes/no)
yes
Generating report...
System Monitoring Report - Fri Jul 26 09:32:11 UTC 2024
-----
CPU Usage: 0.2%
CPU usage is within normal range.
-----
Top 3 CPU consuming processes:
1946 1 /usr/sbin/rngd -f%
1 0 /usr/lib/systemd/systemd --%
2 0 [kthreadd] 0.0%
-----
Memory Usage: 12.5989%
Total Memory: 949MB
Used Memory: 119MB
Memory usage is within normal range.
-----

```

Output of our Project: 1

Interactive interface: Display colour formatted output on terminal.

```

CPU Usage: ^[[1;33m0.2%^[[0m
^[[0;32mCPU usage is within normal range.^[[0m
Memory Usage: ^[[1;33m12.5989%^[[0m
Total Memory: ^[[1;33m949MB^[[0m
Used Memory: ^[[1;33m119MB^[[0m
^[[0;32mMemory usage is within normal range.^[[0m
^[[1;33mTop 3 CPU consuming processes:^[[0m
1946 1 /usr/sbin/rngd -f%
1 0 /usr/lib/systemd/systemd --%
2 0 [kthreadd] 0.0%
~
~
~
~
~

```

```

[ec2-user@ip-172-31-42-157 ~]$ ls
Downloads  July9      afternoon.txt  july11  july14  july18  lucien.txt  pssOrderBookNew  sample.txt  test  testcopy
July10    TestFolder1  example      july12  july17  lucien  lucienGithub  pythonPrograms  sample2.txt  test.txt
[ec2-user@ip-172-31-42-157 ~]$ cd Downloads/
[ec2-user@ip-172-31-42-157 Downloads]$ ls
report.txt
[ec2-user@ip-172-31-42-157 Downloads]$

```

Output of our Project: 2

Transferability of Vital Data: Users ability to download reports.

Additional Features for Future Projects

1.

If memory usage is >80%,
provide user with the option to
acquire a more detailed report

2.

Enhance aesthetic aspects of
outputs – including additional
fonts and font sizes: for visual
accessibility

3.

Input additional functions which
provide users access to
further/supportive reports

— — —

Thank You

— — —

Lucien Lin
Yasmina Belabid

📖 README



Analyze and Summarize System Logs

User Story

1. As a system administrator, I want to input directory path containing log file to analyze multiple system log files
2. The script scans each log file in the directory for predefined keywords ("error", "warning", "fail").
3. The script extracts and formats the relevant information (timestamps, messages) for each occurrence of the keywords.
4. The tool should generate a summary report that includes timestamps and relevant messages, which will help me quickly identify and address system issues.
5. The script outputs the summary report to the console and optionally saves it to a specified file.

Given: A directory /var/logs/ containing multiple log files (syslog, auth.log, dnf.log). When: I run the script with the command `./log_analyzer.sh /var/logs/`. Then: The script scans all the log files in the /var/logs/ directory for the keywords "error", "warning", and "fail". And: The script generates a summary report that includes: The filename and path of each log file analyzed. The occurrences of each keyword with timestamps and messages. And: The summary report is displayed on the console and saved to log_summary.txt.

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Contributors 2



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Languages

● Shell 100.0%