CS630 Project Overview: Resource Monitoring Tool

GROUP NAME: OSquad

Group Members

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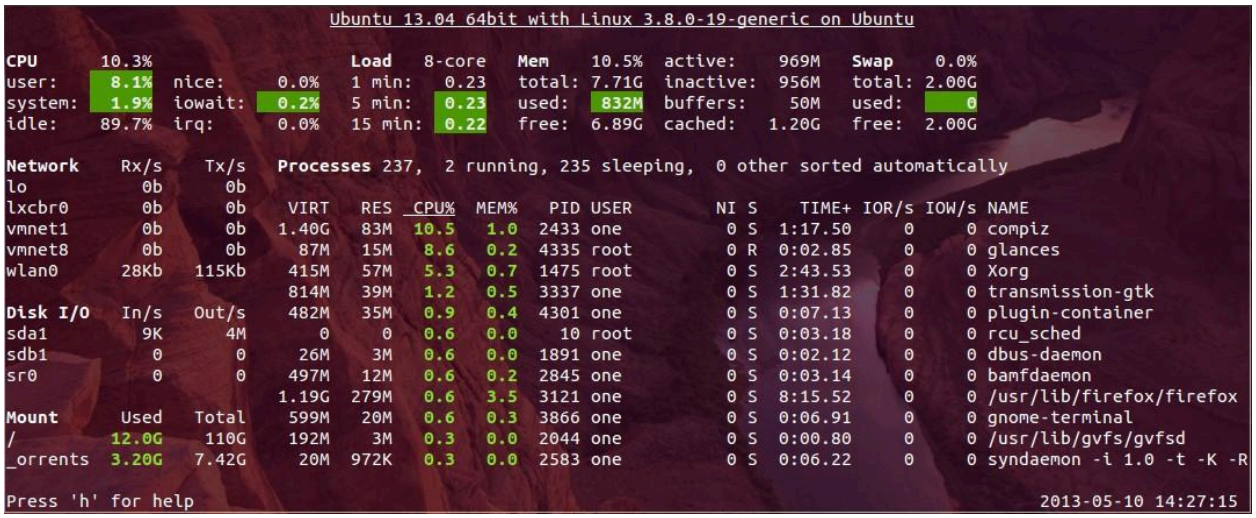
Overview

For this project, we will be building a resource monitoring tool for viewing the various information regarding system resources such as CPU performance, memory etc. We are taking inspiration from an existing tool called ‘Glances’ to build our own version of a monitoring tool. This will be hosted on a Linux environment.



Glances

Functions of the tool

The program will provide details for the following:-

- CPU Monitoring
    - Speed
    - Utilization percentage
    - Processes
    - Uptime
    - Temperature
    - About CPU
- Memory
    - In use memory
    - Available memory
    - Committed memory
    - About memory hardware
- Disk
    - Capacity
    - Available space
    - Average response time
    - About SSD hardware
- Processes
    - Individual resource utilization
    - Uptime
    - PID
    - PPID
    - Name
- Network
    - Send
    - Receive
    - Details
- Other Components (eg. GPU, USB etc)

Project Timeline

1. Oct 14: Complete research on existing resource monitoring tools and libraries (e.g., psutil, Linux system calls).
2. Oct 18: Complete environment setup.
3. Oct 25: Implement basic functionalities for CPU and memory monitoring.
4. Oct 28: Add disk I/O and temperature monitoring features.
5. Nov 8: Develop the user interface to display the metrics in a clear and concise manner.
6. Nov 12: Conduct testing and optimization for performance improvements.
7. Nov 25: Finalize documentation, user guide, and code comments in preparation for submission.

References

- https://askubuntu.com/questions/293426/what-system-monitoring-tools-are-available
- https://pypi.org/project/Glances/
- https://www.reddit.com/r/linux/comments/mlcv6j/i_made_a_terminal_utility_to_monitor_some_system/