

# CS630 Project Overview: Resource Monitoring Tool

GROUP NAME: OSquad

## Group Members

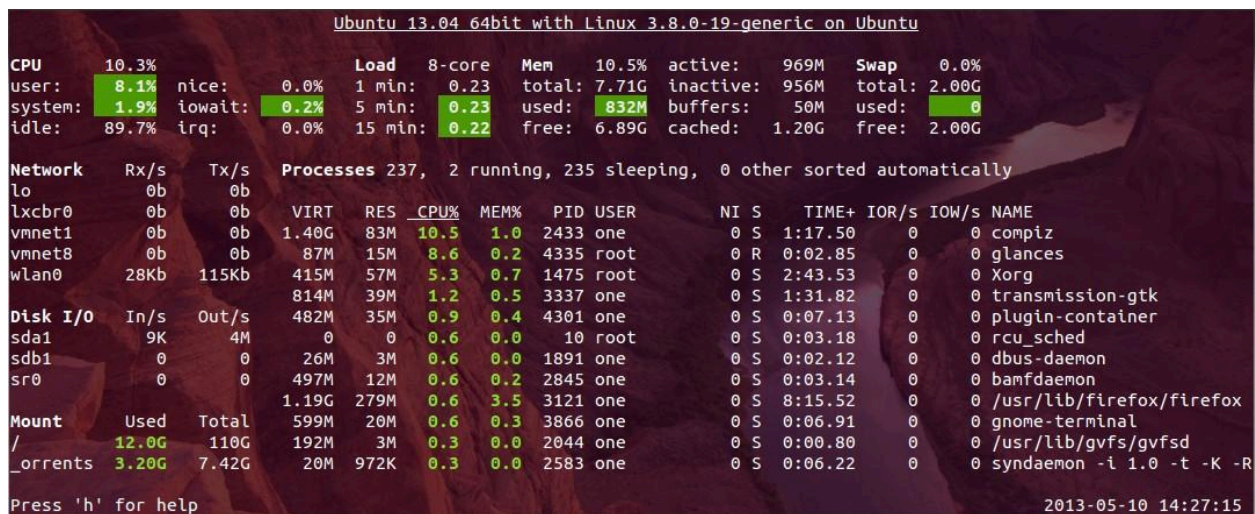
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## Overview

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.



Ubuntu 13.04 64bit with Linux 3.8.0-19-generic on Ubuntu

CPU	10.3%			Load	8-core	Mem	10.5%	active:	969M	Swap	0.0%
user:	8.1%	nice:	0.0%	1 min:	0.23	total:	7.71G	inactive:	956M	total:	2.00G
system:	1.9%	iowait:	0.2%	5 min:	0.23	used:	832M	buffers:	50M	used:	0
idle:	89.7%	irq:	0.0%	15 min:	0.22	free:	6.89G	cached:	1.20G	free:	2.00G

Network Rx/s Tx/s Processes 237, 2 running, 235 sleeping, 0 other sorted automatically

lo	0b	0b									
lxcbr0	0b	0b	VIRT	RES	CPU%	MEM%	PID	USER	NI	S	TIME+
vmnet1	0b	0b	1.40G	83M	10.5	1.0	2433	one	0	S	1:17.50
vmnet8	0b	0b	87M	15M	8.6	0.2	4335	root	0	R	0:02.85
wlan0	28Kb	115Kb	415M	57M	5.3	0.7	1475	root	0	S	2:43.53
			814M	39M	1.2	0.5	3337	one	0	S	1:31.82
			482M	35M	0.9	0.4	4301	one	0	S	0:07.13
Disk I/O	In/s	Out/s									
sda1	9K	4M	0	0	0.6	0.0	10	root	0	S	0:03.18
sdb1	0	0	26M	3M	0.6	0.0	1891	one	0	S	0:02.12
sr0	0	0	497M	12M	0.6	0.2	2845	one	0	S	0:03.14
			1.19G	279M	0.6	3.5	3121	one	0	S	8:15.52
Mount	Used	Total									
/	12.0G	110G	599M	20M	0.6	0.3	3866	one	0	S	0:06.91
_orrents	3.20G	7.42G	192M	3M	0.3	0.0	2044	one	0	S	0:00.80
			20M	972K	0.3	0.0	2583	one	0	S	0:06.22

Press 'h' for help

2013-05-10 14:27:15

## 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/](https://www.reddit.com/r/linux/comments/mlcv6j/i_made_a_terminal_utility_to_monitor_some_system/)