

Development: System Resource Dashboard

OVERVIEW

Project name: System Resource Dashboard

Description: A linux system tool that monitors the CPU usage, RAM usage and Disk usage. It also provides the process that are running in the CPU and it also provides option to kill the process.

INSTALLATION AND SETUP

Before the development the necessary packages are to be installed

- Install the qt first
 - *sudo apt update && sudo apt install -y qtbase5-dev qtcharts5-dev qtttools5-dev build-essential*
- Install g++
 - *sudo apt install g++ -y*
- Verify the versions
 - *qmake --version*
Expected Output: QMake version 3.1, Using Qt version 5.15.13
 - *g++ --version*
Expected Output: g++ (Ubuntu 13.3)

PROJECT SETUP

- Create the project directory
 - *mkdir SystemResourceDashboard && cd SystemResourceDashboard*
 - *mkdir src include*
- Create .pro file for qt project
 - Create systemResourceDashboard.pro file
 - Add the necessary files, includes and versions in the pro file to build the project

DEVELOPMENT

- Implement System monitoring

- Used **sysinfo** and **/proc/stat** for CPU and RAM
 - Used **statvfs** for disk usage
- Find the running process
 - Used **qprocess** to find the running process
- Terminate the process
 - Used **kill** to terminate the selected process

UI DEVELOPMENT

- Implement main window
 - CPU, RAM and Disk usage are displayed in progress bars
 - A table listing the active process with disk usage
 - The kill button allows user to terminate the running process
 - The UI is updated every second

DEPLOYMENT

- Create .desktop Entry
 - [Desktop Entry]*
 - Name=System Resource Dashboard*
 - Exec=/usr/local/bin/SystemResourceDashboard*
 - Icon=/usr/local/share/icons/system-dashboard.png*
 - Type=Application*
 - Categories=Utility;System;*
- Install system wide
 - *sudo cp SystemResourceDashboard /usr/local/bin/*
 - *sudo cp icon.png /usr/local/share/icons/system-dashboard.png*
 - *sudo cp SystemResourceDashboard.desktop /usr/share/applications/*

FINAL OUTCOME

- CPU, RAM and Disk usage are implemented
- Running process and termination added
- System level integration
- Runs as a system level linux application