SysWatch - System Monitoring Tool

SysWatch is a lightweight system monitoring tool built in C that runs in three modes:

- CLI Mode: Command-line based with argument support and optional logging

- TUI Mode: Terminal-based UI with live updating bars (like htop)

- GUI Mode: GTK-based graphical interface

# 🚀 Features

- Live monitoring of CPU and memory usage

- Text-based visualization (TUI)

- GTK GUI interface with real-time updates

- Signal handling for safe termination

- Logging support

- Easy to build and install

# 📦 Dependencies

For All Modes:

* - gcc

For TUI (Terminal UI):

sudo apt install libncurses5-dev

For GUI (Graphical UI):

sudo apt install libgtk-3-dev

# 🛠 Build Instructions

Clone or download the project files, then run:

make  
make install

To build TUI mode:

gcc tui\_syswatch.c -o syswatch-tui -lncurses

To build GUI mode:

gcc gui\_syswatch.c -o syswatch-gui `pkg-config --cflags --libs gtk+-3.0`

# 📈 How to Use

CLI Mode:

./syswatch --samples 5 --tdelay 1 --graphics --logfile stats.txt

Options:

- --samples N → Number of samples to collect

- --tdelay N → Delay in seconds between each sample

- --graphics → Show usage as text bars

- --logfile filename → Save output to a log file

- --help → Show usage instructions

TUI Mode:

./syswatch-tui

Displays CPU and memory usage as progress bars. Press 'q' to quit.

GUI Mode:

./syswatch-gui

Launches a window showing CPU and memory stats updated every second.

# 📁 Project Structure

syswatch/  
├── main.c # CLI mode  
├── tui\_syswatch.c # TUI mode (ncurses)  
├── gui\_syswatch.c # GUI mode (GTK)  
├── stats\_function.c # System data logic  
├── stats\_function.h  
├── Makefile  
└── README.md

# 💡 Future Enhancements

- Real process tracking

- Export data to CSV or JSON

- Background daemon mode

- Network and disk monitoring

- Unified binary for all modes

# 🧑‍💻 Author

Built with ❤️ for system geeks who love clean, fast, native C apps.

# 📜 License

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