
# Rust Project Proposal

# System Monitor

**System Programming**

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## Project Description

### Project Overview

This project aims to develop a **System Monitor** application using Rust and the Iced GUI framework. The application will track real-time system performance metrics, such as CPU usage, memory consumption, disk I/O, and network statistics. Additionally, the system will log historical data to allow analysis of trends over time using file handling techniques.

### Objectives and Goals

- To create a graphical user interface that displays real-time system information.
- To incorporate file handling for logging system data at regular intervals.
- To use system programming to efficiently gather and process system performance metrics.
- To provide a user-friendly experience with options to start/stop monitoring and logging data to a file.

### Features

- **Real-time Monitoring** of CPU usage, memory consumption, disk I/O, and network statistics.
- **File Logging** of system metrics for historical data analysis.
- **Adjustable Logging Interval** allowing users to control monitoring intervals.
- **Cross-platform Compatibility** ensuring the system monitor runs on different operating systems (MacOS, Window).

### Libraries

- **Iced**: For creating the graphical user interface.
- **Sysinfo**: To gather system data such as CPU, memory, and disk information.
- **Serde**: For serializing data when logging historical information.
- **Chrono**: For time manipulation