Web Server Monitoring System

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Project Overview

This system monitors server performance in real-time, tracking CPU, memory, requests, and response times. It provides an easy-to-use dashboard for quick analysis and problem-solving.

Problem Statement

Web servers face issues like high usage and slow responses. Without monitoring, these problems are hard to detect, leading to inefficiency and downtime..

Proposed Solution

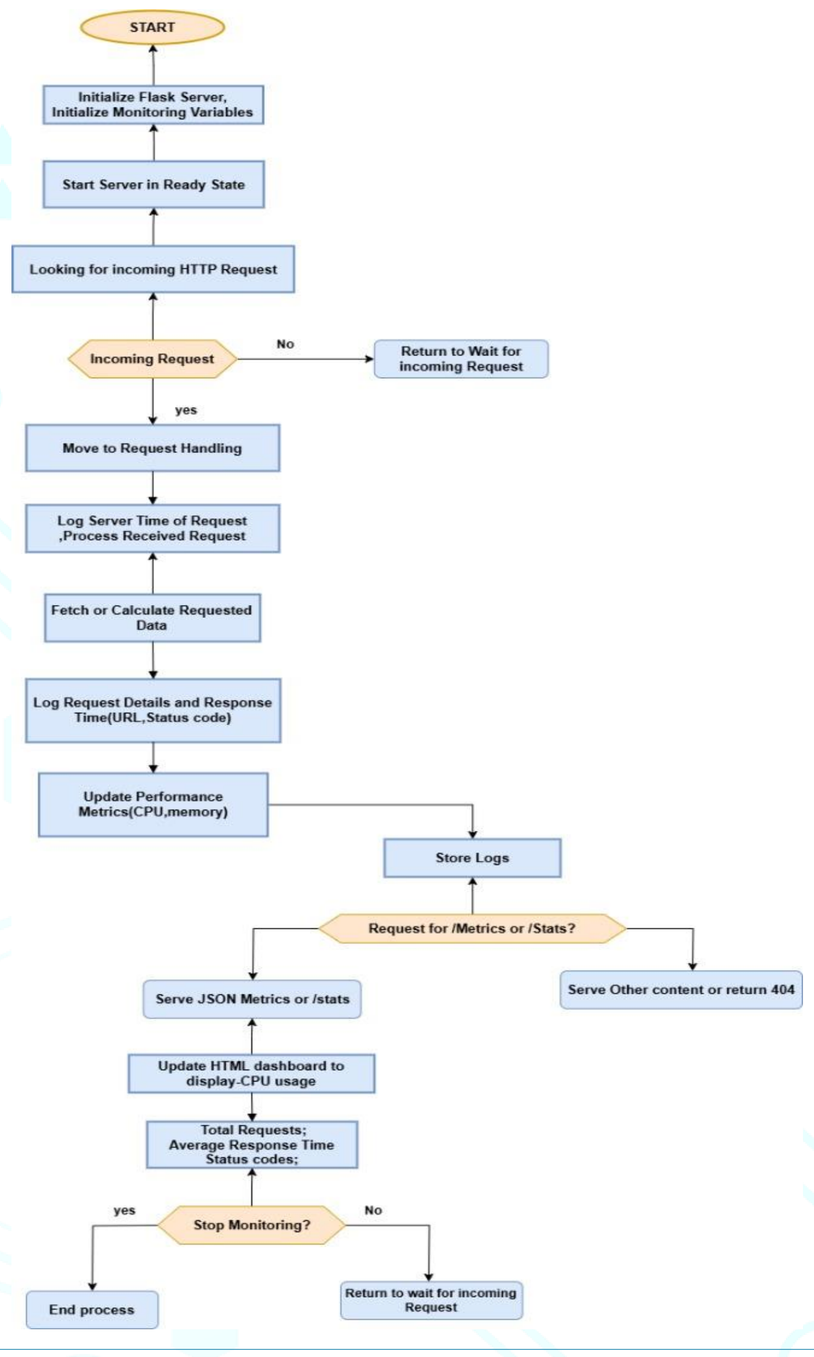
- Tracks CPU, memory, and HTTP requests in real-time.
- Logs requests and responses for analysis.
- Provides a user-friendly dashboard for server health visualization.

Methodology

1.Components: ○ app.py: Handles HTTP requests, data processing, and dashboard. ○ monitor.py: Tracks performance and logs requests.

2. Key Features: ○ Real-time performance metrics using psutil. ○ Logs HTTP requests (method, URL, status, response time). ○ JSON Endpoints (/metrics, /stats) for data monitoring. ○ Interactive HTML dashboard for server health.

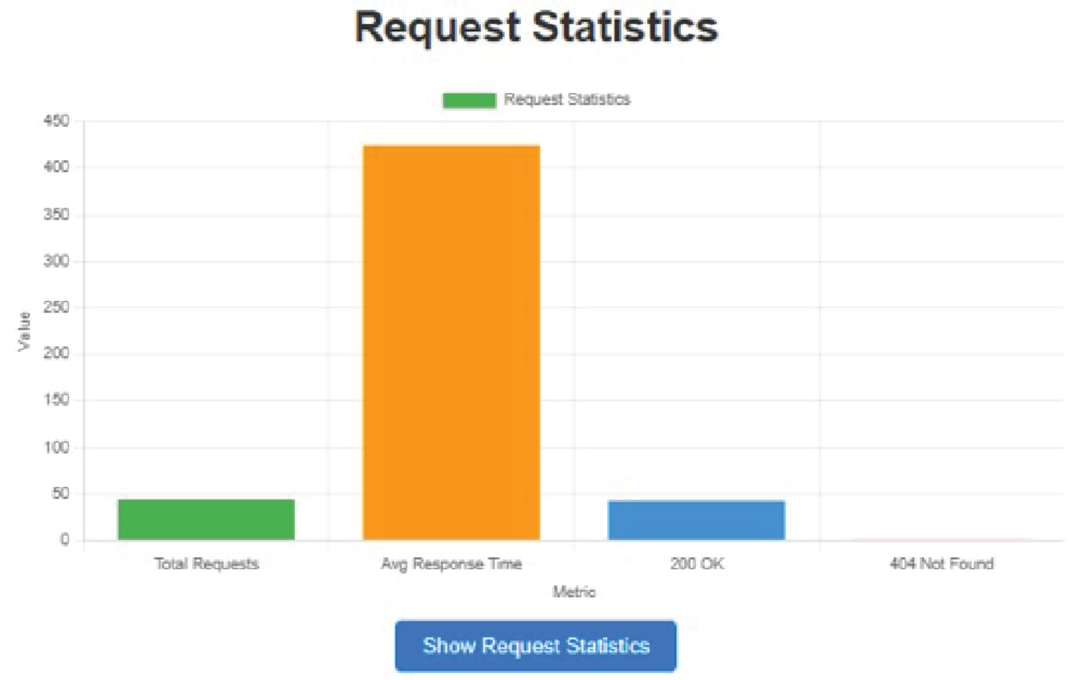
3. Control Flow:

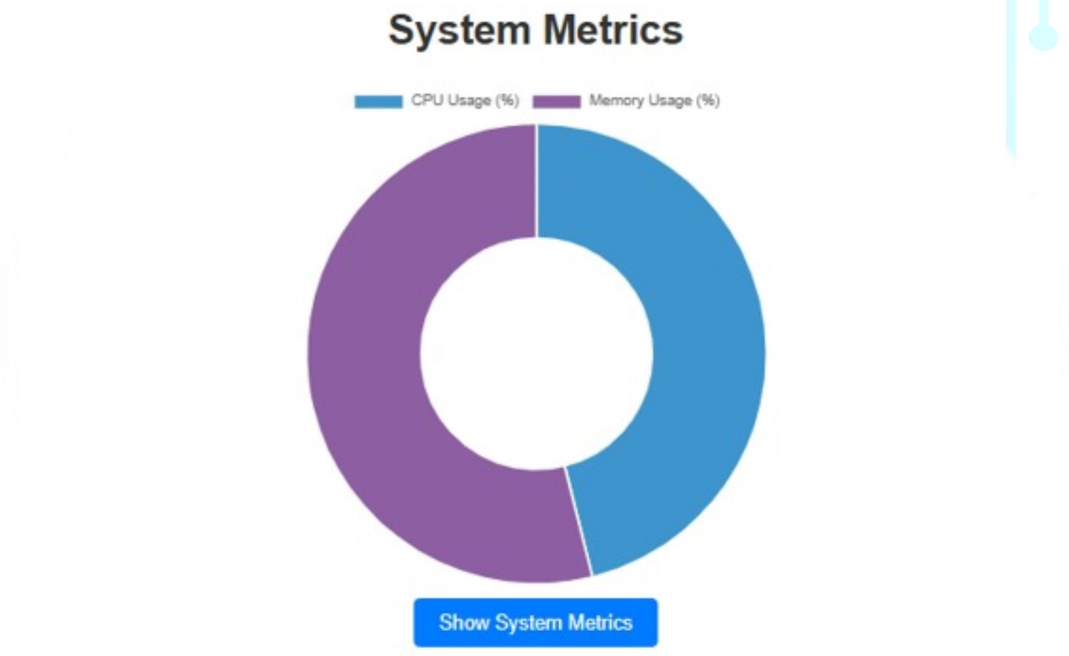


Results

Tracks and logs CPU, memory, and requests.

Provides real-time JSON metrics and a dashboard for analysis.





Future Scope

- Include metrics like disk usage and network activity.
- Monitor multiple servers.
- Add alerts for high resource usage and predictive analytics using AI.

Conclusion

The Web Server Monitoring System efficiently tracks server performance in real-time with a user-friendly dashboard for proactive management. Built with Python, Flask, and psutil, it offers scalability to meet evolving server needs.