

# Abstract

In the age of cloud computing, effective server monitoring is essential for optimizing resource usage, reducing costs, and maintaining system stability. This graduation project presents "Server Monitor" (SM), an open-source, decentralized server monitoring and control system designed for small to medium-sized cloud applications. SM aims to provide developers—whether experienced or new to cloud computing—with a robust yet simple suite of monitoring tools. It offers functionalities such as real-time performance tracking, anomaly detection, alert generation, web server log analysis, and command automation. Built using technologies like React, NodeJS, Typescript, and GraphQL, SM allows users to customize their monitoring experience through an intuitive GraphQL API and a React-based frontend. The project discusses the system's architecture, development process, and security measures, offering a comprehensive solution for cloud server monitoring needs.