Overview of Final Project

1) Tentative Title

"Predictive Infrastructure Monitoring Dashboard"

2) Scope of Project

Many outages or incidences can be preventable if warning signs are detected early before they escalate. Our project will design and implement a predictive monitoring dashboard that collects and analyzes system metrics (CPU, memory, disk, and network usage) to identify any potential failures in advance.

Our solution will use open-source tools such as Zabbix to:

- Continuously monitor system resources.

- Analyze any trends to determine any issues such as disk space exhaustion or memory saturation.

- Trigger alerts when thresholds are reached, allowing administrators to respond before critical downtime occurs.

The project will include a functional Zabbix configuration, a step-by-step guide, and supporting documentation showing how predictive monitoring can reduce downtime and improve infrastructure reliability within servers.

3) Group Members

- Nicholas Tsilimidos

- Rachael Oyenola

- Saimanikanta Reddy

References:

https://www.haskoning.com/en/newsroom/blogs/2024/predictive-monitoring-in-data-centres

https://serverspace.io/support/help/creating-and-customizing-dashboards-in-zabbix/

https://youtu.be/W_HIIvuZFUg?si=QtRIVptsjgtIm7bG

https://youtu.be/8fhqat09Png?si=xxiXDXpYZaAMsdVK

https://www.researchgate.net/publication/383920665_AI_and_Machine_Learning_for_Predictive_Monitoring_in_IT_Operations