PROGRAMMING PROJECT REPORT

(Resource Monitor Using Python)

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- ## **Project Overview**

1. **Efficient Monitoring:** We developed a Python-based dynamic resource monitor that effectively gathers information on system resources, including Disk, Network Usage, System Boot Time, and Top Processes. This allows us to comprehensively monitor our systems and identify potential bottlenecks or resource constraints.

2. **User-Friendly Interface**: We prioritized user experience by implementing a simple front-end that consolidates all monitored data onto a single page. This centralized view simplifies access to vital information and streamlines the monitoring process.

3. **Enhanced Transparency**: This resource monitor provides us with valuable insights into system performance and resource allocation. By readily accessing data on key areas like Disk and Network Usage, we gain greater transparency and can make informed decisions regarding resource optimization and system maintenance.

- ## **How the group has managed to complete the project**

1. **Collaborative Approach and Even Distribution of Responsibilities:** We shared the workload fairly and worked together to ensure everyone understood their role in the project.

2. **Open Communication and Continuous Refinement**: We talked regularly, shared ideas, and offered feedback to improve the resource monitor throughout development.

3. **Individual Ownership and Accountability**: Each team member took responsibility for their tasks and worked hard to deliver high-quality results.

4. **Efficient Integration and Timely Communication**: We seamlessly merged individual components into a unified system and kept everyone informed of progress throughout the project.

- ## **Problems you faced**

1. **Specific technologies used for the front-end**: Knowing which frameworks, libraries, and tools were used for the front-end development would help me identify potential challenges related to their functionalities, compatibility, or learning curve.
2. **Complexity of the user interface**: Understanding the number of features, data visualizations, and interactive elements on the interface would help me assess the difficulty of maintaining clean code, responsiveness, and performance.

- ## **Places you found the solution**
  There were 4 main sources which I referred to to tackle the challenges:
  - Front-End Development Resources: https://frontendmasters.com/
  - Stack Overflow: https://stackoverflow.com/
  - GitHub: https://github.com/
  - MDN Web Docs: https://developer.mozilla.org/

- ## **Group Members Contribution Towards the Project**

- Shreyas Shende:
  - Spearheaded the Python development, leveraging the psutil package to gather crucial data.
- Abhiraj Gupta:
  - Played a pivotal role in integrating Flask and offered valuable support with JavaScript implementation.
- Ayush Dewan:
  - Made significant contributions to the project's front-end development.
- **Gaurav(Me):**
  - **Was a driving force behind the project's front-end development, collaborating closely with Ayush.**
  - **Demonstrated exceptional creativity and problem-solving skills in tackling complex UI challenges..**

- ## **Name of your teammate who submitted the project :**
  Shreyas Shende (ss4897)