**Operating Systems**

**Mini-Project- Synopsis**

**Title of the project:** *Resource Utilization & Deadlock Detection in Computer Systems for an E-commerce Website*

* **Team Members:**

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| **Sno.** | **Name** | **Registration no.** | **Roll no.** |
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* **About Project:**

*The backbone of any high-traffic e-commerce website is its backend systems. As these systems grapple with large volumes of concurrent requests, especially during peak sales times, the potential for resource contention and database deadlocks rises.* ***This report offers a targeted strategy centred around the detection, alerting, and resolution of these database deadlocks.*** *It offers resource monitoring across all servers to ensure healthy operations and visualize these metrics in real-time. By integrating foundational resource monitoring with deadlock detection mechanisms and visualization tools, businesses can ensure smooth operations, enhanced user experience, and proactive issue resolution. Regular reviews and iterative optimizations, based on real-world data, will ensure the system remains robust, efficient, and deadlock-free.*

* **Technologies to be Added for UI:**

1. **Web Framework**: Depending on the language preference, frameworks such as React (JavaScript), NodeJS, HTML/CSS can be considered for building the UI.
2. **Dashboard Template**: Using a responsive admin dashboard template for visually appealing metrics display and control.
3. **API Integration**: Ensure the chosen framework can easily integrate with APIs. The database, and the monitoring tools will be fetched via APIs.
4. **Authentication**: Implement an authentication mechanism to ensure secure access to the dashboard.