**key NFRs: (Saud)**

**Performance**: performance NFRs means how responsive and fast the system is and the system’s ability to maintain performance as the load increases. It specifies how fast the system should perform the tasks, which includes process orders and payments and more. This can be measured by response time, scalability, and concurrency.

* Response Time: Load pages in under 2 seconds
* Scalability: The website must handle high traffic, especially during sales like black Friday
* Concurrency: the website must support at least 10 thousand simultaneous users without performance issues

**Security**: Security NFRs means how well the system protect it’s self and the users data against unauthorized access, breaches, and attacks. This is done by implementing authentication and encryption to guard sensitive data.

* Data Privacy: Ensure customer data is stored and transmitted securely
* Authentication: Implement strong user authentication such as multi-factor authentication
* Fraud Detection: Monitor and block suspicious activities like fraudulent payments

**Usability**: usability means how easy and intuitive the website is for users. This includes aspects such as user friendliness, accessibility, and mobile compatibility.

* User-Friendliness: An intuitive interface with clear navigation, allowing users to find products and complete purchases easily.
* Accessibility: ensure accessibility for users with disabilities.
* Mobile Compatibility: A responsive design that provides optimal experience on mobile devices.

**Reliability**: means how consistent is the website’s performance over time. This includes Uptime, fault tolerance, and data integrity.

Uptime: The system must achieve at least 99.9% availability to ensure continuous service.

Fault Tolerance: Graceful handling of server or service failures without impacting user experience.

Data Integrity: Ensure no data loss during transactions, even in case of failures.

**Maintainability**: it refers to how easily the system is updatable or modified. This includes the time and effort it takes to fix issues, implement changes, or enhance the website. This is done by having high code quality and documentation.

**Code Quality**: Modular and well-documented code to enable easier debugging and enhancements.

**Upgradability**: The system should allow seamless integration of new features without major rework.

**Monitoring**: Real-time tracking of performance and errors for prompt issue resolution.