**Systems Analysis and Design**

**Phase 1 Non-Functional Requirements**

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| Number | **Non-Functional Requirement Name** | Description | Use Cases | Justification |
| 1 | Performance | Response Time | Login/Register | The application should load to user input in less than 3 seconds. |
| 2 | Performance | Scalability | All Use Cases | 2000 concurrent users must be supported by the application without noticeably degrading performance. |
| 3 | Performance | Reliability | All Use Cases | A minimum of 99% uptime is required from the system |
| 4 | Usability | Simplicity of use | All Use Cases | The application must have an easy-to-use interface that allows users to navigate and complete tasks without requiring a lot of training. |
| 5 | Usability | Accessibility | All Use Cases | The application must be used by everyone including people with disabilities. |
| 6 | Security | Encryption of Data | All Use Cases | All sensitive user data, including payment information, must be encrypted. |
| 7 | Security | Authentication | Login | To safeguard user accounts and data, the application must implement robust authentication procedures and role-based access control. |
| 8 | Security | Adherence to Security | Make Payment | To guarantee the security of payment information, the application must abide by all applicable security standards such as PCI DSS). |
| 9 | Reliability | Tolerance for Failure | All Use Cases | The application must have processes in place to allow it to recover from system malfunctions. |
| 10 | Reliability | Backup and Recovery | All Use Cases | A strong recovery plan must be in place to restore the application in the event of data loss or breach, and consistent backups of important data must be kept. |
| 11 | Maintainability | Modularity | All Use Cases | The application should be able to handle updates without affecting other database information. |
| 12 | Maintainability | Record-keeping | All Use Cases | Records must be kept well and be traceable. |
| 13 | Compliance | Regulatory Compliance | All Use Cases | The application must abide by all applicable laws and rules that control online transactions, privacy, and data protection. |
| 14 | Testability | Load Testing | All Use Cases | To ensure that the application functions as intended under high load circumstances, it must be regularly subjected to load testing. |
| 15 | Testability | Capacity Testing | All Use Cases | To determine the application's maximum capacity and any performance delays, it will undergo stress testing. |
| 16 | Robustness Measures | Disaster Recovery | All Use Cases | The application must have thorough disaster recovery plan in case of an unanticipated events like natural disasters. |
| 17 | Robustness Measures | Inconsistency | All Use Cases | To provide redundancy and reduce downtime in the case of a failure, critical system components must be recreated. |