Technologies Involved

- Backend Frameworks
    - SpringBoot (Java)
        - Great for Complex data management requirements
        - Enterprise-level reliability
        - Excellent for high-performance systems
        - Built-in security features
    - Gin (GO)
        - Extremely high performance
        - Lower resource consumption
        - Excellent for microservices
        - Native concurrency support
- Database
    - PostgreSQL
        - Support for complex queries and relationships
        - Strong data consistency and reliability
        - Horizontal scalability through partitioning
        - Strong data encryption capabilities
- Caching
    - Redis
        - Handles high concurrent user requests
        - Reduces infrastructure costs
        - Ensures consistent, fast user experience
- Message Broker
    - Apache Kafka
        - Real-time synchronization between SIMS, HRMS, and LMS
        - Scalable inter-service communication
        - Low latency communication
        - Horizontal scalability
- Infrastructure
    - Cloud - AWS/Google Cloud/Azure
    - Containerization - Docker
    - Orchestration - Kubernetes
    - Load Balancing - Nginx

- Frontend
    - React.js/Next.js
    - State Management: Redux
    - UI Framework: Tailwind CSS
- App Development
    - Kotlin Multi-Platform
        - High Performance
        - Delivers product to multiple platforms from a single codebase
- Security
    - JWT & AES-256
- Version Control
    - GitHub
- CI/CD
    - GitHub CI