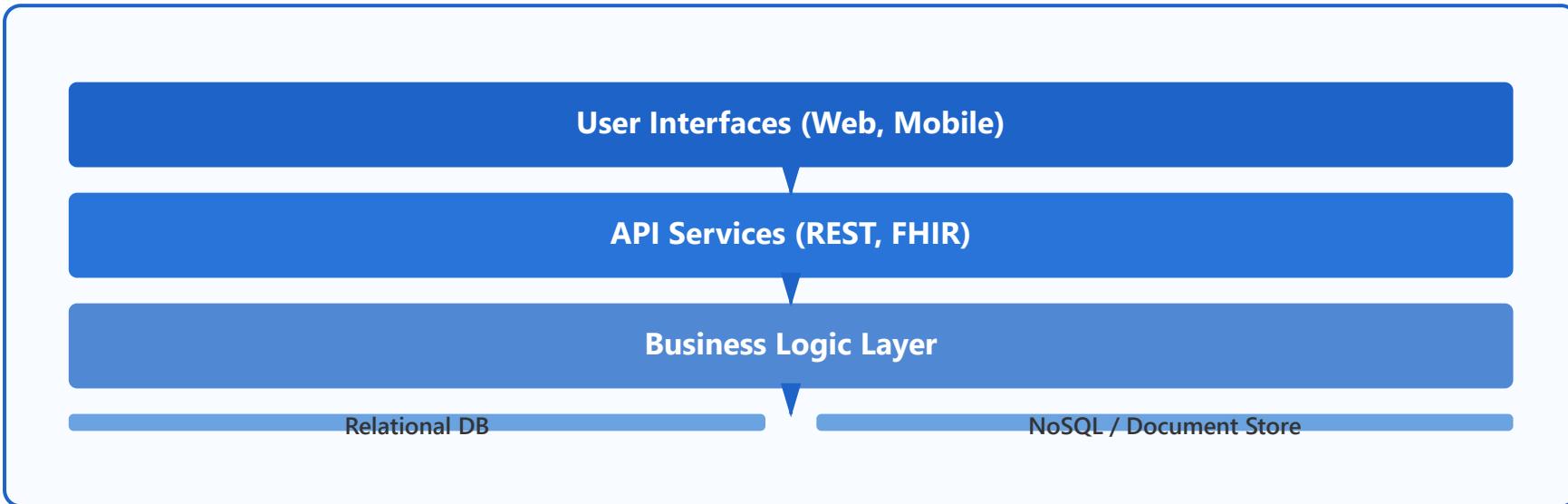


# EHR Architecture



## Database Design

- Relational databases (PostgreSQL, MySQL)
- NoSQL for unstructured data
- Data normalization strategies
- Indexing for performance



## Application Layers

- Presentation layer (UI/UX)
- Business logic layer
- Data access layer
- Microservices architecture



## User Interfaces

- Web-based portals
- Mobile applications
- Clinical workflow integration
- Responsive design patterns



## API Services

- RESTful APIs
- FHIR endpoints
- Authentication & authorization
- Rate limiting & monitoring



## Cloud Deployment

Modern EHRs leverage cloud infrastructure (AWS, Azure, GCP) for scalability, disaster recovery, and compliance with healthcare regulations (HIPAA, GDPR)