NAIROBI REGISTRATION BUREAU
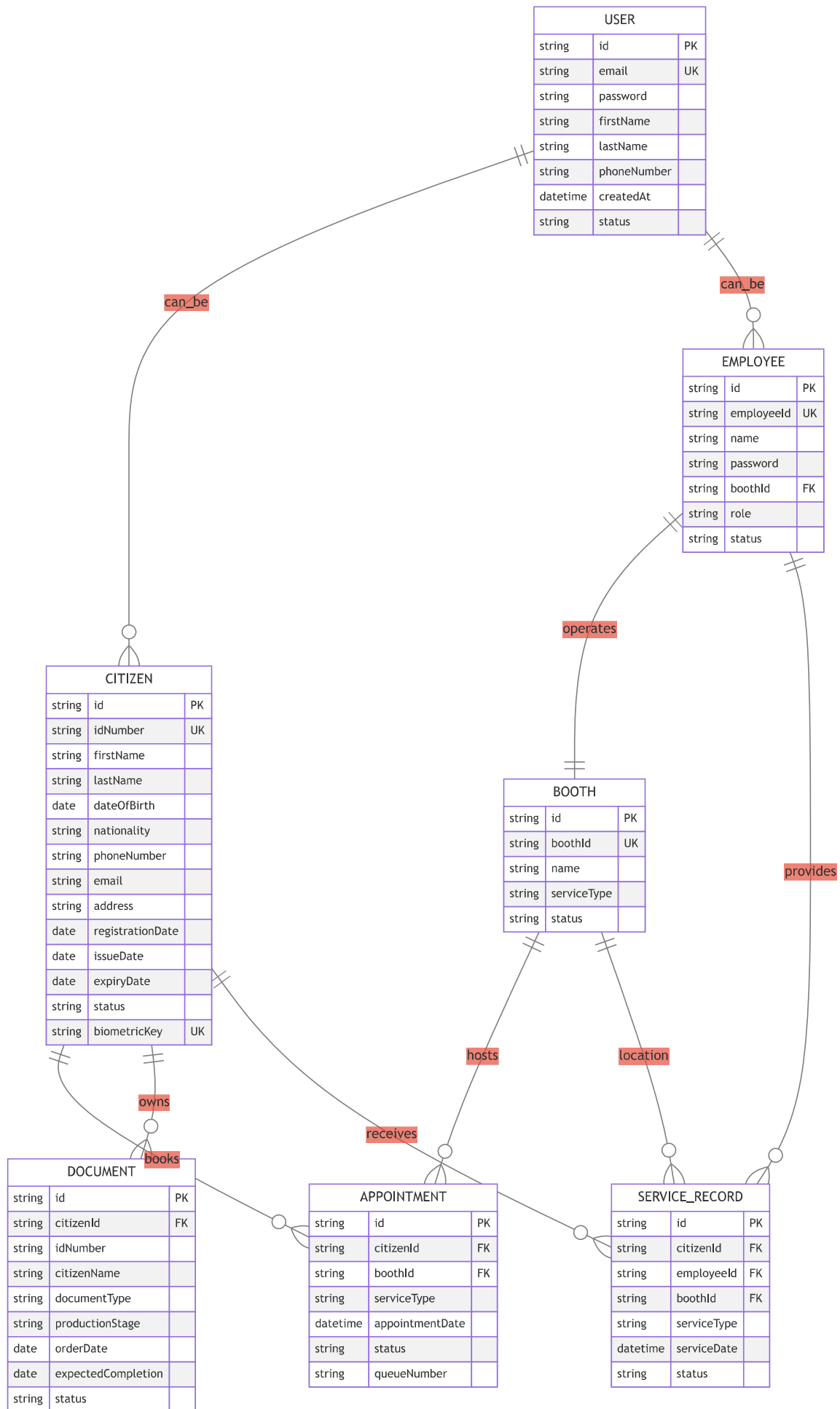
System Architecture Diagrams

Entity Relationship Diagram (ERD)

Purpose: Shows the database structure and relationships between system entities.

Key Entities: Users, Citizens, Employees, Booths, Appointments, Documents, Service Records
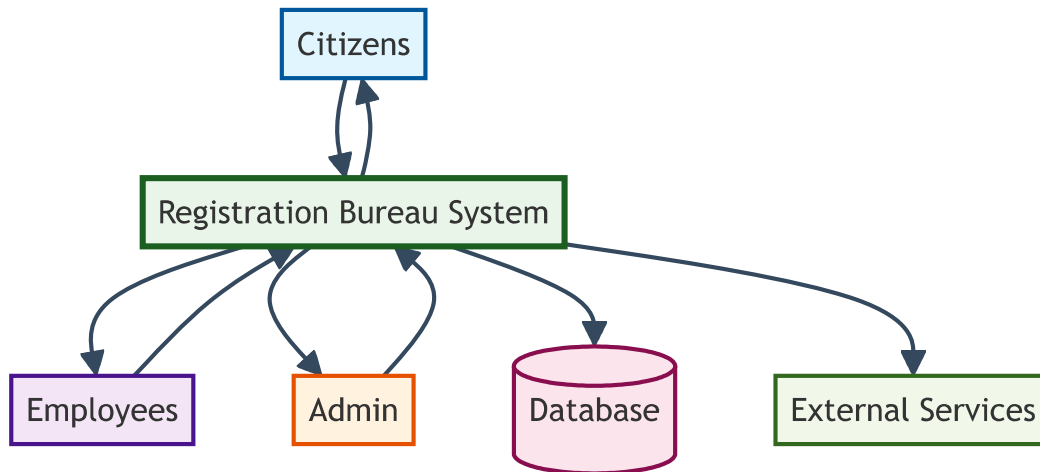
USER

string	id	PK
string	email	UK
string	password	
string	firstName	
string	lastName	
string	phoneNumber	
datetime	createdAt	
string	status	

EMPLOYEE

string	id	PK
string	employeeId	UK
string	name	
string	password	
string	boothId	FK
string	role	
string	status	

can_be

can_be

operates

provides

CITIZEN

string	id	PK
string	idNumber	UK
string	firstName	
string	lastName	
date	dateOfBirth	
string	nationality	
string	phoneNumber	
string	email	
string	address	
date	registrationDate	
date	issueDate	
date	expiryDate	
string	status	
string	biometricKey	UK

BOOTH

string	id	PK
string	boothId	UK
string	name	
string	serviceType	
string	status	

hosts

location

owns

books

receives

DOCUMENT

string	id	PK
string	citizenId	FK
string	idNumber	
string	citizenName	
string	documentType	
string	productionStage	
date	orderDate	
date	expectedCompletion	
string	status	

APPOINTMENT

string	id	PK
string	citizenId	FK
string	boothId	FK
string	serviceType	
datetime	appointmentDate	
string	status	
string	queueNumber	

SERVICE_RECORD

string	id	PK
string	citizenId	FK
string	employeeId	FK
string	boothId	FK
string	serviceType	
datetime	serviceDate	
string	status	

Data Flow Diagram - Context Level

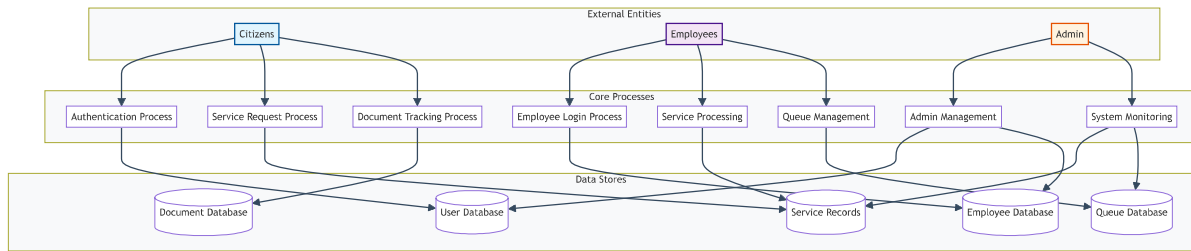**Purpose:** Shows system boundaries and external entity interactions.
External Entities: Citizens, Employees, Admin interact with the central system.

Data Flow Diagram - System Overview

Purpose: Breaks down the system into core processes and data flows.
Key Processes: Authentication, Service Requests, Document Tracking, Queue Management

Citizen Service Process Flow

Purpose: Shows the step-by-step process for citizen service delivery.

Flow: Login → Service Selection → Processing → Completion

```mermaid
flowchart TD
    Citizen Arrives --> Login Required?
    Login Required? -->|Yes| Authentication
    Login Required? -->|No| Select Service
    Authentication --> Select Service
    Select Service --> New ID?
    Select Service --> Replacement?
    Select Service --> Correction?
    Select Service --> Track Document?
    New ID? -->|Yes| Registration Form
    Replacement? -->|Yes| Identity Verification
    Correction? -->|Yes| Identity Verification
    Registration Form --> Join Queue
    Identity Verification --> Join Queue
    Join Queue --> Assigned to Booth
    Assigned to Booth --> Employee Processing
    Employee Processing --> Service Complete?
```

- Citizen Arrives
- Login Required?
  - Yes → Authentication
  - No → Select Service
- Select Service
  - New ID? → Yes → Registration Form
  - Replacement? → Yes → Identity Verification
  - Correction? → Yes → Identity Verification
- Join Queue
- Assigned to Booth
- Employee Processing
- Service Complete?
- Track Document?

Yes   No   Yes

Generate Receipt   Additional Info Needed   Show Status

Service Complete