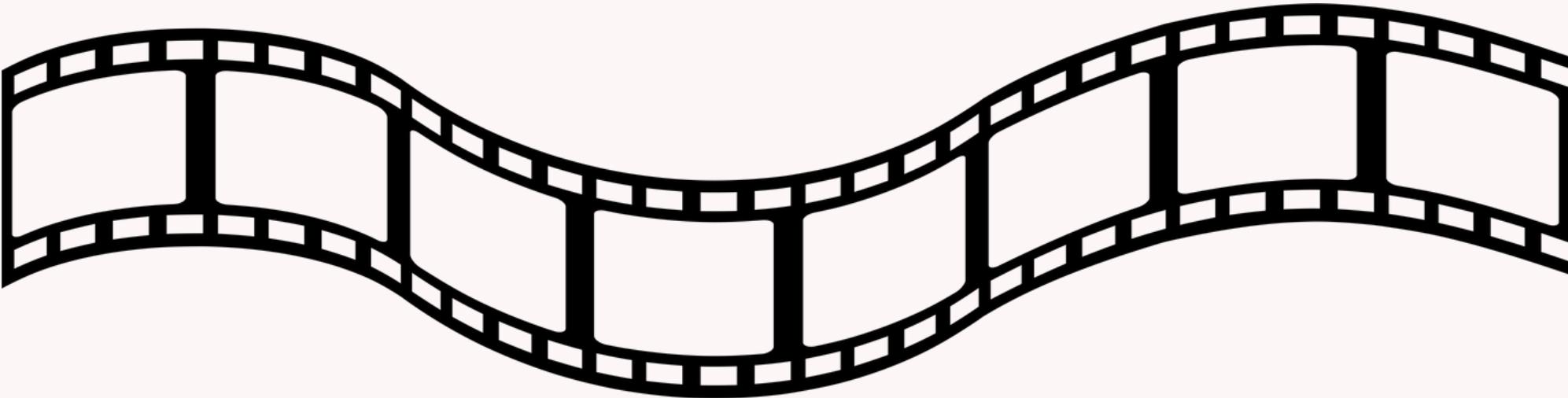
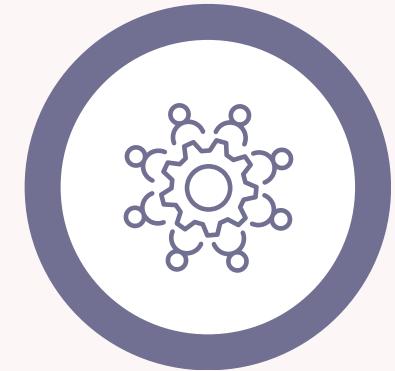


CINEMA MANAGEMENT SYSTEM



Made by:
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Samuel Antonio Sánchez Peña
Jorgue Enrique Acosta





STEP 1

Context

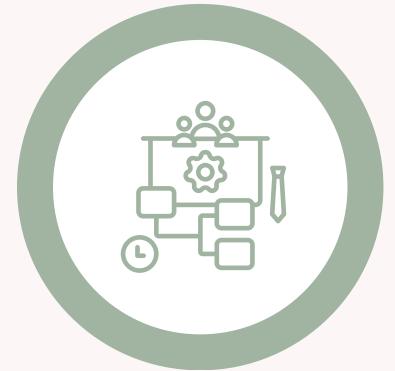
Cinema operations still rely on manual or disconnected systems for scheduling and catalog management.



STEP 2

Main Problem

Manual processes cause scheduling errors, data redundancy, and poor information consistency.



STEP 3

Causes

Lack of automation, modular design, and integration between services.



STEP 4

Consequences

Overlapping schedules, inefficiency, and inconsistent user experience.



STEP 5

Affected

Administrators, staff, and customers experience unreliable and confusing information.



STEP 6

Solution

A scalable microservices-based system is required to automate and integrate cinema management.

Operational Complexity

Managing multiple schedules, and catalogs manually increases the risk of errors and requires high coordination effort.



Scalability Limitations

adding new features becomes difficult with monolithic or spreadsheet-based systems



Data Inconsistency

When systems are not synchronized, updates in one area do not reflect in others leading to customer confusion.



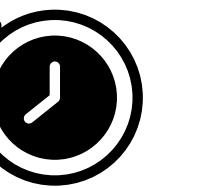
Security and Access Control Issues

Without centralized authentication, user roles and permissions are inconsistently managed, exposing the system to unauthorized access

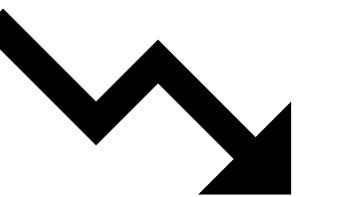


IMPACT

User experience is affected, making interaction with the system confusing or slow.



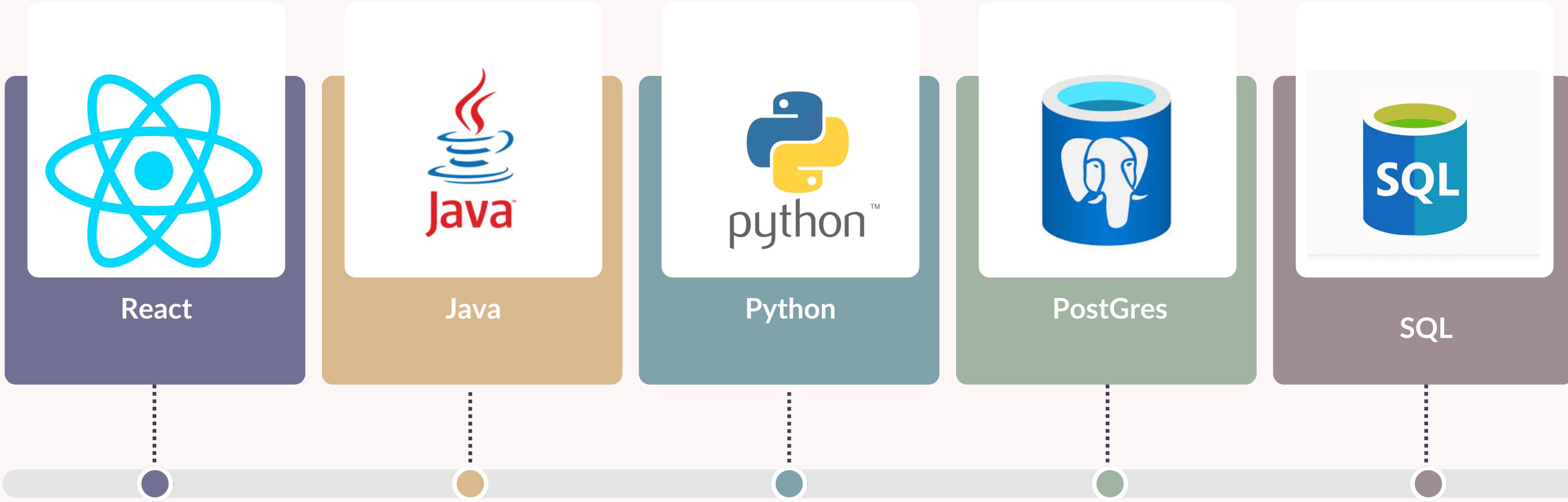
Operational efficiency decreases, increasing time and resources spent.



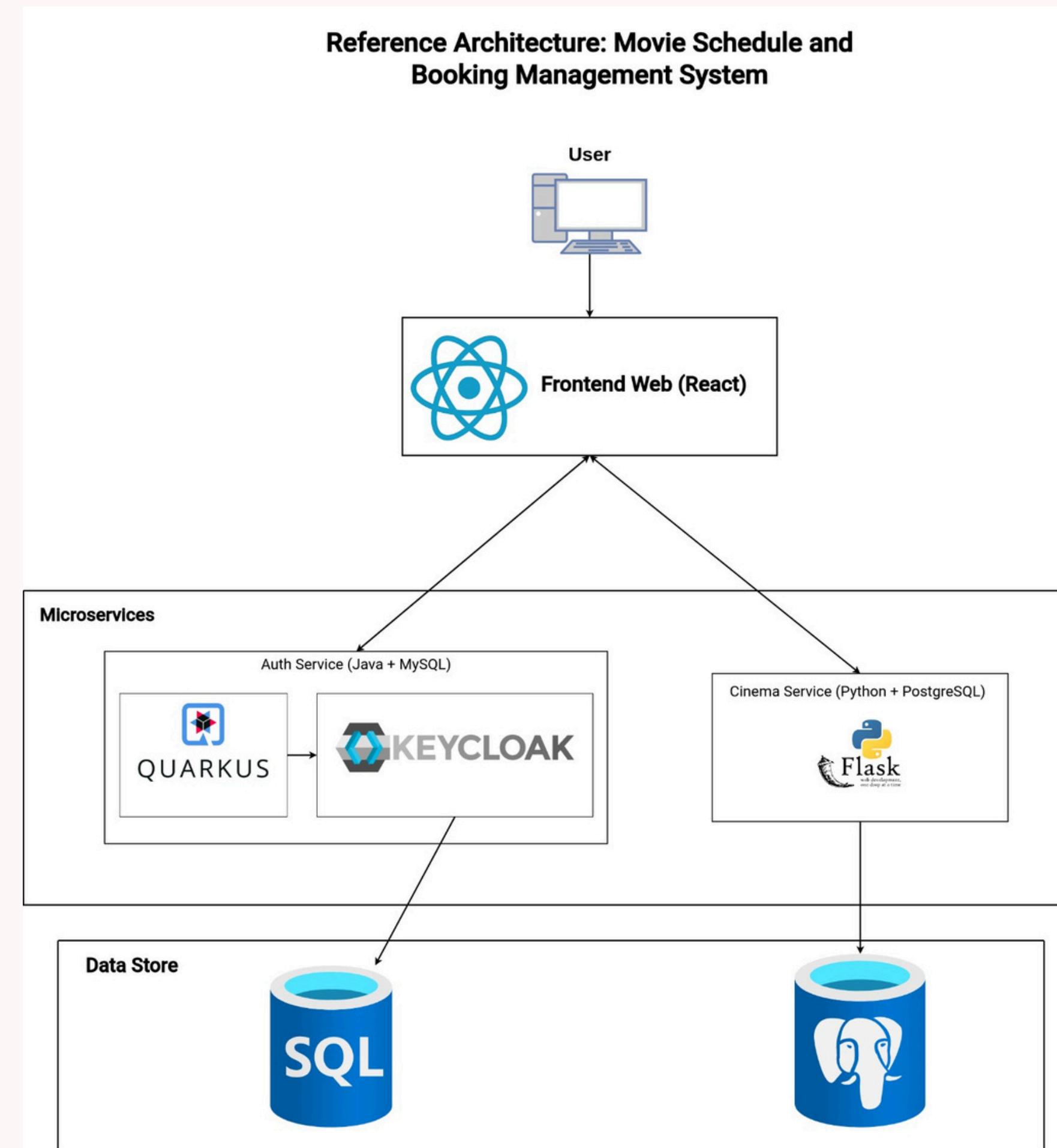
Data management becomes inconsistent, leading to possible errors or duplication.



DEVELOPMENT



ARCHITECTURE DIAGRAM





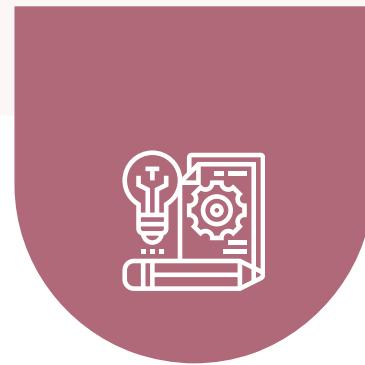
Frontend

React.js web app for user interaction.



Authentication Service

(Java + Keycloak): Handles user login, roles, and secure access.



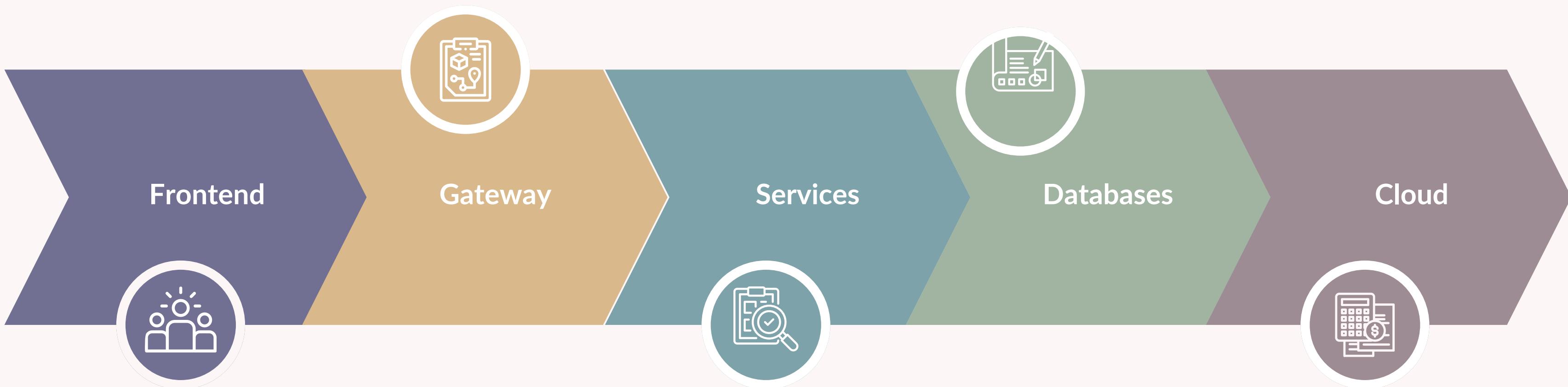
Cinema Management Service

Manages movies, schedules, and catalog operations.



Databases

MySQL → User and role data.
PostgreSQL → Movie, showtime, and system records.



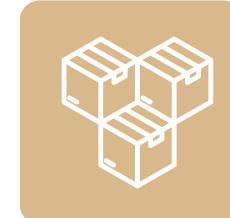


01 Improved Efficiency



Automation reduces manual scheduling errors.

02 Secure Access



Keycloak provides centralized authentication and role management.

03 Better User Experience



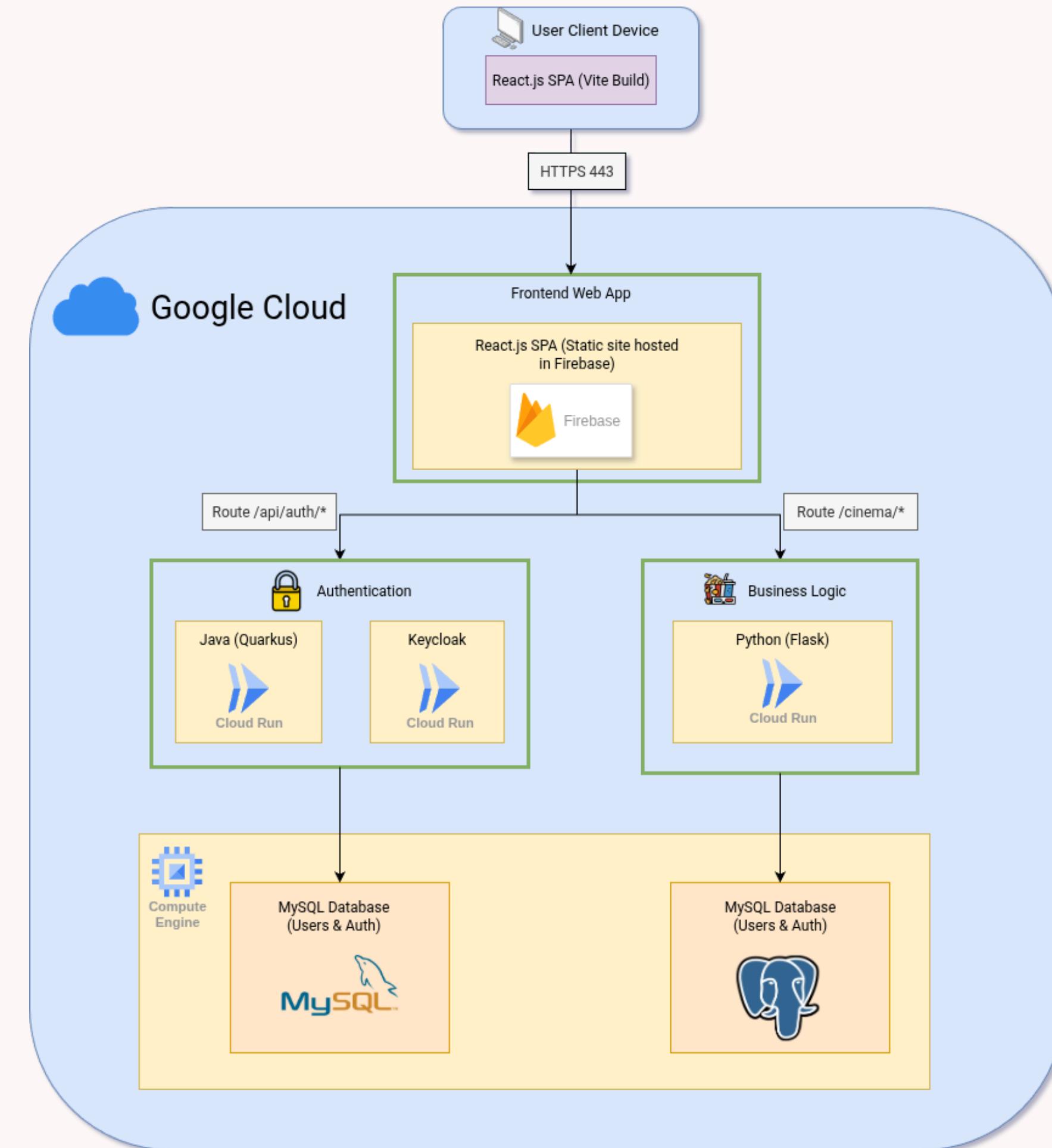
Unified interface and faster information access.

04 Evaluation & Scaling

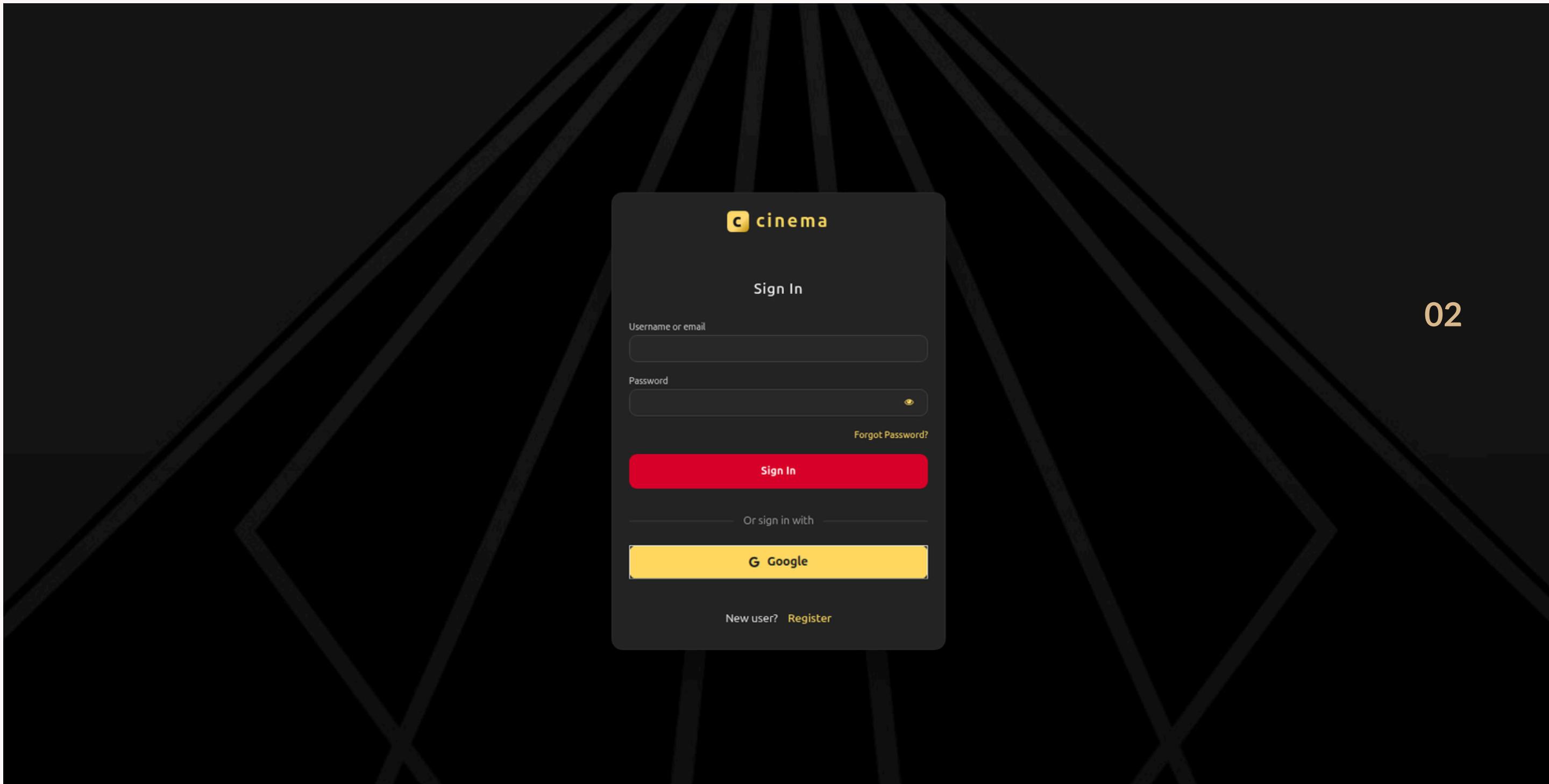


Cloud deployment supports growth and easy maintenance.

DEPLOYMENT DIAGRAM



LOGIN SCREEN



MOVIE MANAGEMENT

A screenshot of a web browser displaying the 'Movie Booking System'. The page has a red header bar with the title 'Movie Booking System' and navigation links 'HOME' and 'MOVIES'. Below the header is a dark gray modal dialog titled 'Add New Movie'. The dialog contains three input fields: 'Movie Title *' with the placeholder 'Movie Title', 'Genre *' with the placeholder 'Genre', and 'Duration (minutes) *' with the value '0'. At the bottom of the dialog are two buttons: a red 'SAVE' button and a white 'CANCEL' button.

localhost:3001/movies/new

Movie Booking System

HOME MOVIES

Add New Movie

Movie Title *

Genre *

Duration (minutes) *

0

SAVE CANCEL

Movie Booking System © 2025

USER MANAGEMENT

Cinema Management

nicog204

Users Management

Search by username or email... Search

Refresh

User	Email	State	Roles	Actions
jdoe	jdoe@example.com	Active	Customer	<button>Deactivate</button> <button>Make Admin</button>
nicog203	guevarotzi@gmail.com	Active	Customer	<button>Deactivate</button> <button>Make Admin</button>
nicog204	nicoguehe@gmail.com	Active	admin	<button>Deactivate</button> <button>Make Admin</button>