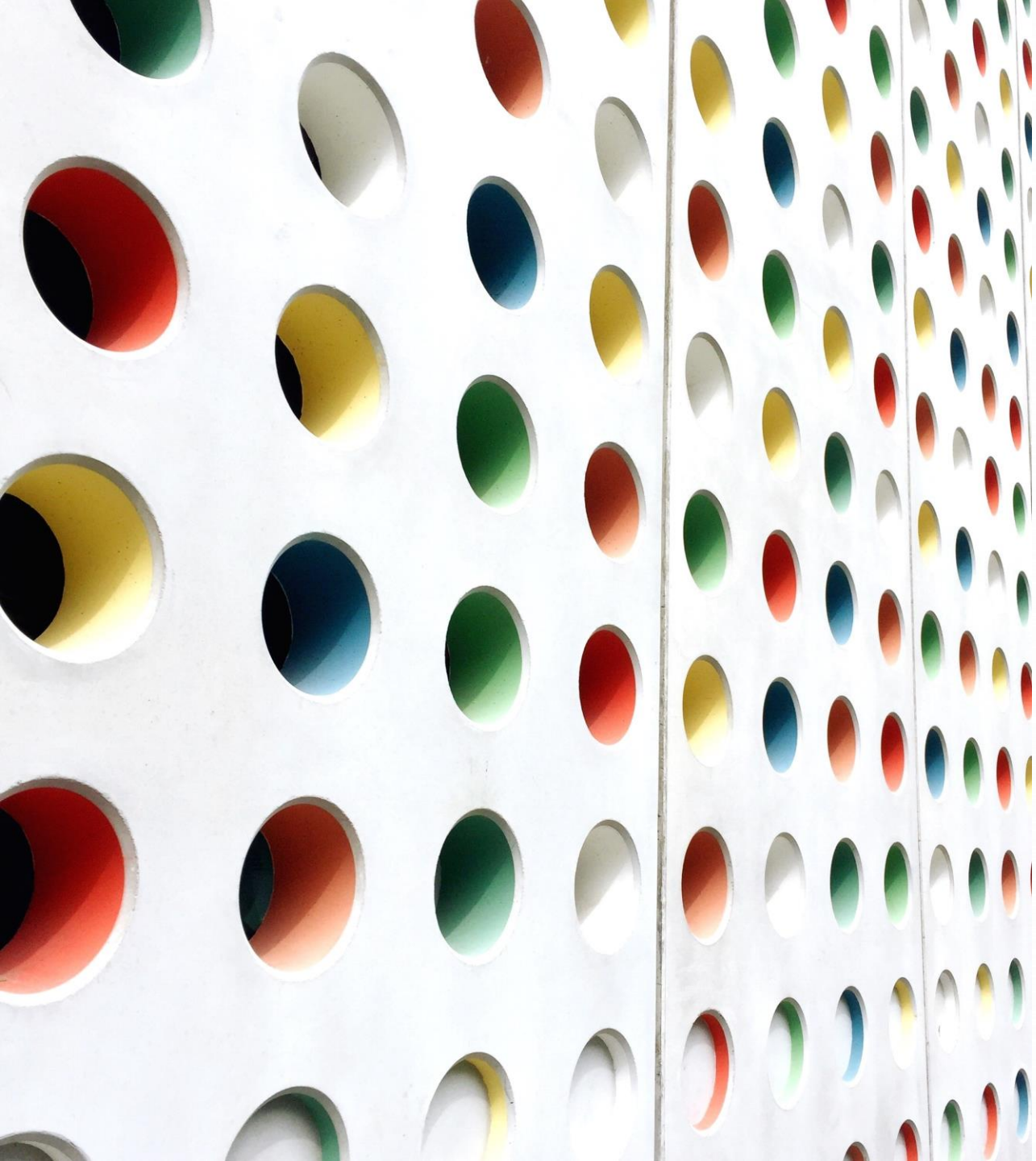


ONLINE TICKET BOOKING PLATFORM

SOLUTION DISCUSSION

PRESENTED BY

N BALAJI

AGENDA

- BUSINESS REQUIREMENTS
- NON-FUNCTIONAL REQUIREMENTS
- ARCHITECTURE
- DEPLOYMENT
- TECH STACK
- MONETIZING OPPORTUNITY

BUSINESS REQUIREMENTS

- XYZ WANTS TO BUILD AN ONLINE MOVIE TICKET BOOKING PLATFORM THAT CATERS TO BOTH B2B (THEATRE PARTNERS) AND B2C (END CUSTOMERS) CLIENTS.

  KEY GOALS TO BE ACCOMPLISHED AS PART OF THE SOLUTION:

  - ENABLE THEATRE PARTNERS TO ONBOARD THEIR THEATRES OVER THIS PLATFORM AND GET ACCESS TO A BIGGER CUSTOMER BASE WHILE GOING DIGITAL.
  - ENABLE END CUSTOMERS TO BROWSE THE PLATFORM TO GET ACCESS TO MOVIES ACROSS DIFFERENT CITIES, LANGUAGES, AND GENRES, AS WELL AS BOOK TICKETS IN ADVANCE WITH A SEAMLESS EXPERIENCE.

ESSENTIAL FEATURES OF THE SYSTEM

Features for the users of the system:

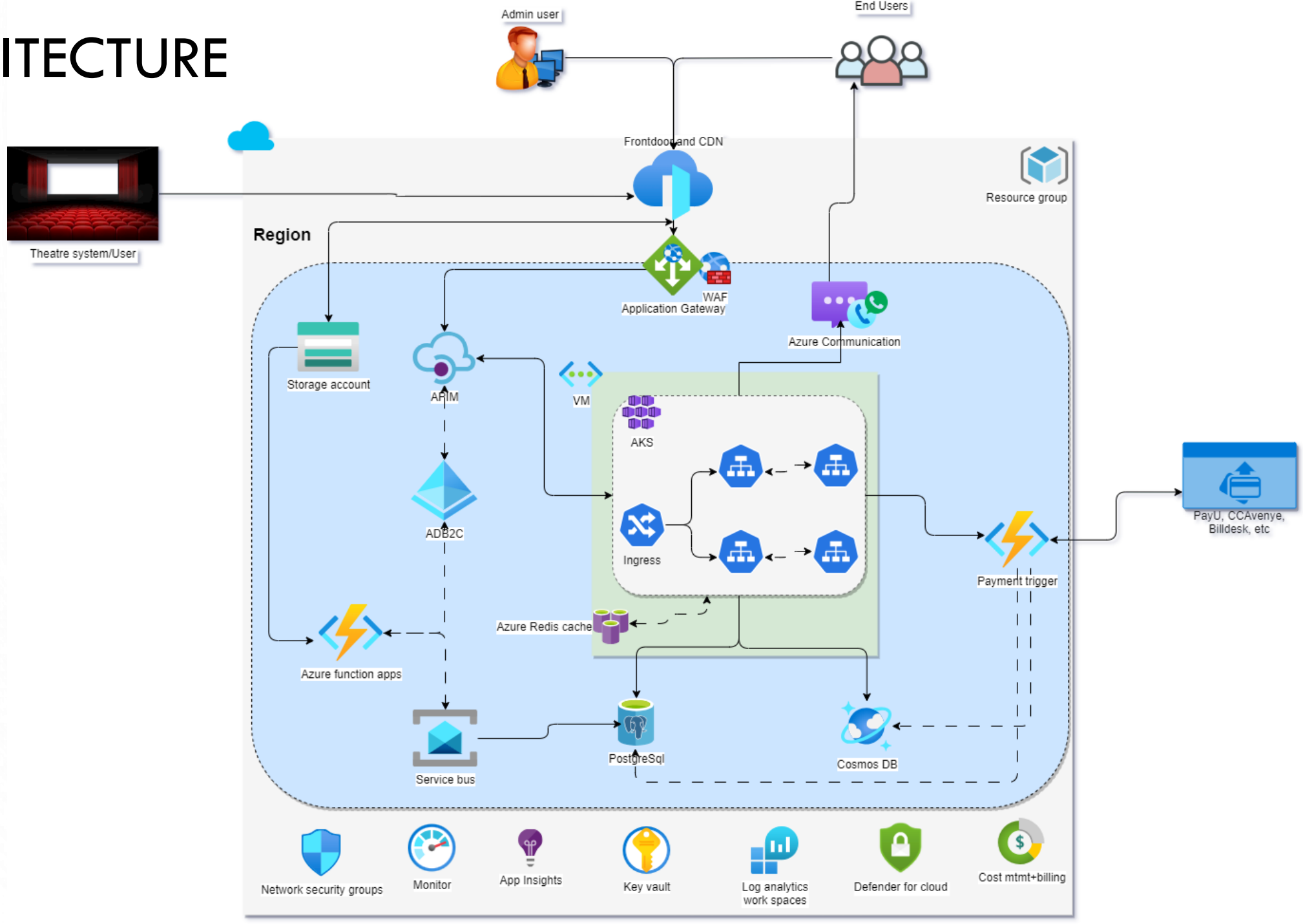
User registration and login
Location selection
Homepage
Details of the movie
Payment processing
Reviews and ratings
Download the ticket and email/WhatsApp the ticket
Loyalty Program

Features for the admin of the system:
Login
Admin Dashboard
Manage Shows
Manage Venues
Manage Earnings
Content Management
Push Notifications

NON-FUNCTIONAL REQUIREMENTS

- DESCRIBE TRANSACTIONAL SCENARIOS AND DESIGN DECISIONS TO ADDRESS THE SAME.
  - INTEGRATE WITH THEATRES HAVING EXISTING IT SYSTEM AND NEW THEATRES AND LOCALIZATION(MOVIES)
  - SCALE TO MULTIPLE CITIES, COUNTRIES AND GUARANTEE PLATFORM AVAILABILITY OF 99.99%
  - INTEGRATION WITH PAYMENT GATEWAYS
  - MONETIZE THE PLATFORM
  - PROTECT AGAINST OWASP TOP 10 THREATS.

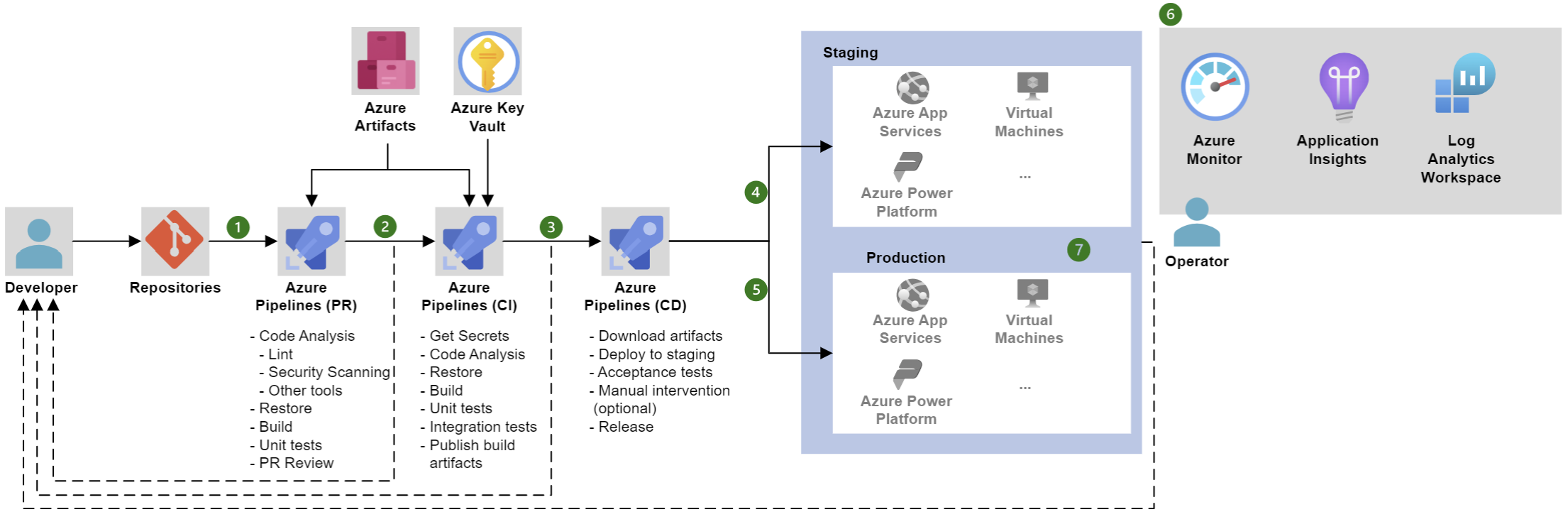
ARCHITECTURE



TECH STACK

- KEY DRIVERS CONSIDERED: SCALABILITY, PERFORMANCE, RELIABILITY, SECURITY, FLEXIBILITY AND AGILITY, USER EXPERIENCE AND COST EFFICIENCY.
- FRONTEND: ANGULAR
- BACKEND: JAVA, SPRING BOOT
- CLOUD: AZURE
- DATABASE: POSTGRESQL, COSMOSDB
- AUTHENTICATION AND SECURITY: JSON WEB TOKEN, OAUTH
- CACHING: AZURE REDIS
- LOGGING AND MONITORING: AZURE MONITORING, LOGANALYTICS

DEPLOYMENT


Azure Artifacts
Azure Key Vault
Developer
Repositories
1
Azure Pipelines (PR)
- Code Analysis
- Lint
- Security Scanning
- Other tools
- Restore
- Build
- Unit tests
- PR Review
2
Azure Pipelines (CI)
- Get Secrets
- Code Analysis
- Restore
- Build
- Unit tests
- Integration tests
- Publish build artifacts
3
Azure Pipelines (CD)
- Download artifacts
- Deploy to staging
- Acceptance tests
- Manual intervention (optional)
- Release
4
5
Staging
Azure App Services
Virtual Machines
Azure Power Platform
...
Production
7
Azure App Services
Virtual Machines
Azure Power Platform
...
6
Azure Monitor
Application Insights
Log Analytics Workspace
Operator

MONETIZING OPPORTUNITIES

- **COMMISSION ON TICKETS –** THE PLATFORM CHARGES A CERTAIN AMOUNT OF COMMISSION ON THE TICKET BOOKING EITHER FROM THE CONSUMER OR THEATERS OR EVEN BOTH.
- **ADVERTISEMENTS AND PROMOTIONS –** ALONG WITH THE COMMISSION, POSSIBILITY TO EARN REVENUE BY DISPLAYING ADVERTISEMENTS ON THE PLATFORM. EXCLUSIVE TRAILORS/INTERVIEWS OF THE CELEBRITY CAN INCREASE THE WEBSITE TRAFFIC INTURN CHANCES TO INCREASE THE VIEW ON THESE ADVERTISEMENTS AND PROMOTIONS.
- **INNOVATIVE IDEAS –** LIKE GIFTING THE TICKET ITSELF, HAVING TIE UP WITH POPULAR BRANDS MAY INCREASE THE POSSIBLE ADDITIONS FOR REVENUE GENERATION.

OVERALL KPIS

- **FUNCTIONAL KPIS:**

1. **USER SATISFACTION METRICS:**
    1. CUSTOMER SATISFACTION SURVEYS.
    2. USER FEEDBACK AND RATINGS.
2. **BUSINESS METRICS:**
    1. NUMBER OF TICKETS BOOKED PER DAY/WEEK/MONTH.
    2. REVENUE GENERATED FROM TICKET SALES.
    3. CONVERSION RATE (PERCENTAGE OF WEBSITE VISITORS WHO BOOK TICKETS).
    4. CUSTOMER RETENTION RATE.
3. **SERVICE LEVEL AGREEMENTS (SLAS):**
    1. RESPONSE TIME FOR BOOKING TICKETS.
    2. AVAILABILITY OF THE BOOKING PLATFORM (UPTIME).
    3. ERROR RATES (PERCENTAGE OF FAILED TRANSACTIONS).
4. **BOOKING PERFORMANCE:**
    1. AVERAGE TIME TAKEN TO COMPLETE A BOOKING.
    2. NUMBER OF CONCURRENT BOOKINGS HANDLED.
5. **TICKET DISCOUNTS UTILIZATION:**
    1. PERCENTAGE OF USERS AVAILING THIRD TICKET DISCOUNT.
    2. PERCENTAGE OF TICKETS BOOKED FOR AFTERNOON SHOWS (TO EVALUATE THE EFFECTIVENESS OF THE DISCOUNT).

- **TECHNICAL KPIS:**

1. **APPLICATION PERFORMANCE:**
    1. RESPONSE TIME OF API ENDPOINTS.
    2. THROUGHPUT (REQUESTS PROCESSED PER SECOND).
    3. LATENCY DISTRIBUTION (E.G., P50, P95, P99).
2. **RESOURCE UTILIZATION:**
    1. CPU AND MEMORY USAGE OF APPLICATION PODS.
    2. POD AUTOSCALING EVENTS (NUMBER OF SCALING EVENTS TRIGGERED).
3. **RELIABILITY AND AVAILABILITY:**
    1. NUMBER OF POD RESTARTS.
    2. AKS CLUSTER AVAILABILITY (UPTIME).
    3. MEAN TIME BETWEEN FAILURES (MTBF) AND MEAN TIME TO RECOVER (MTTR).
4. **NETWORKING METRICS:**
    1. NETWORK LATENCY BETWEEN SERVICES.
    2. INGRESS/EGRESS TRAFFIC VOLUME.
5. **SECURITY AND COMPLIANCE:**
    1. NUMBER OF SECURITY VULNERABILITIES IDENTIFIED AND RESOLVED.
    2. COMPLIANCE WITH SECURITY STANDARDS (E.G., OWASP TOP 10, GDPR).
6. **SCALABILITY AND ELASTICITY:**
    1. SCALABILITY METRICS DURING PEAK LOADS.
    2. EFFICIENCY OF POD SCALING (TIME TAKEN TO SCALE UP/DOWN).
7. **COST OPTIMIZATION:**
    1. COST PER TRANSACTION.
    2. RESOURCE UTILIZATION EFFICIENCY (E.G., MINIMIZING IDLE RESOURCES).

THANK YOU!