

Scent Match

INTERACTIVE FRAGRANCE RECOMMENDATION SYSTEM

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CSC 431

AGENDA

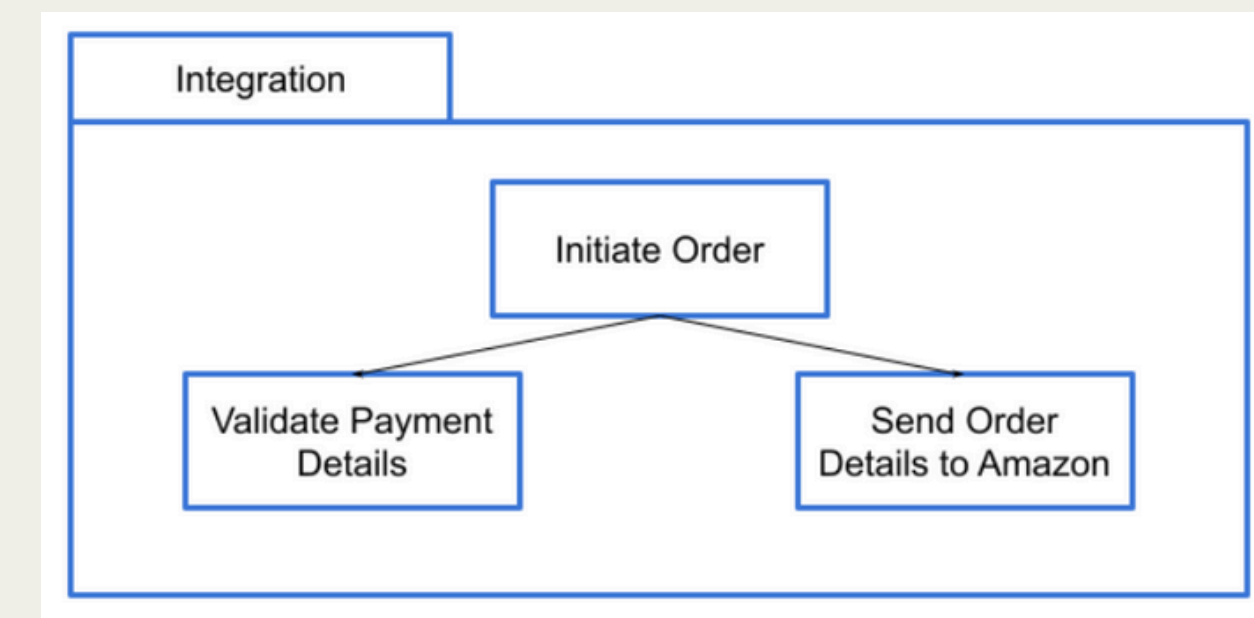
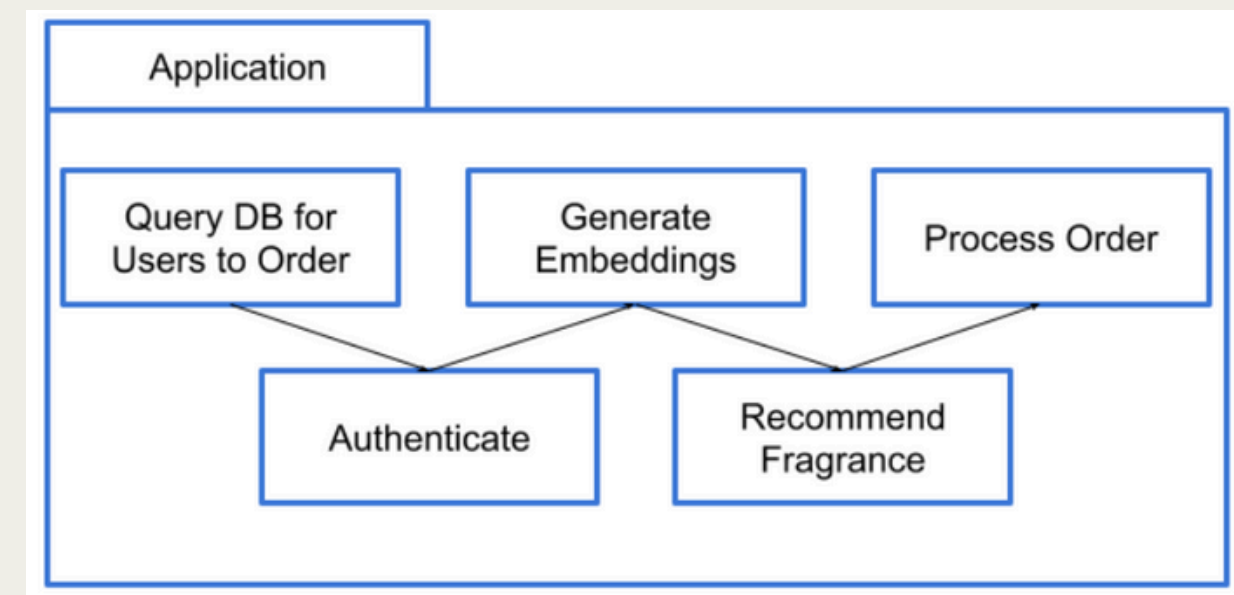
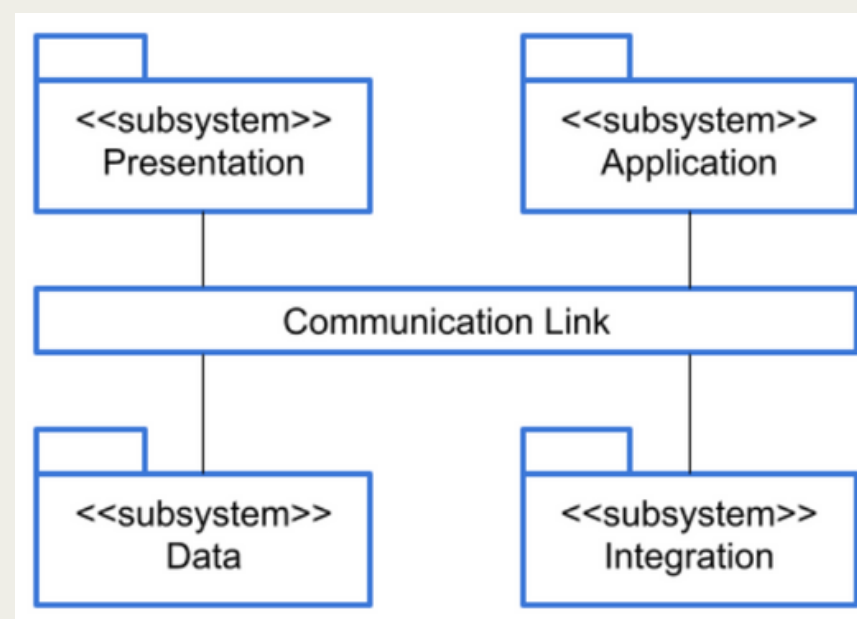
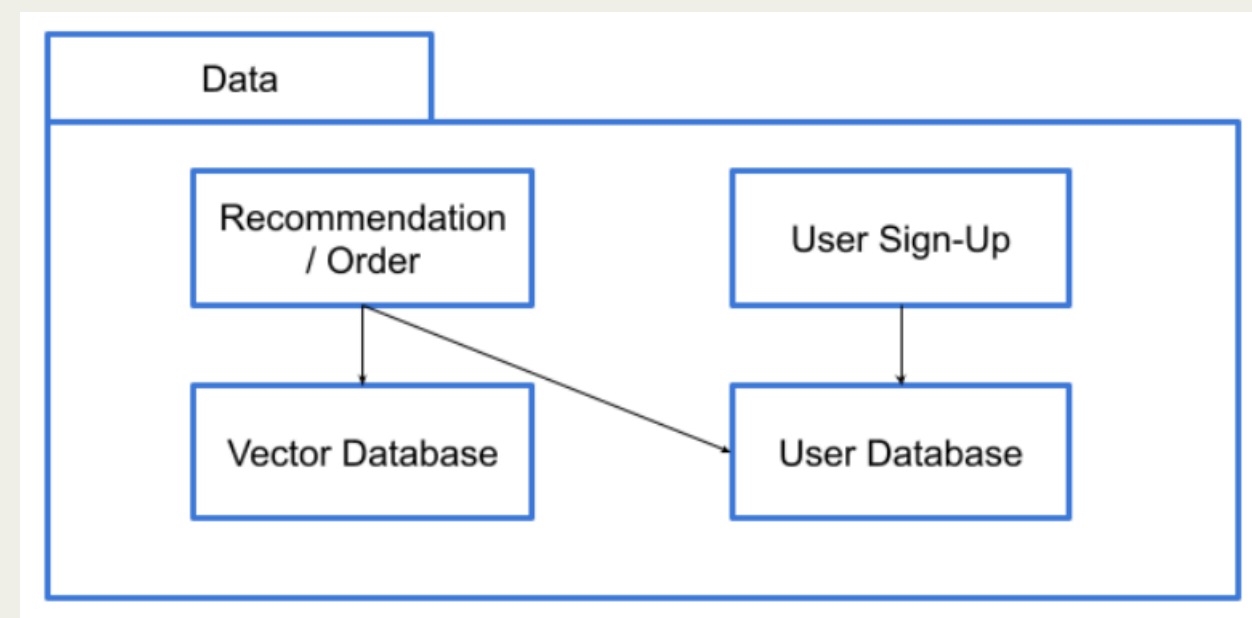
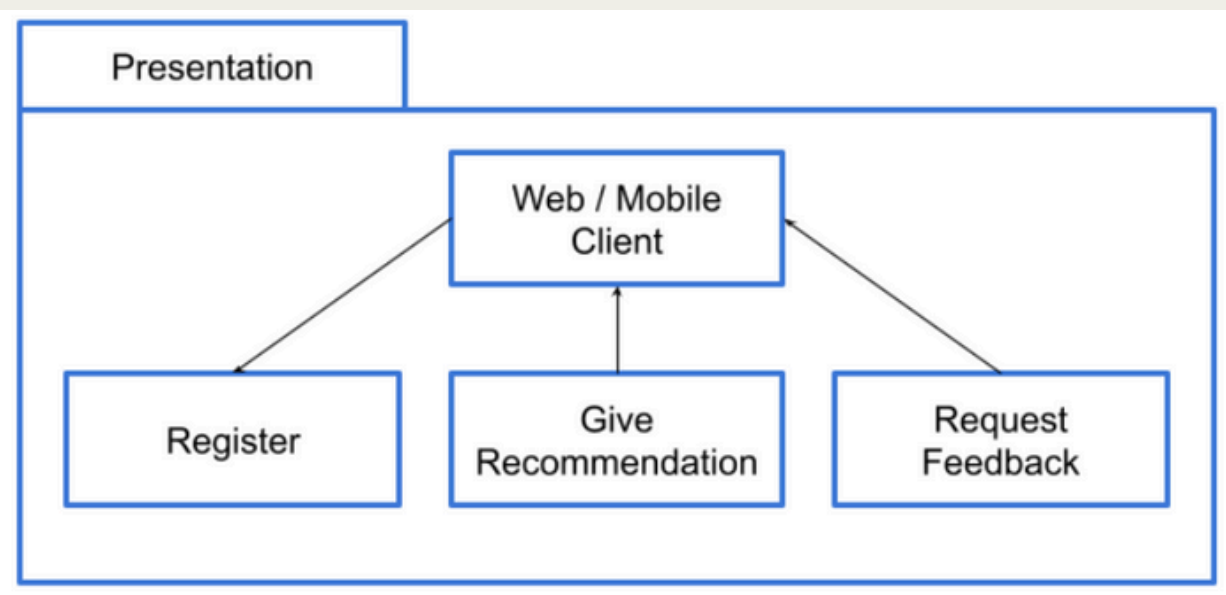
- Introduction to Scent Match
- System Architecture
- Key Architectural Priorities
- Core Technologies & Components
- Actors & Design Patterns
- Functional Workflows
- Structural Design
- Q&A

INTRODUCTION TO SCENT MATCH

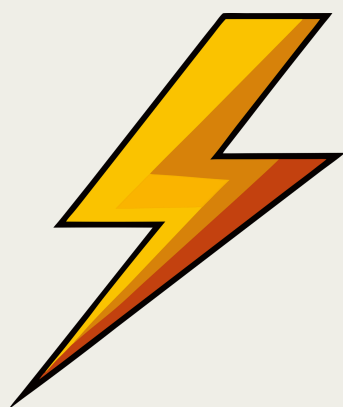
- Personalized scent recommendations
- BERT-based user embeddings
- Subscription with feedback loop



SYSTEM ARCHITECTURE



KEY ARCHITECTURAL PRIORITIES



$\leq 200\text{ms}$
response time



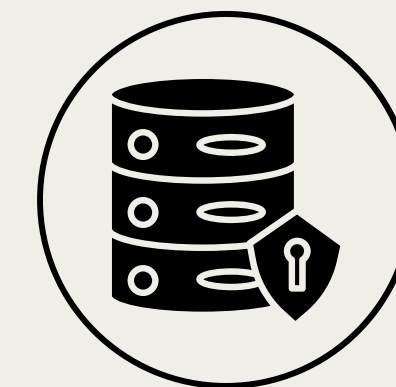
1000
queries/sec



GDPR-CCPA
compliant storage

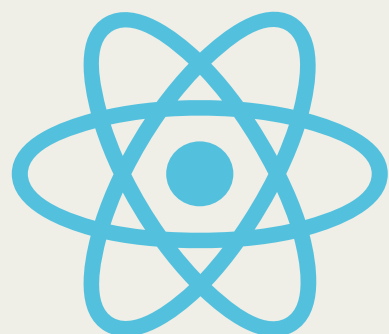


99.9% system
uptime



data integrity
<0.01% error

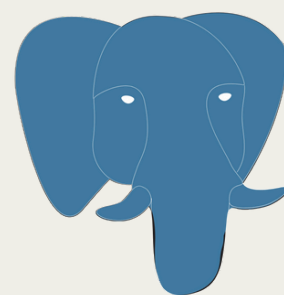
CORE TECHNOLOGIES AND COMPONENTS



frontend



backend



PostgreSQL

pgvector

machine
learning



background
tasks & payment

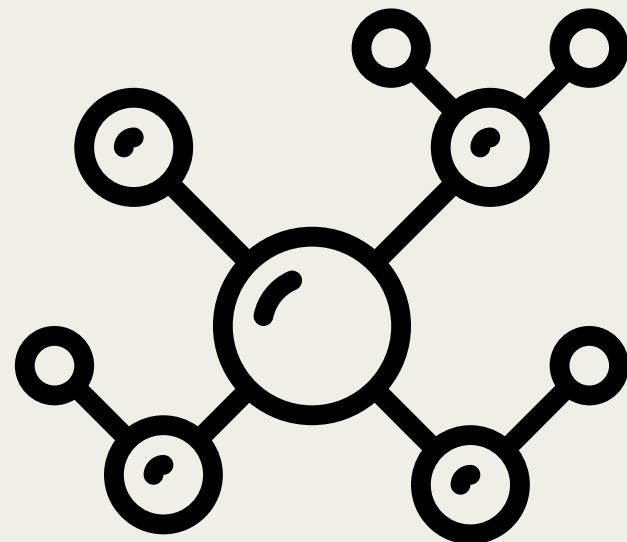


kubernetes

deployment

ACTORS

- End Users
- System Administrator
- Amazon API - Order Fulfillment
- Payment Processors
- Database Systems
- Machine Learning Infrastructure



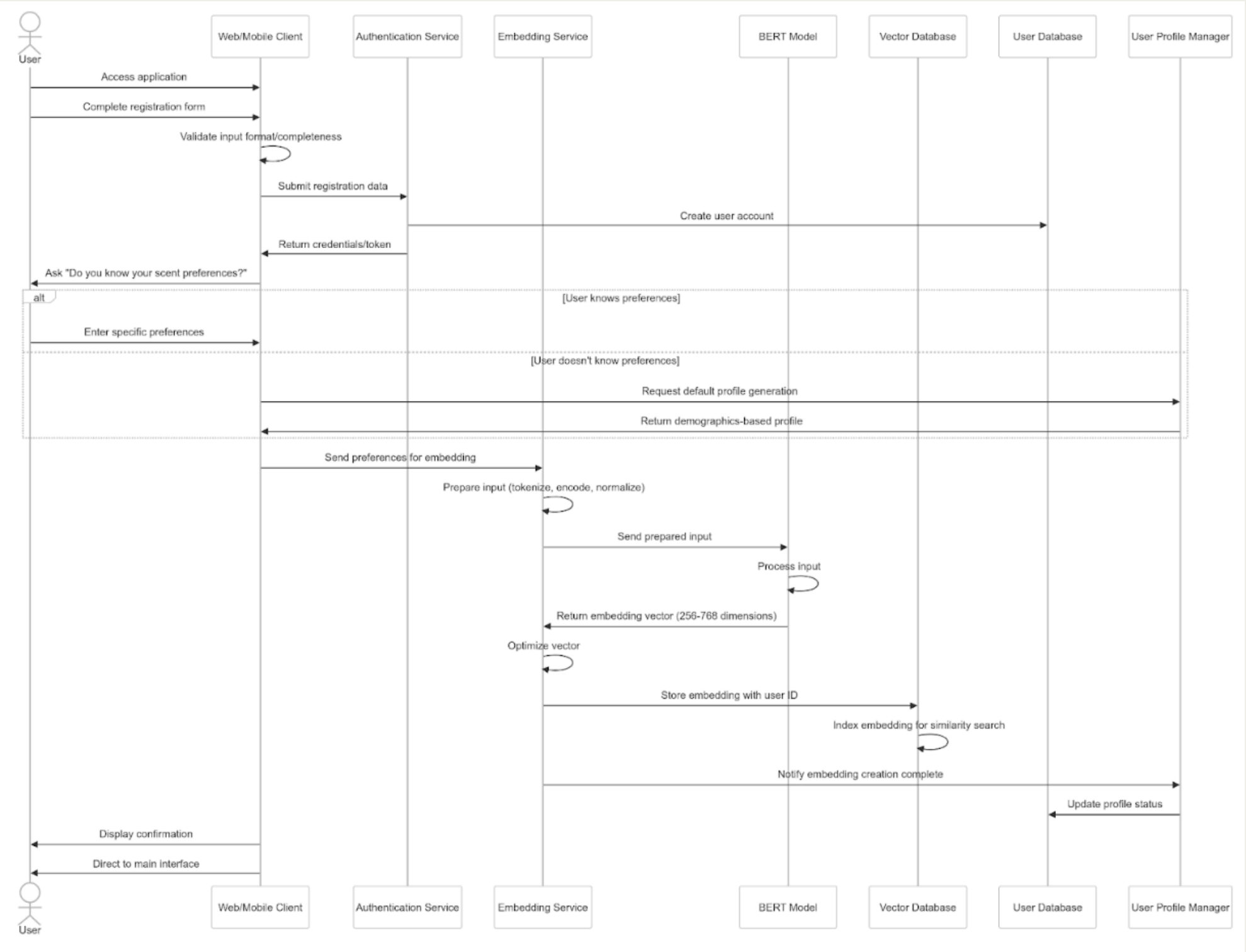
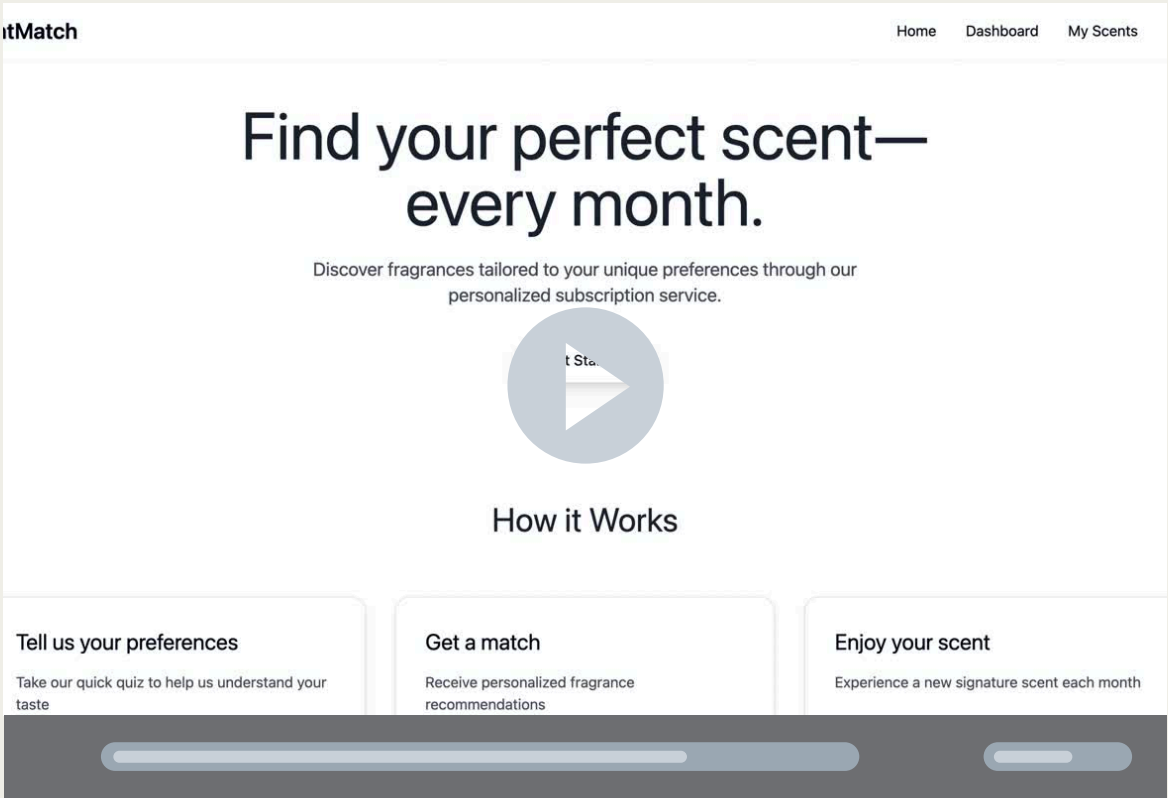
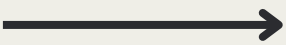
DESIGN PATTERNS



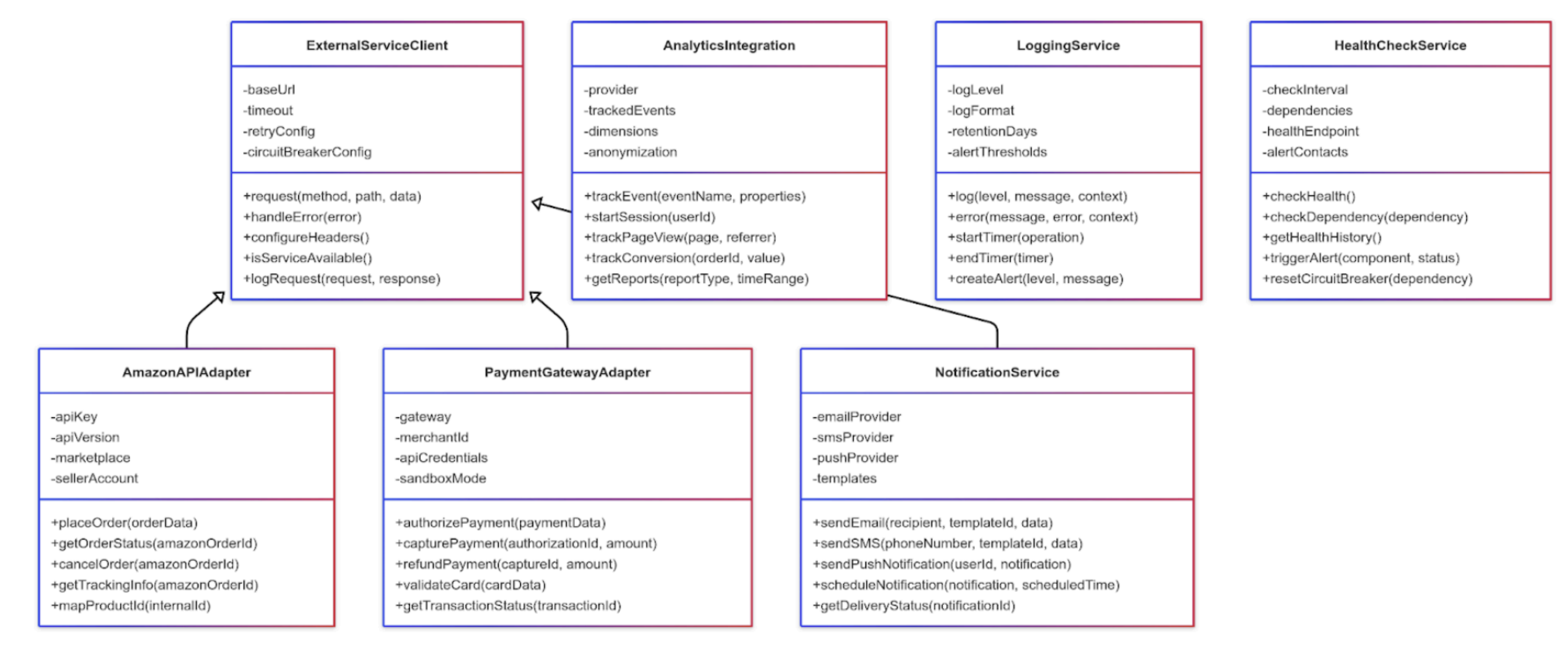
- Repository
- Strategy
- Factory
- Observer
- Adapter
- Circuit Breaker

FUNCTIONAL WORKFLOWS

- User registration
- Recommendation
- Feedback Collection
- Subscription Cycle



STRUCTURAL DESIGN



Thank you!

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[VIEW REFERENCES HERE](#)

