Software Architecture

Agenda

- C4 Model Representation

- Types of Software Architectures

- Evolutionary Architecture

Promotion Definition

Domain Specifications

- System should allow business users to create/modify promotions

- Promotions should be created on the e-commerce data provided from catalog service

- Downstream systems should be able to consume data in a simple flat structure called PAM (Promotion Applicability Map)

PAM:- promotionId : offeringId

System Context View

- Level 1 in C4 Modelling
- Describes key users of the system

System Container View

- Level 2 in C4 Modelling
- Describes the different containers and protocols used for communication

System Component View

- Level 3 in C4 Modelling
- Low-Level details of the system

Microkernel Architecture

- Monolithic architecture

- Plugin Model

- Communication using REST & Request-Response method (sync)

- *Anti-pattern:* Intercommunication between plugins

Promotion Definition: Version 2

Event Driven Architecture

- Used for distributed systems
- Broker Topology
  - High performance
  - No control over message flow
- Mediator Topology
  - Low performance
  - Better control over message flow

Promotion Definition: Version 3

Microservices Architecture

- Used for distributed systems

- Important to choose a proper bounded context

- *Anti-pattern:* Lots of intercommunication between services (Big Ball of Mud)

- *Anti-pattern:* Using transactions across services

References

- [Software Architecture Fundamentals, Second Edition](#)

- [Fundamentals of Software Architecture by Mark Richards, Neal Ford](#)

- [Domain-Driven Design: Tackling Complexity in the Heart of Software by Eric Evans](#)

- [Link to the architecture diagrams described in this presentation](#)

Thank You!

Questions?