

# Microservices

-CSED, TIET

# Monolithic Application

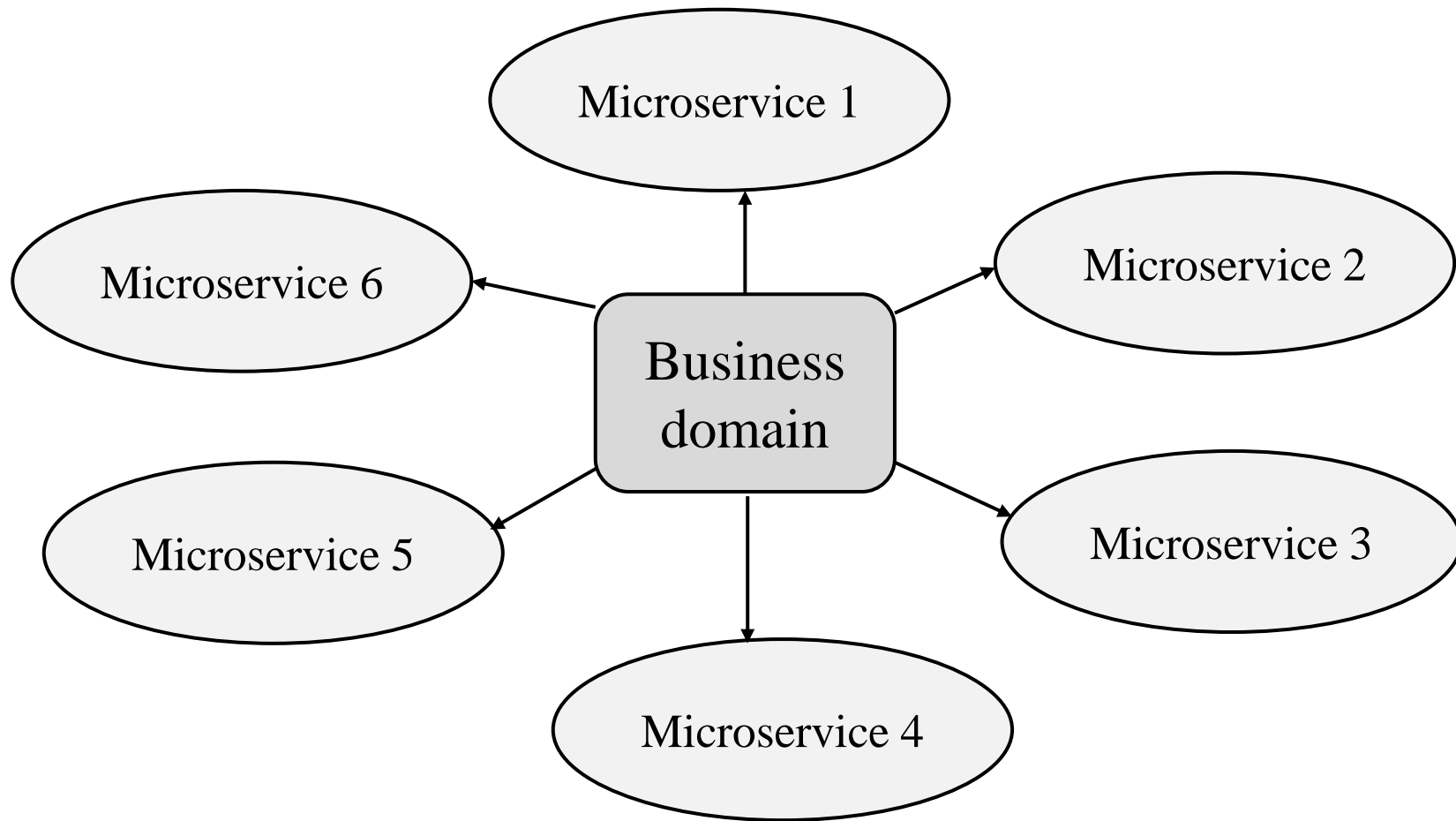
- It has **single codebase** with multiple modules
- **Different modules** are present in a single project
- **Controller** will handle the request, If the services need, they can use **Dao layer** (database layers).
- Single project, single jar file. Hence, it is **simple to deploy**.
- **Problem of network latency** are **relatively less**

# Disadvantages of Monolithic Application

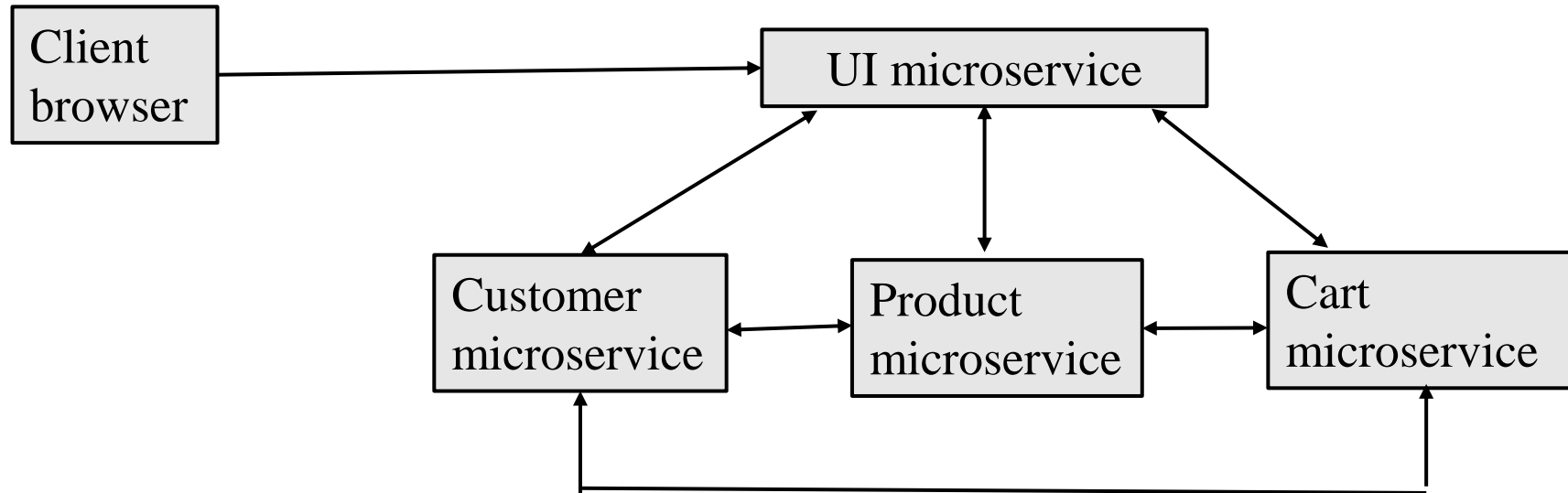
- Large and complex applications
- Slow development
- Unscalable
- Unreliable
- Inflexible

# Microservice Application

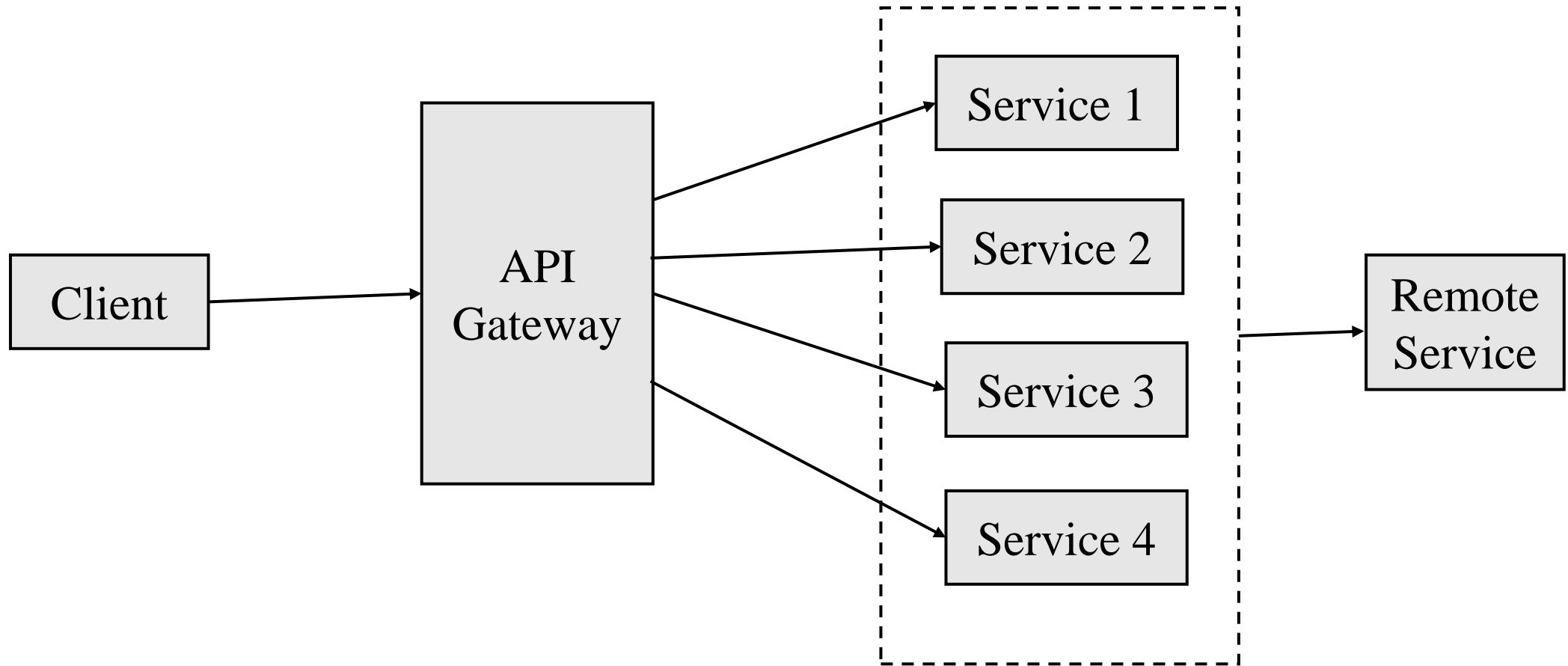
- It is an architectural style that structures an application as a collection of small autonomous services, modelled around a business domain.
- Each service is self contained and implements a single business capability.
- It can be broken down into small multiple services which together can access one large system.
- Multiple services don't share data structure, they are communicating through API.
- Each microservice can focus on only one single business capability.



# Example: E-commerce site



# Microservice Architecture



# Features of Microservice Architecture

- Small focused
- Loosely coupled
- Language neutral
- Bounded context



# Advantages of Microservice Architecture

- Independent deployment
- Fault isolation
- Mixed technology stack
- Scaling

# Companies using Microservices

- Amazon
- Netflix
- Uber
- Paypal
- ebay

# Challenges with Microservice Architecture

- Perceptibility
- Configuration management
- Debugging
- Consistency
- Automating components

Thank You