B Overview

B.1 Object-Oriented Programming

- Motivation
- Software design
- OOP — basic terms
  - Object
  - Method
  - Class
  - Inheritance
- Fundamental concepts
  - Abstraction
  - Hierarchy
  - Concurrency
  - Encapsulation
  - Typing
  - Persistence
  - Modularization
  - Polymorphism
- Object-oriented software development (OOA/OOD)

B Overview (2)

B.2 Distributed Systems

- Definition and Motivation
- Taxonomy
- Communication Models
  - Message passing
  - Remote procedure call
  - Group communication
- Selected Problems
- Distributed and Object-Oriented Systems

B Overview (3)

B.3 Distributed Objects with CORBA

- Motivation
- Survey of the CORBA architecture
- Object Request Broker (ORB)
  - Interface Description Language (IDL)
  - Remote invocation
  - Dynamic invocation
  - Components of the ORB
- CORBA Services

B Overview (4)

B.4 Distributed Objects with DCOM

- Motivation and Overview
- COM Object Model
  - Objects/Components
  - Monikers
- DCOM
- Comparison of CORBA with DCOM

B Overview (5)

B.5 Java — Component Models JavaBeans & Jini

- Component models
- Java — Design goals & key properties
- JavaBeans
  - ➤ Architecture
  - ➤ Properties
  - ➤ Events
  - ➤ Introspection
- Jini
  - ➤ A distributed component model
  - ➤ How devices, services, and users can come together without complex configuration

B Overview (6)

B.6 Design Patterns

- Overview and Examples

B.7 Frameworks

- Frameworks — What they are, How they work, Benefits
- Types of Frameworks
- CORBA & Frameworks
- Java & Frameworks
- Enterprise JavaBeans
- Examples