

CS 586: Software Systems Architectures

Objectives

- Understand the fundamental concepts of architectural software design and analysis.
- Demonstrate the knowledge of the existing software system architectures.
- Demonstrate the knowledge of developing software system architectures in a software design project.
- Demonstrate the knowledge of analyzing software system architectures.
- Demonstrate the knowledge of software architecture patterns and their application.

Prerequisites

- CS 487.

Syllabus

- Introduction to Software Architectures
- Modular design; Object-Oriented design
- Design patterns; Object-Oriented design patterns
- Pattern-oriented software architectures
- Interactive Systems architecture
- Layered architecture
- Pipes and Filters architecture
- Model Driven Architecture
- Repository architecture
- Event-based architecture
- Adaptable systems architecture
- Distributed systems architecture
- Client-server architecture
- Fault-tolerant architecture
- Process control systems architecture
- Domain-specific architectures; Reference architecture

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