

Introduction to Software Design

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COMPUTER SCIENCE 323 – SOFTWARE DESIGN

Software

Software has these essentials:

Requirements

Specification

Design

Implementation

Tests

Deployment

Terms

Requirements are given by a customer/stakeholder

Specifications transfer the requirements into units that can be translated easily into design, traced, and analyzed

Design transforms specifications into models that can be validated and tested against.

Implementation turns the design into executable entities

Testing validates implementation, design, and specifications

Deployment allows for tested implementation to be used by customer.

Basic Requirements Analysis

When analyzing requirements we want to focus on deliberating ambiguities.

Consider: scalability, performance, portability, maintainability

Requirements

- Functional

- Describe how the system must act
 - The target system must recalibrate its position before use.

- Non-functional

- Describe quality characteristics and what the system should do:
 - The user interface should be user friendly.

Software Design

Software design is difficult because requirements have to be understood, and translating these concepts into implementation is abstract.