Software Design
Object Oriented Development

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Object-Oriented Design

- An object-oriented system is made up of interacting objects that maintain their own local state and provide operations on that state

- The representation of the state is private and cannot be accessed directly from outside the object

- These classes define the objects in the system and their interactions

- When the design is realized as an executing program, the objects are created dynamically from these class definitions

Advantage over Functional Approaches

- Object-oriented systems are easier to change than systems developed using functional approaches

- Objects can be understood and modified as stand-alone entities
  - Changing the implementation of an object or adding services should not affect other system objects

- Because objects are associated with things, there is often a clear mapping between real-world entities (such as hardware components) and their controlling objects in the system

- Improves understandability and maintainability

Steps for Object-Oriented Development

- Understand and define the context and the external interaction

- Design the system architecture

- Identify the principal objects in the system

- Develop design models

- Specify interfaces

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