<<面向对象软件工程>>

图书基本信息

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作者：（美）布鲁格　等著

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内容概要

本书由B.Bruegge和A.H.Dutoit编写的，是卡耐基-梅隆大学（CMU）高年级本科生和研究生的教材。
在第3版本中，作者以循序渐进的方式给出一个完整案例，并把它作为贯穿全书的主线，为读者运用各种软件工程工具创造一个现实环境。
所采用的自底向上方法，有助于学生或专业人员循序渐进地学习。

本教材向读者展示了如何成功地处理大型复杂软件系统的构建和维护。
作者先介绍了开发人员应用软件工程技术所需的基本技能，接下来关注于使开发人员明确、设计并实现复杂系统的方法和技术，最后展示了如何支持贯穿软件生命周期的系统变化，是&ldquo;软件工程&rdquo;课程的理想教材。

作者简介

作者：（美国）布鲁格（Bernd Bruegge） （美国）Allen H.Dutoit

书籍目录

章节摘录

版权页：插图：Today's high-energy physicists are in a position similar to that of a fossil biologist who hasfound most of the bones. Physicists are building a model of matter and energy and how they fittogether at the most basic, subatomic level. Many years of experiments with particle acceleratorshave given high-energy physicists enough confidence that their models reflect reality and thatthe remaining pieces that are not yet found will fit into the so-called standard model. This is anexample of a model for a system that is claimed to exist.Both system modelers, fossil biologists and high-energy physicists, deal with two types ofentities: the real-world system, observed in terms of a set of phenomena, and the applicationdomain model, represented as a set of interdependent concepts. The system in the real world is adinosaur or subatomic particles. The application domain model is a description of those aspectsof the real-world system that are relevant to the problem under consideration.Software engineers face similar challenges as fossil biologists and high-energy physicists.First, software engineers need to understand the environment in which the system has to operate.For a train traffic control system, software engineers need to know train signaling procedures.For a stock trading system, so.ftware engineers need to know trading rules. The softwareengineer does not need to become a fully certified train dispatcher or a stock broker; they onlyneed to learn the application domain concepts that are relevant to the system. In other terms,they need to build a model of the application domain.Second, software engineers need to understand the systems they could build, to evaluatedifferent solutions and trade-offs. Most systems are too complex to be understood by any oneperson, and most systems are expensive to build. To address these challenges, softwareengineers describe important aspects of the alternative systems they investigate. In other terms,they need to build a model of the solution domain.Object-oriented methods combine the application domain and solution domain modelingactivities into one. The application domain is first modeled as a set of objects and relationships.This model is then used by the system to represent the real-world concepts it manipulates. Atrain traffic control system includes train objects representing the trains it monitors. A stocktrading system includes transaction objects representing the buying and selling of commodities.Then, solution domain concepts are also modeled as objects. The set of lines used to depict atrain or a financial transaction are objects that are part of the solution domain. The idea ofobject-oriented methods is that the solution domain model is a transformation of the applicationdomain model. Developing software translates into the activities necessary to identify anddescribe a system as a set of models that addresses the end user's problem. We describe in moredetail modeling and the concepts of objects in Chapter 2, Modeling with UML.

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《面向对象软件工程使用UML、模式与Java(第3版)》：大学计算机教育国外著名教材系列

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