inheritance and polymorphism. Fifteen micro-patterns present oracle strategies--practical solutions for one of the hardest problems in test design. Seventeen design pattern explains how to automate your test suites with a coherent OO test harness framework. The author provides thorough coverage of testing issues such as: The bug hazards of OO programming and differences from testing procedural code How to design responsibility-based tests for classes, clusters, and subsystems using class invariants, interface data flow models, hierarchic state machines, class associations, and scenario analysis How to support reuse by effective testing of abstract classes High level design criteria; and selecting CASE for object-oriented design How to achieve comprehensive system testing with testable use cases How to choose a regression test approach How to develop expected test results and evaluate the post-test state of an object How to automate testing with assertions, OO test drivers, stubs, and test frameworks Real-world experience, world-class best practices, and the latest research in object-oriented testing are included. Practical examples illustrate test design and test automation for Ada 95, C++, Eiffel, Java, Objective-C, and Smalltalk. The UML is used throughout, but the test design patterns apply to systems developed with any OO language or methodology. 200189398980406001Notations and strategies are delivered for: designing the problem domain component; designing the human interaction component; designing the task management component; designing the data management component; applying the object-oriented design patterns; and defining object-oriented design criteria; and selecting CASE for object-oriented design.This book is intended for Graduate and Post-graduate students in Computer Science and Engineering, Information Technology for the purpose of Object Oriented System Analysis and Design. This book covers details of UML (Unified Modeling Language) which is used to model software intensive systems. With this book, software engineers, project managers, and tool builders will be able to better understand the role of analysis and design in the object-oriented (OO) software development process. This book presents a minimum set of notions and shows the reader how to use these notions for OO software construction. The emphasis is on development principles and implementation. This book gathers together and synthesizes all that is best and correct in object-oriented technology--emphasizing such areas as CASE tools, reuse, project management, metrics, configuration. Covering the breadth of a large topic, this book provides a thorough grounding in object-oriented concepts, the software development process, UML and multi-tier technologies. After covering some basic ground work underpinning OO software projects, the book follows the steps of a typical development project (Requirements Capture - Design - Specification & Test), showing how an abstract problem is taken through to a concrete solution. The book is programming language agnostic - so code is kept to a minimum to avoid detail and deviation into implementation minutiae. A single case study running through the text provides a realistic example showing development from an initial proposal through to a finished system. Key artifacts such as the requirements document and detailed designs are included. For each aspect of the case study, there is an exercise for the reader to produce similar documents for a different system. This text is the first to present an object-oriented methodology for a set of case studies, beginning with object analysis and design. It is the first book to introduce object-oriented methods without relying on classical methods to introduce key concepts and without requiring students to know Java or C++. The widely used UML notation--unified modeling language-- will be used throughout the book for all diagrams and model renderings. The key benefit to this approach is that it makes the course easier to teach since many students come to this course with limited backgrounds having only taken one introductory MIS course. Also, this approach is appealing because object-oriented methodology is widely used in industry. Computer Science Workbench is a monograph series which will provide you with an in-depth working knowledge of current developments in computer technology. Every volume in this series will deal with a topic of importance in computer science and elaborate on how you yourself can build systems related to the main theme. You will be able to devolve the computer systems, design new computer graphics, computer-aided design and manufacturing systems, and computer-aided design and manufacturing systems. Computer Science Workbench represents an important new contribution in the field of practical computer technology. Tosiyasu L. Kunii Preface The goal of this book is to give concrete answers to questions such as what object oriented databases are, why they are needed, how they are implemented, and how they are applied, by describing a research prototype object-oriented database system called Jasmine. That is, this book is aimed at creating a consistent view to object-oriented databases. The contents of this book are directly based on the results of the Jasmine project conducted at Fujitsu Laboratories, Ltd. This text explains how to model a problem domain by abstracting objects, attributes, and relationships from observations of the real world. It provides a wealth of examples, guidelines, and suggestions based on the authors' extended experience in both real-time and computer-aided software development. This book describes the first three steps in the method of Object-Oriented Analysis. Subsequent steps are described in Object Lifecycles by the same authors. This text teaches readers object-oriented systems analysis and design in a highly practical and accessible way. This book provides an introduction to the understanding and use of object-oriented methodologies for engineering problem solving with a specific emphasis on analysis and design. (Object-oriented programming is a general computer language methodology. The name comes from the focus on describing problems in terms of objects, both physical and conceptual). This fifth edition continues to build upon previous issues with it hands-on approach to systems analysis and design with an even more in-depth focus on the core set of skills that all analysts must possess. Dennis continues to capture the experience of developing and analysing systems in a way that readers can understand and apply and develop a rich foundation of skills as a systems analyst. A catalog of solutions to commonly occurring design problems, presenting 23 patterns that allow designers to create flexible and reusable designs for object-oriented software. Describes the circumstances in which each pattern is applicable, and discusses the consequences and trade-offs of using the pattern within a larger design. Patterns are compiled from real systems, and include code for implementation in object-oriented programming languages like C++ and Smalltalk. Includes a bibliography. Annotation copyright by Book News, Inc., Portland, OR. This book delivers the latest developments in object technology and their impact in computing systems re-engineering. Object-oriented programming is here shown to provide support for constructing large scale systems that are cheaply built and with reusable components, adaptable to changing requirements and use efficient object-oriented programming techniques. UK Colloquium on Object Technology and Systems Engineering held at Oxford University in 1998This is billed as the only book that puts all the features of the UML notation system into the context of a fully developed example—in an order processing system. Contains the unique insights of an experienced consultant who has coached companies on object-oriented design and programming. Evolutionary in approach, this book explores
encapsulation, modularity, and hierarchy How to allocate the resources of a team of developers and manage the risks associated with developing complex software systems An appendix on object-oriented programming languages This is the seminal text for anyone who wishes to use object-oriented technology to manage the complexity inherent in many kinds of systems. Sidebars Preface Acknowledgments About the Authors Section I: Concepts Chapter 1: Complexity Chapter 2: The Object Model Chapter 3: Classes and Objects Chapter 4: Classification Section II: Method Chapter 5: Notation Chapter 6: Process Chapter 7: Pragmatics Chapter 8: System Architecture: Satellite-Based Navigation Chapter 9: Control System: Traffic Management Chapter 10: Artificial Intelligence: Cryptanalysis Chapter 11: Data Acquisition: Weather Monitoring Station Chapter 12: Web Application: Vacation Tracking System Appendix A: Object-Oriented Programming Languages Appendix B: Further Reading Notes Glossary Classified Bibliography Index"This book consists of a series of high-level discussions on technical and managerial issues related to object-oriented development"--Provided by publisher.Overview: This text will be the first to present an object-oriented methodology from the outset for beginning Systems Analysis and Design students. It is the first book to introduce object-oriented methods without relying on classical methods to introduce key concepts or without requiring students to know Java or C++. It will presume no knowledge whatsoever about process modeling or data modeling. The widely used UML notation (unified modeling language) will be used throughout the book for all diagrams and model renderings. The key benefit to this approach is that it makes the course easier to teach and learn since many students come to this course with limited backgrounds having only taken one introductory MIS course. Also, this approach is appealing because object-oriented methodology is widely used in industry. The fourth edition of Object-Oriented Systems Analysis and Design has been revised and updated to reflect the most up-to-date approaches to information systems development. Still a best-seller in its field, Bennett's, McRobb's and Farmer's text remains a key teaching resource for Systems Analysis and Design courses at both undergraduate and postgraduate level. The book provides a clear, practical framework for development that uses all the major techniques from UML 2.2. It follows an iterative and incremental approach based on the industry-standard Unified Process, placing systems analysis and design in the context of the whole systems lifestyle. Structured in four parts, the first provides the background to information systems analysis and design and to object-orientation. The second part focuses on the activities of requirements gathering and systems analysis, as well as the basic notation of UML. Part three covers the activities of systems architecture and design, and UML notation for object design, and the book concludes with the implementation of systems and the issues of how the systems life cycle is organized and how reusable components can be developed.

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