

1. Record Nr.	UNINA9910784653203321
Autore	Boucher Thomas O
Titolo	Design of industrial information systems [[electronic resource] /] / Thomas O. Boucher, Ali Yalcin
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier, c2006
ISBN	1-280-70763-1 9786610707638 0-08-046553-6
Descrizione fisica	1 online resource (451 p.)
Altri autori (Persone)	YalcinAli
Disciplina	658.4038011 670.285
Soggetti	Computer integrated manufacturing systems Production management Management information systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front cover; Title page; Copyright page; Table of contents; Preface; INTENDED AUDIENCE; DISTINGUISHING FEATURES; GUIDELINES FOR ALTERNATIVE COURSE STRUCTURES; SUPPLEMENTARY MATERIALS; ACKNOWLEDGMENTS; 1 Introduction; 1.1 INTRODUCTION; 1.2 ERP/MES/CONTROL: A HIERARCHY OF INFORMATION; 1.3 NETWORK ARCHITECTURE; 1.4 SOME KEY APPLICATION AREAS OF AN INDUSTRIAL INFORMATION SYSTEM (IIS); 1.4.1 CUSTOMER RELATIONSHIP MANAGEMENT (CRM); 1.4.2 ORDER FULFILLMENT MANAGEMENT; 1.4.3 WAREHOUSE MANAGEMENT SYSTEM (WMS); 1.4.4 QUALITY MANAGEMENT; 1.4.5 HUMAN RESOURCE MANAGEMENT (HRM) 1.4.6 ACCOUNTING AND FINANCIAL MANAGEMENT 1.4.7 DISTRIBUTION SYSTEM AND SUPPLY CHAIN MANAGEMENT; 1.5 INFORMATION SYSTEMS AND DECISION SUPPORT SYSTEMS; 1.6 PRODUCTION SYSTEM CLASSIFICATIONS AND INFORMATION REQUIREMENTS; 1.6.1 MECHANICAL FABRICATION INDUSTRIES; 1.6.2 PROCESS INDUSTRIES; 1.6.3 SERVICE INDUSTRIES; 1.7 ABOUT THIS BOOK; 1.8 SUMMARY; 2 The Relational Database Model; 2.1 INTRODUCTION; 2.2 THE DATABASE MANAGEMENT SYSTEM (DBMS); 2.3 THE RELATIONAL DATABASE VIEWED

AS A SET OF TABLES; 2.4 KEY ATTRIBUTES AND LINKING TABLES; 2.5 STRUCTURED QUERY LANGUAGE (SQL)
2.5.1 SQL: CREATING THE DATABASE AND TABLE STRUCTURE 2.5.2 SQL: MANAGING THE DATA IN THE DATABASE TABLE; 2.5.3 SQL: CONVERTING DATA INTO INFORMATION; 2.6 SUMMARY; REVIEW EXERCISES; APPENDIX 2A QUERY BY EXAMPLE; 3 Data Modeling; 3.1 INTRODUCTION; 3.2 ENTITY-RELATIONSHIP (E-R) MODELING; 3.2.1 E-R MODELING PRIMITIVES; 3.2.2 THE DEGREE OF A RELATIONSHIP; 3.2.3 COMPOSITE ENTITIES; 3.2.4 RECURSIVE ENTITIES; 3.2.5 SUPERCLASS AND SUBCLASS ENTITY TYPES; 3.3 CASE STUDY IN DATA MODELING; 3.4 NORMALIZATION; 3.4.1 INSERTION ANOMALIES; 3.4.2 DELETION ANOMALIES; 3.4.3 UPDATE ANOMALIES; 3.4.4 NORMAL FORMS 3.5 SUMMARY REVIEW EXERCISES; CASE STUDIES; 4 Structured Analysis and Functional Architecture Design; 4.1 INTRODUCTION; 4.2 FUNCTIONAL ARCHITECTURE AND BUSINESS PROCESS REDESIGN; 4.3 IDEF0 METHODOLOGY MODELING PRIMITIVES; 4.4 IDEF0 HIERARCHIC DECOMPOSITION; 4.4.1 HIERARCHIC DECOMPOSITION ILLUSTRATED: NODE A0; 4.4.2 DECOMPOSITION OF NODE A0; 4.4.3 DECOMPOSITION OF NODE A3; 4.4.4 DECOMPOSITION OF NODE A31; 4.5 THE PROCESS OF MODEL DEVELOPMENT AND VALIDATION; 4.6 DATA FLOW DIAGRAMS: AN ALTERNATIVE STRUCTURED ANALYSIS METHODOLOGY; 4.6.1 DFA MODELING PRIMITIVES 4.6.2 HIERARCHIC DECOMPOSITION IN DFA 4.6.3 HIERARCHIC DECOMPOSITION ILLUSTRATED: NODE A32; 4.6.4 DECOMPOSITION OF CONTEXT DATA FLOW DIAGRAM; 4.7 SUMMARY; REVIEW EXERCISES; CASE STUDIES; 5 Informational Architecture and Logical Database Design; 5.1 INTRODUCTION; 5.2 THE IDEF REPRESENTATION OF ENTITY-RELATIONSHIP MODELING; 5.3 A CASE STUDY IN DEVELOPING A DATA MODEL; 5.3.1 ANALYSIS OF INFORMATION REQUIREMENTS AT NODE A311; 5.3.2 ANALYSIS OF INFORMATION REQUIREMENTS AT NODE A313; 5.3.3 ANALYSIS OF INFORMATION REQUIREMENTS FOR THE CONTROL OF STORED MATERIALS; 5.4 SUMMARY; REVIEW EXERCISES CASE STUDIES

Sommario/riassunto

Design of Industrial Information Systems presents a body of knowledge applicable to many aspects of industrial and manufacturing systems. New software systems, such as Enterprise Resource Planning, and new hardware technologies, such as RFID, have made it possible to integrate what were separate IT databases and operations into one system to realize the greatest possible operational efficiencies. This text provides a background in, and an introduction to, the relevant information technologies and shows how they are used to model and implement integrated IT systems. With the growth of c
