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METADATA

Abstract

The book covers contemporary learning theories that propose specifications for the design and use of Educational Software (ES). The chapters are designed so that each one refers to a specific theory accompanied by ES design/development issues specified by the theory. The book is recommended for readers with a background in: (a) technology (e.g., students in computer science departments), including topics such as software architecture and UML diagrams, interface design, modeling languages/tools (IMS-LD), architectures of adaptive and intelligent technology systems for learning, etc., (b) pedagogical (e.g., students in education departments) covering topics such as: learning theories and their important representatives, teaching models, learning specifications for ES, pedagogical use of ES, etc. The book includes a user guide that suggests chapters and topics depending on the specific goal and background of the teacher and learners. The book is structured as follows: (a) Chapter 1: introductory chapter. It presents a coherent conceptual framework that forms the basis for the development of the following chapters. (b) Chapters 2-7: Each chapter is titled after a learning theory and presents (1) the theory's positions and related teaching approaches, and (2) its impact on ES design (examples and architectures of related software, impact on user interface design, contemporary technological tools, and developments). (c) Chapters 8-9: special chapters that delve deeper into two of the most important areas of technology-supported learning today: (1) computer-supported collaborative learning, and (2) adaptive and intelligent systems (also with an emphasis on collaboration). At the end of each chapter there are Assessment Criteria and at the end of the book there is additional material (interactive questions, sources, etc.).