Author Languages for CAL

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AUTHOR LANGUAGES FOR CAL

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Overview

Chapter 1 discusses the basic nature of education in terms of interactive learning and training processes. It goes on to describe the basic mechanisms of human interaction with computers and the hardware/software technology available to support this. CAL and CBT are then introduced as direct educational applications of the computer. The need for courseware is then outlined as are techniques for its preparation. The case for using author languages is then presented.

Chapter 2 deals more directly with courseware development tools. It provides the reader with an outline of courseware authoring and presents a survey of over 60 different authoring facilities. An attempt is made to classify these according to their features and mode of operation. Although this book is primarily concerned with author languages, some mention is also made of other important programming languages and authoring systems that have been used to develop instructional software.

Chapter 3 is concerned with authoring aids that are mainly intended for use with a CRT screen. The chapter commences with a discussion of the nature of CRT interaction and the factors that influence frame design. The basic concepts of dialogue programming are then introduced prior to discussing four examples of languages that have been specifically designed to support CRT-based interaction: BASIC, PILOT, MICROTTEXT and SMALLTALK. In each case the basic philosophy underlying the design of the language is discussed and examples of their use are given.

Chapter 4 examines the nature of multi-media CAL and of languages/systems to support this approach to learning and training. Major attention is given to both interactive audio and interactive graphics. In this context, graphics is taken to include both conventional computational graphics and techniques involving interactive video. Examples of author languages relevant to each of these areas are described.

Chapter 5 is application orientated. It deals with a number of examples of situations in which CAL/CBT courseware development facilities are currently being used. A variety of areas are investigated — conventional instruction, training in office skills/procedures, science, engineering, design, management skills, medical training, military training, theology and religion.

Chapter 6 describes some of the ongoing research and development in author languages and how this is likely to be influenced by both developments in

technology, and the requirements of authors and instructors. It discusses such topics as open/distance learning, group learning situations, the use of fuzzy systems to model the user, knowledge-based CAL, and workstation design for CAL and CBT.