The official guide to CD-I Design
from Philips Interactive Media Systems

The CD-I DESIGN Handbook

PHILIPS

COMPACT disc Interactive

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The CD-I DESIGN *Handbook*

PHILIPS IMS

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Preface

This book describes the CD-I (Compact Disc-Interactive) design process from initial concept to the beginning of production, covering:

- working up a concept
- visualizing the structure and flow of material on the disc
- storyboarding and scripting the idea
- balancing the use of resources
- identifying and estimating production resources

Both the creative possibilities and the market potential of CD-I are discussed, with reference to existing programmes.

CD-I is a new technology, and the very concept of interactive media is new to many of those wishing to design and produce programmes that exploit its many possibilities. This book contains an introduction to CD-I technology aimed at designers whose need is to understand what they can do with the technology rather than the most intricate details of how it works. It also puts CD-I into context as one of the most exciting interactive media to have been developed over recent years.

Although the book attempts to keep technical jargon to a minimum, it is important that those who plan to work with CD-I are familiar with the specialist vocabulary used to talk about it. Unusual terminology is defined both within the text and in the glossary at the end of this book. The sections on CD-I technology cover:

- the player
- the kinds of data that can be used, including sound, images and text
- getting data on to the disc in the most effective manner
- the output of data from the player
- input devices

However, the hardware is only the beginning: designers also need to consider the way their programmes will look to the viewer, and the way the viewer will interact with the program. Chapter 3 looks at this, summarizes the findings of research on the interaction between people and the machines they use, and offers advice to would-be CD-I designers.

Modelling the design process

CD-I is attracting the interest of producers and developers from a wide range of industries, with differing skills and backgrounds. Designing an effective CD-I programme requires many of these skills and so a team working on a CD-I title is likely to consist of a range of specialists unusual in older forms of media. Chapters 8–10 consider how to put together a CD-I design team and how best to manage the design process.

However, because CD-I design is a new process, any model of it can be based on only a few real-life examples. Experience gained from such examples is an important part of this section of the book. Although detailed case studies are given, future CD-I producers may find that the scale of their project is such that the model created in this book provides general assistance rather than an exact blueprint for their efforts. The conclusions drawn aim to reflect the different scales of CD-I development, which can all lead to the eventual production of exciting CD-I programmes.

As the technology continues to develop, with new authoring tools and editing facilities becoming available, different methods

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of working may become more appropriate. The multimedia nature of CD-I (see page 2) means that no one industry can provide a completely appropriate model for designers of CD-I programmes. However, this book uses the video/television production industry as a model for most of the process, with a nod to the computer entertainment industry for the parts of the process that are most technology-bound.

Who needs to know about CD-I design?

The production of CD-I titles requires the cooperation of team members with many different skills. Although the various tasks and disciplines involved in the process may appear to be quite separate, it is important that everyone has a full understanding of what other people are doing. Each participant, from producer to programmer, needs to relate his or her task to those of the others, which are in turn subordinated to the ultimate goal of making the interactive compact disc. For this reason, this book is intended to be read not only by people who are actively designing CD-I discs, but also by those who are engaged in other ways in the design, development and production process.

People directly involved in CD-I design, whether as writers, graphic designers, video and audio technicians, editors or managers can discover from this book the limits and possibilities of the medium they are designing for, and see how their individual role fits into the overall picture of CD-I design.

Producers and assistants can gain a necessary understanding of the sorts of process they are taking on. The book will tell them how CD-I development differs from that of other media, and should give valuable insights into the effective management of the creative and design process.

Project managers should likewise benefit from a greater understanding of the CD-I design process, and of the technology itself.

Without this knowledge the management task would become impossible, especially when difficult decisions need to be made about allocating space on the disc for various types of media.

Software managers and programmers can read this book for an insight into the creative aspects of the design that they will be developing and implementing.

CD-I developers will also find the reference work *Compact Disc Interactive Media Full Functional Specification* invaluable. This authoritative volume, referred to in the present work as the Green Book, contains the final word on all aspects of CD-I technology. It is available only with full CD-I development systems.

Using this book

The present book is intended to be a practical guide to CD-I design, and you can and should dip into it for information on specific topics. Those new to CD-I and interactive media will find the early chapters particularly useful.

Chapter 1 The potential of CD-I
Explains what CD-I is, considers who is and who should be using CD-I as a medium for their products, and looks at where CD-I fits in with other multimedia technologies.

Chapter 2 CD-I as a medium
Considers how interactive media differ from linear ones and the design implications, where CD-I will be used and what market opportunities are available, the different genres of CD-I titles, and ways of developing an original CD-I concept.

Chapter 3 Designing for interaction
Looks at the interactive nature of CD-I and the implications this has for programme design and design methodology.

Chapter 4 The interactive interface
Considers the importance of the interface in facilitating communication between users and the programme, and the devices that form part of the interface.

Chapter 5 Using video with CD-I
Provides an overview of image formats for CD-I and their impact on CD-I design.

Chapter 6 Using audio with CD-I
Provides an overview of ways in which the CD-I designer can use sound.

Chapter 7 The CD-I system
Looks at the impact of CD-I hardware and disc format on CD-I design.

Chapter 8 The design process
Takes the reader through the early stages of CD-I design, concept and treatment.

Chapter 9 Design analysis and prototyping
Moves the design process along to the stage where each creative and technical problem identified earlier in development must be analysed and a firm solution found.

Chapter 10 Detailed design
Continues the process outlined in the previous chapter to the stage where a title is ready to go into production.

Finally, the Appendix provides charts to help designers calculate the disc size of the material they plan to use, Further Reading provides a bibliography on all the subjects covered in this book, and the Glossary defines the technical terms used.

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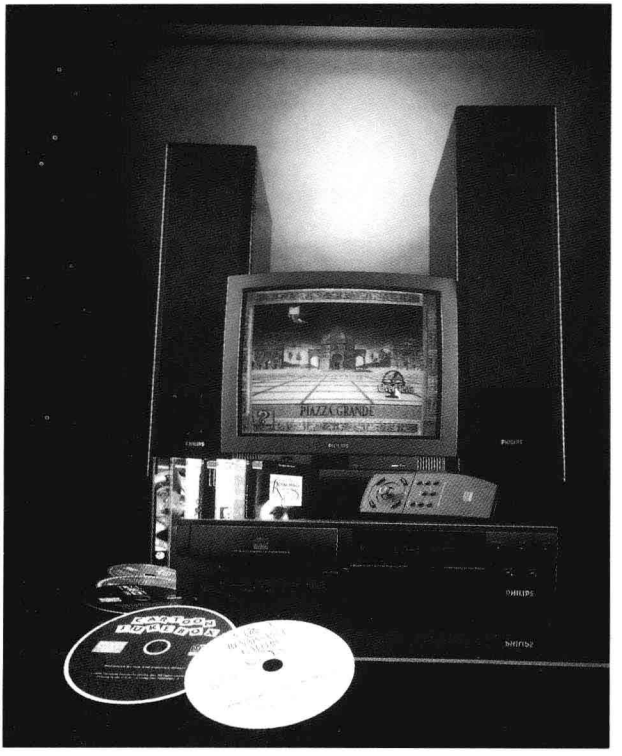
1 The potential of CD-I

Introduction

CD-I design is a new and expanding art. The titles that already exist only begin to reveal the possibilities of the medium. The advent of CD-I has added to and extended the possibilities of multimedia (explained in more detail below). Some early multimedia systems used amalgams of existing technologies, such as analogue video and sound – allowing the viewer to control a video cassette recorder or a slide projector by using a computer program, for example. Others used digital storage media such as laser discs or compact discs, but required separate computers and programs to control the player.

CD-I brings varied media together and stores them in the same way, as digital data on a compact disc, and the player and controller are the same device. It is not a technology added to a personal computer as an afterthought but is a fully fledged entertainment and information system in its own right. It conforms to a standard agreed by many electronics companies and has the full backing of its developers, Philips and Sony.

These revolutionary technical aspects of CD-I mean that it is very important to understand the medium before you can begin to design for it. You need to understand the potential of multimedia in general and of CD-I in particular. And you need to understand how CD-I works – how much data you can get on a disc, how it gets from the disc to the player, and so on.



With this in mind, this chapter discusses how CD-I relates to multimedia, explores some of its possibilities and looks at the opportunities for programme development. As with the whole of this book, you should always remember that nothing said here is exhaustive or definitive. CD-I is an open medium – there are few limits or boundaries, and there is always room for novelty and innovation.

The medium in context

Multimedia and hypermedia

CD-I is the most recent and technically sophisticated form of **multimedia**. It is also the first multimedia technology to aim at a mass audience.

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