

# Preface

**W**e know that publishers and authors are often criticized for producing new editions of well-established course texts such as this one. A new edition means that instructors have to rewrite lectures and – for a while, at least – students cannot purchase second-hand copies of the recommended text. We have not, therefore, undertaken the extensive revisions in this edition lightly. It is the nature of computing in general and multimedia especially to change at a fast rate. It had become essential that the book was changed too – outdated information is of no use to anyone studying a technical subject.

Looking back at the 2nd edition of *Digital Multimedia* (published in 2004) is an exercise in history now. There was little mention of digital cameras or MP3 players, but much about scanning photographs and using DAT recorders and tape decks. Video was not assumed to be digital and the idea of casually sharing video clips on the World Wide Web would have seemed fanciful. Flash was considered an unnecessary luxury in many cases. There were no podcasts or P2P downloads, broadband Internet access was something that was only just becoming available and we thought that some readers might not know what a URL was. And so on.

Advances in hardware and networks may be the most visible changes affecting the subject matter of this book, but many other technological changes have occurred, which have also contributed to the 2nd edition's obsolescence. For example, new codecs have been developed and adopted for still images and video, and we finally have broadly implemented standards governing Web scripting. New technologies such as “widgets” and Adobe AIR allow desktop applications incorporating multimedia to be created relatively easily using Web technologies.

Evidently a great deal has changed since the 2nd edition of this book was published, and – as a result of these many technological advances – multimedia has ceased to be a specialist subject to be studied in isolation and has become an accepted part of mainstream computing. Graphical user interfaces have been taken for granted for a long time (in computing terms). Multimedia interfaces are beginning to take over as the norm for interaction. Our main aim in revising *Digital Multimedia* has been to reflect multimedia's changed status while at the same time bringing all the information in the book up to date.

Every chapter has been brought up to date, and we have made countless revisions to the text and illustrations. Some chapters have been reorganized to improve the book's structure, and the page layout has been improved. The most significant changes to individual chapters can be found in Chapter 14 (Scripting) which has been updated to cover ActionScript 3 and DOM scripting for the Web, and Chapter 15 (XML and Multimedia) which has been shortened to reflect XML's failure to achieve broad acceptance. SMIL has been omitted and SVG incorporated into Chapter 15. The chapter on design (Chapter 11) has been rewritten to reduce the emphasis on the Web and to include new sections on gestalt and semiotics. The material on interactivity and accessibility has been expanded and placed in two new chapters (Chapters 12 and 13) in response to the growing importance of interactive multimedia. The chapters on video and animation (Chapters 6 and 7) have been rewritten to reflect the substantial changes in both technology and distribution for digital time-based media. Instructors who have been using the 2nd edition of *Digital Multimedia* can find a detailed list of changes on the book's supporting Web site.

The importance of the World Wide Web as a means of distributing multimedia has only grown in the years since the 2nd edition, but in this 3rd edition we also look at other multimedia formats besides World Wide Web Consortium standard technologies. We have also emphasized the emerging role of multimedia as an interface to applications and services. That is, when considering interactivity, we look at interaction *through* multimedia as well as interaction *with* multimedia. If your interest in multimedia is confined to Web-standard technologies, you might prefer to read our book dedicated to the subject. *Web Design: A Complete Introduction* (John Wiley & Sons, 2006) describes the interconnected collection of media that is the Web in greater detail than you will find here in *Digital Multimedia*.

This book continues to be the primary text for introductory courses on digital multimedia around the world. Taking account of recent developments has led to the book's becoming a little more technical than previous editions, so readers with no background in computing may find some chapters quite demanding. However, we have arranged the book so that the most technical material is at the end, providing a sensible stopping point (at the end of Chapter 13) for less technically inclined readers or courses which do not cover programming.

The arrangement of chapters is designed to provide an account of each of the individual media first, as a basis for appreciating the issues arising from combining them and adding interactivity, which are described in the later chapters.

The book includes various features to assist teaching and learning.

- To aid revision, key points are presented in distinctive tinted boxes at the end of each section. These key points are also available on illustrated slides which you may download from the supporting Web site.
- Important terms, marked in ***bold italics*** on their first occurrence in the text, are defined in the Glossary, which is also available in interactive form on the supporting Web site.
- Distinctive boxes, marked “In Detail”, appear throughout the text. These contain extra detail on some subjects for the benefit of technically inclined readers.
- Every chapter ends with a collection of exercises, divided into three sets. First are routine test questions, which assess understanding of the text. Next, we offer some discussion topics, which require more thought and some additional research. These could be suitable as essay titles, or used as the basis of class discussions. Finally, we suggest some practical tasks. The proportion of these three types of exercise varies according to the subject of each chapter. Answers to the test questions and notes on the others are available on the supporting Web site.

You can find additional supporting material for teaching and learning, including working practical examples where relevant, on the book’s Web site at [www.digitalmultimedia.org](http://www.digitalmultimedia.org).

Where necessary, we make reference to specific software. We have tried to refer only to widely used programs which students are likely to encounter in their practical work. It is inappropriate to offer detailed practical instruction in proprietary software in this book, but this may be found – together with many practice exercises – in our companion book, *Digital Media Tools*, the 3rd edition of which was published by John Wiley & Sons in 2007.

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