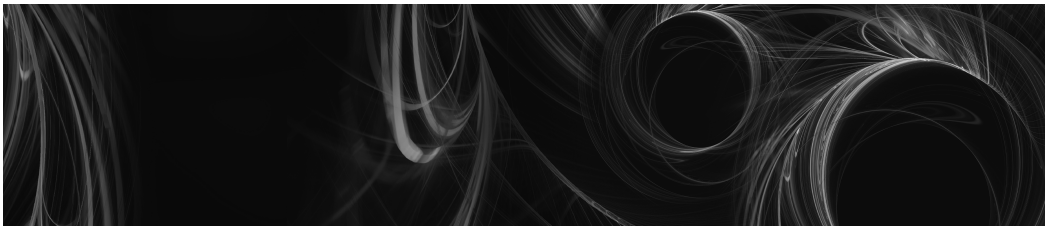
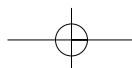
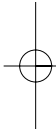
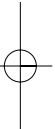
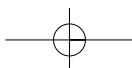
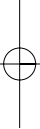
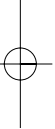
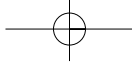


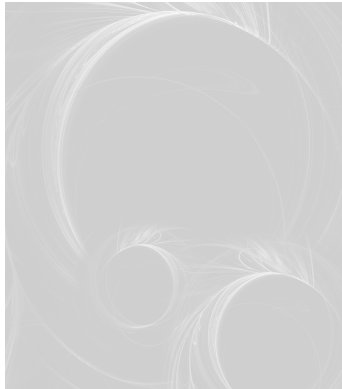
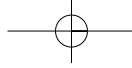
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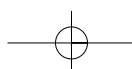
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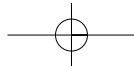
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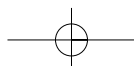
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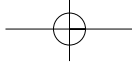
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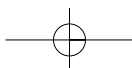
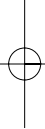
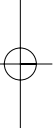
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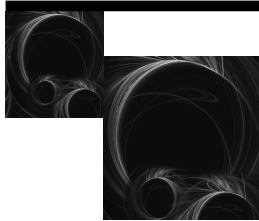
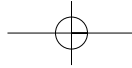




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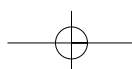
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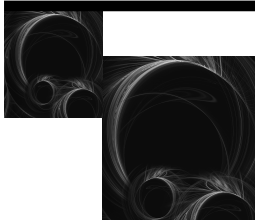
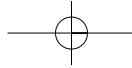




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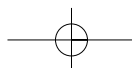
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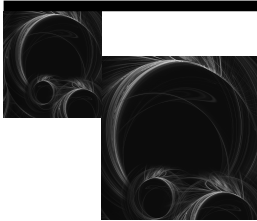
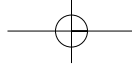
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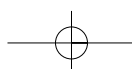
Preface

Preparing the fifth edition of this book has reminded us that project management is not just a crucial element in successful software and IT development, but is also a fascinating topic in its own right. It is an intriguing mixture of the technical and the very human, of the rational and also the intuitive. Initially we offered this topic as an ancillary discipline for software engineers and IT practitioners. We have, however, become increasingly convinced that the discipline should have a more central role: that the question of *how* systems are implemented is a vital one to be asked at the same time as that of *what* a system is to do.

Not many software books have lasted as long as this one. Clearly the principles of project management are less transient than those of software design and implementation, which have gone through some very major developments over recent years. However, project management has not been immune from change. One development has been the growth in project management bodies of knowledge such as those of the Project Management Institute (PMI) in the United States and the Association for Project Management (APM) in the United Kingdom. There has also been the development of project management standards such as PRINCE2. These developments are to be welcomed as externalizing and codifying good practice – indeed we have included an appendix on PRINCE2. However, we have resisted becoming a ‘PMI’ book or a ‘PRINCE2’ book. Partly this is because we believe that software project management, while incorporating all the key elements of generic project management, also has to deal with the peculiar problems associated with creating software. These include the relative intangibility of software, its extreme malleability, the intimate relationship it has with the systems within which it is embedded, and its sheer complexity. We also wanted to avoid means–end inversion where there was a focus on the recall of specific terminology and procedural detail at the expense of an understanding of underlying concepts and purpose.

One new development that has been taken on board has been the growing awareness that a project is rarely an isolated activity but is almost always part of a broader programme of work aimed at meeting organizational and business objectives. There are also agile approaches, such as extreme programming, which have been a timely reminder that software development is an intensely human activity. In contrast to this emphasis on the highly productive, highly interactive co-located team, there is also a growth of dispersed or virtual projects where all or part of the development team is in another country or even continent. We noted these developments in previous editions but have expanded their treatment in this one – this greater emphasis on development team dynamics has led to the creation of a chapter devoted solely to these topics.

One major problem has been the conflict between a desire to include all the topics that our reviewers would like to see and the desire for a concise volume that avoids ‘bloating’. Sometimes there are topics and standards which appear to be current and of which one feels people should be aware. On closer inspection, the material for various reasons is less



useful or relevant than one hoped. In this edition we have dropped an appendix on the British standard BS6079. This is because the new version of this has become what is essentially a general advisory guide on project management practice. As such it duplicates material already covered in this book. Some individual topics have also been dropped because it was felt that they really needed a deeper treatment better conveyed by a more specialist publication than this one: the internal rate of return (IRR) in project evaluation and the Hofstede analysis of national cultural characteristics are examples. In general, though, we have erred on the side of caution in retaining topics.

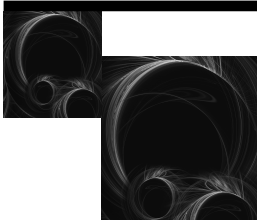
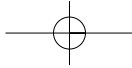
It seems a long time since the first, rather slim, edition published in 1995. As novice authors, Cotterell and Hughes were very indebted to Dave Hatter and Martin Campbell Kelly who had a huge influence on the style of the book. Dave Hatter in particular emphasized the need for each chapter to have clear learning objectives: ideally the reader should finish the chapter feeling they had learnt a new skill. He also instilled the need to explain things clearly – to feel confident in using simple words to explain things that might at first appear complicated. We are aware that we have not always lived up to these values – and have been taken to task by our students and teachers from other institutions who have kindly acted as reviewers. Many of the changes we have made in the new edition are as a result of this process.

Acknowledgements

During the course of preparing the four previous editions since 1995, we have received assistance from many people. These people have included: Ken I’Anson, Chris Claire, David Howe, Martin Campbell Kelly, Barbara Kitchenham (for permission to use a project data set shown in Chapter 5), Paul Radford and Robyn Lawrie of Charismatek Software Metrics in Melbourne, David Garmus and David Herron (the last four, all for material in Chapter 10), David Purves, David Wynne, Dick Searles, John Pyman, Jim Watson, Mary Shepherd, Sunita Chulani, David Wilson, David Farthing, Charlie Svahnberg, Henk Koppelaar and Ian McChesney.

We have made use of materials produced by Abdullah Al Shehab and David I. Shepherd in the chapter on risk. David also offered some advice on the developments in earned value analysis. Our colleague Marian Eastwood helped us out on some of the finer points of the Unified System Development Method.

We would also like to thank the team at McGraw-Hill. The role previously taken by Karen Mosman was taken over by Catriona Hoyle (née Watson) and Katy Hamilton who, among other good things, instilled the necessary disciplines of timeliness. We have already mentioned Dave Hatter who was our former editor at International Thomson Press and then at McGraw-Hill and we hope he continues to enjoy retirement in the groves and glades of Essex.



Guided tour



Objectives

Each chapter opens with a set of learning objectives, summarizing what the reader should learn from each chapter.

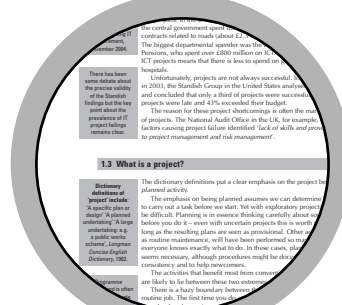
OBJECTIVES

When you have completed this chapter you will be able to:

- define the scope of software project management;
- understand some problems and concerns of software project managers;
- define the usual stages of a software project;
- explain the main elements of the role of management;
- appreciate the need for careful planning, monitoring and control;
- identify the stakeholders of a project and their objectives;
- define the success criteria for a project.

Margin notes

New ideas, terms and references are placed in the margin where appropriate. Margin notes also indicate the links to ideas and concepts covered elsewhere in the textbook.

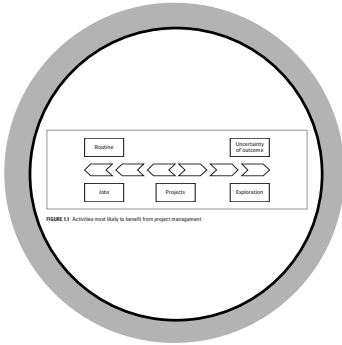


no central government spending on ICT projects related to roads, schools or hospitals. The biggest departmental spender was the Home Office, who spent over £200 million on ICT projects means that there is less to spend on hospitals.

Unfortunately, projects are not always successful. In 2008, the Standards Group in the United States analysed and concluded that only a third of projects were successful, projects even late and 3% exceeded their budget. The reasons for these project shortcomings is often the result of project. The National Audit Office in the UK, for example, factors causing project failure identified 'lack of skills and poor project management and risk management'.

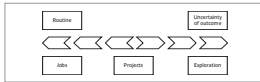
1.3 What is a project?

The dictionary definitions put a clear emphasis on the project being planned activity. The emphasis on being planned assumes one can determine to carry out a task before we start. Yet with exploratory project the difficulty of planning is to ensure thinking carefully about before you do it - even with uncertain projects this is worth being in the resulting plans are seen as provisional. Other as routine maintenance, will have been performed so no one even knows exactly what to do. In these cases, the consistency and to help overcome. The activities that benefit most from consistency are likely to be between these two categories. There is a blurry boundary between a routine job. The first time you do it.



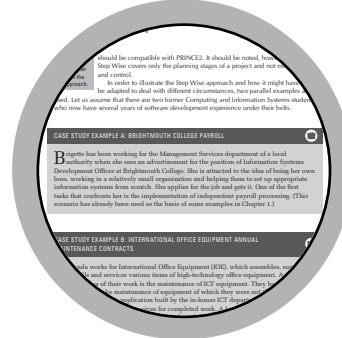
Figures and tables

Each chapter provides a number of figures to show the various models, project planning tools and charts.



Case study examples

Brief case studies run throughout the chapters to illustrate the application of project management techniques.



should be compatible with PRINCE2. It should be noted that Step Wise covers only the planning stages of a project and not the execution and control.

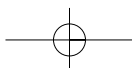
In order to illustrate the Step Wise approach and how it might be adapted to deal with different circumstances, two parallel examples are given. Let us assume that there are two former Computing and Information Systems students who now have several years of software development experience under their belts.

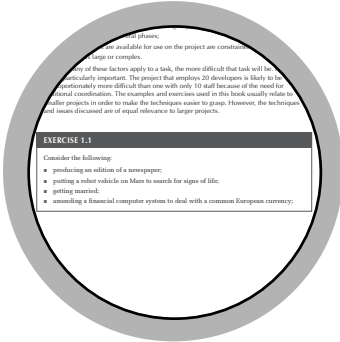
CASE STUDY EXAMPLE A: BRIGHTMOUTH COLLEGE PAYROLL

Brightmouth has been working for the Management Services department of a local authority when she sees an advertisement for the position of Information Systems Development Officer at Brightmouth College. She is attracted to the idea of being her own boss, working in a relatively small organisation and judging them to set up appropriate information systems from scratch. She applies for the job and gets it. One of the first tasks that conditions her in the implementation of independent payroll processing. (This scenario has already been used as the basis of some examples in Chapter 1.)

CASE STUDY EXAMPLE B: INTERNATIONAL OFFICE EQUIPMENT ANNUAL MAINTENANCE CONTRACTS

She works for International Office Equipment (IOE), which assembles, sells and services various items of high-technology office equipment. It is one of their work in the maintenance of ICT equipment. They are responsible for the maintenance of equipment of which they were only the manufacturer had to be in-house ICT department for completed work. A



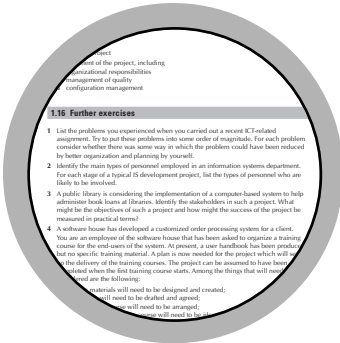
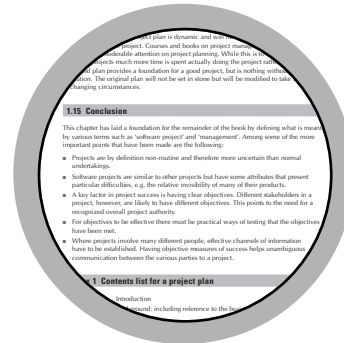


Exercises

Brief exercises are dotted throughout the chapters, to allow students to practise the techniques and apply the methodology to real-world situations.

Chapter conclusions

This briefly reviews and reinforces the main topics covered in each chapter to ensure that students have acquired a solid understanding of the key topics.

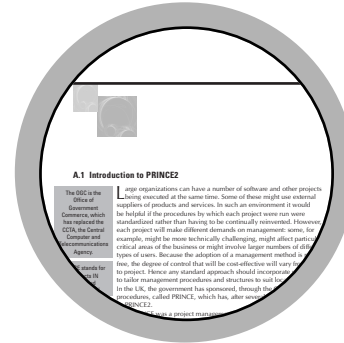


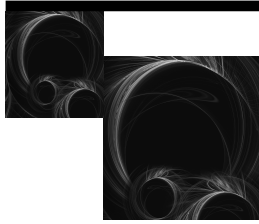
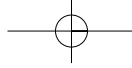
Further exercises

These questions encourage the reader to review and apply the knowledge acquired from each chapter and to explore further some of the ideas in the chapter.

Appendices

Appendix A at the end of the book explains PRINCE2. Appendix B, Answer pointers, provides guide answers to the questions and exercises set in the book.





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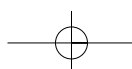
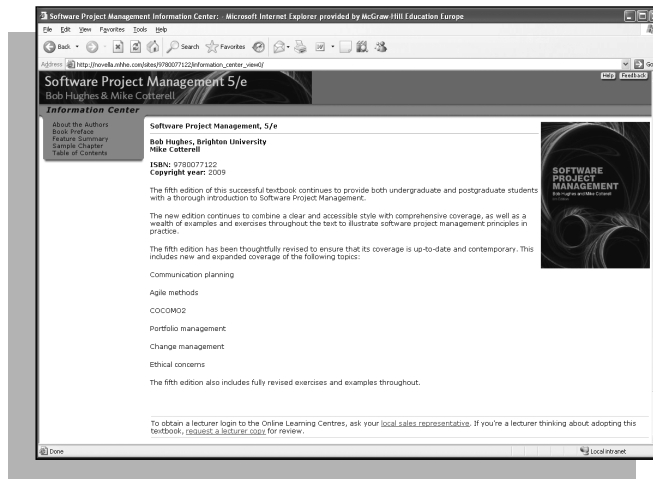


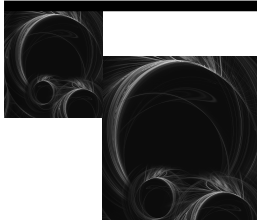
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After completing each chapter, log on to the supporting Online Learning Centre website. Take advantage of the study tools offered to reinforce the material you have read in the text, and to develop your knowledge of project management in a fun and effective way.

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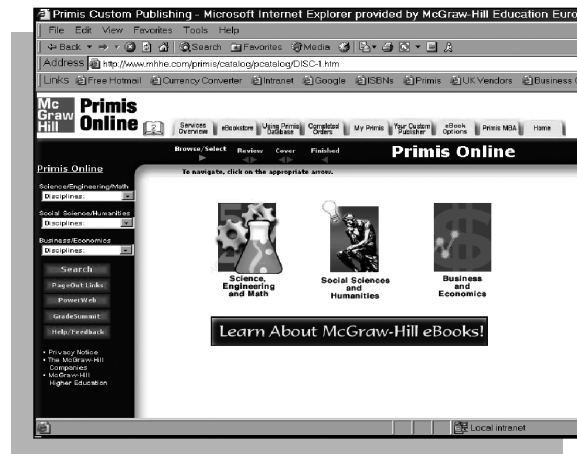
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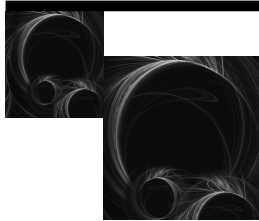
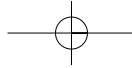


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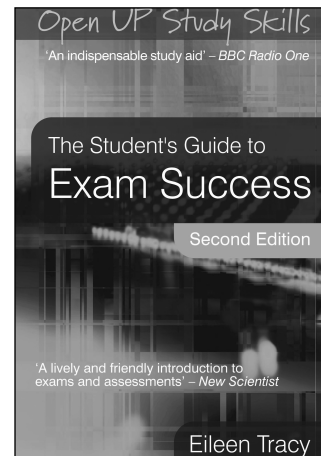
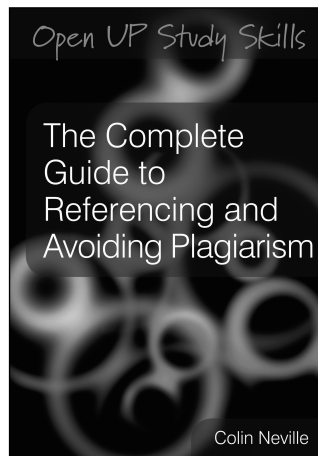
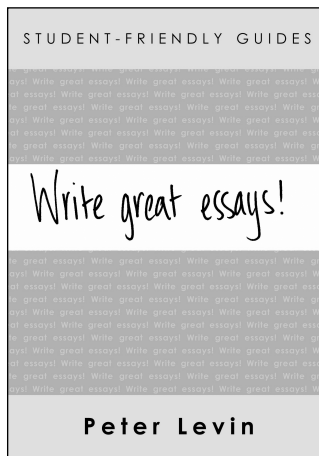
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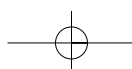
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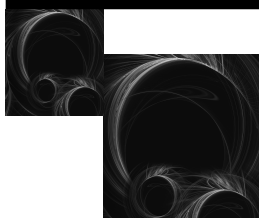
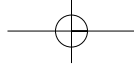
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