

国外优秀信息科学与技术系列教学用书

移动商务 与无线计算系统

(影印版)

MOBILE COMMERCE AND
WIRELESS COMPUTING SYSTEMS

■ Geoffrey Elliott
Nigel Phillips



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Geoffrey Elliott, Nigel Phillips

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出版说明

20 世纪末,以计算机和通信技术为代表的信息科学和技术对世界经济、科技、军事、教育和文化等产生了深刻影响。信息科学技术的迅速普及和应用,带动了世界范围信息产业的蓬勃发展,为许多国家带来了丰厚的回报。

进入 21 世纪,尤其随着我国加入 WTO,信息产业的国际竞争将更加激烈。我国信息产业虽然在 20 世纪末取得了迅猛发展,但与发达国家相比,甚至与印度、爱尔兰等国家相比,还有很大差距。国家信息化的发展速度和信息产业的国际竞争能力,最终都将取决于信息科学技术人才的质量和数量。引进国外信息科学和技术优秀教材,在有条件的学校推动开展英语授课或双语教学,是教育部为加快培养大批高质量的信息技术人才采取的一项重要举措。

为此,教育部要求由高等教育出版社首先开展信息科学和技术教材的引进试点工作。同时提出了两点要求,一是要高水平,二是要低价格。在高等教育出版社和信息科学技术引进教材专家组的努力下,经过比较短的时间,第一批由教育部高等教育司推荐的 20 多种引进教材已经陆续出版。这套教材出版后受到了广泛的好评,其中有不少是世界信息科学技术领域著名专家、教授的经典之作和反映信息科学技术最新进展的优秀作品,代表了目前世界信息科学技术教育的一流水平,而且价格也是最优惠的,与国内同类自编教材相当。这套教材基本覆盖了计算机科学与技术专业的课程体系,体现了权威性、系统性、先进性和经济性等特点。

目前,教育部正在全国 35 所高校推动示范性软件学院的建设,这也是加快培养信息科学技术人才的重要举措之一。为配合软件学院的教学工作,结合各软件学院的教学计划和课程设置,高等教育出版社近期聘请有关专家和软件学院的教师遴选推荐了一批相应的原版教学用书,正陆续组织出版,以方便各软件学院开展双语教学。

我们希望这些教学用书的引进出版,对于提高我国高等学校信息科学技术的教学水平,缩小与国际先进水平的差距,加快培养一大批具有国际竞争力的高质量信息技术人才,起到积极的推动作用。同时我们也欢迎广大教师和专家们对我们的教材引进工作提出宝贵的意见和建议。联系方式: hep.cs@263.net。

高等教育出版社
二〇〇二年九月

Preface

No matter at what level one is involved in systems development, whether as a senior systems analyst or as a maintenance programmer, possession of two particular areas of knowledge provides an enormous advantage in making one's contribution effective: an understanding of the capabilities of the technology and an understanding of what people want to do with it and want it to do for them. The quantity and quality of each knowledge domain necessary for any particular role might vary, but one without the other is a distinct handicap. It has been our intention in writing this book to try to provide both sets of knowledge with regard to mobile commerce and the supporting mobile computing and wireless technology. This has presented us with a bit of a dilemma as, being quite new, neither knowledge domain is particularly well defined. It is not at all clear exactly how much of the technology will evolve into everyday use nor which particular technologies will thrive and which will disappear without trace. It is inevitable that some of the ideas we present here will not emerge as common practice and that some of the technologies we describe will not be the ones to be widely adopted.

We might have tried, and on occasion were certainly tempted to try, to mention every current device and idea; however, that path would have led either to a very long book or to one that was exceedingly broad but lacking any substance, and we felt that market was already well served. So we have tried to select technologies and models for their deployment and use that are indicative of the broad type of application and to present them with enough depth to give our readers a good feel for their richness and the issues that need to be considered. No doubt people will feel we have been too broad in some areas and too narrow in others, too deep and detailed or too superficial elsewhere. If you should think this we would simply ask you to bear in mind that we seek to give a flavour of a large and fast developing area. The book is intended to be neither a how-to book nor an academic review, but a sound introduction to the technologies and issues of an interesting and dynamic new area.

This book covers the integration of mobile computing, wireless networks, mobile technology, and mobile business applications. The use of portable, mobile and wireless technology within the business information systems domain is described under the umbrella of 'Mobile commerce' (M-commerce). This term is used to describe the integration of these technologies, devices and systems.

The book is aimed at students studying within the following broad and specific subject areas:

- ◆ **Broad areas**
 - Computing
 - Information Technology
 - Information Systems
- ◆ **Specific areas**
 - Mobile Computing
 - Wireless Computing
 - Mobile Commerce and Wireless Computing Systems

The aim is to provide a holistic framework for understanding the devices, technologies and systems used within the mobile commerce and wireless computing domain. These form the 'what, how and why' of M-commerce. We concentrate on understanding the integration of these devices and technologies within wireless networking domains. A clear and integrated understanding of M-commerce and wireless computing systems requires understanding the impact of mobile devices, technologies and systems on networked business systems activity.

The book encourages the reader to develop a critical approach to the evaluation of competing mobile devices, technologies and systems, through emphasizing the competing risks from adoption of unfavourable approaches and non-adoption of favourable ones. Small and large case studies are referred to throughout the book to highlight areas of M-commerce and wireless computing. The reader is encouraged to supplement these reports with their own research and to evaluate the issues using a diffusion of knowledge framework. To enable this outcome, each chapter contains activities and exercises to encourage students to think about the concepts, knowledge sets, technologies and systems being described. The chapters focus on applying enabling technologies to enhance the efficiency and effectiveness of wireless computing systems in the M-commerce domain. The book aims to broaden the reader's knowledge and understanding of the issues as they progress through the chapters, hopefully culminating in a holistic understanding of integrated mobile computing systems. The emphasis throughout is on providing a large amount of interactive tutorial material in each chapter, supported by numerous short and longer exercises and activities.

We hope the product is both useful and, more importantly, interesting to students, lecturers and general readers in the mobile commerce and wireless computing systems domain.

Geoffrey Elliott & Nigel Phillips

June 2003

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Geoffrey Elliott & Nigel Phillips
June 2003

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To
Theresa, Holly and Ryan
&
Catherine

Elysium is as far as to

Elysium is as far as to
The very nearest Room
If in that Room a Friend await
Felicity or Doom --

What fortitude the Soul contains,
That it can so endure
The accent of a coming Foot --
The opening of a Door --

Emily Dickinson¹ (1830–1886)

¹ Emily Elizabeth Dickinson was born in Massachusetts in the USA. She wrote over 1700 poems in her lifetime.



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