

# Contents

Figures .....	xi
Tables .....	xiii
Dedication .....	xv
Foreword .....	xvii
Introduction .....	xix

## **PART 1: BEST PRACTICES IN TEACHING AND COURSE DELIVERY ..... 1**

### **CHAPTER 1**

<b>Electronic Portfolios .....</b>	<b>3</b>
Terry Corwin, Valley City State University	
Introduction .....	3
Best Technology Practices Project .....	4
Abilities and Skills .....	6
Portfolio Integration .....	7
Problems and Issues .....	8
Tracking Student Progress .....	9
Evaluating Success and Assessing Outcomes .....	9
Assessing Outcomes .....	11
References .....	14

### **CHAPTER 2**

<b>Secure, Scalable Proctored Testing for Online Students .....</b>	<b>17</b>
Carole A. Hayes, Florida State University	
Using Technology to Decrease Errors and Increase Efficiency and Efficacy .....	19
How FSU's Online Students Locate and Get Approval for Proctors .....	20
Implementation and Update .....	22

### **CHAPTER 3**

<b>The Associated Colleges of the South's Course Delivery System .....</b>	<b>25</b>
Rebecca Frost Davis, Associated Colleges of the South Technology Center	
ACS Course Delivery System .....	25

## **vi Best Technology Practices in Higher Education**

Project Team .....	32
Project Budget .....	33
Project Impact .....	33
What Would We Do Differently if We Were Starting Over? .....	36
Project Evaluation .....	37
Lessons Learned and Advice to Other Institutions .....	38

### **CHAPTER 4**

#### **An End-to-End Solution for Internet Lecture Delivery ..... 41**

A. C. M. Fong and S. C. Hui, Nanyang Technological University

Introduction .....	41
Commercial Video Delivery Solutions .....	43
Quality of Service: Problems and Approaches .....	44
End-to-End Solution .....	45
Performance Analysis .....	48
Conclusion and Further Research .....	50
References .....	50

### **CHAPTER 5**

#### **Professors at Charleston Southern University Get a Lesson of Their Own—In the Latest Computer Software ..... 53**

Mollie Gore, Charleston Southern University

### **CHAPTER 6**

#### **An Outward Design Support System to Increase Self-Efficacy in Online Teaching and Learning ..... 61**

Peggy E. Steinbronn and Eunice M. Merideth,  
Drake University

Introduction .....	61
Core Connectivity Needs of All Stakeholders for Online Support and Self-Efficacy .....	64
Environmental Online Support Needs .....	65
Unique Support Needs by Web Faculty for Online Support .....	66
Unique Support Needs by Web Students for Distance Education .....	68
Assessment of the Outward Design System for Online Support ...	70
Future Directions .....	72
References .....	74

**CHAPTER 7**

**Exploring E-Education Applications: A Framework for Analysis** ..... 77  
 Mary Helen Fagan, The University of Texas at Tyler

- Introduction ..... 77
- Background ..... 78
- Methodology ..... 80
- E-Education Framework ..... 80
- Conclusion ..... 87
- Endnotes ..... 87
- References ..... 88

**PART 2: BEST PRACTICES IN ADMINISTRATIVE OPERATIONS** ..... 91

**CHAPTER 8**

**HR Quick Requisition Process** ..... 93  
 Elaine Peters and Jane Gao, University of California, Irvine

- UC Irvine ..... 93
- The Quick Requisition ..... 93
- Quick Requisition Application Structure ..... 95
- How Quick Requisition Works ..... 96
- Conclusion ..... 99

**CHAPTER 9**

**The Paperless Financial Aid Office** ..... 101  
 Nancy Sinsabaugh, University of Minnesota

- Scope ..... 102
- Project Team ..... 104
- Who Benefited and How? ..... 105
- Technical Architecture ..... 109

**CHAPTER 10**

**Online Registration** ..... 113  
 Fred Dear, University of Southern California

- Student Usage ..... 116
- Impact on the Registration Staff ..... 116
- Advisement Community ..... 117

**CHAPTER 11**

**E-Relationships: Enriching Communication with Prospective Students** ..... 119  
Suzanne Petrusch, University of Dayton

**CHAPTER 12**

**Institutional Strategy and Information Support: The Role of Data Warehousing in Higher Education** ..... 133  
Jeff Guan, William Nunez, and John F. Welsh, University of Louisville

- A Context for Change ..... 133
- Institutional Issues ..... 134
- Complexities of the Organization ..... 135
- Stakeholders ..... 135
- Competitive Marketplace ..... 136
- Resource Limitations ..... 136
- The Structure and Scope of Data Warehouses in Higher Education ..... 137
- Data Warehousing ..... 139
- Institutional Support for Data Management ..... 142
- References ..... 143

**PART 3: TECHNICAL OR INTEGRATIVE BEST PRACTICES** ..... 145

**CHAPTER 13**

**Integrating Learning and Transactional Systems** ..... 147  
Del Lovitt and Dennis V. Day, Johnson County Community College

- Where Do We Start? ..... 149
- The Plan ..... 151
- Organizational Climate and Business Practices ..... 152
- Results ..... 154

**CHAPTER 14**

**Implementing Campuswide Voice-Over Internet Protocol (VoIP) Phone Systems at a Small College** ..... 157  
Nichole Howa Greenwood and Stephan Ross, Westminster College

- Introduction ..... 157
- Project Scope ..... 158

Implementation of the VoIP Voice/Voice-Mail Systems  
and Upgrade to Westminster's Data Systems ..... 158

New Campus Number Convention ..... 159

End-User Training ..... 159

Legacy Phone System, Cabling, and Analog Lines ..... 159

Project Team ..... 160

Project Budget ..... 160

Who Benefited? ..... 160

Conclusion ..... 160

**CHAPTER 15**

**Administration of Information Technology at a  
Small Liberal Arts University ..... 163**

Ronnie Swanner and Pat Ullmann, Trinity University

Overview ..... 163

Elizabeth Huth Coates Library ..... 164

Information Technology Services (ITS) ..... 165

Instructional Media Services (IMS) ..... 165

TigerCard Office ..... 166

Initiatives ..... 167

Conclusion ..... 173

**PART 4: FUTURE BEST PRACTICES ..... 175**

**CHAPTER 16**

**A Model for Monitoring and Migrating Web Resources ..... 177**

M. P. Evans, University of Reading, and S. M. Furnell,  
University of Plymouth

Introduction ..... 177

Limitations of Existing Monitoring Techniques ..... 178

Migrating Web Resources ..... 179

An Overview of the Resource Locator Service ..... 180

Extending the Resource Locator Service to Monitor  
Web Resource Usage ..... 183

Defining the Information Stored by WebRUM ..... 185

Accessing WebRUM's Information ..... 185

Applications of WebRUM ..... 187

Charting the Web's Traffic Patterns ..... 189

Issues and Further Work ..... 189

**x Best Technology Practices in Higher Education**

Conclusion ..... 190  
References ..... 190

**CHAPTER 17**

**A Vision of the Internet in 2010 ..... 193**

Paul Reynolds, University of Plymouth  
Background ..... 193  
2010 Internet Requirements ..... 193  
Extrapolating Technology Trends to a Vision ..... 194  
Drivers to Achieve the Vision ..... 195  
2010 Internet Vision ..... 196  
Conclusion ..... 200

**CHAPTER 18**

**The One-Room Schoolhouse (Internet Portal)**

**for K-12 Schools ..... 201**

John W. Collins, Jr., Seton Hall University  
A Needs Assessment ..... 201  
The Magnitude ..... 202  
The Silver Bullet ..... 204  
The One-Room Schoolhouse Revisited ..... 205  
Feasibility and Challenges ..... 206  
Conclusion ..... 207  
About the University ..... 208  
EDUCAUSE Awards for Excellence in Campus Networking ..... 209  
EDUCAUSE Award for Systemic Progress in  
Teaching and Learning ..... 210  
References ..... 211

**Conclusion ..... 213**

**About the Contributors and Project Leaders ..... 215**

**Index ..... 225**

# Figures

Figure 1.1	Portfolio . . . . .	4
Figure 1.2	Comparison of Grant Objectives to Campus Data . . . . .	10
Figure 1.3	Faculty Technology Usage . . . . .	11
Figure 1.4	Student Survey of Good Practices in Teaching . . . . .	12
Figure 1.5	Assessment of Employer Satisfaction . . . . .	13
Figure 2.1	The Exam Proctoring Screen . . . . .	23
Figure 3.1	Virtual Classroom, CDS 1.0 . . . . .	27
Figure 3.2	Available Course Modules, CDS 2.0 . . . . .	29
Figure 3.3	Welcome Screen with Calendars and Reminders, CDS 2.0 . . . . .	31
Figure 4.1	End-to-End Multimedia Lecture Delivery System . . . . .	46
Figure 4.2	Processes of ICQM . . . . .	47
Figure 4.3	Packet Loss Rates During Heavy Network Usage . . . . .	48
Figure 4.4	Packet Loss Rates During Light Network Usage . . . . .	49
Figure 5.1	Jacqueline H. Hundley and Dean Arnold J. Hite . . . . .	58
Figure 6.1	Outward Design System for Online Support Needs . . . . .	63
Figure 7.1	E-Education System . . . . .	85
Figure 8.1	Quick Requisition 1 . . . . .	96
Figure 8.2	Quick Requisition 2 . . . . .	97
Figure 8.3	Quick Requisition Application Structure . . . . .	98
Figure 8.4	How Quick Requisition Works . . . . .	98
Figure 9.1	Paperless Financial Aid Office . . . . .	103

## **xii Best Technology Practices in Higher Education**

Figure 9.2	The Paperless Financial Aid Office Before Implementation . . . . .	107
Figure 9.3	The Paperless Financial Aid Office After Implementation . . . . .	108
Figure 9.4	The Paperless Financial Aid Office Technical Architecture . . . . .	110
Figure 10.1	Final Course Selection . . . . .	114
Figure 10.2	Student Schedule . . . . .	115
Figure 11.1	Web Site Personalization . . . . .	122
Figure 11.2	Information Is Prepopulated from the Database . . . . .	123
Figure 11.3	Areas of Interest Are Specified . . . . .	123
Figure 11.4	The Personalized Web Page Appears . . . . .	124
Figure 11.5	Using Personalized Information to Contact Students . . . . .	128
Figure 11.6	The Impact Letter . . . . .	128
Figure 11.7	E-Mail Contact . . . . .	129
Figure 12.1	Information Chaos . . . . .	138
Figure 12.2	Architecture of a Typical Data Warehouse System . . . . .	141
Figure 12.3	Data Warehouse and Data Marts . . . . .	142
Figure 13.1	Information Service Flow Chart . . . . .	151
Figure 13.2	SCT Connected Learning Solutions . . . . .	154
Figure 16.1	Architecture of the Resource Locator Service . . . . .	181
Figure 16.2	Performance of the Request Router . . . . .	183
Figure 16.3	How WebRUM Integrates with the RLS . . . . .	184
Figure 16.4	Using WebRUM to Enhance Navigation . . . . .	188
Figure 18.1	Partial List of K-12 Education Concepts, Skills, and Competencies for Standards . . . . .	204
Figure 18.2	Axes of K-12 School Knowledge Base . . . . .	206
Figure 18.3	A Conceptual Framework—Potential Categories, Topics, Hyperlinks, Resources, etc. . . . .	208



# Tables

Table 1.1	Abilities and Skills .....	5
Table 1.2	Business Administration Ability Map .....	6
Table 4.1	Users' Average Ratings .....	50
Table 6.1	Web Program Growth Indicators .....	71
Table 7.1	E-Education Category and Examples .....	82
Table 7.2	E-Education Framework .....	83
Table 9.1	Web Development Costs .....	105
Table 9.2	Paperless Financial Aid Office Savings .....	109
Table 16.1	Overhead Introduced by the RLS with Different Configurations .....	182
Table 16.2	Fields Contained Within the Common Log Format .....	186
Table 16.3	Additional Commonly Supported Fields Used in ECLF Log Files .....	186
Table 16.4	Information Stored by WebRUM .....	187