

# Contents

	<b>Preface</b> .....	<b>xiii</b>
	<b>Acknowledgments</b> .....	<b>xix</b>
	<b>Figure Credits</b> .....	<b>xxi</b>
<b>1</b>	<b>Introduction</b> .....	<b>1</b>
	1.1 Context .....	1
	1.2 Background .....	3
	1.2.1 Definitions .....	3
	1.2.2 Perspectives .....	4
	1.3 Motivation .....	13
	1.4 Digital Library Curriculum .....	18
	1.5 High Level Constructs .....	20
	1.6 Digital Library Systems .....	22
	1.7 5S Intuition .....	23
	1.7.1 Streams .....	24
	1.7.2 Structures .....	25
	1.7.3 Spaces .....	27
	1.7.4 Scenarios .....	29
	1.7.5 Societies .....	32
	1.8 Digital Library Taxonomy .....	34
	1.9 Summary .....	40
	1.10 Exercises and Projects .....	41
<b>2</b>	<b>Exploration</b> .....	<b>43</b>
	2.1 Introduction .....	43
	2.2 Related Work .....	45
	2.3 Case Study: Exploring Services in ETANA-DL .....	46
	2.3.1 Multi-Dimensional Browsing .....	47
	2.3.2 Browsing and Searching Integration .....	48
	2.3.3 Browsing, Searching, and Visualization Integration .....	49

	2.3.4 ETANA-DL Exploring Services Formative Evaluation .....	54
2.4	Summary .....	57
2.5	Exercises and Projects .....	57
<b>A</b>	<b>Mathematical Preliminaries .....</b>	<b>59</b>
<b>B</b>	<b>Minimal Digital Library .....</b>	<b>63</b>
B.1	5S Formalization .....	63
B.2	Formalization of Minimal Digital Library .....	66
B.3	Formal Definitions for Digital Library .....	72
<b>C</b>	<b>Archaeological Digital Libraries .....</b>	<b>77</b>
C.1	Background on the 5S Framework .....	77
C.2	Notation and Definitions .....	78
C.3	Architecture of an Integrated DL .....	84
<b>D</b>	<b>5S Results: Lemmas, Proofs, and 5SSuite .....</b>	<b>87</b>
D.1	Exploring Service Formalization .....	87
D.2	Proofs .....	91
D.3	Integration Toolkit: 5SSuite .....	100
<b>E</b>	<b>Glossary .....</b>	<b>103</b>
	<b>Bibliography .....</b>	<b>125</b>
	<b>Authors' Biographies .....</b>	<b>149</b>
	<b>Index .....</b>	<b>153</b>