

Preface	vi
Introduction	8
Managing Software Complexity	14
EXPLAINING COMPLEXITY	16
DETERMINE THE ROOT CAUSES OF COMPLEXITY	18
A PHILOSOPHY OF SOFTWARE DESIGN.....	19
OUT OF THE TAR PIT.....	20
SIMPLE MADE EASY.....	21
NO SILVER BULLET.....	22
SYSTEM DESIGN AND THE COST OF ARCHITECTURAL COMPLEXITY	24
HOW CAN TEAMS MANAGE COMPLEXITY?	25
THE BEST SOLUTIONS ARE SIMPLE BUT NOT SIMPLISTIC.	26
SOMETIMES, (ESSENTIAL) COMPLEXITY HAS TO LIVE SOMEWHERE.....	28
WHAT ARE ONGOING CHALLENGES IN MANAGING COMPLEXITY?.....	29
CONCLUSION.....	29
Modularity	31
MODULES IN JAVASCRIPT.....	32
LAZY-LOADING.....	41
CODE-SPLITTING	46
WRAP UP	51
Performance	52
UNDERSTANDING HOW BROWSERS WORK.....	53
UNDERSTANDING AND REDUCING THE COST OF JAVASCRIPT.....	57
OPTIMIZE INTERACTIONS	60
NETWORKING	60
REDUCING THE IMPACT OF THIRD-PARTY DEPENDENCIES	61
RENDERING PATTERNS.....	63
OPTIMIZING PERCEIVED PERFORMANCE.....	65
OPTIMIZING PERFORMANCE - THE HIGHLIGHTS.....	69
PERFORMANCE CULTURE	71
Design Systems	73
CODING STYLE GUIDES.....	74
DESIGN TOKENS	77
COMPONENT LIBRARIES	82
ACCESSIBILITY.....	85

PERFORMANCE.....	86
DOCUMENTATION	87
CASE STUDIES	89
WRAP UP	93
Data Fetching	95
BROWSER APIS AND SIMPLE HTTP CLIENTS.....	96
MORE SOPHISTICATED DATA-FETCHING LIBRARIES	98
TIPS FOR EFFICIENT DATA-FETCHING	113
State Management	119
MANAGING DATA BETWEEN COMPONENTS	120
PROP DRILLING	123
SIMPLE STATE MANAGEMENT	126
DEDICATED STATE MANAGEMENT LIBRARIES.....	128
FINAL CONSIDERATIONS.....	133
Internationalization	136
UTILIZE THIRD-PARTY LOCALIZATION LIBRARIES	139
DYNAMIC LOADING.....	145
HANDLING PLURALS ACROSS LANGUAGES	147
FORMAT DATES, TIMES, AND NUMBERS	149
CONSIDER RIGHT-TO-LEFT (RTL) LANGUAGES.....	153
WRAP UP	160
Organizing Code	161
FOLDER AND FILE STRUCTURE.....	162
NAMING CONVENTIONS.....	166
BARREL EXPORTS	167
OTHER GOOD PRACTICES.....	168
WRAP UP	173
Personalization and A/B Testing	174
PERSONALIZATION	175
A/B TESTING.....	178
FEATURE FLAGS.....	185
WRAP UP	189
Scalable Web Architecture.....	190
SCALABILITY	191

CHARACTERISTICS OF A SCALABLE APPLICATION.....	196
WHERE DO KUBERNETES AND DOCKER FIT IN?	198
WHERE DO COMPANIES LIKE VERCCEL AND NETLIFY FIT IN?.....	201
WRAP UP	202
Testing	204
UNIT TESTS	205
END-TO-END TESTS	211
INTEGRATION TESTS.....	220
SNAPSHOT TESTS	223
HOW SHOULD WE TEST OUR APP?	227
Tooling	233
VERSION CONTROL (GIT).....	234
CONTINUOUS INTEGRATION	236
BUNDLERS	238
LINTING	239
LOGGING AND PERFORMANCE MONITORING.....	241
WRAP UP	243
Technical Migrations.....	244
DIFFERENT MIGRATION STRATEGIES	245
MIGRATION STRATEGY.....	247
CODEMODS	249
THE ROLE OF GENERATIVE AI	254
TypeScript.....	259
TYPE SAFETY	260
BUILD TOOLS & TYPESCRIPT	262
CONFIGURATION & LINTING	263
REACT + TYPESCRIPT.....	266
DECLARATION FILES.....	286
AUTO-GENERATING TYPES FROM AN API	288
MIGRATING AN EXISTING REACT APP TO TYPESCRIPT.....	295
Conclusions.....	300