SUBJECT INDEX

"..." *see* Note, as basic Planguage parameter
[...] *see* Qualifier
{...} *see* Set parentheses, as basic Planguage concept
<- *see* Source, as basic Planguage parameter
<...> *see* Fuzzy, as basic Planguage parameter

Note: Bold page numbers refer to Planguage Concept Glossary entries

Adaptability:
  dynamic, 3
  example of hierarchy for, 159
  examples of Scale for, 159
After, **324**
Agile Software Development, 294
Aim, **324**
Alice and Humpty Dumpty, 323
Alice and the Cheshire Cat, 79
Ambiguity, avoiding, 41
Ambition, **324**
  as scalar attribute, 116
And, **325**
Architectural Description [IEEE], **326**
Architecture, 9, 47, 48, 51, 57, 59, 164, 206, 219, 280, **325**
Architecture Engineering, **327**
Architecture Specification, **328**
Assumption, **328**
  as basic Planguage parameter, 15
Attribute, **329**
  definition of, 47
  design, 48
  function, 47, 93
  performance, 48
  in Planguage architecture, 59
  resource, 48
Attributes:
  relationships between, 76
  scalar, 116
  system, 47
Author, **330**
  SQC, 240
Authority, **330**
  as basic Planguage parameter, 14
Availability, example of hierarchy for, 153
Background, **330**
Backroom, **331**
  in Evo, 313
  in Evo (diagram), 316
Baseline, **331**
Basis, **332**
Before, **333**
Benchmark, **333**
  in Planguage architecture, 60
Benchmarks:
  as scalar attributes, 116
  understanding current, 40
Benefit, **334**
Bibliography, 439–43
Bill of rights for company communication, 74
Binary, **334**
Boeing, xviii
Book conventions, xiii
  formatting of dates, xiv
  glossary concepts, xiv
  terminology, xiii
Budget, **334**
  as scalar attribute, 116, 120
Budgets, 167–84

Calculation, effect of defects on project timescales, 27
Case study:
  airborne command and control system, 102, 161
  cost savings of using SQC, 250
  design idea specification, 197
  design ideas masquerading as requirements, 214
  Evolutionary Project Management, 296, 316–18

Case study (Continued)
identifying stakeholders and functions, 87
Impact Estimation, 285
Norwegian Church Aid, 131
Persincom, 284
Proposal to the Board – Part 1, 71
Proposal to the Board – Part 2, 87
scale definition for Usability.Intuitiveness, 162
separating requirements and design ideas, 69
specifying functions, 100
specifying performance requirements for a water supply, 131
SQC at defense electronics manufacturer, 250
the German telecommunications company, 314–16
UK, Naval Radar System, 296
UN and refugees by bus, 198
US, Army Personnel Planning, 283
Catastrophe, **335**
Champion for SQC, 252
Change control, corporate policy, 33
Checker, SQC, 237
Checking rate, **336**
basic definition, 229
Checking, SQC sub-process, 239
Checklist, **336**
basic definition, 230
Cheshire Cat's advice to Alice, 79
Commentary, **337**
Communication, interdisciplinary, 5
Competitive Engineering:
background to writing, xii
format of, xx
structure of, xx
Complex, **337**
Concept [Planguage], **338**
Concepts:
as standards, 10
Planguage basic generic, 14
Condition, **338**
constraint in requirements, 38
constraint, introduction to, 57, **340**
in Planguage architecture, 59
Conditions:
qualifying scalar attributes, 119
using qualifiers to specify, 65
Conference, a worked example showing design engineering, 194
Connectability, a definition for, 157
Consists of, **341**
Constraint, **341**
condition, 38, **340**
design, 38
in Planguage architecture, 59
Constraints:
adherence to, 69
as scalar attributes, 116
introduction to, 69
viewpoints on, 70
Continuous process improvement, 5, **344**
corporate policy, 32
introduction to, 25
at Raytheon, 28
Core Specification, **344**
Corporate quality policy, 32
Cost, **344**
Cost minimization, 192
Cost of perfection, 169
Costs, 167–84
estimation in advance unlikely for complex systems, 170
infinite costs with perfection, 169
numeric performance levels and associated costs, 169
Planguage methods for controlling costs, 183
relationship between costs and performance delivery, 168
specify down to a more detailed level, 170
use of design to cost, 171
use of Evolutionary Project Management, 171, 177
use of Impact Estimation, 179
Credibility, **345**
credibility ratings table, **274**
Critical success factors, corporate policy, 32

Date, book conventions, xiii
DDP, **345**
Defect Detection Process, **345**
basic definition, 228
Defect Prevention Process, **346**
basic definition, 228
Defect, basic definition, 229
Defects, calculation of effect on project timescales, 27
Definition, **346**
Definition of system, EIA/IS-731.1, 426
Definition, as basic Planguage parameter, 14
Delivery cycle, as component of Planguage (diagram), 11
Dependency, **347**
Description, **348**
as basic Planguage parameter, 14

Design:
as a system attribute, 51
overview of a design process, 203
Design constraint, **348**
introduction to, 57
in requirements, 38
within requirement specifications, 193
Design Engineering, 187–220, **350**
as an iterative process, 187
as component of Planguage (diagram), 11
difference from design, 187
overview (diagram), 18
and Planguage methods, 193
principles, 210
process description, 202
Design for risk, 193
Design gap, (figure), 216
Design ideas, 189–220, **350**
alternative design ideas and risk, 192
consider any design idea, 189
handling potential design ideas, 190
identifying during requirement specification, 190
selecting the best combined set, 191
selecting the best from alternatives, 191
specification, 197
the need for alternatives, 191
variation in types of design, 189
Design Process, **351**
Design optimization, 192
Design specification, **351**
rules, 200
template, 217
Design to cost, 192
Design to cost for controlling costs, 171
Design to performance targets within cost, 193
Development cycle, as component of Planguage (diagram), 11
Deviation, **352**
Document, icon, 31
DoD Evolutionary Acquisition, 26, 295
DPP, **352**
Douglas Aircraft, xviii
Due, **352**
During, **352**
Dynamic adaptability, 3

Edit audit, SQC sub-process, 242
Edit, SQC sub-process, 242
Editor, SQC, 238
EIA/IS-731.1, definition of System, 426
Elementary, **353**
Ends, separation from means, 39
Entry conditions, generic, 22
Entry conditions, introduction to, 12
Entry, SQC sub-process, 239
Environmentally friendly, a worked example, 142
Error, **353**
Ericsson, xix
Estimate, **354**
Estimate, to, **354**
ETX, Entry Task Exit concept for processes, 13
Event, **354**
Evidence, **355**
Evo, **355**
see Evolutionary Project Management
Evo Plan, **356**
Evo steps, **356**
tips on how to decompose a system into Evo steps, 314
Evolutionary, **358**
Acquisition, DoD, 295
Evolutionary Project Management, 293-319, **358**
a practical example: Naval Radar System, 296
as component of Planguage (diagram), 11
backroom, 311
backroom (diagram), 316
blank template for Evo step specification, 317
case study: the German telecommunications company, 314
'Cleanroom', 293
for controlling costs, 171
corporate policy, 32
delivery cycle: part of 'The Body', 306
dynamic priority (diagram), 318
Evo plan specification, 302–3
example of filled-in template for Evo step specification, 313
frontroom, 311
frontroom (diagram), 316
overview of an Evo plan (diagram), 309
overview of Evo process (diagram), 19
overview of result cycle (diagram), 306
overview of the 'method', 297
planning policy, 296
practical experience with using Evo, 293
principles, 310
process description, 304–9
rules, 302
simplified, overview (diagram), 307
simplified, process description, 307–9

Evolutionary Project Management (Continued)
step content, 298
step dependency, 299
step name, 299
step sequencing, 299
step specification, 298–301
strategic management cycle: 'The Head', 304
tips on how to decompose a system into Evo steps, 314
underlying principles of, 294
using IE tables for Evo plans, 311–12
Except, **359**
Exit conditions, generic, 23
Exit conditions, introduction to, 13
Exit, SQC sub-process, 241
Extendability, an example Scale for, 157
External in Planguage architecture, 59

Fail, **359**
as scalar attribute, 116, 120, 121
Failure, quantifying, 39
Flexibility:
analyzing, 43
example of hierarchy for, 157
Forms:
as standards, 10
SQC, 232
SQC, simplified, 242
Frontroom, **360**
in Evo, 311
Frontroom in Evo (diagram), 316
Function, **360**
as a system attribute, 47
attributes, 93
introduction to, 83
qualifiers, 94
separation, from design idea, 83
specification, 89, 91
example of, 102
template, 106
Function analysis, Memo to the Board of Directors, 87
Function Constraint, **361**
Function Design, **362**
Function requirement, **363**
introduction to, 54, 83
in requirements, 37
Function requirement specification, 83, 89
process description, 97
rules, 94
simplified process description, 98
Function requirement specification, example of, 102
Function specification, rules, 94
Function Target, **364**
Functional relationships, 90
Functionality, measuring, 101
Functions, 83–106
complex, 100
elementary, 100
examples of, 86
referencing, 90
sibling, 93
supra, 92
Fuzzy, **365**
as basic Planguage parameter, 15

Gap, **365**
Generic:
entry and exit process, 21
entry conditions, 22
exit conditions, 23
in Planguage architecture, 59
project, principles, 23
project, process description, 19
Gist, **365**
as basic Planguage parameter, 14
Global in Planguage architecture, 59
Glossary, 321–438
Glossary concepts, book conventions, xiv
Goal (small 'g'), definition of, 54
Goal, **366**
as scalar attribute, 116, 120, 121
Guidelines for assessing SQC, 231

Humpty Dumpty's advice to Alice, 323

Icon, **367**
Icons:
basic generic, 14
drawn:
conditions, 75
design, 75
function, 75
performance, 75
resource, 75
system, 75
keyed, resource, 181
IE, **367**
see Impact Estimation
IE table:
a simple example, 270
comparison of apples and oranges, 265
example of skyscraper format, 286

US Army Personnel Planning, 283
using for Evo plans, 311–12
IEEE 610.12-1990, definition of Requirement, 400
IEEE P1220, definition of Requirement, 400
If, **367**
Impact, **367**
Impact Estimate, **367**
Impact Estimation, 261–90, **368**
alternatives, 280
as component of Planguage (diagram), 11
basic definition of IE concepts, 270–5
case study: US Army Personnel Planning, 283
credibility ratings table, 274
dependencies, 280
IE table cell data, 279
interactions amongst design ideas, 280
keyed icons, 287
level of detail to use, 280
overview of IE process (diagram), 274
overview of process for creating an IE table (diagram), 275
presentation of IE tables, 285
principles, 278
priority management, 281–3
process description, 276
purposes for use of, 264
purposes for use of (diagram), 288
risk management, 283
rules, 271
safety margins, 283
side effects, 280
skyscraper representation of IE table, 286
software tools supporting IE, 286
understanding mathematical inaccuracy, 280
using IE tables for Evo plans, 311–12
a worked example for Learning, 265–7
Impacts, **369**
Implementation cycle, as component of Planguage (diagram), 11
Improveability, an example Scale for, 158
Includes, **369**
INCOSE, definition of Systems Engineering, 428
Incremental Development, **369**
Incremental Scale Impact, **370**
Inspection, **371**
Installability, an example definition of, 157
Integrity, example of Scale for, 155
Interchangeability, an example definition of, 157
Internal in Planguage architecture, 59
Is Impacted By, **371**
ISO 9000, definition of Process, 392
ISO 9000, definition of System, 426
ISO/IEC 15288, definition of Stakeholder, 420
ISO/IEC 15288, definition of System, 426
Is Part Of, **372**
Is Supported By, **372**
Issue, **372**
basic definition, 228

Kickoff, SQC sub-process, 240
Kin, **373**
Kin documents, basic definition, 231

Landing Zone, **373**
Language conventions, as standards, 10
Leadership, 5
Level, **374**
Limit, **374**
Linux, 294
Local in Planguage architecture, 59
Logical Page, **374**
Love, specification of, 145

Main specification, basic definition, 230
Maintainability:
example of Scale for, 155
hierarchy for, 153
Major defect, **374**
basic definition, 229
Master Definition, **375**
Means, separation from ends, 39
Measure, To, **375**
Measure, managing what you, 140
Meter, **376**
as scalar attribute, 114
Meters, finding and developing, 139
Meters, reference library for, 140
Metric, **376**
MIL-STD-498, 26
MIL-STD-498, Evolutionary Project Management, 293
MIL-STD 499B, definition of Performance, 382
MIL-STD 499B, definition of Performance Requirement, 386
MIL-STD 499B, definition of System, 427
Minor Defect, **377**
Mission, **377**
as a top-level function, 100
Motivation, 5

No cure, no pay, 8
Nokia, xviii

Non-Commentary, **378**
Note, **379**
  as basic Planguage parameter, 14

Objective, **379**
  definition of, 52
Open Source Methods, 294
Optimum checking rate, basic definition, 229
Or, **379**
Or Better, 379
Organizational change, 5
Or Worse, 380
Owner, 380
  as basic Planguage parameter, 14

Page, basic definition, 229
Parameter, 380
Parameters:
  Planguage basic generic, 14
  for scalar attributes, 120
Past, 381
  as scalar attribute, 116, 120, 121
PDSA, 381
  see Plan-Do-Study-Act cycle, process control
Percentage Impact, 381
Percentage Uncertainty, 381
Performance, 109–36, 382
  as a system attribute, 47
  attributes, 111
  hierarchy for, 153–5
  introduction to, 111
Performance Constraint, **383**
Performance Requirement, **384**
  handling complex, 127
  introduction to, 54
  in requirements, 37
  specification *see* Scalar attributes
Performance requirement specification, template *see* Scalar requirement template
Performance Target, **386**
Performance to Cost Ratio, **386**
Philips, xviii
Place, **387**
Plan-Do-Study-Act cycle, **387**
  process control, 25
Plan-Do-Study-Act process-cycle, icon, 31
Planguage, **389**
  architecture, 59
  basic generic concepts, 14
  basic generic parameters, 14
  basics and process control, 1–34
  concepts, 9
  concepts as a component of (diagram), 11
  grammar, 9
  grammar as a component of (diagram), 11
  icons, 9
  icons as a component of (diagram), 11
  major influences, xii
  methods, xviii
  parameters, 9
  parameters as a component of (diagram), 11
  specification language, xviii, 30
  supporting priority determination, 213
  syntax rules, 9
Planguage methods, xvii
  for controlling costs, 183
Planguage processes, as a component of Planguage (diagram), 30
Planguage specification language, xvii
  as a component of (diagram), 11
Planguage term, as basic Planguage concept, 14
Planning, SQC sub-process, 239
Policies, standards, 10
Policy:
  a corporate quality standard, 32
  for design, 219
    see also Design optimization
  evolutionary planning, 296
  for impact estimation, 263
Portability, an example Scale for, 158
Principles:
  Design Engineering, 210
  Evolutionary Project Management, 310
  function requirement specification, 99
  function specification, 99
  generic project, 23
  Impact Estimation, 278
  performance requirements, 124
  requirement specification, 64
  resource requirements, 176
  scale definition, 151
  Specification Quality Control, 246
Principles of Software Engineering Management, xii
Principles of Tao Teh Ching, 311
Priority, **389**
  determination, 211
    dynamic priority, 214
    use of weights, 212
  strategy *see* Design optimization
Procedure, **391**
  introduction to, 13
Process, **392**
  icon, 31
  improvement through SQC, 223
Process control, reasons for, 27

Process description:
as component of Planguage (diagram), 30
Design Engineering, 10, 202
Evo: delivery cycle: part of 'The Body', 306
Evo: strategic management cycle: 'The Head', 304
Evolutionary Project Management, 10, 304
function requirement specification, 97
generic entry and exit, 21
generic project, 19
Impact Estimation, 10, 276
introduction to, 12
performance requirement specification, 123
requirement specification, 10, 62
resource requirement specification, 175
scale definition, 149
simplified, Evolutionary Project Management, 307–8
simplified, function requirement specification, 98
simplified, Specification Quality Control, 242–5
Specification Quality Control, 10, 239
Process Improvement, **393**
Process Meeting, SQC sub-process, 241
Production cycle, as component of Planguage (diagram), 11
Project work process, as component of Planguage (diagram), 30

Qualifier, **393**
as basic Planguage parameter, 14
definition of, 66
Qualifiers:
embedded within a Scale, 146
using to specify conditions, 65
with regard to Evo steps, 68
with regard to scope, 68
Quality, **395**
example of hierarchy for, 153
performance attribute, 111
in requirements, 37
Quality level, **396**
as basic Planguage parameter, 14
in Planguage architecture, 59
Quality policy, corporate standard, 32
Quality requirement:
analyzing a, 43
introduction to, 53
Quantify, To, **396**
Quantification, by Simon Ramo, 141
Quantifying:
potential requirements, 40
success and failure, 39
survival, 40

Range, **397**
Rapid feedback, 3
Rate:
checking, 10, 229, 232
optimum checking, 229
work, 10
Rationale, **398**
Raytheon, continuous process improvement, 28–9
Readership, **399**
as basic Planguage parameter, 14
Record, **399**
as scalar attribute, 116, 120, 121
Relationships, **400**
between attributes, 76
Reliability, example of Scale for, 154
Remaining major defect density, estimating, 249
Remaining major defects, basic definition, 230
Requirement, **400**
analyzing a, 43
complex, 46
elementary, 46
in Planguage architecture, 59
types, 51
Requirements Engineering, **403**
Requirement specification, **403**
as part of Planguage (diagram), 11
detailed specification can wait, 188
initial overview (diagram), 18
introduction to, 35–79
principles, 64
process description, 62
rules, 61
template, 77
Requirement type:
condition constraint, 57
design constraint, 57
function requirement, 54
performance requirement, 54
quality requirement, 55
resource requirement, 57
resource saving, 56
workload capacity, 56
Requirement types:
basic types, 53
introduction to, 51

Requirements:
  ambiguous, 41
  basic types of, 53
  capturing, 4
  decomposition of, 45
  definition of, 37
  evolution of, 41
  handling complex, 42
  identifying the 'true' high level aims, 133
  inheritance of, 90
  introduction to, 35–79
  key, 39
  key issues for, 38
  scalar, 46
Resource, **403**
  as a system attribute, 47
  relationship amongst resources, budgets and costs, 167
  role in determining priority, 213
  stakeholder requirements and, 167
  use of resources across the entire system lifecycle, 169
Resource Constraint, **404**
Resource Requirement, **405**
  icons, 181
  introduction to, 57
  in requirements, 38
  a worked example, 172
Resource requirement specification:
  a case study example, 179
  policy, 183
  principles, 176
  process description, 175
  template *see* Scalar requirement template
  see also Scalar attributes
Resource saving, **406**
  performance attribute, 111
  in requirements, 37
Resource saving requirement, introduction to, 56
Resource savings, an example hierarchy for, 160
Resources, 167–84
Resource Target, **406**
Result cycle, **407**
  as component of Planguage (diagram), 11
Results, 4
Reuse of scales of measure, 139
Review, **408**
  and SQC, 249
Risk, **409**
  corporate policy, 32
  use of alternative design ideas, 192
Risk management, strategies, 6
Role, **409**
Roles, SQC, 237
Rule, **409**
  basic definition, 230
Rules:
  design specification, 200
  Evolutionary Project Management, 302
  function requirement specification, 94
  function specification, 91
  generic specification, 16
  Impact Estimation, 271
  overview of use (diagrams), 18, 19
  performance requirement specification *see* Scalar requirement
  requirement specification, 61
  resource requirement specification *see* Scalar requirement
  scalar definition, 147
  scalar requirements, 122
  standards, 10, 12

Safety Deviation, **410**
Safety Factor, **411**
Safety Margin, **411**
Scalar, **412**
Scalar attribute icons:
  for performance, 133
  for requirements and benchmarks, 133
Scalar attributes, 116
  central role of a Scale in definition, 145
  generic hierarchies for, 153
  parameters, 120
Scalar definition, rules, 147
Scalar levels:
  implicit assumptions of 'or better', 128, 130
  setting, 128
Scalar requirement:
  rules, 122
  template, 135
Scale, **412**
  as scalar attribute, 116
  definition of, 147
  definition using qualifiers, 148
  a worked example of definition, 141
Scale definition, process description, 149
Scale Impact, **413**
Scales of Measure, 139–64
  diagram showing scales, 163
  examples of, 149
  finding and developing, 139
  reference library for, 139

reuse of, 139
specifying, 145
Scale Qualifier, **414**
Scale Uncertainty, **415**
Scale Variable, **415**
Scope, **416**
definition of, 68
in Planguage architecture, 59
Scribe, SQC, 238
Serviceability, a worked example, 113
Set parentheses, as basic Planguage concept, 15
Side Effect, **417**
Software Engineering, **417**
Source, **418**
as basic Planguage parameter, 15
Source documents, basic definition, 230
Specific in Planguage architecture, 59
Specification, **418**
of function requirements, 89
level of detail of, 144
in Planguage architecture, 59
of requirements, 35–79
Specification control in Planguage architecture, 59
Specification meeting, SQC sub-process, 242
Specification Quality Control, 223–59, **419**
an example, 225
as component of Planguage (diagram), 11
basic definition, 228
corporate policy, 32
determining effectiveness, 247
economics of, 246
effectiveness of, 247
estimating remaining defects, 247
expected results of SQC, 227
extending into specification review, 249
for finding defects, 258
forms, 232
guidelines for assessing, 231
overview of process extended into review, 250
possible purposes for use of, 259
process description, 239
process description, simplified, 242–5
process overview (diagram), 242
and rules, 249
simplified, blank form, 257
simplified, example of filled-in form, 245
standards, 231
for supporting continuous process improvement, 259
and the need for a champion, 252
and the need for a supportive organization, 252
for understanding document quality, 258
use on different document types, 251
work process standards, 26
Specification quality level *see* Quality level
Specification review, extending SQC into, 249
Spiral Development, DoD, 295
SQC, **420**
SQC *see* Specification Quality Control
author, SQC role, 238
checker, SQC role, 237
checking effectiveness, SQC role, 237
checking efficiency, SQC role, 237
Checking, SQC sub-process, 240
Data Summary Form, blank, 255
Data Summary Form, example of filled-in, 235
Edit Audit, SQC sub-process, 241
Edit, SQC sub-process, 241
Editor Advice Log Form, blank, 254
Editor Advice Log Form, example of filled-in, 234
editor, SQC role, 238
Entry, SQC sub-process, 239
Exit, SQC sub-process, 241
Kickoff, SQC sub-process, 240
Master Plan Form, blank, 253
Master Plan Form, example of filled-in, 233
Planning, SQC sub-process, 239
Process Meeting Log Form, blank, 256
Process Meeting Log Form, example of filled-in, 236
Process Meeting, SQC sub-process, 241
roles, SQC role, 237
scribe, SQC role, 238
Simplified Process Form, blank, 257
Simplified Process Form, example of filled-in, 245
Specification Meeting, SQC sub-process, 240
Statistics, SQC sub-process, 241
Strategy, SQC sub-process, 239
team leader, SQC role, 237
writer, SQC role, 238
Staging a Conference, a worked example showing design engineering, 194
Stakeholder, **420**
as basic Planguage parameter, 14
critical, 38
examples of, 85
Stakeholder role in Planguage architecture, 59

Standards, 10, **421**
  in Planguage architecture, 60
  Specification Quality Control, 231
  work process, 26
State-of-the-art, understanding, 40
Status, **422**
  as basic Planguage parameter, 14
Status in Planguage architecture, 59
Strategic management cycle, as component of Planguage (diagram), 11
Strategies:
  for risk management, 6
  for systems engineering, 6
Stretch, **423**
  as scalar attribute, 116, 120, 121
Success, quantifying, 39
Supports, **424**
Survival, **424**
  as scalar attribute, 116, 120, 121
Swing solutions, (cartoon), 188
Systecture, **425**
System:
  attributes of, 47
  definition of, 47
System [Planguage], **426**
System attribute in Planguage architecture, 59
Systems Architecture, **427**
Systems Engineering, **428**
  strategies, 6

Tag, **430**
  as basic Planguage parameter, 14
  in Planguage architecture, 59
Tailorability, an example hierarchy for, 157
Target, **430**
  in Planguage architecture, 60
Targets, as scalar attributes, 118
Task, **431**
Team leader, SQC, 237
Template, blank:
  design specification, 217
  elementary scalar requirement, 135
  Evo step specification, 317
  function and function requirement specification, 105
  performance requirement *see* Elementary scalar requirement
  requirement specification, 75
  resource requirement *see* Elementary scalar requirement
Template, filled-in example:
  design specification, 199
  Evo step specification, 313
  functional requirement specification, 102
Term:
  Planguage, 14
  user-defined, 14
Test, **432**
Time, **433**
Timescales for delivery, 41
Trend, **433**
  as scalar attribute, 116, 120, 121
Twelve Tough Questions, 7
Type, **434**
  as basic Planguage parameter, 14

Uncertainty, **434**
United Nations, case study for design idea specification, 197
Until, **434**
Upgradability, an example hierarchy for, 157
Usability, a worked example, 119
Usability, example hierarchies for, 158–60
User-defined term, **435**
  as basic Planguage concept, 14
  as component of Planguage (diagram), 30

Value, **435**
Version, **436**
  as basic Planguage parameter, 14
  in Planguage architecture, 59
Vision, **436**
  as a requirement type, 51
  in requirements, 37

Waterfall method, 26
Wish, **437**
  as scalar attribute, 116, 120, 121
Work process standards, 26
Work process, as component of Planguage (diagram), 30
Work rates, as standards, 10
Workload capacity, **438**
  an example hierarchy for, 161
  performance attribute, 111
  in requirements, 38
Workload capacity requirement, introduction to, 56
Writer, SQC, 238