Introducing Systems Design

Introducing Systems Design

Second Edition

Steve Skidmore

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Contents

Preface	ix
1 Context	1
1.1 Introduction	
1.2 Structure of the book	
1.3 Objectives of design	
1.4 Constraints on design	
1.5 The products of analysis	
1.6 CASE tools	
1.7 Summary	
2 Input and Output Design	20
2.1 Introduction	
2.2 The design boundary	
2.3 Output contents	
2.4 Output technology	
2.5 Detailed output design	
2.6 Input design	
2.7 Input design guidelines	
2.8 Input technologies	
2.9 Summary	
3 Designing Interfaces	29
3.1 Introduction	
3.2 Dialogue types	
3.3 Logical dialogue outline	
3.4 Input/output structures	
3.5 State transition diagrams	
3.6 Summary	

4	Rapid Application Development	42
4.1	Introduction	
4.2	Prototyping: meaning and procedure	
4.3	Prototype construction	
4.4	Prototyping assessed	
4.5	The development team	
4.6	Summary	
5	Logical Data Design	53
5.1	Introduction	
5.2	Basic concepts and terminology	
5.3	Bottom-up normalization	
5.4	Logical data model	
5.5	Conclusion	
6	Logical Process Design	69
6.1	Introduction	
6.2	Structured English	
6.3	Action Diagrams	
6.4	Extended action diagramming conventions (ADAPT)	
6.5	SSADM Version 4: update process specification	
6.6	Logical Access Maps	
6.7	Conclusion	
7	Object-oriented Design	93
7.1	Introduction	
7.2	Object-oriented analysis	
7.3	Object notation and constructs	
7.4	Object principles	
7.5	Modelling object behaviour	
7.6	Summary	
8	Physical Design	114
8.1	Introduction	
8.2	Logical and physical data design	
8.3	Optimizing using facilities of the hardware and software	
8.4	Optimizing by tuning the logical model	
8.5	Implications for data base design	
8.6	Data and process design	
8.7	Physical process design	
8.8	Summary	

9 Systems Controls	138
9.1 Introduction	
9.2 Areas of risk	
9.3 Systems controls	
9.4 The auditing function	
9.5 Legal requirements	
9.6 Summary	
10 System Implementation	157
10.1 Introduction	
10.2 Testing	
10.3 File conversion	
10.4 Preparation of documentation	
10.5 Training	
10.6 Implementation strategies	
10.7 Post-implementation review	
10.8 Conclusion	
11 Systems Development	166
11.1 Introduction	
11.2 Objectives of design: reviewed	
11.3 Review of methodology	
Appendices	173
A: InfoSys case study	
B: Further reading	
C: Exercises	
Index	187

Preface

This book is the second of two texts about the development of computer systems. It presents a series of models and skills that should help the definition and delivery of high-quality information systems. This book is primarily concerned with logical and physical design.

The book is primarily aimed at:

- undergraduate and Higher National Diploma and Certificate students undertaking a module in systems analysis and design;
- students undertaking professional examinations;
- trainee analysts studying for professional qualifications or following professional development schemes;
- practising systems designers and developers.

Analysis and Design are two words in common currency in systems development. The preface to the companion text makes the point that the distinction is arbitrary and that analysis, design and development is used interchangeably throughout the text to provide some variety. However, it is worth highlighting how the content and split of the two books has been determined.

Introducing Systems Analysis is primarily about analysing business benefits and procedures. The Data Flow Diagram is introduced as a technique for modelling understanding of current systems and developing an overall functional architecture for fulfilling agreed requirements. Data Flow Diagrams are not well suited to design but they are an effective analysis model. The Logical Data Structure is also an effective architectural model, expressing the structure and size of systems more effectively than text. In our company we construct these models as part of our estimating process. The inclusion of Entity Life Histories in an analysis text is probably more controversial. However, we find that they do highlight facets of the system not illuminated by the other two models. Furthermore, they provide an introduction to an object perspective as well as a basis for later detailed design.

The content of the two books is also determined by what we feel comfortable in presenting in two one-week courses to practitioners. The material of both books

x *Preface*

can be comfortably covered in around 35–40 hours of study. Delegates usually take a break between the two courses to allow some time for reflection and relaxation! This duration also fits in (supported by exercises and assignments) with what inexperienced developers can accomplish in an academic term, semester or year depending upon the number of hours per week allocated to lecturers and tutorials.

I hope readers find this a practical introduction. In our own company (the ‘we’ of the text) I sit with other developers using, extending and selecting the tools and techniques covered here. This experience has forged the way I look at things and I would like to acknowledge their contribution. I have also spent a considerable amount of time explaining and exploring these models with users (in our software development projects) and delegates (on our training courses). Many have suggested changes and clarifications to the models, some of which have found their way into the two books in this series.

Finally, I would like to specifically acknowledge the following people who have helped my understanding of systems development and its teaching – Mike Crawford, Brenda Wroe, Gillian Mills, Andrew Parkin, David Helmy, David Howe, Ray Farmer, Frank Land and Ron Stamper.

Steve Skidmore