ISO 14915-2:2003-07 (E)

Software ergonomics for multimedia user interfaces - Part 2: Multimedia navigation and control

Contents

Page

Foreword vi

Introduction vii

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

5 Framework for multimedia navigation and control 6
5.1 General 6
5.2 Analysis of content structures 6
5.2.1 Basic analysis 6
5.2.2 Structuring multimedia applications 8
5.3 Navigation-structure design 8
5.3.1 General 8
5.3.2 High-level navigation structure 8
5.3.3 Navigation within presentation segments and media objects 10

6 Navigation design 11
6.1 Introduction to navigation 11
6.1.1 Application structure 11
6.1.2 Navigation structures 11
6.1.3 Content structure 11
6.1.4 Content granularity 12
6.1.5 Exploration 12
6.1.6 Complexity 12
6.1.7 Understanding 12
6.1.8 User assistance 12
6.1.9 Determining navigation techniques 12
6.1.10 Metaphors 13
6.2 Structures for navigation 13
6.2.1 Use of appropriate navigation structures 13
6.2.2 Linear structures 13
6.2.3 Tree structures 14
6.2.4 Network structures 15

7 Common guidance on controls 16
7.1 Compatibility of media controls 16
7.2 User accessibility of controls 16
7.3 Ease of individualization 16
7.4 Appropriateness of media controls 16
7.5 Task-dependent sets of controls 16
7.6 Minimum set of media controls 17
7.7 Grouping media controls 17
7.8 Controllability of media objects 17
7.9 Distinguishable controls 17
7.10 Presence of hidden controls 17
7.11 Status of media 17
7.12 Status of controls 18

7.13 Inactive controls 18
7.14 Consistent controls 18
7.15 Ease of access 18
7.16 Feedback on use of controls 18
7.17 Relation of controls 18
7.18 Design of particular controls 19

8 Links 19
8.1 User accessibility of links 19
8.2 Use of links 19
8.2.1 General use of links 19
8.2.2 Use of system-activated links 19
8.2.3 Use of user-activated links 19
8.2.4 Use of fixed links 20
8.2.5 Use of temporal links 20
8.2.6 Duration of temporal links 20
8.2.7 Avoiding temporal-link errors 20
8.2.8 Use of computed links 20
8.2.9 Recognizing computed links 20
8.2.10 Saving computed links 21
8.2.11 Creating user-defined links 21
8.2.12 Multi-user sets of user-defined links 21
8.3 Discriminability of links 21
8.4 Information about links 22
8.4.1 Link-destination content information 22
8.4.2 Link-destination location information 22
8.4.3 Link-duration information 22
8.4.4 Linked-to-media-type information 22
8.4.5 Link-load-time information 23
8.4.6 Link-history cues 23
8.4.7 Multiple sets of link-history cues 23
8.4.8 Time dependence of link-history 23
8.4.9 Default link-history cue 23
8.4.10 Resetting link-history cues 23
8.4.11 Resetting single link-history cues 23

9 Navigation functions 23
9.1 Scope of navigation actions 23
9.1.1 Providing users with navigation information 23
9.1.2 Effect of navigation actions 24
9.1.3 Navigation between and within presentation segments 24
9.1.4 Methods of navigation between presentation segments 24
9.1.5 Navigation involving content chunks within a presentation segment 24
9.1.6 Navigation involving media objects or composite media objects 25
9.2 "Go to beginning" 25
9.3 "Go to previous" 25
9.3.1 Go to previously visited presentation segment 25
9.3.2 Go to previous media object 25
9.3.3 Save current state 26
9.3.4 Go to previous state 26
9.4 "Go to next" 26
9.4.1 Go to next presentation segment within the application 26
9.4.2 Go-to-next-media object within the composite-media object 26
9.5 "Go to end" 26
9.5.1 Exit 26
9.5.2 Go to end of composite-media object 27
9.6 Determine current location 27
9.6.1 Location information 27
9.6.2 Identifying possible navigation pathways 27
9.6.3 Providing context for details 27
9.7 Move 27
9.8 Search 27

9.8.1 Search for other locations 27
9.8.2 Helping formulate searches for items 28
9.8.3 Accessing the results of a search 28
9.9 Tour 28

10 Controls for coordination of multiple media 28
10.1 Synchronization of media 28
10.2 Coordination of media 28
10.3 Controlling layered media 28
10.4 Separation of media 28
10.5 Obscuring media 29
10.6 Navigating between media 29

11 Dynamic media 29
11.1 Dynamic-media controls 29
11.1.1 Basic dynamic-media controls 29
11.1.2 Access to dynamic-media controls 29
11.1.3 "Play" 29
11.1.4 "Stop" 30
11.1.5 "Pause" 30
11.1.6 "Replay" 30
11.1.7 "Play backward" 30
11.1.8 "Scan forward" 31
11.1.9 "Scan backward" 31
11.1.10 "Fast forward" 31
11.1.11 "Rewind" 31
11.1.12 "Record" 31
11.2 Attributes of controls for dynamic media 31
11.2.1 Implementing attributes 31
11.2.2 Direction of play 31
11.2.3 "Loop" 32
11.2.4 Controlling the speed of playing 32
11.2.5 Availability of audio controls 32
11.2.6 Set volume 32
11.2.7 Mute 32

Bibliography 33