

Alexiei Dingli · Dylan Seychell

The New Digital Natives

Cutting the Chord

Contents

1	Introduction	1
2	Who Are the Digital Natives?	9
2.1	Introduction	9
2.2	Psychology of Digital Natives	10
2.3	Terminology	12
2.3.1	The Digital Natives	13
2.3.2	The Digital Immigrants	14
2.4	Classification	16
2.5	Digital Methodology	17
2.5.1	Social Identity	18
2.5.2	Travelling	19
2.5.3	Communicating	20
2.6	The Second Generation of Digital Natives	20
3	Paradigm Shifts	23
3.1	Introduction	23
3.1.1	A Life Story	23
3.2	Notorious Paradigm Shifts	25
3.2.1	Paradigm Shifts in Astronomy - A Case Study	25
3.3	Paradigm Shifts in Computing	27
3.3.1	Going Electrical	27
3.3.2	Networking	31
3.3.3	The Online World	33
3.4	The Wireless Paradigm Shift and 2DNs	35
3.5	The Road Ahead	36
4	Blended Realities	39
4.1	Introduction	39
4.2	Devices	40
4.2.1	Gaming Platforms	41

4.3	The Web	42
4.3.1	Web 2.0	42
4.3.2	Cloud Computing	44
4.4	Applications	46
4.4.1	Games	46
4.4.2	Productivity Applications	48
4.5	Blending These Realities	50
4.5.1	Virtuality-Reality Continuum	51
4.5.2	Ubiquitous Computing	52
4.6	Future Blending	55
5	Nurturing Digital Natives	57
5.1	Learning Styles	57
5.2	Game Based Learning	60
5.3	The Gamified Classroom	63
5.4	The Transition to the Workplace	65
5.5	Beyond the Workplace	68
6	Designing for Digital Natives	73
6.1	Choosing the Process	74
6.1.1	Design Process	74
6.1.2	Participatory Design	75
6.2	Requirements of Digital Natives	76
6.2.1	What Do Digital Natives Want?	76
6.2.2	What Do Digital Natives Do?	79
6.3	Evaluating Applications with Digital Natives	80
6.3.1	Heuristic Evaluation	81
6.4	Its All about the User	84
7	Smart Homes	85
7.1	Smart Homes Today	86
7.2	Home Automation	86
7.2.1	The Technologies	87
7.2.2	Smart Interfaces	89
7.2.3	Smart Devices	90
7.2.4	Smart Kitchens	91
7.2.5	Smart Bathrooms	92
7.2.6	Smart Bedrooms	92
7.3	Ambient Assisted Living	93
7.4	Challenges and Benefits	98
8	Digital Governance	103
8.1	Online Citizenship	103
8.2	Digital Legislation	107
8.3	Online Politics	110
8.4	Cyber Crime	112

9	Future Trends	117
9.1	The Evolving Internet	117
9.2	Intelligent Systems	119
9.3	Machines	121
9.4	Entertainment	123
9.5	Commerce	125
9.6	Human Element	127
9.7	Where Are We Now?	129
	References	131
	Index	147