



GAME DEVELOPMENT 2042

The Future of Game Design, Development,
and Publishing

Tim Fields



CRC Press
Taylor & Francis Group

สำนักหอสมุด มหาวิทยาลัยเชียงใหม่

b 1670731x
o 12579551
i 92688171

Game Development 2042

The Future of Game Design, Development, and Publishing



Tim Fields



CRC Press

Taylor & Francis Group

Boca Raton London New York

CRC Press is an imprint of the
Taylor & Francis Group, an **informa** business

Contents

Game Development 2042	1
INTRODUCTION	1
Hardware Advances in CPU Power, Input Accessibility, and Battery Power	4
Pervasive Machine Learning and Autonomy Fueled by Vast Increase in Data	5
Ubiquity of High-Speed High-Capacity Data Networks	7
Network Effect of Social Networks and Human Connectivity	8
Increases in the Amount of Leisure Time Available for Humanity	8
A ROADMAP	9
Who Is This Book For?	10
NOTES	10
CHAPTER 1 ■ A Global Community of Players	11
GAMING LIGHTS THE WORLD	11
POPULATION GROWTH	13
United States and Canada	15
Europe	17
Russia	18
South Korea	20
Japan	22
China	24
ON EMERGING MARKETS	26

Purchasing Power of Markets by 2050	26
Southeast Asia	28
Indonesia	30
Vietnam	31
India	32
INTERVIEW WITH ZAID AZMI: INTERACTIVE FICTION FOR THE WORLD	35
Latin America	39
Brazil	40
Mexico	41
The Middle East and Africa	42
Saudi Arabia	42
INTERVIEW WITH HIS ROYAL HIGHNESS PRINCE FASIL BIN BANDAR: THE BRIGHT FUTURE OF GAMES	44
CONTINUING IN THE LEVANT	50
Turkey	50
Egypt	51
Israel	52
The Rest of Africa	53
ZOOMING OUT	54
Conclusions Based on this Research and Demographic Data	54
How to Tailor for a Region	55
NOTES	57
CHAPTER 2 ■ How to Reach the World	61
HOW TO REACH THE WORLD?	61
THE IMPACT OF GLOBALISM ON GAME DESIGN	62
DISTRIBUTION MECHANISMS	63
USER ACQUISITION	63
BUILDING COMMUNITIES	65
HOW TO REACH THE WORLD, THEN KEEP THEM PLAYING	65
INTERVIEW WITH AARON LOEB: THE FUTURE OF COMMUNITIES	66

CONCLUSION	73
How to Reach the World, Then Keep Them Playing	73
NOTES	74
CHAPTER 3 ■ The Evolution of Game Design	75
QUALITY IS KING	76
WHY DO PEOPLE PLAY?	77
A FEW THINGS ARE DIFFERENT...	81
DEEP SOCIAL	82
VISUALS	82
ACCESSIBILITY	84
CAPABLE DEVICES EVERYWHERE	84
CROSS PLAY AND DEVICE AGNOSTICISM	85
AI AGENTS	85
VR, AR, IMMERSION, METAVERSE	86
AR AND REAL-WORLD GAMING BLENDS	89
VR & AR COMBINED MAKE... THE METAVERSE?	90
NIANTIC AS METAVERSE	92
ROBLOX AS METAVERSE	93
TENCENT AS METAVERSE	94
EPIC'S FORTNITE AS METAVERSE	94
NVIDIA AS METAVERSE	95
FACEBOOK AS METAVERSE	96
MICROSOFT AS METAVERSE	98
METAVERSE WRAP UP	99
USER-GENERATED CONTENT	100
MODS AS UGC	102
THE WORLD WANTS TO PLAY FOR FREE	102
APPOINTMENT MECHANICS	103
EVERYTHING IS AN RPG	104
GACHA, NEAR MISS, FOMO	105
REAL-MONEY GAMING AND WAGERING	106

PERVASIVE COMMUNITY	107
THE NEED FOR SOCIAL SHEPHERDS	108
Q AND A WITH JEFF MAHER	110
NON-GAMING ACTIVITIES IN GAMES	115
Q AND A WITH GAGAN AHLUWALIA OF GLOBALSTEP: THE FUTURE OF SERVICES	118
EDUCATION AND GAMING	123
WRAP UP IN THE FUTURE OF GAME DESIGN	123
NOTES	124
CHAPTER 4 ■ Web 3 Gaming: Crypto, Play to Earn, NFT	127
<hr/>	
CRYPTO-CURRENCY, DECENTRALIZED FINANCE, NON-FUNGIBLE TOKENS, AND GAMING	128
NFT BASICS	130
NFTS AS THE FUTURE	132
NFTS AS SNAKE OIL OR DIGITAL DUTCH TULIP CRAZE	132
AXIE INFINITY	133
PLAY TO EARN	135
INTERVIEW WITH SIMON DAVIS “THE MIGHTY BEAR OF SINGAPORE”	137
CONCLUSION	142
Wrap Up	142
NOTES	142
CHAPTER 5 ■ Devices and Platforms	143
<hr/>	
MOBILE DEVICES	143
PLATFORM AGNOSTICISM	144
GAMING ECOSYSTEM OF DEVICES	145
FORM FACTOR & FOLDABLE	146
Mobile Devices as More Than a Phone: Watches, Glasses, Wearables	147
CONSOLES	149

MULTIPLATFORM	150
PC GAMES	151
SETTING AND CONVERGENCE	152
CLOUD GAMING	153
ON BANDWIDTH	155
STREAMING SERVICES AND THE CONVERGENCE OF LINEAR AND NON-LINEAR MEDIA	158
INTERVIEW WITH MIKE VERDU: THE FUTURE OF PLATFORMS	159
WRAP UP	165
Wrap Up on Devices and Platforms	165
NOTES	165
CHAPTER 6 ■ Input and Feedback Mechanisms	167
MOUSE AND KEYBOARD	168
CONTROLLERS	169
GESTURES	170
EYE TRACKING AS INPUT	171
Q AND A WITH ANAND SRIVATSA OF TOBII: THE FUTURE OF INPUT MECHANISMS	173
CAMERAS	178
DRONES	179
FINGER TAPS	180
MORE ADVANCED ANATOMICALLY INTEGRATED INPUT	181
THOUGHT CONTROL	181
SPEECH	183
HAPTIC FEEDBACK	186
DISPLAYS	187
GLASSES AND VR HEADSETS	188
CONTACTS AND RETINA PROJECTION	191
WRAP UP ON DEVICES AND INPUTS	192
NOTES	193

CHAPTER 7 ■ Business Models	195
RETAIL DISTRIBUTION OF GAMES	195
DIGITAL DISTRIBUTION OF GAMES	196
FREE TO PLAY	197
IN APP ADVERTISING	199
CARRIER BILLING AND REGIONAL PAYMENT SYSTEMS	201
REGIONAL AND SACHET PRICING	202
eSPORTS	203
REAL MONEY GAMBLING	206
PAID TO PLAY	207
PLAY2EARN	207
THE VALUE OF PLAYER DATA	208
THE BUSINESS OF CREATION	209
THE EVOLUTION OF GAMING LEGAL MATTERS	210
INTERVIEW WITH KIMBERLY CORBETT: PUBLISHING FOR THE FUTURE	211
Publishing for the Future	212
REGULATIONS AND WRAP UP	216
The Effect of Regulations on Business Models	216
NOTES	220
CHAPTER 8 ■ Data and Analytics	221
DATA GATHERING	223
DATA PROCESSING	225
DATA ANALYSIS IN REAL TIME	225
DATA —> AI BEHAVIORS AND RESPONSES	227
DATA VISUALIZATION	227
INTERVIEW WITH ROB FINK: THE FUTURE OF DATA	229
DATA OWNERSHIP	234
Data Ownership: People, Corporations, Governments, DAOs	234
Who owns data?	234
Using Big Datasets to Create Content	235

Procedural Content Generation	238
Using Data to Generate Music	240
AI Helping Write and Find Bugs in Code	240
AI and ML to Aid Game Content Design	242
Helping Artists Make Art	242
Using Games to Train AI	243
WOW Event with a Contagion “Corrupted Blood Incident”	244
Data and Analytics Wrap Up	245
The Coming Impact of Big Data	247
NOTES	248
CHAPTER 9 ■ Artificially Intelligent Characters	251
<hr/> VIRTUAL CHARACTERS TAKE OVER THE WORLD. SOON ON AI CHARACTERS	251
BUILDING AI COMPANIONS	253
The Character Visuals	256
The Dialog	257
TEXT TO SPEECH	258
INDISTINGUISHABLE FROM REAL HUMANS	261
AVATARS	264
THE FUTURE OF AVATARS	265
ARTIFICIAL AND INTELLIGENT CHARACTERS WRAP UP	267
NOTES	268
CHAPTER 10 ■ The Future of Game Development	269
<hr/> THE ACT OF CREATION	269
CROWDSOURCING AND NFT SALES	272
INTERVIEW WITH MAURICO LONGONI: THE FUTURE OF USER-GENERATED CONTENT	273
HITS	278
Hits vs. Games	278
INTERVIEW WITH THEA CHOW: BUILDING THE BEST IN THE WORLD	281

TOOLS AND TECHNIQUES	287
Better Engineering Tools	287
Content Creation Tools	289
Increasing Competition for Talent	291
Increasing Competition for Licenses	292
Distributed Teams	293
Independent Contractor and Unionized Models of Talent	294
DAO	295
INTERVIEW WITH ALEXANDRIA SEPULVEDA: THE FUTURE OF REGULATION	297
INCREASED COMPLEXITY	300
Increasing Complexity of Publishing and Distribution	300
Localization & Culturalization	302
Adherence to Local Custom & Regulations	304
Local Publishing and Community Management	304
Forecasting	305
On Bots and ID	305
Wrap up on the Future of Game Development	309
NOTES	310
CONCLUSIONS, 311	
INDEX, 313	