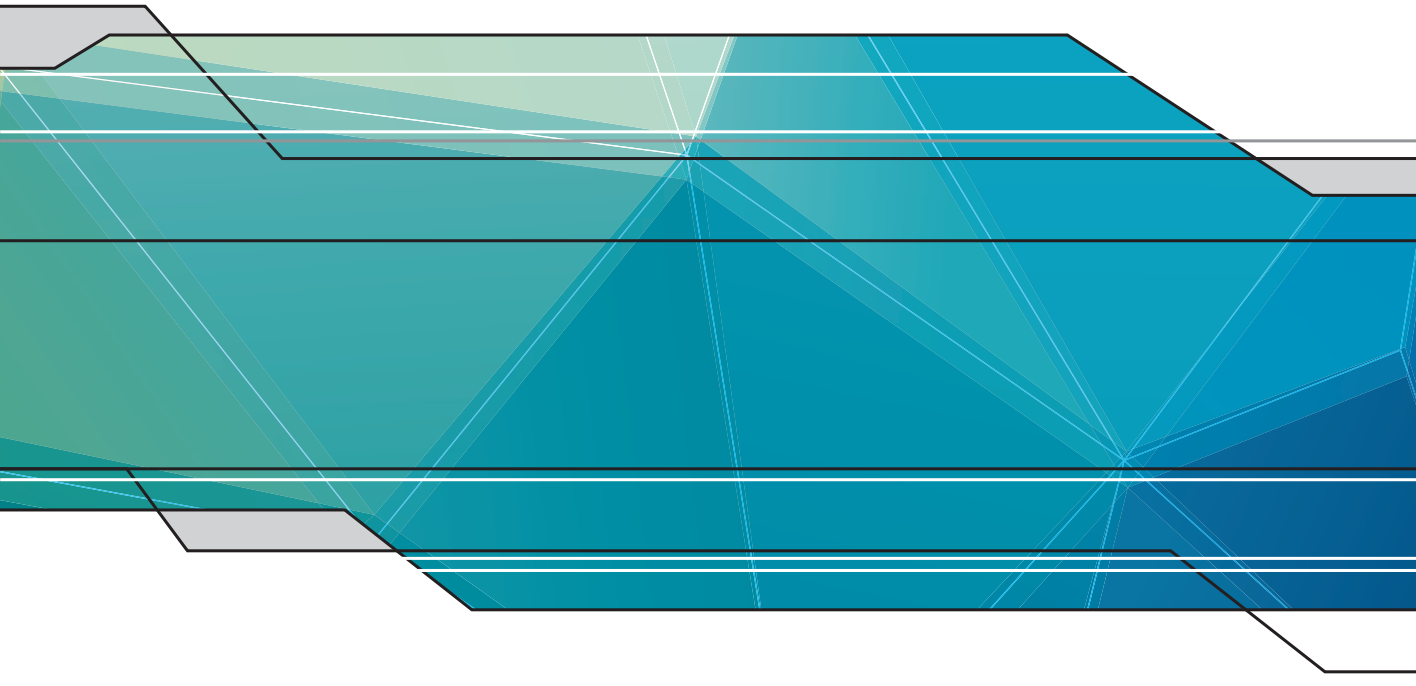
Fundamentals

of Game Design Third Edition



Ernest Adams
Founder of the IGDA

New Riders

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FUNDAMENTALS of Game Design

THIRD EDITION

Ernest Adams

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FUNDAMENTALS OF GAME DESIGN, THIRD EDITION
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To Mary Ellen Foley, for love and wisdom.

Omnia vincit amor.

"In this updated edition of *Fundamentals of Game Design,* Adams adds much to what was already a thorough look at game design in all its varieties. The result is a veritable feast of design lessons sure not only to satisfy the budding designer's appetite, but also to refine her palate."

—Ian Bogost, Georgia Institute of Technology

"*Fundamentals of Game Design* was already an essential book for designers. Adams provided a solid foundation for new designers to build on, by offering clear, pragmatic advice, exercises and wisdom to a subject often shrouded in mystery. This updated version is a must read for game designers of all levels of experience."

—Adam Mayes, Subject Responsible for Game Design,
University of Uppsala, Sweden

"Ernest writes in a way that is very down to earth and approachable to students. It is obvious that he has 'been there and done that' and his real-world, unpretentious approach to the material is what makes this text so accessible."

—Andrew Phelps, Rochester Institute of Technology

Acknowledgments

It would be a rare developer indeed who had worked on all the kinds of games addressed in this book, and certainly I cannot make that claim. When it came time to speak about subjects of which I had little direct experience, I relied heavily on the advice and wisdom of my professional colleagues. I owe particular gratitude to

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Suggestions, corrections, and even complaints are always welcome; please send them to ewadams@designersnotebook.com.

About the Author

Ernest Adams is a game design consultant and part-time professor at University of Uppsala Campus Gotland in Sweden. He lives in England and holds a Ph.D. in Computer Science from Teesside University for his contributions to the field of interactive storytelling. In addition to his consulting and teaching, he gives game design workshops and is a popular speaker at conferences and on college campuses. Dr. Adams has worked in the interactive entertainment industry since 1989, and he founded the International Game Developers' Association in 1994. He was most recently employed as a lead designer at Bullfrog Productions, and for several years before that he was the audio/video producer on the *Madden NFL* line of football games at Electronic Arts. In his early career, Dr. Adams was a software engineer, and he has developed games for machines from the IBM 360 mainframe to the present day. He is the author of five other books and the "Designer's Notebook" series of columns on the *Gamasutra* developers' webzine. His professional website is at www.designersnotebook.com.

About the Technical Editor

Tobi Saulnier is founder and CEO of 1st Playable Productions, a game development studio that specializes in design and development of games tailored to specific audiences. Games developed by 1st Playable span numerous genres to appeal to play styles and preferences of each group and include games for young children, girls, middle schoolers, and young adults, and some that appeal to broad audiences. The studio also creates games for education. Before joining the game industry in 2000, Tobi managed R&D in embedded and distributed systems at General Electric Research and Development, where she also led initiatives in new product development, software quality, business strategy, and outsourcing. She earned her BS, MS, and Ph.D. in Electrical Engineering from Rensselaer Polytechnic Institute.

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INTRODUCTION

This is the third edition of *Fundamentals of Game Design,* a series of books that began ten years ago with *Andrew Rollings and Ernest Adams on Game Design.* This version has been updated and reorganized to reflect the latest changes to games, game technology, and even the gamers themselves.

Since the previous edition of *Fundamentals of Game Design,* the game industry has undergone a transformation more profound than any other in its history. The explosive growth of casual games, free-to-play games, and mobile gaming has challenged the traditional console and PC game publishing models. It is now easier than ever to build a video game thanks to middleware such as Unity and the many free tools for making art, animation, and audio. How we play has changed too. Most input devices have three-axis accelerometers to detect player movements, and the Kinect camera-based motion-capture device from Microsoft is just about to enter its second generation. (It was still called "Project Natal" in the previous edition of this book!)

In order to reflect all these changes, I have added four new chapters: Chapter 3, "The Major Genres," a brief overview of game genres; Chapter 4, "Understanding Your Player," which is about different kinds of players and their motivations and preferred play styles; Chapter 5, "Understanding Your Machine," a general overview of the different game platforms and how players use them; and Chapter 6, "Making Money from Your Game," which is about the various business models you can use to earn money as a game developer.

In order to make room for all this new material, the old Part Two from the second edition, which contained chapters about the individual game genres, has become a series of inexpensive e-books. The e-books are named *Fundamentals of <genre name> Design,* so the second edition's Chapter 16, "Sports Games," has been updated and now is an e-book called *Fundamentals of Sports Game Design.* I have also broken out shooter games and music games from action games as separate genres. All of these e-books are available from the Peachpit website at www.peachpit.com/ernestadams.

Two things set this book apart from its competitors: First, *Fundamentals of Game Design, Third Edition* is aimed squarely at designing complete, commercial video games. It's not an esoteric book of theory, and it tries to cover the whole of the player's experience, not just the gameplay or the mechanics. Second, it doesn't contain a lot of interviews with famous designers. Interviews can spice up a book with entertaining anecdotes, but I prefer to use that space for practical advice to the working designer or design student.

Fundamentals of Game Design is entirely about game design. It does not cover programming, art, animation, music, audio engineering, or writing. Nor is it about project management, budgeting, scheduling, or producing. However, it does refer to all these things, because your design decisions will affect them all significantly. A budding game designer should learn something about all these subjects, and I encourage

you to consult other books to broaden your education as much as you can. All the greatest game designers are Renaissance men and women, interested in everything.

Most chapters end with two sections called "Design Practice Exercises" and "Design Practice Questions." The exercises are intended for your instructor to assign to you (or for you to do on your own, if you're not a student). The questions are ones that you should ask yourself about the game that you're designing. Deciding on the answers to these questions is the essence of game design.

Whom Is This Book For?

TIP To get the most out of the book while you're actually working on a game design, be sure to ask yourself the questions at the end of most chapters.

This book is aimed at anyone who is interested in designing video games but doesn't know how to begin. More specifically, it is intended for university students and junior professionals in the game industry. Although it is a general, introductory text, more experienced professionals may find it a useful reference as well.

My only explicit prerequisite for reading the book is some knowledge of video games, especially the more famous ones. It would be impossible to write a book on game design for someone who has never played a game; I have to assume basic familiarity with video games and game hardware. For a thorough and deeply insightful history of video games, read Steven Poole's *Trigger Happy: Videogames and the Entertainment Revolution* (Poole, 2004).

I do expect that you are able to write succinctly and unambiguously; this skill is an absolute requirement for a game designer, and many of the exercises are writing assignments. I also expect you to be familiar with basic high school algebra and probability; you'll find this especially important when you study the chapters on core mechanics and game balancing.

The book assumes that you are designing an entire game by yourself. I have two reasons for taking this approach. First, to become a skilled game designer, you should be familiar with all aspects of design, so I cover the subject as if you will do it all. Second, even if you do have a team of designers, I cannot tell you how to structure or manage your team beyond a few generalities. The way you divide up their responsibilities will depend a great deal on the kind of game you are designing and the skills of the individuals on the team. From the standpoint of teaching the material, it is simplest to write it as if one person will do all the work.

How Is This Book Organized?

Fundamentals of Game Design, Third Edition consists of 17 chapters, plus the companion e-books devoted to the individual genres (see www.peachpit.com/ernestadams for more details). The first six chapters introduce games, game design, genres, players, machines, and business models for making money from games. The next ten chapters delve deeply into the different aspects of a game and how to design them:

worlds, characters, mechanics, stories, the user experience, and many other issues. The final chapter addresses some of the special design considerations of online gaming.

Chapter Overviews

Chapter 1 introduces games in general and video games in particular, including formal definitions of the terms *game* and *gameplay*. It also discusses what computers bring to games and lists the important ways that video games entertain.

Chapter 2 introduces the key components of a video game: the core mechanics, user interface, and storytelling engine. It also presents the concept of a gameplay mode and the structure of a video game. The last half of the chapter is devoted to the practice of game design, including my recommended approach, player-centric design.

Chapter 3 explains what game genres are and gives a brief introduction to the major genres of games.

Chapter 4 discusses players. It addresses the psychological traits that cause players to prefer different kinds of games. It also reviews key demographic categories—men and women, boys and girls—and looks at the phenomenon of gamer dedication.

Chapter 5 is about the different types of machines people play games on: home consoles, personal computers, and portable devices, and how designing and developing for these devices varies.

Chapter 6 examines the various business models by which you can make money from your game. These include traditional direct payment models such as retail sales and subscription-based games, and new indirect payment models such as freemium and advertising-supported games.

Chapter 7 is about game concepts: where the idea for a game comes from and how to refine the idea. The audience and the target hardware (the machine the game will run on) both have a strong influence on the direction the game will take.

Chapter 8 speaks to the game's setting and world: the place where the gameplay happens and the way things work there. As the designer, you're the god of your world, and it's up to you to define its concepts of time and space, mechanics, and natural laws, as well as many other things: its logic, emotions, culture, and values.

Chapter 9 addresses creative and expressive play, listing different ways your game can support the players' creativity and self-expression.

Chapter 10 addresses character design, inventing the people or beings who populate your game world—especially the character who will represent the player there (his avatar), if there is one. Every successful entertainer from Homer onward has understood the importance of having an appealing protagonist.

Chapter 11 delves into the problems of storytelling and narrative, introducing the issues of linear, branching, and foldback story structures. It also discusses a number of related issues such as scripted conversations and episodic story structures.

Chapter 12 is about user experience design: the way the player experiences and interacts with the game world. A bad user interface can kill an otherwise brilliant game, so you must get this right.

Chapter 13 discusses gameplay, the heart of the player's mental experience of a game. The gameplay consists of the challenges the player faces and the actions he takes to overcome them. It also analyzes the nature of difficulty in gameplay.

Chapter 14 introduces the five types of core mechanics: physics, economics, tactical maneuvering, progression, and social interactions. It examines each of these (except physics) and looks in depth as internal economies. These govern the flow of resources (money, points, ammunition, or whatever) throughout the game.

Chapter 15 considers the issue of game balancing, the process of making multiplayer games fair to all players, and controlling the difficulty of single-player games.

Chapter 16 introduces the general principles of level design, both universal principles and genre-specific ones. It also considers a variety of level layouts and proposes a process for level design.

Chapter 17 looks at online gaming, which is not a genre but a technology. Online games enable people to play with, or against, each other in numbers from two up to hundreds of thousands. Playing against real people that you cannot see has enormous consequences for the game's design. The second half of the chapter addresses the particular problems of persistent worlds like *World of Warcraft,* and some of the social problems that can occur in online games that you will have to prepare for.

The Glossary defines many of the game design terms that appear in italics throughout the book.

The Companion E-Books

As mentioned earlier in the introduction, the old Part Two from the second edition, which contained chapters about the individual game genres, has become a series of inexpensive e-books. All of these e-books are available from the Peachpit website at www.peachpit.com/ernestadams.

Two of these e-books are available for free with this book; the details of that are in the next section, "A Note on the Downloadable Files."

Fundamentals of Shooter Game Design discusses designing for this huge and specialized market. It examines both the frenetic deathmatch style of play and the stealthier, more tactical approach.

Fundamentals of Action and Arcade Game Design is about the earliest, and still most popular, genre of interactive entertainment: action games. This genre may be divided into numerous subgenres such as fighting games, platformers, and others, which the chapter addresses in as much detail as there is room for. It also looks at the most popular hybrid genre, the action-adventure.

Fundamentals of Music, Dance, and Exercise Game Design addresses a popular new genre that has made gaming more accessible to new players than conventional action games are.

Fundamentals of Strategy Game Design discusses another genre that has been part of gaming since the beginning: strategy games, both real-time and turn-based.

Fundamentals of Role-Playing Game Design is about role-playing games, a natural outgrowth of pencil and paper games such as *Dungeons & Dragons*.

Fundamentals of Sports Game Design looks at sports games, which have a number of peculiar design challenges. The actual contest itself is designed by others; the trick is to map human athletic activities onto a screen and control devices.

Fundamentals of Vehicle Simulation Design addresses vehicle simulations: cars, planes, boats, and other, more exotic modes of transportation such as tanks.

Fundamentals of Construction and Simulation Game Design is about construction and management simulations in which the player tries to build and maintain something—a city, a theme park, a planet—within the limitations of an economic system.

Fundamentals of Adventure Game Design explores adventure games, an old and unique genre of gaming that continues to earn a great deal of critical attention by its strong storytelling and its visual aesthetics.

Fundamentals of Puzzle and Casual Game Design examines puzzle games and casual games in general.

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CHAPTER 4

Understanding Your Player

The player-centric approach that this book teaches demands, above all else, that you understand your player, not merely as part of an audience of consumers, but as an individual who has an emotional connection to your game and, indirectly, to you. We often think that we know what players want from games, but much of this knowledge is intuitive and based on what *we* want from games as players. In this chapter, you'll learn about the characteristics of certain kinds of players. We'll begin with a way of looking at what kinds of feelings different players like to experience as they play. Next we'll examine several familiar demographics: men and women, boys and girls, dedicated ("hardcore") players, and casual ones. All this information will help you define what kinds of people you want to entertain and, in consequence, what kind of game you should build to entertain them.

VandenBerghe's Five Domains of Play

Jason VandenBerghe is a Creative Director at Ubisoft, and he has been studying issues of player motivation for several years. In his lecture "The 5 Domains of Play: Applying Psychology's Big 5 Motivation Domains to Games," delivered at the 2012 Game Developers' Conference (VandenBerghe, 2012), VandenBerghe proposed a way of understanding different kinds of players and why they choose the games that they do. You can apply this as part of the player-centric approach to game design by thinking about your representative player in these terms. In the next few sections we'll take a look at VandenBerghe's five domains of play.

The Five-Factor Model

VandenBerghe's work is based on a well-known psychological model of human personality traits called the Five Factor Model. This concept, also known as "The Big Five," explains personality traits in terms of five nonoverlapping domains: *openness to new experiences, conscientiousness, extraversion, agreeableness,* and *neuroticism* (which is defined as a tendency to experience negative emotions). The names of these traits produce a convenient acronym: OCEAN.

NOTE This is only a brief introduction to the subject of personality modeling. There are many books and scholarly articles available if you want to study it more closely. The book *Personality Traits*, by Gerald Matthews et al. (Matthews, 2009), looks into the theory of personality traits and the history of efforts to define them, including The Big Five.

The opposite ends of these scales are resistance to new experiences, lack of conscientiousness, introversion, disagreeableness, and stability. After thousands of surveys, the model has proven to be remarkably stable across ages and cultures.

These traits produce observable patterns of motivation and behavior: People who are open to new experiences seek them out; people who are agreeable seek social harmony; and so on. Based on his understanding of the Five Factor Model, VandenBerghe proposed that we play games to satisfy the same motivations that we feel in real life, and this is particularly true if we are unable to satisfy them in real life. Play gives us an outlet.

The Five Domains of Play

VandenBerghe correlated the five traits of the Five Factor Model with five domains of play that might fulfill them—which can also be thought of as aspects of a game that players might be motivated to seek out. Here are his five domains of play and what they mean for understanding a player.

- **Novelty.** This correlates with the first trait, openness to experience. Players who seek novelty like games that include a lot of variety and unexpected elements. People who don't like novelty seek familiarity instead: games that offer them a comforting sameness. These players might prefer *Words with Friends* to a science fiction extravaganza set in a strange world with strange rules.

- **Challenge.** VandenBerghe correlates a desire for challenge—and perhaps more specifically effort and control—with the trait of conscientiousness. High-challenge players prefer games that are difficult and require precision to win. Their conscientiousness drives them to act, to accomplish things, and perhaps to try to complete everything in a game. Low-challenge players like sandbox games and others in which the player is free to fool around without being required to achieve something.

- **Stimulation.** Particularly via social engagement, this naturally correlates with extraversion. These players enjoy party games and others that involve interacting with other players. Those who prefer to avoid stimulation prefer games they can play alone, games that let them be the only real person in the game world.

- **Harmony.** Chapter 1, "Games and Video Games," described harmony as a quality of a game, the feeling that all parts of the game belong to a single, coherent whole. In this case, however, VandenBerghe is referring to *social* harmony and correlates this motivation with the personality trait of agreeableness. He sees cooperative games such as *Little Big Planet* as good examples of games that offer social harmony, and strictly competitive games, such as the *Street Fighter* series, as ones that offer this quality's opposite, conflict.

- **Threat.** This domain is the most peculiar one because players' reactions to it are the opposite of what you might expect. The game quality of threat (an element of danger, or frightening content—anything that is likely to generate unpleasant emotions) is popular with people who have high neuroticism scores in OCEAN tests.

In other words, people who have a tendency to experience negative emotions actually seek out those emotions. He includes players of the survival horror genre in this category.

In his talk at the Game Developers' Conference, VandenBerghe further subdivided each of these domains into six "facets." For example, threat is really composed of six other qualities of games: tension, provocation, gloom, humiliation, addiction, and danger. However, there isn't room to discuss all 30 facets of games here. To learn more about them, please download his slides at www.darklorde.com/2012/03/the-5-domains-of-play-slides.

Bear in mind that these are not binary, on-off qualities. They are continuums, sliding scales. What's more, they don't describe what players *always* like; our moods change. Sometimes we might want high-energy action, and at other times we might like a slower-moving adventure game with lots to look at.

VandenBerghe's point, and mine, is that by keeping these qualities of games in mind—these domains of play that people seek out—we can decide as designers how we want to entertain them: what experiences our games will provide.

Another Domain: Attitudes to Storytelling

One question that VandenBerghe didn't address, but that makes a big difference among players, is how they feel about stories in games. Some are dogmatically opposed to the inclusion of story-like material in a game. They dislike any narrative content such as cut-scenes, and they think of the game primarily as a system of rules that they must learn to master. The story merely interferes with their enjoyment of this process. These players prefer tactical or strategic immersion in the game (as we explained in the section called "Immersion" in Chapter 1). They have no interest in narrative immersion. To them, the non-player characters (NPCs) in the game are not people to be interacted with but symbols to be manipulated. These players prefer games of pure action or strategy, or multiplayer games that make no effort to tell a story because the main point of the game is to interact with the other players. Some genres are more suited to storytelling than others, too. Sports games, for example, gain little from the inclusion of storytelling.

For other players, the story is not only part of the game, it is the main reason for playing the game. They believe in its characters and are concerned about what happens to them. The events in the game are a part of a plot to which they are contributing as active participants. They may even care less about the gameplay than they do about the story, using cheats or walkthroughs to find out what happens without having to overcome all the challenges themselves.

Few players are this extreme, however. Most enjoy a certain amount of storytelling in a game, so long as it is coherent with the gameplay and doesn't slow them down. At the very least they find a little framing narrative to be useful in establishing context: setting the scene and explaining who the protagonist is, what she is trying to achieve, and why.

As you think about your plans for the game and your target audience, keep in mind that some audiences loves stories passionately, some hate them utterly, and many like a dash of storytelling with their gameplay. Decide which audience you want to serve, then check out Chapter 11, "Storytelling," which discusses how to include stories in games in detail.

Demographic Categories

As we saw in the previous section, the kinds of experiences that players like to have vary considerably, which accounts for the wide variety of games there are in the world. There are also significant differences among players by age and sex. The next few sections will explore these different demographic categories.

Men and Women

But what if the player is female?

—Sheri Graner Ray, *Gender Inclusive Game Design*

Women represent a large portion of the gamer market, a fact that runs counter to many stereotypes about video games. Audience research shows that in the United States, more adult women (31 percent) than teenage boys (19 percent) play video games, a statistic that may surprise you (Entertainment Software Association, 2013).

Men and women don't differ nearly as much as pop psychology would like us to believe. Few individuals conform completely to traditional stereotypes of masculinity and femininity, and men's and women's interests overlap considerably. In *Gender Blending: Confronting the Limits of Duality*, Holly Devor (Devor, 1989) quoted studies showing that as many as 50 percent of heterosexual women identified themselves as having been tomboys as children. Unfortunately, far too many game designers (and product designers in general) treat men and women as entirely different species with little in common.

GENDER INCLUSIVENESS

To attract women players, you don't have to make the game about stereotypically feminine interests such as fashion or shopping, any more than you have to make games about monster truck rallies to attract men. Rather, to make a game of interest to both sexes, you need to avoid including material that discourages one group or the other from playing. To make a game that both sexes will play, don't build content that will limit the interest of, or offend, either sex.

The biggest turnoffs for women are usually:

- Hypersexualized female avatars and other characters.
- Repetitive, monotonous play.
- Play without a meaningful goal. Simply racking up the highest score isn't enough.
- The solitary nature of single-player play. If you're making a single-player game, there is nothing you can do about this; it's just something to be aware of.

A number of people in the game industry are working to encourage the creation of more large games with adventurous female protagonists (like Lara Croft or Jade from *Beyond Good and Evil*). These efforts have met with a rather noisy backlash from a minority of men who, for reasons of their own, don't want such games to exist. You may safely ignore them; their assertions that men won't play games with female protagonists are simply not true, and in any case, it's not necessary to cater to men to make a popular game. If a game is good, they'll play it.

NOTE For further reading, check out *Gender Inclusive Game Design* by Sheri Graner Ray (Ray, 2003). She discusses these issues in considerable detail.

A FEW GENERALITIES

Having warned you not to treat men and women as polar opposites, this section offers a small number of generalities about how male and female play patterns tend to differ among Western men and women (the only group for which much research exists). These observations may not apply to women in Japan, China, Korea, or India—all important new markets for games.

- **Men and women like to learn differently.** Women generally like to know what will be expected of them before they proceed rather than be thrown into the deep end to sink or swim. The learn-by-dying approach of old arcade games—which still persists in many mobile games—is not popular with many female players. Be sure to include tutorial levels at the beginning to introduce the game to your player.
- **Men and women have different attitudes toward risk.** In a game, men are generally willing to experiment even if it means losing frequently. Women will often consolidate and preserve their achievements to avoid losing them again, even if a riskier strategy might reap larger rewards.
- **Women are more interested in people than things and like to socialize as part of their play experience.** This explains why online games are more successful than single-player games among female players: Online games allow the players to socialize. Facebook games, which encourage players to invite their friends to play, share resources, and compare achievements, have proven to be extremely popular with women even though generally they don't permit the same kind of multiplayer play that a persistent world does.
- **Men and women have different conflict resolution styles.** Women prefer that violence have a justification; fighting for its own sake is of little interest to them. They are not opposed to violence per se, but they like the violence to be given a

NOTE In the real world, women assume a large part of the responsibility for maintaining the social fabric, keeping people connected across families and communities. Social networks and even online video games have become part of how they do this.

context, such as a story. Women also like to use lateral thinking to find alternatives to brute-force approaches. Fighting games, war games, and shooters are more popular with men than they are with women. On the other hand, role-playing games (RPGs) *are* popular with women even though they include a lot of combat because the combat has a purpose and is part of a larger aim, not an end in itself.

- **Women enjoy mental challenges and finding elegant solutions to problems**. This is reflected by the popularity of puzzle games among women.

- **Women like to customize their avatars.** Men often treat their avatar characters as puppets rather than people, someone simply to be controlled for the sake of winning the game. Women tend to identify with their avatars more. A woman uses the avatar as a means of self-expression and likes to be able to make the avatar look like herself or a fantasy version of herself. (These attitudes vary somewhat by age and game genre, however. Male players can spend a great deal of time tweaking their characters in an RPG, because that's the point of the game.)

- **Men have more leisure time and money to spend on gaming.** Particularly as they grow into young adulthood, male players are likely to treat gaming as a serious hobby—or drop it altogether in favor of something else. Men are generally more willing to spend $60 on a video game on the first day of its release than women are. The new casual business models (see Chapter 6, "Making Money from Your Game") have proven to be enormously popular with women because they don't require the player to risk a lot of money up front, and permit them to pay for a game in small transactions. Men are also more likely to devote large blocks of time to gaming. Women's time tends to be more fractured, especially if they have children, and they are much more likely to play for half an hour to two hours than they are to play for five hours at a time. Some women will play just a much time per week as men do, just in smaller chunks. This is something to keep in mind if you make a game that has a long distance between the save points. Many social network games allow players to stop at any point without losing any progress.

DESIGN RULE Women Are a Market, Not a Genre

Do not try to design a "women's game" simply by creating features that address these generalities. Rather, design an intrinsically interesting game and bear these issues in mind as you consider the effect that your design decisions will have on your potential customer base.

Again, remember that these are generalities. There are plenty of devoted female players who buy expensive console games, and there are plenty of male players who are parents of young children and have just enough time for an inexpensive puzzle game a couple of times a day. The main reason to be aware of these factors is not so that you can make a game "for women" or "for men," but so that you will know whether your game is likely to attract large numbers of women or men—or to discourage them from playing.

MALE AND FEMALE PLAYERS AND CHARACTERS

Early in the history of video games, some designers were concerned that male players (who used to make up the majority of the market) would be unwilling to play with female avatars: Men might find identifying with a female character somehow threatening. Lara Croft (**Figure 4.1**) demonstrated that this is not a problem, at least as long as the character is acting in a role that men are comfortable with. Lara engages in traditionally masculine activities, so men are happy to enter the game as Lara. They might be less comfortable with an avatar who engaged in more traditionally feminine activities.

FIGURE 4.1
Lara Croft (seen here in *Tomb Raider: Underworld*) is adventurous but hypersexualized.

Women, of course, are expected to identify with male heroes routinely, a state of affairs predating computer games. Until recently, few books, movies, TV shows, or video games about adventurous activities featured female heroes, and they're still very much in the minority. Women justifiably get tired of playing male heroes, and they appreciate the opportunity to play as female characters. At the same time, however, women aren't that interested in playing male-fantasy characters like Rayne from the *BloodRayne* series; such characters are so extreme that it discourages identification with them. Heather from *Silent Hill 3* (**Figure 4.2**) provides a better example; she looks like a real woman, not a walking lingerie advertisement.

FIGURE 4.2
Heather, from *Silent Hill 3*, looks like a real person.

TIP Many designers in the game industry are interested in creating new female adventure heroes to meet the demand from women who like to play AAA games but are tired of the same old male protagonists. For inspiring stories of real-life women, see the Facebook or Pinterest pages called *Heroic Women to Inspire Game Designers*.

In general, male players don't actually identify with their avatars as much as female players do. Men are more willing to take the default avatar provided by the game and happily run with it. Women tend to see an avatar as an extension of their own personalities and an opportunity for self-expression (or, in a game with a story, as a character to care about). One of the best things you can do to make your game more attractive to female players is to permit them to customize the avatar—to choose his or her clothes, accessories, and weapons (if any). RPGs, especially online ones, offer some of the most powerful customization features.

When possible, it's nice to give the player a choice of male or female avatars. This requires some care to do well, however. A woman is not just a man with a different body; to do it properly you should also rewrite the dialogue to make sure that when a female avatar speaks, she sounds like a woman speaking, not just a woman reading lines written for a man. Men and women have different communication styles.

Boys and Girls

Video games for children differ from those for adults, just as books and television shows for them do. Nor is there one single type of game appropriate for children—their motor and cognitive skills change throughout childhood. Here are the commonly recognized age categories:

- Preschool and kindergarten (ages 3 to 6)
- Early elementary (ages 5 to 8)
- Upper elementary (ages 7 to 12, the tweens)
- Middle and high school (13 and up, the teens)
- Late teens to mid-20s. Although these people are no longer children, their brains are still developing.

TIP If you want to learn more about childhood development, study the work of psychologist Jean Piaget. His theories of cognitive development have been hugely influential on education and many other fields.

Each of these groups has, on the whole, its own interests and abilities, reflecting that their brains and physiology are different than adults'. As with gender, any general guidelines here have plenty of individual exceptions. The key is to remember, as researchers Piaget and Montessori have illustrated, it is an error to see children as less skilled, less knowledgeable, mini-adults.

In western cultures children tend to aspire to adulthood and its privileges, and avoid anything made for an age group younger than themselves. As a general rule, entertainment made for children of a certain age group will actually feature characters older than the players. The opposite is true in other cultures, such as in Japan.

If you're planning to make games for children, consider the following issues.

- **Hand-eye coordination.** Young children's motor skills are poorly developed at first, while those of teenagers and twentysomethings are at their peak; these skills decrease again further into adulthood. You must be aware of these differences in hand-eye coordination skill and take them into account when designing for children.
- **Logic development.** Children enjoy puzzles just as adults do, but for younger children, the puzzles should reflect their development of logical reasoning, which comes to a peak between the ages of 6 and 7, depending on the child. A puzzle game aimed at this age or below can accommodate the range of abilities by offering several difficulty levels (which you should verify by play-testing). When such puzzles are compared to those for an adult, the number of elements involved must be fewer, and the chain of reasoning required must be shorter in order for the puzzle to provide the same amount of engagement for the child.
- **Systematic thinking.** Children start to develop systematic thinking between the ages of 12 and 14. Keep this in mind before you add complex systems to games aimed at ages younger than this. A simple systems optimization problem that you may find easy is something that a child this age is just beginning to explore.

- **Immediate versus long-term goals.** Games for older players often require the player to go through many steps before she reaches a long-term objective. Children are more focused on the moment-to-moment process and game play, and appreciate feedback more frequently. You don't have to have a saccharine character say "Good job!" every single time they do something right, but the priority should be on the moment-to-moment experience and less on overarching goals.

- **Visual design.** Young children don't have as much experience as adults do at filtering out irrelevant details, so keep the user interfaces in games for children simple and focused; make them deep rather than broad.

- **Linguistic complexity.** Don't talk down to children, but use age-appropriate vocabulary and syntax. Long sentences full of words that they don't know turn off kids. Short sentences made up of carefully chosen words can still express quite sophisticated ideas; for an example, read Saint-Exupéry's *The Little Prince*.

- **Experimentation.** Children have an endless capacity for experimenting, and they tend to want to jump in and try everything, which means they are clicking on everything they see. This allows you as a designer to focus on creating game worlds that reward this type of exploration.

- **Reading.** Children, especially young ones, have a limited reading ability, and even well into their teens some prefer not to spend a lot of time reading. You can use voiceover narration for important information and count on children to use their imaginations to fill in many story details that you might need to explain to an adult.

NOTE For further reading on the Kisses of Death, consult Carolyn Handler Miller's book *Digital Storytelling, Second Edition: A Creator's Guide to Interactive Entertainment* (Miller, 2008).

- **Appropriate content.** This tricky area actually has as much to do with what parents want for their children than what the children want for themselves. Children's entertainment needs to address children's concerns, whereas sexuality and high finance are not relevant to their world. This is one of the reasons the early Harry Potter books are so brilliant; they capture children's concerns perfectly. Kids easily identify with Harry's feelings of alienation, being misunderstood by his family, and his sense of latent but untapped promise. Even the emphasis on food in the early books is significant; for younger children, food is a major interest and a big part of their daily routine. A great way to remember themes of childhood is to read popular literature aimed at the age you are creating a game for.

Carolyn Handler Miller, a longtime developer of entertainment for children, has devised a list of "Seven Kisses of Death," features that drive away children rather than appealing to them. The Kisses of Death are widely held misconceptions about what children like, generally founded on what adults *want* them to like.

- **Death Kiss #1: Kids love anything sweet.** Kids love *some* things that are sweet, some of the time, but not anything and not all the time. Think about the Warner Brothers cartoons: wisecracking Bugs Bunny; Sylvester the Cat's endless efforts to eat Tweety Bird; Wile E. Coyote's similarly endless efforts to kill the Roadrunner;

homicidal Yosemite Sam and rabbit-cidal Elmer Fudd. Kids love these cartoons—which actually include a sneaky moral about violence redounding upon the violent—but there's nothing remotely sweet about them.

- **Death Kiss #2: Give them what's good for them.** Kids are forever being told what's good for them. They're made to eat food they don't like; they're made to go to school; they're made to do chores, learn to play the piano, and a million other things supposedly meant to build their characters or strengthen their bodies or minds. Most of this is reasonable and necessary, but not in an entertainment context. How would you, as an adult, like to be fed a dose of propaganda with every book and TV show you saw? You wouldn't, and neither do kids. When they want to relax and have fun, they don't want a dose of medicine with it.

- **Death Kiss #3: You've just got to amuse them.** This is the opposite of Death Kiss #2; it cynically assumes that kids are less discriminating than adults, so any old fluff will do. It won't. Kids can't tell the difference between good acting and bad acting, and they aren't experienced enough to recognize clichéd plot lines, but they won't put up with just anything. Walt Disney realized this, and so do the writers and animators who continue his work; Disney movies are multilayered even though they are for children. So, too, are the best children's books. Meaningful content will keep a child's attention longer than trivial content.

- **Death Kiss #4: Always play it safe!** This is a variant of the "sweet" Death Kiss. Some people, in an effort to avoid violent or controversial content, go overboard and try to eliminate anything that might frighten or disturb a child or even raise her pulse. This inevitably results in bland, dull entertainment. Again, look at Disney films for good counter-examples: Dumbo's separation from his mother; Snow White's terrified flight through the forest; the outright murder of Simba's father in *The Lion King*. These are not happy things, and that's OK. Gerard Jones argues in his important treatment of the subject *Killing Monsters: Why Children Need Fantasy, Super Heroes, and Make-Believe Violence* (Jones, 2002) that learning to deal with threatening situations constitutes an important part of growing up.

- **Death Kiss #5: All kids are created equal.** There's no such thing as a single children's market. Kids' interests and abilities change too quickly to lump them all into a single category. If you're planning to make a game for ages 6 to 10 and the publishers decide they want a game for ages 8 to 12, you'll have to redesign the game. One-size-fits-all definitely doesn't work with kids.

- **Death Kiss #6: Explain everything**. Kids are much happier with trial-and-error than adults are, and they don't want long introductions explaining how to play the game. They want to dive in and play. Above all, avoid talking heads with a lot of jabber. Adults naturally tend to assume that kids need things explained to them, but it's not true of video game worlds in which they can't hurt themselves or anything else. Keep exposition—and especially anything that smacks of teaching them—to a minimum.

■ **Death Kiss #7: Be sure your characters are wholesome!** Wholesome equals boring. We wouldn't put up with bland white-bread characters in our entertainment; why should we make children do so? You don't have to introduce serial killers, but create real characters with their own personal foibles. *Sesame Street* famously offered a variety of characters, many specifically designed to represent moods or attitudes familiar to young children: greedy, grouchy, helpful, and so on.

Games for Girls

The game industry has always been overwhelmingly dominated by white men, and male developers have tended to design games that they themselves would like (or would have liked when they were boys). Whether for societal or genetic reasons, boys' and girls' interests diverge more widely from one another than men's and women's do; on their respective bell-shaped curves, the means are farther apart. At certain ages, many boys and girls may flatly reject things (clothing, toys, or other symbols) associated with the opposite sex.

For most of the game industry's history, no one made an effort to design games specifically for girls or even tried to think much about what kinds of games girls would like. It was a catch-22 situation: If you proposed a game for girls to a publisher, you would be met with the reply, "Girls don't play video games." But, of course, the reason girls didn't play video games was that there weren't many games they liked to play—or at least that was the general perception. (Further research showed that this was an unfounded stereotype; far more girls played games than people realized, even though no one was considering their interests.)

In the mid-1990s, a number of people realized that girls represented an untapped market, and several companies grew up to exploit it. Unfortunately, many of these early efforts were graphically poor and offered less value for the money than most other games. Girls want, and deserve, games just as good as those made for boys. More recently, several companies have started making games for girls again with more success. In the late 2000s the most notable was Ubisoft's *Imagine* series of games, inspired by the unexpected breakout success of *Imagine: Fashion Designer.* The subsequent series and its competitors covered a huge range of subjects as Ubisoft and other publishers sought to find out what this unexpected market wanted to play. Some of the most successful games are based on popular toy and book characters, some of which pre-date the *Imagine* era (for instance, Barbie, Bratz, and Nancy Drew), and all have earned huge success.

If you're interested in making games for this market, remember that the audience is *girls,* not women. Adult women are naturally more diverse than children and have a wider variety of interests. Don't assume that what applies to women also applies to girls generally.

MATTEL'S APPROACH

If you want to make games specifically for girls, as opposed to games that appeal to children of both sexes, you have to ask yourself what especially interests girls—and, perhaps more important, what does *not* interest girls. One way to assess this is to examine what girl consumers buy, read, and watch. As an example, you need look no farther than Mattel, manufacturer of *Barbie,* the single most famous toy for girls in the world. Mattel's great success developing games for girls results from its understanding of its target market. (Mattel doesn't publish software itself anymore; instead, it licenses its brands to others.)

Barbie's success derives partly from the proven, time-tested formula she follows and partly from a well-targeted market: Mattel aims *Barbie* at a core age group from 4 to 8 years old. After that, girls' interests change, and Mattel does not try for a one-size-fits-all approach. The company has no social agenda and makes no claim of political correctness.

JESYCA DURCHIN'S ADVICE

Jesyca Durchin owns the consulting company Nena Media (www.nenamedia.com), which creates media content for young girls, and she is a former executive producer for Mattel. At the 2000 Game Developers' Conference, she gave an extremely useful summary (Durchin, 2000) of what she had learned about how girls in this age group play games.

Girls Have a Wide Variety of Interests

It is vital to identify what type of girl is interested in your type of game. Girls are much more fragmented in their interests than boys. Girls change more rapidly, and their emotional and intellectual growth happens differently. A girl has different needs in her playtime almost every year of her childhood—loosely defined as being between ages 4 and 14.

Hinge Interactivity on Proven Play Patterns

A play pattern is a traditional and almost instinctual way a child approaches an object or an activity to entertain herself. Traditionally girls value the following:

- Fashion play
- Glamour play
- Nurture play
- Action/twitch play
- Collection play
- Adventure play
- Communication/social play

continues on next page

JESYCA DURCHIN'S ADVICE *continued*

As well as exercising their own imaginations, girls like to reproduce daily life in play. Barbie is a vehicle for projecting adult activities into a child's world. Don't be afraid of open-ended or non-goal-oriented play.

Here are a few more observations:

- **Girls like *stuff*.** Stuff is what the girl can collect, display, or take away from the product. It is incredibly important for the girl to feel there is a reason for her to play. In some ways, collecting stuff replaces the concept of scoring in traditional boy's software. Collecting each one of a variety of shells, for example, is more interesting than trying to achieve a high, but abstract, numerical score.
- **Create environments that are attractive to girls.** Girls like environments that are reality-based but are either beautiful or make sense to the story line. Symmetry and color coherency are important to girls. Not everything has to be pink, purple, and pretty, but each environment should give the girl the feeling of being in another place. Girls (and boys) are highly imaginative, and they create alternative story lines in their own heads. Be aware that the girl's imagination influences her view of your environment.
- **Girls appreciate sensual interfaces.** Girls tend to respond more positively to what is sometimes referred to as the sensual interface. They need colorful, sound-driven interfaces that "feel" good. The interface needs to feel magical and needs to have what I call the *brrrring* factor. Don't give girls a group of identical gray pushbuttons, no matter how logically organized they may be; give them buttons that ring and change shape and color.
- **Extend the play from existing toys or media into software.** Branding is becoming more and more important in the business of software. It is doubly important in the girl's software business because girls are still just getting involved in viewing the computer as an entertainment tool. Branding is important to rising above all the muck.
- **Don't be ashamed of your work.** If you're embarrassed by what you're doing, it will show. Do it wholeheartedly or don't do it at all. Girls can tell if you're ashamed of making games for them. If you're uncomfortable using terms like "hair play" or "relationship games," don't bother.

KAYE ELLING'S FIVE CS

Kaye Elling was creative manager at Blitz Games on the *Bratz* series, and in 2006, she gave an insightful lecture called "Inclusive Games Design" at the Animex festival in the UK (Elling, 2006). Elling proposed five characteristics of games, all beginning with the letter C, that designers should strive for to make them more inclusive and accessible to girls.

- **Characterization.** As Chapter 10, "Character Development," discusses, women (and girls) see avatars as someone who represents themselves rather than someone they simply control. Therefore, an avatar has to be someone girls can identify with, and to have no qualities they find distasteful.

- **Context.** Environments matter to girls, and they will be repulsed by environments that they find ugly or hostile. This advice concurs with Jesyca Durchin's thoughts in the sidebar "Jesyca Durchin's Advice."

- **Control.** Girls like to feel as if they are in control of the game, rather than that it is in control of them. The risk-and-reward style of gameplay appeals less to girls because they don't enjoy taking risks as much as boys do. They also dislike mechanics that harshly punish failure, because those mechanics discourage experimentation.

- **Customization.** Girls customize their mobile phones and other accessories more than boys do, so it makes sense that they would want to customize their games as well—especially their avatars. *Bratz: Rock Angelz* offered 686 different items of clothing, makeup, jewelry, and so on. The more desirable ones are unlockable rewards the player can earn for completing mini-games.

- **Creativity.** Creative play is a big part of what makes *The Sims* successful with girls and women. Creativity gives players a chance to express themselves and show off what they made to others. It's not confined to girl games by any means; even in *Halo 2* players can design unique clan badges.

TIP *Puzzle Quest* is a Nintendo DS RPG that works very well for both boys and girls. Players can choose a male or female avatar, and combat is characterized as puzzle-solving. When the player loses a battle, his avatar is not killed, but simply runs away and can try again later.

A FEW MISCONCEPTIONS

Because people see fewer girls than boys playing hardcore games, they tend to jump to conclusions about what girls want. This section corrects a few of these misconceptions.

- **Girls don't like computer games because computers are techie.** This is patently false. Although most girls and women generally are less fascinated by the technical details of computers than are boys and men, that doesn't discourage them from playing computer games any more than automotive specifications discourage them from driving cars.

- **Girls don't like violence.** No, what girls don't like is nonstop, meaningless violence. It's not so much that they're repulsed by it as that they're bored by it. It doesn't stimulate their imaginations. If you've seen one explosion, you've seen them all. Elling also points out that when violence is casual, sadistic, or excessively gory, it becomes brutality, and girls do not like brutality. When violence is defensive, provoked, or cartoony, it is more acceptable (Elling, 2006).

- **Girls want everything to be happy and sweet.** Not true. If you read books written specifically for girls, you'll see that they're not just saccharine from one end to the other. Girls like stories filled with mystery, suspense, even danger—but again, it has to be meaningful, not just random or pointless.

■ **Girls don't like to be scared.** This is only partially true. Jesyca Durchin makes a useful distinction between *spooky* and *scary*. Girls like things that are spooky but not scary. The abandoned house or the carnival at night is spooky. Walking through dark streets with a murderer on the loose is scary. *Spooky* is about the possibility of being startled or frightened; *scary* is about the possibility of being hurt or killed.

A FINAL NOTE ON GAMES FOR GIRLS

Bear in mind that these are generalities. The characteristics described previously do not appeal to all girls, but they certainly appeal to many. You should take them into consideration if you're trying to make a game for girls.

Some developers, both male and female, find the idea of making games about hair, clothing, and makeup repulsive; they feel that this perpetuates a stereotype of femininity. Although there's some merit in that argument, a vastly larger number of games perpetuate a much more unfortunate stereotype of masculinity: They depict men (and reward players) who are violent, greedy, wanton, and monomaniacal. To condemn games for girls on the basis that they reflect social stereotypes is to establish an unfair double standard.

Gamer Dedication

In the previous edition of this book, this section was called "Core Versus Casual," but in the past few years these terms have begun to lose their meaning. The game industry used to assume that there was a binary distinction between hardcore, deeply committed gamers and more casual ones. With the arrival of games built around social networks, it has become clear that this is not a binary distinction but a continuum called *gamer dedication*. You can measure gamer dedication by a variety of metrics. Barry Ip and I proposed a list of these metrics in our article "From Casual to Core: A Statistical Mechanism for Studying Gamer Dedication" (Ip, 2002). Some of them were borrowed from Scott Kim's Game Developers' Conference presentation "Designing Web Games that Make Business Sense" (Kim, 2001). Even though these are older articles, their content is fundamental enough to still be relevant today.

The 15 measurable qualities of dedicated gamers that Ip and I proposed are as follows:

1. **Technologically savvy.** Highly dedicated gamers are more familiar with the latest releases and developments and show greater interest in new gaming-related technologies.

2. **Have the latest high-end gear.** Dedicated gamers will acquire the latest consoles, PC hardware, and mobile devices to keep up to date with the most recent trends. They are more likely to own, or have owned, a wide variety of older game platforms.

3. **Willingness to pay**. Enthusiasts are more inclined to spend money on games and games-related products. Conversely, casual gamers are more inclined to wait for price discounts and special offers before committing to a purchase.

4. **Prefer violent/action games**. Kim suggested that hardcore gamers prefer games that show comparatively violent and action-intensive content.

5. **Prefer games that have depth and complexity.** Dedicated gamers prefer games that deliver greater complexity and that require a longer time to master, regardless of their themes.

6. **Play games over many long sessions.** Dedicated gamers are likely to devote considerably more time to playing games in a single session.

7. **Hunger for gaming-related information.** Devouring everything from the latest news, previews, and reviews, to interviews with industry experts, the hardcore gamer actively seeks gaming-related information through the Internet, game magazines, and books, such as strategy guides.

8. **Discuss games with friends online.** Dedicated gamers like to discuss gaming with others and to visit game-related Internet forums or chat rooms regularly.

9. **Play for the exhilaration of defeating (or completing) the game**. A dedicated gamer will play persistently for the enjoyment and exhilaration of defeating the game and is likely to be more forgiving of aesthetic flaws such as poor acting or a trivial plot.

10. **Much more tolerant of frustration**. Hardcore gamers are much more tolerant of difficult games or games that might frustrate them in some way. Casual gamers are more likely to abandon such games.

11. **Engaged in competition with himself, the game, and other players.** Hardcore gamers want to feel the satisfaction and reward of competing and improving their skills against other players and/or computer-controlled opponents. Less dedicated gamers would not, for example, be inclined to play endlessly to reduce their lap-times in *Gran Turismo* by a fraction of a second, or have the patience to learn every combination attack in *Street Fighter,* or even to achieve a higher score.

12. **Age at which first started playing games.** If players started playing at a young age, and have since been regular gamers, then this would indicate those who are more experienced and knowledgeable. Gamers who start playing later in life are seldom as dedicated.

13. **Comparative knowledge of the industry.** Dedicated gamers are likely to show broader knowledge and awareness of industry activities and trends, new technologies, and game development methods. Less dedicated players may keep track of upcoming releases and game reviews, but not events such as industry layoffs or mergers.

14. **Early adoption.** Dedicated gamers are the ones who attend midnight release events or take extra steps to get hold of games before their official release dates through gray-market imports.

15. Desire to modify or extend games in a creative way. Hardcore gamers frequently modify commercial games in a variety of ways. These can range from simple changes such as giving characters new skins to change their appearance to programming "aim-bots," separate pieces of software that work in concert with an existing game to give the player an unfair advantage over others. Casual gamers seldom take the time to make these kinds of modifications; they tend to play the game as-is out of the box.

Of course, how much weight you give to each of these factors is up to you. The purpose of the original article was to suggest ways of measuring these for research purposes. As a designer, however, you really need to know only the ways in which gamers exhibit their dedication. For example, if you know that dedicated gamers seek out information about a game while it is still in development, you can set up developer blogs or give out press releases to help reach that market.

In reality, of course, there are as many types of gamer as there are games; everyone has a reason for playing computer games. But if you design a game specifically for one end of the dedication continuum, you probably won't sell to many people at the other end. A few very well-designed games manage to appeal to both: *GoldenEye,* for example, can be played happily by both core and casual gamers. Core gamers can set the game at the highest difficulty level and drive themselves crazy trying to cut 15 seconds off the last time it took them to play a mission. Casual gamers can set the game at the easiest level and blast away, enjoying the game's smooth controls and visual detail. *Rock Band* is another good example.

The Dangers of Binary Thinking

You can't make a game for everyone, so your target audience is necessarily a subset of all possible players, a subset determined by your answers to the questions "Who will enjoy this game?" and "What kinds of challenges do they like?" As you answer these questions, you may be tempted to assume that the people in one category (adult men, for example) are a special audience that has nothing in common with people in other categories (adult women, children, teenagers, and so on). This is *binary thinking:* You assume that if group A likes a thing, everyone outside that group *won't* like it. It's unsound reasoning and may actually cause you to lose part of your potential customer base, as the following sections demonstrate.

Reasoning Statistically about Player Groups

Suppose you ask a group of players to rate their level of interest in a particular game on a scale of 0 to 10, with 0 representing no interest at all and 10 being fanatical enthusiasm. A few people will be at the extremes and the majority somewhere in the middle. If you graph the responses of men and women separately, you may find

for a given game that the two groups have different arithmetic means; that is, the centers of their bell-shaped curves fall at different places on the graph.

Figure 4.3 shows this phenomenon. For the hypothetical game in question, men's mean level of interest is at about 5.5, while women's mean level of interest is at 4.5.

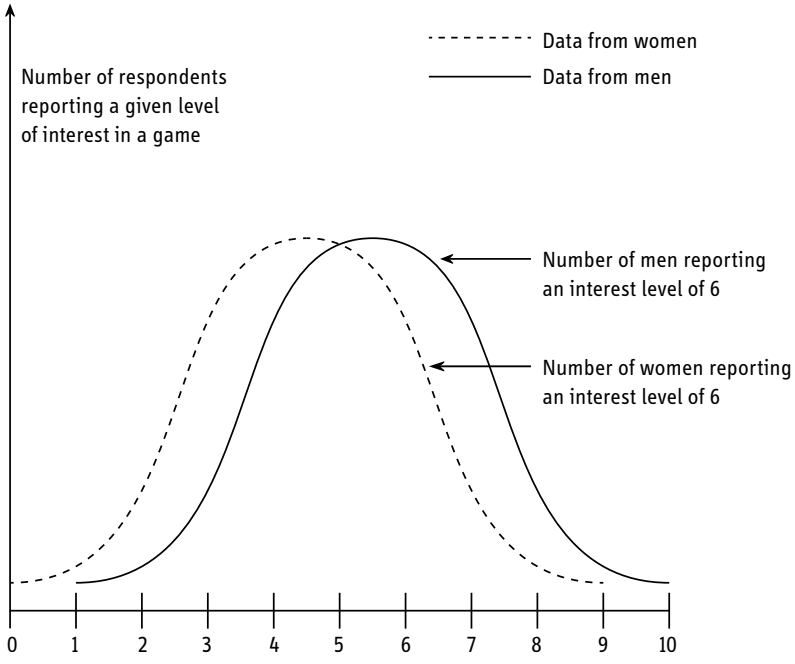

FIGURE 4.3
Reported level of interest in a game on a 0–10 scale

Note that while the graph does support the statement, "Men have a higher level of interest in this game than women do," in fact, a large area of overlap indicates that a significant portion of the women surveyed are interested in the game as well. Furthermore, the number of women reporting an interest level of 6 is about two-thirds that of the number of men reporting the same interest level. In other words, two-fifths of all the people reporting an interest level of 6 are women—far too many to simply ignore.

This is only a hypothetical example. With some games, the level of overlap may be small, and there is no point in trying to reach out to an audience that simply isn't there. A game for five-year-olds won't appeal to many 15-year-olds. The point, however, is that for most ordinary games there is *some* overlap among different populations. (For example, many Disney movies made for children include more sophisticated content that only adults would notice or find funny, thereby giving the film a broad appeal.) It is foolish to ignore, or worse yet, to offend a minority audience simply because it is in the minority, without knowing how many people fall into that category. If you ignore or repel a significant minority, you're throwing money away.

Strive for Inclusiveness, Not Universality

You cannot make a game that appeals to everyone by throwing in a hodgepodge of features because group A likes some of them and group B likes others. If you do, you will produce a game that has too many features and no harmony. For instance, you can't make a game that appeals to action fans, to strategy fans, and to fans of management simulations by combining kung fu, chess, and *Monopoly*—the result would be a mess that appeals to none of them. On the other hand, you can include a story line in a fighting game so long as the story line doesn't interfere with the gameplay. The story line adds depth to the game without driving away its key market of fighting-game enthusiasts, and it might attract the interest of people who otherwise wouldn't pay any attention to a fighting game. *Heavenly Sword* and *God of War* are good examples.

Certain groups are turned off by particular content or features. For example, women don't much care for material that portrays them as brainless sex objects; parents won't buy games for their kids if the games are nothing but blood and gore; members of minority races (and many in the majority too) are naturally offended by racist content. These are the most obvious examples, but there are more subtle ones as well. Women are generally more sensitive to the aesthetics of a game than men are, and they are less likely to buy a game with ugly artwork. Some players have no interest in narrative material and are put off if they are forced to watch it in a genre that doesn't normally include narratives. (This is why the story line in the kung fu game, mentioned earlier, shouldn't interfere with the gameplay.) These examples illustrate the effects of *exclusionary material*—content or features that serve to drive players away from a game that they otherwise might like. Your goal should be to make the best game that you can about your chosen subject, while avoiding exclusionary material that unnecessarily hurts its appeal.

DESIGN RULE Keep Exclusionary Material Out of Your Game

To reach a large audience while still creating a harmonious, coherent game, don't try to attract everyone by adding unrelated features. Instead, work to avoid repelling people who might otherwise be attracted.

Summary

The point of this chapter was to teach you about different kinds of players and what they want, and don't want, from their gameplaying experiences. You learned about Jason VandenBerghe's five domains of play: novelty, challenge, stimulation, social harmony, and threat; and a sixth one, storytelling. Then we looked at a few demographic categories, men and women and boys and girls, with a special focus on what it takes to make games for girls. We examined ways to think about gamer dedication and how that might affect your choice of target audience. The chapter ended with a discussion of the dangers of binary thinking, and the suggestion that you should strive for inclusiveness, not universality. In the next chapter we'll examine the different game platforms that you can design for.

Design Practice EXERCISES

1. Take a Big Five personality test at any of the many online sites that offer it. (Simply search for "big five personality test" or visit www.outofservice.com/bigfive.) Look at the results that it gives you and ask yourself how well they match your preferred domains of play. Do the same with several friends—the more, the better. Write a short paper using this data to explain whether the results you got tend to confirm or to rebut Jason VandenBerghe's hypothesis, or to produce inconclusive results.

2. Examine a currently popular AAA console game (or your instructor may assign you one) and document any exclusionary material that you think it contains—content that would tend to discourage a particular demographic from purchasing it.

3. Examine a number of games that are apparently marketed to a specific demographic such as girls or very young children. Document the design features that they seem to have in common. Be sure to address both the *types* of challenges they include (use the list in Table 1.1) and the details of their aesthetics—color palettes, typefaces, and screen layouts, for example.

Design Practice QUESTIONS

Choosing a target audience for your game (or deciding that it does not belong in any genre) is part of defining your game's concept, a process that Chapter 7, "Game Concepts," discusses in detail. When you're thinking about it, consider the following questions:

1. Which of the domains of play do you think you will be offering, and what will that say about the audience that you hope to attract?

2. What age range is your game aimed at? The answer to this question will strongly influence many things about the game: its challenges, its user interface design, its pacing, its aesthetics, and so on.

3. Do you want to be gender inclusive, or do you want to appeal to one particular sex, bearing in mind that this may limit your game's appeal to the other? If the latter, what content and features do you plan to include that you think will appeal specifically to your chosen audience?

4. How dedicated will you want your target audience to be? Requiring long play sessions, for example, will exclude some players who don't have the time for it. Go through the list of factors that make up player dedication and ask yourself if you are expecting them from your players—and if so, how you plan to meet *their* expectations of your game.

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