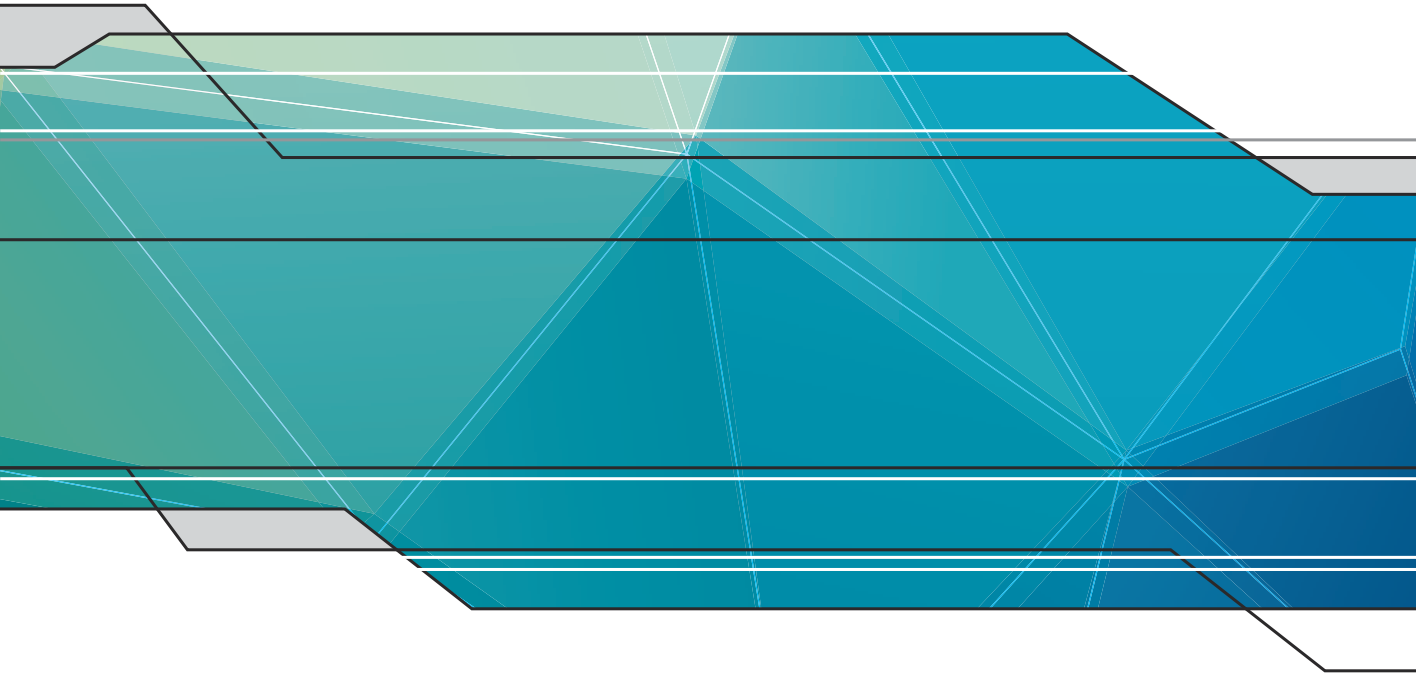
Fundamentals

of Game Design Third Edition



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FUNDAMENTALS of Game Design

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Finally, research shows that players value amusement highly. Comedy works best in adventure games, which tend to have more detailed characters than other genres, although role-playing games occasionally include funny moments or unexpected wisecracks from non-player characters. If your game is about an unrelentingly serious subject, you might want to include moments of comic relief just to lighten the tone from time to time. These have to be handled carefully, however, or they will seem inappropriate.

THE LIMITATIONS OF FUN

Weaver's Law: The quality of an entertainment is inversely proportional to the awareness of time engaged in it.

—Chris Weaver, founder of Bethesda Softworks

Most people think that the purpose of playing games is to have fun, but *fun* is a rather limiting term. It tends to suggest excitement and pleasure, either a physical pleasure such as riding a roller coaster, a social pleasure such as joking around with friends, or an intellectual pleasure such as playing cards or a board game. The problem with striving for fun is that it tends to limit the emotional range of games. Suspense, excitement, exhilaration, surprise, and various forms of pleasure fall within the definition of fun, but not pity, jealousy, anger, sorrow, guilt, outrage, or despair.

Games don't only provide fun; they provide entertainment just as books, movies, and television do. You can entertain people in all sorts of ways. Movies with sad endings aren't fun in the conventional sense, but they're still entertaining. The potential of our medium to explore emotions and the human condition is much greater than the term *fun game* allows for; *Journey* is a highly popular example of a game that succeeded at moving beyond simple fun.

All that said, however, bear in mind that most publishers and players want fun. Too many inexperienced designers are actually more interested in showing how clever they are than in making sure the player has a good time; they place their own creative agenda before the player's enjoyment. As a designer, you must master the ability to create fun—light enjoyment—before you move on to more complex emotional issues. Addressing unpleasant or painful emotions successfully is a greater aesthetic challenge and may limit your audience somewhat.

YOU CAN'T PAINT EMOTION BY NUMBERS

The idea that games should include more emotional content and should inspire more emotions in players has been gaining ground in the game industry for several years. Unfortunately, this has produced a tendency to look for quick and easy ways to do it, mostly by relying on clichés. The young man whose family is killed and who is obsessed by his desire for revenge or the beautiful princess who needs to be rescued both belong more to fairy tales than to modern fiction. That may be all

right if your game aspires to nothing more, but it won't do if you're trying to create an experience with any subtlety. Contrast, for example, the simple themes of the early animation films and the more psychologically rich stories in the recent Pixar films.

Beware of books or articles that offer simple formulas for emotional manipulation: "If you want to make the player feel X, just do Y to the protagonist." An imaginative and novel approach to influencing the players' feelings requires the talents of a skilled storyteller. Paint-by-numbers emotional content has all the sensitivity and nuance of paint-by-numbers art.

NOTE Serious games often address serious subjects, and while they are challenging and enjoyable, they often require players to confront difficult subjects such as abuse, illness, or the real costs of war or famine. Such games are seldom bestsellers; they are designed to inform rather than to make a lot of money.

The Ethical Dimension

The ethical dimension of a game world defines what right and wrong mean within the context of that world. At first glance, this might seem kind of silly—it's only a game, so there's no need to talk about ethics. But most games that have a setting, a fantasy component, also have an ethical system that defines how the player is supposed to behave. As a designer, you are the god of the game's world, and you establish its morality. When you tell a player that he must perform certain actions to win the game, you are defining those actions as good or desirable. Likewise, when you say that the player must avoid certain actions, you are defining them as bad or undesirable. The players who come into the world must adopt your standards or they will lose the game.

In some respects, the morality of a game world is part of its culture and history, which are part of the environmental dimension, but because the ethical dimension poses special design problems, it needs a separate discussion. The ethics of most game worlds deviate somewhat from those of the real world—sometimes they're entirely reversed. Games allow, even require, you to do things that you can't do in the real world. The range of actions that the game world permits is typically narrower than in the real world (you can fly your F-15 fighter jet all you want, but you can't get out of the plane), but often the permitted actions are quite extreme: killing people, stealing things, and so on.

MORAL DECISION-MAKING

On the whole, most games have simple ethics: clobber the bad guys, protect the good guys. It's not subtle but it's perfectly functional; that's how you play checkers. Not many games explore the ethical dimension in any depth. A few include explicit moral choices, but unfortunately, these tend to be namby-pamby, consistently rewarding good behavior and punishing bad behavior. Such preachy material turns off even children, not to mention adults. But you can build a richer, more involving game by giving the player tough moral choices to make. Ethical ambiguity and difficult decisions are at the heart of many great stories and, indeed, much of life. Should you send a platoon of soldiers to certain death to save a battalion of others? How would you feel if you were in the platoon?

THE PECULIAR MORALITY OF AMERICA'S ARMY

America's Army, a team-based multiplayer first-person shooter (FPS) game distributed free by the U.S. Army, is intended to serve as an education and recruiting tool, teaching players how real soldiers are supposed to fight (**Figure 8.14**). It differs from most FPS games in two significant ways. First, it requires that the player act in conformance with the actual disciplinary requirements of the Army, so it detects and punishes dishonorable behavior. The Army is anxious to make the point that soldiering comes with serious moral responsibilities. Second, and rather strangely, all sides in a firefight see themselves as U.S. soldiers, and they see the enemy as rather generic terrorists. The Army did not want to give any player the chance to shoot at American soldiers, even though they are obviously shooting at one another. So a player sees himself and his teammates as U.S. soldiers carrying M-16 rifles, but his opponents see him and his teammates as terrorists carrying AK-47s. In other words, everyone perceives himself as a good guy and his opponent as a bad guy, and the game's graphics literally present two different versions of reality to each team. By avoiding a politically unacceptable design (letting players shoot at American soldiers in a game made by the U.S. Army), they created a moral equivalence: The question of who is in the right is purely a matter of perspective. *America's Army*'s trick of displaying different versions of the game world to different players may be unique among video games.

FIGURE 8.14 Our guys get the drop on somebody who also thinks he's one of our guys.

In many role-playing games, you can choose to play as an evil character who steals and kills indiscriminately, but other characters will refuse to cooperate with you and might even attack you on sight. It's easier to get money by robbing others than by working for it, but you may pay a price for that behavior in other ways. Rather than impose a rule that says, "Immoral behavior is forbidden," the game implements a rule that says, "You are free to make your own moral choices, but be prepared to live with the consequences." This is a more adult approach to the issue than simply punishing bad behavior. Be aware, however, many countries' video game rating systems take a game's ethics into account. If you do permit immoral behavior in your game, it will probably get a rating indicating that it is not for children.

You must be sure to explain the ethical dimension of your game clearly in its introductory material or in mission briefings. For example, some games that have hostage-rescue scenarios make the death of a hostage a loss condition: If a hostage dies, the player loses. This means that the player has to be extra careful not to kill any hostages, even at the risk of his own avatar's life. In other games, the only loss condition is the avatar's death. In this case, many players shoot with complete abandon, killing hostages and their captors indiscriminately. In real life, of course, the truth is somewhere in between. Police officers who accidentally shoot a hostage are seldom prosecuted unless they've been grossly negligent, but it doesn't do their careers any good. You can emulate this by penalizing the player somehow. To be fair to the player, however, you need to make this clear at the outset.

The ethical dimension of multiplayer games, whether online or local, is an enormous and separate problem. Chapter 17, "Design Issues for Online Gaming," discusses this issue at length.

NOTE *Call of Duty: Modern Warfare 2* included a level in which the player had to decide whether or not to kill civilians in order to protect his cover as he tried to infiltrate a terrorist cell. Even though the game was rated for adults, the player was given a choice, and the entire level was optional, the game caused a huge outcry. Many people are still uncomfortable with this kind of material.

A WORD ABOUT GAME VIOLENCE

It's not part of this book's mission to debate, much less offer an answer for, the problem of whether violent video games cause violent behavior in children or adults. This is a psychological question that only prolonged and careful study can resolve. Unfortunately, a good many people on both sides of the issue seem to have made up their minds already, and arguments continue to rage in government and the media, supported for the most part by very few facts.

For you, as a designer, however, consider these suggestions. The essence of many games is conflict, and conflict is often represented as violence in varying degrees of realism. Chess is a war game in which pieces are killed—removed from the board—but nobody objects to the violence of chess; it's entirely abstract. Football is a violent contact sport in which real people get injured all the time, but there are no serious efforts to ban football, either. The only way to remove violence from gameplay is to prohibit most of the games in the world because most contain violence in some more-or-less abstract form. The issue is not violence, per se, but how violence is portrayed and the circumstances under which violence is acceptable.

Games get into political trouble when they have a close visual similarity to the real world but an ethical dimension that is strongly divergent from the real world. The game *Kingpin* encourages the player to beat prostitutes to death with a crowbar, with bloodily realistic graphics. Not surprisingly, it has earned a lot of criticism. On the other hand, *Space Invaders* involves shooting hundreds of aliens, but it is so visually abstract that nobody minds. In other words, the more a game resembles reality visually, the more its ethical dimension should resemble reality as well, or it's likely to make people upset. If you want to make a game in which you encourage the player to shoot anything that moves, you're most likely to stay out of trouble if those targets are nonhuman and just quietly disappear rather than break apart into bloody chunks. Tie your ethical realism to your visual realism.

Computer games are about bringing fantasies to life, enabling people to do things in make-believe that they couldn't possibly do in the real world. But make-believe is a dangerous game when it's played by people for whom the line between fantasy and reality is not clear. Young children (those under about age eight) don't know much about the real world; they don't know what is possible and what isn't, what is fantasy and what is reality. An important part of raising children is teaching them this difference. But until they've learned it, it's best to make sure that any violence in young children's games is suitably proportionate to their age. Graphic, realistic violence can be terrifying to children who have not yet learned to process it and is best avoided. For a detailed and insightful discussion of how children come to terms with violence, read *Killing Monsters: Why Children Need Fantasy, Super Heroes, and Make-Believe Violence* by Gerard Jones (Jones, 2002). Ultimately, the violence in a game should serve the gameplay and the game's audience. If it doesn't, then it's gratuitous and you should consider doing without it.

Realism

Chapter 2, "Designing and Developing Games," introduces the concept of *realism* in the context of a discussion about core mechanics. All games, no matter how realistic, require some abstraction and simplification of the real world. Even the multimillion-dollar flight simulators used for training commercial pilots are incapable of turning the cockpit completely upside down. This event is so rare (we hope) in passenger aircraft that it's not worth the extra money it would take to simulate it.

NOTE If you're mathematically inclined, think of realism as a vector over every aspect of the game, with values ranging from 0, entirely abstract, to 1, entirely realistic. However, no value ever equals 1 because nothing about a game is ever entirely realistic—if it were, it would be life, not a game.

The degree of realism of any aspect of a game appears on a continuum of possibilities from highly representational at one end to highly abstract at the other. Players and game reviewers often talk about realism as a quality of an entire game, but in fact, the level of realism differs in individual components of the game. Many games have highly realistic graphics but unrealistic physics. A good many first-person shooters accurately model the performance characteristics of a variety of weapons—their rate of fire, size of ammunition clips, accuracy, and so on—but allow the player to carry about 10 of them at once with no reduction in speed or mobility.

Therefore, realism is not a single dimension of a game world, but a multivariate quality that applies to all parts of the game and everything in it.

The representational/abstract dichotomy is mostly useful as a starting point when you're thinking about what kind of a game you want to create. On the one hand, if you're designing a cartoony action game such as *Ratchet & Clank,* you know that it's going to be mostly abstract. As you design elements of the game, you'll need to ask yourself how much realism you want to include. Can your avatar be hurt when she falls long distances? Is there a limit to how much she can carry at once? Do Newtonian physics apply to her, or can she change directions in midair?

On the other hand, if you're designing a game that people will expect to be representational—a vehicle or sports simulation, for example—then you have to think about it from the other direction. What aspects of the real world are you going to remove? Most modern fighter aircraft have literally hundreds of controls; that's why only a special group of people can be fighter pilots. To make a fighter simulation accessible to the general public, you'll have to simplify a lot of those controls. Similarly, a fighter jet's engine is so powerful that certain maneuvers can knock the pilot unconscious or even rip the plane apart. Are you going to simulate these limitations accurately, or make the game a little more abstract by not requiring the player to think about them?

Once again: Every design decision you make must serve the entertainment value of the game. In addition, every design decision must serve your goals for the game's overall degree of realism. Some genres demand more realism than others. It's up to you to establish how much realism you want and in what areas. You must also make sure that your decisions about realism don't destroy the game's harmony and balance. During the design process, you must continually monitor your decisions to see if they are meeting your goals.

Summary

At this point, you should know when and where your game takes place. You will have answered a huge number of questions about what your world looks like, what it sounds like, who lives there, and how they behave. If you've done it thoroughly, your game world will be one in which a player can immerse himself, a consistent fantasy that he can believe in and enjoy being part of. The next step is to figure out what's going to happen there.

Design Practice EXERCISES

1. Imagine that you could use any content you liked in a game without regard for copyright. Choose one of the following game genres and then select a painter, photographer, or filmmaker, and a composer or musician, whose work you would like