FROM CONCEPT TO PLAYABLE GAME
WITH UNITY® AND C#

Introduction to GAME DESIGN, PROTOTYPING, and DEVELOPMENT

Third Edition

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Foreword by Richard Lemarchand

Contents

CHAPTER 1

THINKING LIKE A DESIGNER

Our journey starts here. This chapter presents the basic theories of design upon which the rest of the book is built. In this chapter, you also encounter your first game design exercise and learn more about the underlying philosophy of this book.

You Are a Game Designer

As of this moment, you are a game designer, and I want you to say it out loud:[1]

> "I am a game designer."

It's okay. You can say it out loud, even if other people can hear you. In fact, according to psychologist Robert Cialdini's book, *Influence: The Psychology of Persuasion*,[2] if other people hear you commit to something, you're more likely to follow through. So, go ahead and tell your friends, tell your family, shout it from the mountain tops, post it to social media:

> "I am a game designer!"

But, what does it mean to be a game designer? This book will help you answer that question *and* will give you the tools to start making your own games. Let's start with a design exercise.

Bartok: A Game Design Exercise

I first saw this exercise used by game designer Malcolm Ryan as part of a Game Design Workshop session at the Foundations of Digital Gaming conference. The goal of this exercise is to demonstrate how even a simple change to the rules of a game can have a massive effect on the experience of playing the game.

Bartok is a simple game played with a single deck of standard cards that is very similar to the commercial game *Uno*. In the best-case scenario, you would play this game with three friends who are also interested in game design; however, I've also made a digital version of the game that you can play solo. Either the paper or digital version will work fine for our purposes.[3]

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1. I thank my former professor Jesse Schell for asking me to make this statement publicly in a class full of people. He also includes this request in his excellent book, *The Art of Game Design: A Book of Lenses* (Boca Raton, FL: CRC Press, 2008).

2. Robert B. Cialdini, *Influence: The Psychology of Persuasion* (New York: Morrow, 1993).

3. The card images in this book and in the digital card games presented in the book are based on Vectorized Playing Cards 1.3, Copyright 2011, Chris Aguilar, https://sourceforge.net/projects/vector-cards/ . Licensed under LGPL 3 (http:// www.gnu.org/copyleft/lesser.html).

PLAYING THE DIGITAL VERSION OF BARTOK

To play the digital version of *Bartok*, simply visit the website for this book:

> http://book.prototools.net

You will find the game in the section of the website for Chapter 1.

You can, of course, also just grab a standard deck of playing cards and a few friends and play the game in person, which will allow you to talk with your friends about the feel of the game and the changes you want to make to it.

Objective

Be the first player to get rid of all the cards in your hand.

Getting Started

Here are the basic rules for *Bartok*:

1. Start with a regular deck of playing cards. Remove the Jokers, leaving you with 52 cards (13 of each suit ranked Ace–King).

2. Shuffle the deck and deal seven cards to each player.

3. Place the rest of the cards face-down in a *draw pile*.

4. Pick the top card from the draw pile and place it on the table face-up to start the *discard pile*.

5. Starting with the player to the left of the dealer and proceeding clockwise, each player must play a card onto the discard pile if possible, and if they cannot play a card, the player must draw a single card from the draw pile (see Figure 1.1).

6. A player may play a card onto the discard pile if the card is either:

   a. The same *suit* as the top card of the discard pile. (For example, if the top card of the discard pile is a 2 of Clubs (2C), any other Club may be played onto the discard pile.)

   b. The same *rank* as the top card of the discard pile. (For example, if the top card of the discard pile is a 2C, any other 2 may be played onto the discard pile.)

7. The first player to successfully get rid of all their cards wins.

Figure 1.1 The initial layout of *Bartok*. In the situation shown, the player can choose to play any one of the cards highlighted with blue borders (7C, JC, 2H, 2S).

Playtesting

Try playing the game a couple times to get a feel for it. Be sure to shuffle the cards thoroughly between each playthrough. Games will often result in a somewhat sorted discard pile, and without a good shuffle, subsequent games may have results weighted by the nonrandom post-game card distribution.

tip

DEBLOCKING   *Deblocking* is the term for strategies used to break up blocks of cards (i.e., groups of similar cards). In *Bartok*, each successful game ends with all the cards sorted into blocks of the same suit and blocks of the same rank. If you don't deblock those groups, the subsequent game will end much faster because players are more likely to be dealt cards that match each other.

According to mathematician and magician Persi Diaconis, seven good *riffle*[4] *shuffles* should be sufficient for nearly all games;[5] if you run into issues, though, some of these deblocking strategies can help.

Here are some standard strategies for deblocking a deck of cards if standard shuffling doesn't work:

- Deal the cards into several different piles. Then shuffle these piles together.

- Deal the cards out face-down into a large, spread-out pool. Then use both hands to move the cards around almost like mixing water. This is how dominoes are usually shuffled, and it can help break up your card blocks. Then gather all the cards into a single stack.

- Play *52 Pickup*: Throw all the cards on the floor and pick them up.

Analysis: Asking the Right Questions

After each playtest, it's important to ask the right questions. Of course, each game will require slightly different questions, though many of them will be based on these general guidelines:

- **Is the game of the appropriate difficulty for the intended audience?** Is it too difficult, too easy, or just right?

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4. A riffle shuffle is one where half of the deck starts in each hand and you bend the cards up with the thumb and hold the cards down with the index finger of each hand, causing the cards from the left and right to alternate falling into a center pile. See more at https://en.wikipedia.org/wiki/Shuffling#Riffle.

5. Persi Diaconis, "Mathematical Developments from the Analysis of Riffle Shuffling," *Groups, Combinatorics and Geometry,* edited by Ivanov, Liebeck, and Saxl. *World Scientific* (2003): 73–97. Also available online at http://statweb.stanford.edu/~cgates/PERSI/papers/Riffle.pdf.

- **Is the outcome of the game based more on strategy or chance?** Does randomness play too strong a role in the game, or, alternatively, is the game too deterministic so that after one player takes the lead, the other players don't have any chance to catch up?

- **Does the game have meaningful, interesting decisions?** When it's your turn, do you have several choices, and is the decision between those choices an interesting one?

- **Is the game interesting when it's not your turn?** Do you have any effect on the other players' turns, or do their turns have any immediate effect on you?

We could ask many other questions, but these are some of the most common.

Take a moment to think about your answers to these questions relative to the games of *Bartok* you just played and write them down. If you're playing the paper version of this game with other human players, asking them to write down their own answers to the questions individually and then discussing them after they're written is worthwhile, because it keeps each player's responses from being influenced by the other players.

Modifying the Rules

As you'll see throughout this book, from a process standpoint, game design is pretty straightforward. The process is almost always:

1. Incrementally modify the rules, changing very few things between each playtest.

2. Playtest the game with the new rules.

3. Analyze how the feel of the game is altered by the new rules.

4. Design new rules that you think might move the feel of the game in the direction you want.

5. Repeat this process until you're happy with the game.

Iterative design is the term for this repetitive process of deciding on a small change to the game design, implementing that change, playtesting the game, analyzing how the change affected the gameplay, and then starting the process over again by deciding on another small change. Chapter 7, "Acting Like a Designer," covers iterative design in detail.

For the *Bartok* example, why don't you start by picking one of the following three rule changes and playtesting it:

- **Rule 1:** If a player plays a 2, the person to her left must draw two cards instead of playing.

- **Rule 2:** If any player has a card that matches the rank and color (red or black) of the top card, they may announce "Match card!" and play it out of turn. Play then

continues with the player to the left of the one who just played the out-of-turn card. This can lead to players having their turns skipped.

For example: In a four-player game, the first player plays a 3C (three of Clubs). The third player has the 3S (which matches both the rank and color of the 3C), so they call "Match card!" and play the 3S on top of the 3C out-of-turn, skipping the second player's turn. Play then continues with the fourth player.

- **Rule 3:** A player must announce "Last card" when they have only one card left. If someone else calls it first, the player must draw two cards (bringing their total number of cards to three).

Choose only one of the rule changes from the previous listing and play the game a couple times with the new rule. Then have each player write their answers to the four playtest questions. You should also try playing with another one of the rules (although I would recommend still only using one of them at a time when trying a new rule for the first time).

If you're playing the digital version of the game, you can use the check boxes on the menu screen to choose various game options.

> ### warning
>
> **WATCH OUT FOR PLAYTESTING FLUKES**   A weird shuffle or other external factor can sometimes cause a single play through the game to feel really different from the others. This is known as a *fluke*, and you want to be careful not to make game design decisions based on flukes. If something you do seems to affect the game feel in a very unexpected way, be sure to play through the game multiple times with those same rules to make sure you're not experiencing a fluke.

Analysis: Comparing the Rounds

Now that you've played through the game with some different rule options, analyze the results from the different rounds. Look back over your notes and see how each different rule set felt to play. As you experienced, even a simple rule change can greatly change the feel of the game. Here are some common reactions to the previously listed rules:

- **The original rules**

  Many players find the original version of the game to be pretty boring. There are no interesting choices to make, and as the players remove cards from their hands, the number of possible choices dwindles as well, often leaving the player with only one valid choice for most of the later turns of the game. The game is largely based

on chance, and players have no real reason to pay attention to other players' turns because they don't really have any way of affecting each other.

■ **Rule 1:** *If a player plays a 2, the person to her left must draw two cards instead of playing.*

This rule allows players to directly affect each other, which generally increases interest in the game. However, whether a player has 2s is based entirely on luck, and each player only really has the ability to affect the player on their left, which often seems unfair. However, this does make other players' turns a bit more interesting because other players (or at least the player to your right) have the ability to affect you.

■ **Rule 2:** *If any player has a card that matches the number and color (red or black) of the top card, they may announce "Match card!" and play it out of turn. Play then continues with the player to the left of the one who just played the out-of-turn card.*

This rule often has the greatest effect on player attention. Because any player has the opportunity to interrupt another player's turn, all players tend to pay a lot more attention to each other's turns. Games played with this rule often feel more dramatic and exciting than those played with the other rules.

■ **Rule 3:** *A player must announce "Last card!" when they have only one card left. If someone else calls it first, the player must draw two cards.*

This rule only comes into play near the end of the game, so it doesn't have any effect on the majority of gameplay; however, it does change how players behave at the end. This can lead to some interesting tension as players try to jump in and say, "last card" before the player who is down to only one card. This is a common rule in both domino and card games where the players are trying to empty everything from their hands because it gives other players a chance to catch up to the lead player if the leader forgets about the rule.

Designing for the Game Feel That You Want

Now that you've seen the effects of a few different rules on *Bartok*, it's time to do your job as a designer and make the game better. First, decide on the feel that you want the game to have: Do you want it to be exciting and cutthroat, do you want it to be leisurely and slow, or do you want it to be based more on strategy than chance?

After you have a general idea of how you want the game to feel, think about the rules that you tested and try to come up with additional rules that can push the feel of the game in the direction that you want. Here are some tips to keep in mind as you design new rules for the game:

■ Change only one thing in between each playtest. If you change (or even tweak) a number of rules between each play through the game, it can be difficult to determine which rule is affecting the game in what way. Keep your changes incremental, and you'll be better able to understand the effect that each is having.

- The bigger change you make, the more playtests will be required to understand how it changes the game feel. If you only make a subtle change to the game, one or two plays can tell you a lot about how that change affects the feel. However, if it's a major rule change, you will need to test it more times to avoid being tricked by a fluke game. Additionally, if the small rule change only happens in rare circumstances, you also may need multiple plays through the game to experience that circumstance.

- Change a number, and you change the experience. Even a seemingly small change can have a huge effect on gameplay. For instance, think about how much faster this game would end if there were two discard piles to choose from or if the players started with five cards instead of seven.

Of course, adding new rules is a lot easier to do when playing the card game in person with friends than when working with a digital prototype. That's one of the reasons that paper prototypes can be so important, even when you're designing digital games. The first part of this book discusses both paper and digital design, but most of the design exercises are done with paper games because they can be so much faster to develop and test than digital games.

The Definition of *Game*

Before moving too much further into design and iteration, we should probably clarify what we're talking about when we use terms such as *game* and *game design.* Many very smart people have tried to accurately define the word *game*. Here are a few of them in chronological order:

- In his 1978 book *The Grasshopper,* Bernard Suits (who was a professor of philosophy at the University of Waterloo) declares that "a game is the voluntary attempt to overcome unnecessary obstacles."[6]

- Game design legend Sid Meier says that "a game is a series of interesting choices."[7]

- In *Game Design Workshop,* Tracy Fullerton defines a game as "a closed, formal system that engages players in a structured conflict and resolves its uncertainty in an unequal outcome."[8]

- In *The Art of Game Design,* Jesse Schell playfully examines several definitions for *game* and eventually decides on "a game is a problem-solving activity, approached with a playful attitude."[9]

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6. Bernard Suits, *The Grasshopper: Games, Life, and Utopia* (Toronto: Toronto University Press, 1978), 41.

7. Andrew Rollings and Dave Morris. *Game Architecture and Design* (Scottsdale: Coriolis, 2000), 38.

8. Tracy Fullerton, Christopher Swain, and Steven Hoffman. *Game Design Workshop: A Playcentric Approach to Creating Innovative Games*, 2nd ed. (Boca Raton, FL: Elsevier Morgan Kaufmann, 2008), 43.

9. Jesse Schell, *Art of Game Design: A Book of Lenses* (Boca Raton, FL: CRC Press, 2008), 37.

- In the book *Game Design Theory,* Keith Burgun presents a much more limited definition of game: "a system of rules in which agents compete by making ambiguous, endogenously meaningful decisions."[10, 11]

As you can see, all of these are compelling and correct in their own way. Perhaps even more important than the individual definition is the insight that it gives us into each author's intent when crafting that definition.

Bernard Suits' Definition

In addition to the short definition "a game is the voluntary attempt to overcome unnecessary obstacles," Suits also offers a longer, more robust version:

> *To play a game is to attempt to achieve a specific state of affairs, using only means permitted by rules, where the rules prohibit use of more efficient in favor of less efficient means, and where the rules are accepted just because they make possible such activity.*[12]

Throughout his book, Suits proposes and refutes various attacks on this definition; and having read the book, I am certainly willing to say that he has found the definition of "game" that most accurately matches the way that the word is used in day-to-day life.

However, it's also important to realize that this definition was crafted in 1978, and even though digital games and roleplaying games existed at this time, Suits was either unaware of them or intentionally ignored them. In fact, in Chapter 9 of *The Grasshopper,* Suits laments that there is no kind of game with rules for dramatic play through which players could burn off dramatic energy (much like children can burn off excess athletic energy via play of any number of different sports), exactly the kind of play that was enabled by games like *Dungeons & Dragons*.[13]

Although this is a small point, it gets at exactly what is missing from this definition: Whereas Suits' definition of game is an accurate definition of the word, it offers nothing to designers seeking to craft good games for others.

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10. Keith Burgun. *Game Design Theory: A New Philosophy for Understanding Games* (Boca Raton, FL: A K Peters/CRC Press, 2013), 10, 19.

11. *Endogenous* means inherent to or arising from the internal systems of a thing, so "endogenously meaningful decisions" are those decisions that actually affect the game state and change the outcome. Choosing the color of your avatar's clothing in *Farmville* is not endogenously meaningful, whereas choosing the color of your clothing in *Metal Gear Solid 4* is, because the color of your clothing affects whether your avatar is visible to enemies.

12. Bernard Suits, *The Grasshopper: Games, Life, and Utopia* (Toronto: Toronto University Press, 1978), 41.

13. Suits, *The Grasshopper,* 96.

For an example of what I mean, take a moment to play Jason Rohrer's fantastic game *Passage*[14] (see Figure 1.2). The game only takes 5 minutes to play, and it does a fantastic job of demonstrating the power that even short games can have. Try playing through it a couple times. If you can't find a playable version for your computer, try watching some videos online, though playing it yourself is certainly better.

Figure 1.2 *Passage* by Jason Rohrer (released December 13, 2007)

Suits' definition will tell you that, yes, this is a game. In fact, it is specifically an "open game," which he defines as: a game that has as its sole goal the continuance of the game.[15] In *Passage*, the goal is to continue to play for as long as possible...or is it? *Passage* has several potential goals, and it's up to the player to choose which of these they want to achieve. These goals could include the following:

- Moving as far to the right as possible before dying (exploration)
- Earning as many points as possible by finding treasure chests (achievement)
- Finding a wife (socialization)

The point of *Passage* as an artistic statement is that each of these can be a goal in life, and to some extent, these goals are all mutually exclusive. If you find a wife early in the game, getting treasure chests becomes more difficult because the two of you are unable to enter areas that could be entered singly. If you choose to seek treasure, you will spend your time exploring the vertical space of the world and won't be able to see the different scenery to the right. If you choose to move as far to the right as possible, you won't rack up nearly as much treasure.

In this incredibly simple game, Rohrer exposes a few of the fundamental decisions that every one of us must make in life and demonstrates how even early decisions can have a major effect on the rest of our lives. The important thing here is that he is giving players choice and demonstrating to them that their choices matter.

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14. *Passage* is downloadable from Rohrer's website at http://hcsoftware.sourceforge.net/passage/, or you can find an online version at http://passage.toolness.org/.

15. Suits contrasts these with closed games, which have a specific goal (e.g., crossing a finish line in a race or ridding yourself of all your cards in *Bartok*). Suits' example of an open game is the game of make-believe that children play.

This is an example of the first of a number of designer's goals that I will introduce in this book: *experiential understanding.* Whereas a linear story like a book can encourage empathy with a character by exposing the reader to the character's life and the decisions that they have made, games can allow players to understand not only the outcome of decisions but also to be complicit in that outcome by giving the player the power and the responsibility of decision and then showing them the outcome wrought by their decisions. Chapter 8, "Design Goals," explores these in much greater depth.

Sid Meier's Definition

By stating that "a game is a series of interesting choices," Meier is saying very little about the definition of the word *game* (there are many, many things that could be categorized as a series of interesting choices and yet are not games) and quite a bit about what he personally believes makes for a good game. As the designer of games such as *Pirates*, *Civilization*, *Alpha Centauri*, and many more, Sid Meier is one of the most successful game designers alive, and he has consistently produced games that present players with interesting choices. This, of course, raises the question of what makes a choice or decision *interesting.* An interesting decision is generally one where:

■ The player has multiple valid options from which to choose.

■ Each option has both positive and negative potential consequences.

■ The outcome of each option is predictable but not guaranteed.

This brings up the second of our designer's goals: to create *interesting decisions.* If a player is presented with a number of choices, but one choice is obviously superior to the others, the experience of deciding which to choose doesn't actually exist. If a game is designed well, players will often have multiple choices from which to choose, and the decision will often be a tricky one.

Tracy Fullerton's Definition

As she states in her book, Tracy Fullerton is much more concerned with giving designers tools to make better games than she is with the philosophical definition of *game.* Accordingly, her definition of a game as "a closed, formal system that engages players in a structured conflict and resolves its uncertainty in an unequal outcome" is not only a good definition of *game* but also a list of elements that designers can modify in their games:

■ **Formal elements:** The elements that differentiate a game from other types of media: rules, procedures, players, resources, objectives, boundaries, conflict, and outcome.

■ **(Dynamic) systems:** Methods of interaction that evolve as the game is played.

- **Conflict structure:** The ways in which players interact with each other.
- **Uncertainty:** The interaction between randomness, determinism, and player strategy.
- **Unequal outcome:** How does the game end? Do players win, lose, or something else?

Another critical element in Fullerton's book is her continual insistence on *actually making games.* The only way to become a better game designer is to make games. Some of the games you'll design will probably be pretty awful—some of mine certainly have been—but even designing a terrible game is a learning process, and every game you create will improve your design skills and help you better understand how to make great games.

Jesse Schell's Definition

Schell defines a game as "a problem-solving activity, approached with a playful attitude." This is similar in many ways to Suits' definition, including its consideration of the player's perspective. According to both, it is the playful attitude of the player that makes something a game.

Suits argues in his book that two people could both be involved in the same activity, and to one, it would be a game, whereas to the other, it would not be. His example is a foot race where one runner is just running because she wants to take part in the race, but the other runner knows that at the finish line there is a bomb they must defuse before it explodes. According to Suits, although the two runners would both be running in the same foot race, the one who is simply racing would follow the rules of the race because of what Suits calls her *lusory attitude*. On the other hand, the bomb-defusing runner would break the rules of the game the first chance they got because they have a serious attitude (as is required to defuse a bomb) and are not engaged in the game. *Ludus* is the Latin word for play, so Suits proposes the term *lusory attitude* to describe the attitude of one who willingly takes part in playing a game.

It is because of their lusory attitude that players will happily follow the rules of a game even though there may be an easier way to achieve the stated goal of the game (what Suits would call the *pre-lusory goal*). For example, the pre-lusory goal of golf is to get the golf ball into the cup, but there are many easier ways to do so than to stand hundreds of yards away and hit the ball with a bent stick. When people have a lusory attitude, they set challenges for themselves just for the joy of overcoming them.

So, another design goal is to *encourage a lusory attitude.* You should design your game to encourage players to enjoy the limitations placed on them by the rules. Think about why each rule is there and how it changes the player experience. If a game is balanced well and has the proper rules, players will enjoy the limitations of the rules rather than feel exasperated by them.

Keith Burgun's Definition

Burgun's definition of a game as "a system of rules in which agents compete by making ambiguous, endogenously meaningful decisions" is his attempt to push the discourse on games forward from a rut that he feels it has fallen into by narrowing the meaning of game down to something that can be better examined and understood. The core of this definition is that the player is making choices and that those choices are both ambiguous (the player doesn't know exactly what the outcome of the choice will be) and endogenously meaningful (the choice is meaningful because it has a noticeable effect upon the game system).

Burgun's definition is intentionally limited and purposefully excludes several of the things that many people think of as games (including foot races and other competitions based on physical skill) as well as reflective games like *The Graveyard,* by Tale of Tales, in which the player experiences wandering through a graveyard as an old woman. Both of these are excluded because the decisions in them lack ambiguity and endogenous meaning.

Burgun chooses such a limited definition because he wants to get down to the essence of games and what makes them unique. In doing so, he makes several good points, including his statement that whether an experience is fun has little to do with the question of whether it is a game. Even a terribly boring game is still a game; it's just a bad game.

In my discussions with other designers, I have found that a lot of contention can exist around this question of what types of things should fall under the term *game.* Games are a medium that has experienced a tremendous amount of growth, expansion, and maturation over the last few decades, and the explosion of independent game development this decade has only hastened the pace. Today, more people than ever before—with disparate voices and varied backgrounds—are contributing work to the field of games, and as a result, the definition of the medium is expanding, which is understandably bothersome to some people because this expanding definition can be seen as blurring the lines of what is considered a game. Burgun's response to this is his concern that it is difficult to rigorously advance a medium if we lack a good definition of what the medium is. I'll come back to this topic in a little while.

Why Care About the Definition of Game?

In his 1953 book *Philosophical Investigations,* Ludwig Wittgenstein proposed that the term *game*, as it is used colloquially, had come at that time to refer to several very different things that shared some traits (which he likened to a family resemblance) but couldn't be encapsulated in a single definition. In 1978, Bernard Suits attacked this idea by using his book, *The Grasshopper,* to argue very stringently for the specific definition of game that you read earlier in this chapter. However, as Chris Bateman points out in his book *Imaginary Games,* though Wittgenstein used the word *game* as his example,

he was really trying to make a larger point: the point that words are created to define things rather than things being created to meet the definition of words.

In 1974 (between the publications of *Philosophical Investigations* and *The Grasshopper*), the philosopher Mary Midgley published a paper titled, "The Game Game," in which she explored and refuted the "family resemblance" claim by Wittgenstein not by arguing for a specific definition of game herself but instead by exploring why the word *game* existed. In her paper, she agrees with Wittgenstein that the word *game* came into being long after games existed, but she makes the statement that words like *game* are not defined by the *things* that they encompass but instead by the *needs* that they meet. As she states:

> Something can be accepted as a chair provided it is properly made for sitting on, whether it consists of a plastic balloon, a large blob of foam, or a basket slung from the ceiling. Provided you understand the need you can see whether it has the right characteristics, and aptness for that need is what chairs have in common.[16]

In her paper, Midgley seeks to understand some of the needs that games fulfill. She completely rejects the idea that games are closed systems by both citing many examples of game outcomes that have effects beyond the game and pointing out that games cannot be closed because humans have a reason for entering into them. To her, that reason is paramount. The following are just a few reasons for playing games:

- **Humans desire structured conflict:** As Midgley writes, "The Chess Player's desire is not for general abstract intellectual activity, curbed and frustrated by a particular set of rules. It is a desire for a particular kind of intellectual activity, whose channel is the rules of chess." As Suits pointed out in his definition, the rules that limit behavior are there precisely because the challenge of those limitations is appealing to players.

- **Humans desire the experience of being someone else:** We are all acutely aware that we have but one life to live (or at least one at a time), and play can allow us to experience another life. Just as a game of *Call of Duty* allows a player to pretend to experience the life of a soldier, so too does *The Graveyard* allow the player to pretend to experience the life of an old woman, and playing the role of Hamlet allows an actor to pretend to experience the life of a troubled Danish prince.

- **Humans desire excitement:** Much popular media is devoted to this desire for excitement, be it action films, courtroom dramas, or romance novels. The thing that makes games different in this regard is that the player is actively taking part in the excitement rather than vicariously absorbing it, which is the only option for the majority of linear media. As a player, you aren't watching someone else be chased by zombies, you're being chased yourself.

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16. Mary Midgley. "The Game Game," *Philosophy 49,* no. 189 (1974): 231–53.

Midgley found it critical to consider the needs that are fulfilled by games in order to understand both their importance in society and the positive and negative effects that games can have on the people who play them. Both Suits and Midgley spoke about the potentially addictive qualities of games in the 1970s, long before video games became ubiquitous and public concern emerged about players becoming addicted. As game designers, it is useful for us to understand these needs and respect their power.

The Nebulous Nature of Definitions

As Midgley pointed out, it is useful to think of the word *game* as being defined by the need that it fills. However, she also stated that a chess player doesn't want to play just any kind of game; they specifically want to play chess. Not only is it difficult to come up with an all-encompassing definition for game, it's also true that the same word will mean different things to different people at different times. When I say that I'm going to play a game, I usually mean a console or video game; when my wife says the same thing, though, she usually means *Scrabble* or another word game. When my parents say they want to play a game, it means something like Alan R. Moon's *Ticket to Ride* (a board game that is interesting but doesn't require players to be overly competitive with each other), and my in-laws usually mean a game of cards or dominoes when they use the word. Even within our family, the word has great breadth.

The meaning of the word *game* is also constantly evolving. When the first computer games were created, no one could have possibly imagined the multi-billion-dollar industry that we now have or the rise of the fantastic indie renaissance that we've seen over the past decade. All that they knew was that these things people were doing on computers were kind of like tabletop war board games (I'm thinking of *Space War* here), and these new games were called "computer games" to differentiate them from the pre-existing meanings of *game*.

The evolution of digital games was a gradual process with each new genre building in some way on the ones that had come before, and along the way, the term *game* expanded further and further to encompass all of them.

Now, as the art form matures, many designers are entering the field from various other disciplines and bringing with them their own concepts about what can be created with the technologies and design methodologies that have been developed to make digital games. (You may even be one of them.) As these new artists and designers enter the space, some of them are making things that are very different from what we think of as a stereotypical game. That's okay; in fact, I think it's fantastic! And, this isn't just my opinion. IndieCade, the international festival of independent games, seeks every year to find games that push the envelope of what is meant by *game.* According to Festival

Chair Celia Pearce and Festival Director Sam Roberts, if an independent developer wants to call the interactive piece that they have created a game, IndieCade will accept it as one.[17]

Summary

After all these interwoven and sometimes contradictory definitions, you may be wondering why this chapter has spent so much time exploring the definition of the word *game.* I have to admit that in my day-to-day work as an educator and game designer, I don't spend a lot of time wrestling with the definitions of words. As Shakespeare points out, were a rose to be named something else, it would still smell as sweet, still have thorns, and still be a thing of fragile beauty. However, I believe that an understanding of these definitions can be critical to you as a designer in the following three ways:

- Definitions help you understand what people expect from your games. This proves especially true if you're working in a specific genre or for a specific audience. Understanding how your audience defines the term will help you to craft better games for them.

- Definitions can lead you to understand not only the core of the defined concept but also the periphery (i.e., games that fit the definition perfectly (the core) and games that just barely fit the definition (the periphery)). As you read through this chapter, you encountered several different definitions by different people, and each had both a core and a periphery. The places where these peripheries don't mesh can be hints at some of the interesting areas to explore with a new game. For example, the area of disagreement between Fullerton and Midgley about whether a game is a closed system highlights the previously untracked ground that in the 2000s grew into alternate reality games (ARGs), a genre centered on perforating the closed magic circle of play.[18]

- Definitions can help you speak eloquently with others in the field. This chapter has more references and footnotes than any other in the book because I want you to be able to explore the philosophical understanding of games in ways that are beyond the scope of this one book (especially since this book is really focused on the practicalities of actually making digital games). Following these footnotes and reading the source material can help improve the critical thinking that you do about games.

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17. This was stated during the Festival Submission Workshop given by Celia Pearce and Sam Roberts at IndieCade East 2014 and is paraphrased on the IndieCade submissions website at https://www.indiecade.com/submissions-help-section/eligibility/#mean-by-game (accessed June 14, 2021).

18. The first large-scale ARG was *Majestic* (Electronic Arts, 2001), a game that would phone players in the middle of the night and send them faxes and emails. Smaller-scale ARGs include the game *Assassin*, which is played on many college campuses, where players can "assassinate" each other (usually with Nerf or water guns, or by snapping a photo) any time that they are outside of classes. One of the fun aspects of these games is that they are always happening and can interfere with normal life.

The Core Lessons of This Book

This book will actually teach you how to design a lot more than just games. In fact, it will teach you how to craft any kind of *interactive experience*. As I define it:

> An interactive experience is any experience created by a designer; inscribed into rules, media, or technology; and decoded by people through play.

That makes *interactive experience* a pretty expansive term. In fact, any time that you attempt to craft an experience for people—whether you're designing a game, planning a surprise birthday party, or even planning a wedding—you're using the same tools that you will learn as a game designer. The processes that you will learn in this book are more than just the proper way to approach game design. They are a meaningful way to approach any design problem, and the iterative process of design that is introduced in Chapter 7, "Acting Like a Designer," is *the* essential method for improving the quality of any design.

No one bursts forth from the womb as a brilliant game designer. My friend Chris Swain[19] is fond of saying that "Game design is 1% inspiration and 99% iteration," a play on the famous quote by Thomas Edison. He is absolutely correct, and one of the great things about game design (unlike the previously mentioned examples of the surprise party and the wedding) is that you get the chance to iterate on your designs, to playtest the game, make subtle tweaks, and play it again. With each prototype you make—and with each iteration of your prototypes—your skills as a designer will improve. Similarly, once you reach the parts of this book that teach digital development, be sure to keep experimenting and iterating. The code samples and tutorials are designed to show you how to make a playable game prototype, but every tutorial in this book will end where your work as a designer should begin. Each one of these prototypes could be built into a larger, more robust, better balanced game, and I encourage you to do so.

Moving Forward

Now that you've experienced a bit of game design and explored various definitions of *game,* it's time to move on to a more in-depth exploration of a few different analytical frameworks that game designers use to understand games and game design. The next chapter explores various frameworks that have been used over the past several years, and the chapter that follows synthesizes those into the framework used throughout the remainder of this book.

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19. Chris Swain co-wrote the first edition of *Game Design Workshop* with Tracy Fullerton and taught the class of the same name at the University of Southern California for many years, which I took over from him in 2009. He is now an entrepreneur and independent game designer.