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Handout 1:
Unit 2 Overview

Think about all the different kinds of games that you like to play. What is it that makes them fun? Do you like fast-paced games where you need to use quick reflexes? Do you like games in which you need to think strategically and anticipate your competitor's next move? Do you like games that tell a story? Games that allow you to take on another identity or explore an alternate universe? And have you ever wondered who came up with the idea for your favorite game—or how that person structured the game to make it functional, challenging, and fun to play?

In this unit, you'll learn to think like a game designer. You'll determine how different types of games are structured, and you'll learn principles and strategies for designing games. For your unit project, you'll work as part of a team to design and create a simple video game.

Your work in this unit will revolve around the following questions:

- *Why do people play video games?*
- *What are the principles of good game design?*
- *How do game-play mechanics and visual elements interact to create an engaging and compelling game?*
- *What kind of game do I want to create?*

Unit Project

For the unit project, you'll take on the role of a designer for a video game company. Your task is to come up with an idea for a simple new video game. You'll work with a team to develop the theme of the game, its rules, and the mood and look of the game. Your team will design the user interface for the game and produce game art. You'll use game development software to create the actual game. At the end of the unit, you'll present your game to your classmates.

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What You Will Do in This Unit

Play games. Play different games, identify common game elements and features that distinguish games from one another, and discuss the kinds of games you like to play and why you like to play them.

Critique games. Play, describe, analyze, and critique a game on your own each week.

Reverse-design a video game. Work as part of a team to analyze a video game by "pulling apart" its different components to find out how the parts were put together by the original game designer.

Choose an idea for a new game. With your team, develop an idea for a new video game.

Describe your game. Write a short treatment for your video game idea and present it to your classmates.

Complete a design document. Describe specific elements and features of your game.

Create user interface wireframes. Draw sketches of different game screens that show how players will interact with the game.

Create game art. Create art to use in your video game, or create concept art for the game.

Create your game. Use game development software to create your game.

Test your game with your classmates. Partner with another team to give and receive feedback on each other's games.

Revise your game. Use peer feedback to revise your game.

Present your game. Share your game with an audience.

Portfolio Requirements

You will keep a portfolio of work throughout the unit that includes the following items:

- Video game treatment
- Game design document
- Game interface wireframes
- Game art
- Completed video game

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Vocabulary Used in This Unit

Camera viewpoint: The angle from which the game world is depicted on a video game screen.

Dramatic elements: Components of games that are designed to engage players, such as story and characters.

Formal elements: Components that make up a game, such as game objectives and rules.

Game design document: A written piece that outlines the essential elements of a game, including game objectives, rules, intended audience, storyline, and unique selling points.

Game platform: The device on which a game is played. Examples of game platforms are consoles, personal computers, and hand-held portable devices.

Game world: The physical world in which the game takes place. For example, a game world might consist of physical locations in a game, such as geographic places; landscape features, such as bodies of water; and environmental features, such as buildings. In puzzle or abstract games, the game world may consist of such items as grids, geometrics objects, and numbers or letters.

Manual interface: The controls that players manipulate physically, such as a joystick or keys on a computer keyboard.

Play-test: The process of playing a prototype of a game and providing feedback on how functional, playable, and engaging the game is.

Power-up: Something, such as an object, that gives a video game character a boost of strength, power, wealth, or speed.

Prototype: A working model of a game idea.

Visual interface: The display shown on a video game screen that gives a player the information needed to play and make decisions during the game, such as the number of lives remaining, location within the game world, and links to other menus.

Wireframe: A sketch of the visual interface of one screen in a video game.

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Handout 2:
Unit 2 Journal Assignments

Journal 1

Think of one of your favorite games. It could be a video game, a board game, a sport, or any other kind of game that you played when you were younger or that you like to play now. Write a paragraph that describes the game's "player experience":

- As a player, what do you do in the game? (Are you moving around, using your reflexes, using your imagination?)
- What do you experience that makes the game fun?
- How do you feel when you are playing the game?

Be descriptive! Focus your writing on how you *feel* when you play the game rather than on the specific rules or procedures of the game.

Look through your paragraph description and circle key words and phrases that define the experience of playing this game. Which aspects of this experience, if any, do you want to recreate in your video game for the unit project?

Journal 2

List three of your favorite games. Name the objective, or objectives, of each game. Are there any similarities in these games?

Based on the games' objectives, try to define the type of game that has the most appeal for you. What do you think that indicates about your personality, interests, or skills?

Journal 3

Think about all the games that you have played, analyzed, or seen in this class and at home. Which game's interface do you like the most? Why? Describe how the interface affects your enjoyment of a game.

Think about an idea you have for a new video game that you'd like to design. What kind of interface would work best for this game? Why?

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Journal 4

Game ideas can come from lots of different places. Complete the following prompts and use your responses to help you generate ideas to use as the basis for a new game.

- My favorite sports or games that I played outside when I was younger were . . .
- My favorite indoor games (board games, etc.) that I played when I was younger were . . .
- Right now, my favorite non-video games are . . .
- My favorite video games are . . .
- My favorite movies are . . .
- A TV show that I like is . . .
- A reality TV show that I like is . . .
- One of the best books I ever read was . . .
- One of the most fun things I ever did was . . .
  (This could be any experience you had, such as being in a play, winning a basketball game against a tough opponent, or going on a trip.)

Look through your list. Do any of the games or experiences that you've already had lend themselves to ideas for a new video game? Brainstorm two ideas for games, based on any of the prompts you answered above or a totally new idea. Be sure to keep in mind the limits of the game development software you're using, and focus on ideas that are simple enough to complete in the time that you have available.

Each of your ideas should answer two basic questions from the perspective of a player:

- Who are you?
- What do you do (or what are you trying to do) during the game?

Journal 5

- What was challenging about building and play-testing your game?
- What is one piece of feedback you got from your play-testers that was helpful?
- What is one change you want to make to the game based on the feedback you got from your play-testers?

Journal 6

- What was your favorite part of the video game design and creation process? What did you especially enjoy about it?
- What was the most challenging part of the video game design and creation process? What did you find especially challenging about it?
- What did you learn about the principles of game design during this unit?
- What did you learn about the role that art and graphics play in creating a successful video game?
- What did you learn about the process of creating a game?
- What would you do differently if you were to do this project again?

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Handout 3:
Instructions for *What's in a Game?*

What is a game? What elements are common to all games? What features make games distinctive? To help you define what a game is, you and your team will play a game and then compare its elements and features with other games played by your classmates.

First, your teacher will assign your team a game. You'll then complete the steps listed below.

Step 1: Familiarize Yourself with the Game

Decide which team members will play the game. If your team has more members than are needed to play the game, have some team members observe while others play.

Take a few minutes to become familiar with the rules and procedures of the game. Make sure that all the players understand how the game works.

Step 2: Play the Game

Play the game for 10 minutes. It's okay if you don't finish it. Play long enough to get a sense of the playing experience—what you do as a player, what you're trying to accomplish, and how it feels to play the game.

Step 3: Write a Paragraph About the Game

Imagine that you need to describe the game to someone who has never played it or any game like it. Each team member should write a paragraph that gives a basic description of the game and how it is played.

Step 4: Compare Games: Share and Listen

Form a new team with three other students, each of whom played a different game. In your new team, share your game description, and listen to descriptions of other games.

Step 5: Identify Common Elements and Distinct Features

Draw a rectangle on a sheet of paper. Write each game's name in an inside corner of the rectangle. In the middle of the rectangle, list elements common to all of the games. Outside each corner of the rectangle, list game elements or features distinct to each game. Your rectangle will look like this:

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Distinct Features of Game 1

- Distinct feature #1
- Distinct feature #2
- Distinct feature #3
- Etc.

Distinct Features of Game 2

- Distinct feature #1
- Distinct feature #2
- Distinct feature #3
- Etc.

Name of Game 1

Name of Game 2

(Elements Common to All Games)

- Common element #1
- Common element #2
- Common element #2
- Etc.

Name of Game 3

Name of Game 4

Distinct Features of Game 3

- Distinct feature #1
- Distinct feature #2
- Distinct feature #3
- Etc.

Distinct Features of Game 4

- Distinct feature #1
- Distinct feature #2
- Distinct feature #3
- Etc.

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Handout 4:
Elements of Games

A *game* is an activity or form of play that has structure, boundaries, and rules. Understanding the elements of games can help you design a game that is engaging and fun to play. Game elements include *formal elements*—the components that structure the game—and *dramatic elements*—the ways in which a game attracts and engages players.

Formal Elements of Games

Players

For a game to be a game, there must be someone who plays it! Games vary in the number of players, the roles that players take on, and the *player interaction patterns*—for example:

- A single player vs. the game
- Player vs. player
- Multiple players vs. the game

In cooperative games, players work together instead of competing against each other.

New Super Mario Bros. Wii can be played in single-player mode or in multiplayer mode as shown here.
Screenshot from *New Super Mario Bros. Wii* by Nintendo.

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Objectives

What is the player trying to do or accomplish during the game? The objective of the game defines what the game is about.

Here are some common objectives in video games:

- **Arrange or align:** Arrange your game pieces in a particular configuration (such as in *Tetris* or *Bejeweled*)
- **Capture:** Take or destroy something belonging to an opponent (for example, terrain or units) while avoiding being captured
- **Chase:** Catch an opponent and/or avoid being caught yourself
- **Collect:** Acquire units or objects
- **Construct:** Build, maintain, or manage objects
- **Explore:** Explore game areas (this is usually combined with a more competitive objective)
- **Race to the finish:** Reach a goal—physical or conceptual—before other players reach it, or before time runs out
- **Rescue or escape:** Get someone or something to safety
- **Solve a puzzle:** Find a solution to a puzzle or problem more quickly or more accurately than a competitor

In *Bejeweled*, the objective is to arrange jewels so that three or more of the same jewel are lined up in a row. Screenshot of *Bejeweled 2* by Popcap.

Rules

Rules tell players what they can and cannot do in a game.
There are different kinds of rules in games. A rule might tell you . . .

- **What something means:** For example, a rule in the game of poker is that a *flush* consists of five cards of the same suit and that it is worth more than a *straight*, which consists of five cards in consecutive order.
- **What you can't do:** For example, one rule in *Madden Football* is that you can't throw the ball when you are past the line of scrimmage.
- **What happens if you do "X":** For example, in *You Don't Know Jack*, if a player answers a question incorrectly, the other players get a chance to answer.

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Resources

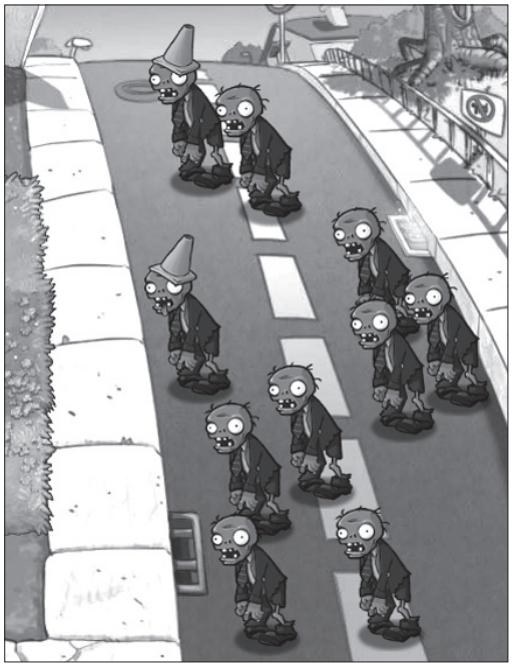
Resources are tools that players use to play the game and accomplish their objectives. In video games, resources might include the following:

- **Lives:** Some video games—including the earliest games, such as *Space Invaders*—give players a certain number of times they can "die" before the game is over. In many games, you can earn more lives if you do something well.
- **Power-ups:** These are generally objects that give your character some kind of boost of strength, power, wealth, or speed. For example, in *Jak* and *Daxter*, a type of power source called *blue eco* allows players to move faster than normal.
- **Inventory:** Some games allow players to collect objects (that are not power-ups), such as weapons and ammunition.
- **Currency:** In some games, players have money, gold, or another item that can be used to trade or purchase other resources.

Conflict

Conflicts are built into games in order to make it difficult for players to accomplish their objective. Conflicts provide a sense of competition and play.

Think of the game of basketball. What's the objective? To shoot the ball into the other team's hoop and score points. If the other team had no defenders, it would be easy for players to accomplish their objective. It would also be a boring game to play.



In the game *Plants vs. Zombies*, zombies are a source of conflict.
Screenshot from *Plants vs. Zombies* by Popcap.

Some common sources of conflict:

- **Obstacles:** Obstacles can be physical, such as a barrier blocking an entrance, or they can involve mental skills, such as a riddle you must solve or a code you must figure out in order to open a gate.
- **Opponents:** In multi-player games, opponents are players you compete against. In single-player games, there can be non-player characters that are opponents as well, such as enemies that you have to avoid.
- **Dilemmas:** Decisions that players must make in a game can provide conflict, such as deciding whether or not to fold during a poker game.
- **Time:** In some games, you work against the clock to reach a goal. The time pressure makes the game challenging and adds a level of tension.

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Dramatic Elements of Games

The formal elements are what make a game a game. Dramatic elements are what make a game *fun*. A game's dramatic elements engage players and get them emotionally invested.

Challenge

In games, *challenge* refers to tasks that are satisfying to complete because they require the "right" amount of hard work. Challenges are tasks that engage you and make you want to continue playing so that you feel satisfaction and a sense of accomplishment.

Here are some points to keep in mind about challenge in games:

- If a game is too challenging, players can get frustrated—but if a game is too easy, players can get bored.
- The "right" amount of hard work depends on the specific player's skills and interests. For example, a child who is just learning to count might be satisfied with the challenge presented in the game *Chutes and Ladders*, while an adult who has mastered that skill would find it boring.
- When you design your game, you should have a target audience in mind so that you have a sense of how challenging your game should be.

Play

A main reason that people play games is because the simple act of *playing* something is fun. The word *play* often refers to activities that people choose to take part in for their own enjoyment (as opposed to *work*, which is something they have to do).

If you have watched small children playing, you may have seen them laughing with delight as they freely explore and experiment with objects, sounds, and activities. To really engage players in your game means structuring your game so that players feel a sense of play. You want players to feel that reaching the objective is fun, not work!

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Premise and Story

Many games have a premise and story that provides context for the game and gives the player a purpose. There are different ways to approach the use of premise in a game, for example:

- Some games have an elaborate premise that provides drama for the player. For example, in *Diablo*, the player is a wandering warrior who has been asked by the townspeople of Tristram to help them rid the world of Diablo, the Lord of Terror.
- In other games, the premise is less developed. For example, the premise of *Space Invaders* is that you are protecting an unnamed planet from attacking aliens.
- In many puzzle games and other abstract games, there is no premise—at least none that is obvious to the player.

In most Mario series games, including *Super Mario Galaxy,* the basic premise is very simple: Princess Peach has been captured by Bowser, and Mario must save her.
Screenshot from *Super Mario Galaxy* by Nintendo.

Characters

Game designers aim to have players identify with a character in a game so that players become invested in the story and its outcome. Early video game characters were completely defined by the way they looked. Today, as games gain more sophisticated narratives, many characters have well-developed backstories that make the game a richer experience.

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Handout 5:
Weekly Critique

Choose a game to watch, analyze, and critique on your own each week.

Choose Games

Choose a game to play. You can play:

- board games
- card games
- physical-skill games (such as basketball or tag)
- video games

Critiquing a variety of games will help you see how different game elements work together to create a satisfying game, and how various types of games are similar and different.

At least three of the games you critique should be video games. Try to play games from different genres (for example, you might play a racing game, a role-playing game, and a *platform game*—a game in which characters jump on and over objects and platforms, such as the *Super Mario* game series).

Play the game for at least 15 minutes (if it's a multi-player game, play it with classmates, family members, or friends). Ideally, you will play at least one full level of the game (for a video game) or one round (for a board game or card game).

Describe, Analyze, Critique

Fill out the charts below for each game. You can include drawings as well as text—for example, you might sketch a character or an obstacle from the game.

THE GAME	
Name of the game	
Kind of game (for example, board game or video game)	
Portion of the game that you played (for example, "the first level of the game" or "two rounds of the game")	
Date and time you played the game	
Who you played the game with (if it's a multi-player game)	

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DESCRIPTION	
What is the objective of the game?	
Describe two or more rules of the game.	
What does the *game world* (the physical environment of the game) look like?	

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ANALYSIS AND INTERPRETATION	
What resources can the player use to help reach the goal? What obstacles get in the way of reaching the goal?	
Describe the style that artists have used to create the game world, and how it contributes to the mood of the game.	
For a video game, describe an aspect of the game in which the game artists use the elements of art and principles of design to create a mood or create an engaging world for the player.	

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CRITIQUE	
Did the game have the appropriate level of challenge (not too easy and not too hard)? If so, how did the game makers use game elements to create the right degree of challenge? If not, what aspects of the game weren't challenging enough or were too challenging?	
Was the game fun to play? Why or why not?	
Describe one thing you would change about the game and why.	

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Assessment Checklist 1:
Weekly Critique

Use this checklist to help you plan and assess each of your weekly critiques. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Description		**Student Comments**	**Teacher Comments**
Clearly describes the objective of the game.	**10%**		
Describes at least two rules of the game.	**10%**		
Clearly describes the world of the game.	**10%**		
Analysis and Interpretation			
Clearly describes resources players can use to reach the goal, and obstacles that get in the way of the goal.	**15%**		
Describes the style in which the game is rendered and how it contributes to the game's mood.	**10%**		
Demonstrates understanding of the elements of art and principles of design by describing how they are used to create a mood or an engaging world.	**10%**		

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Critique			
Provides convincing evidence for why the game did or did not have the appropriate level of challenge for players.	**15%**		
Identifies reasons that the game was or was not fun to play.	**10%**		
Identifies convincing reasons that one element of the game should be changed.	**10%**		
Total	**100%**		

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Handout 6:
Game Development Worksheet

As you work on developing your game, use the questions on this worksheet to take notes and organize your work. Depending on the game you are creating and the game development software you are using, not all of the questions may apply.

Player Experience

- What role does the player take on in the game? How is the player represented—by a player-controlled avatar, or another means?

- What is the player's objective?

- What types of actions can the player take in the game? If there are player-controlled avatars, how does the player move the character?

- How does the player cause things to happen in the game? What keys or other controls do they use?

Game World

- What will your world look like? What are the boundaries of the world?

- Are there walls or other terrain features in your world? How will you represent these features? What objects will you use? What properties will those objects have?

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Other Characters in the Game

- Are there characters that move around in the game world, such as enemies? If so, how will those characters be represented in the game?

- If there are enemies, how will you program their movement?

Resources in the Game

- What resources (such as coins or food) do players use to achieve their objective? How will they be represented in the game?

- What happens when the player interacts with those resources (for example, by clicking on them or by having an avatar touch them)?

Scoring/Winning/Losing

- Is there a scoring system in the game? If so, how does the player lose or gain points? How does the player know what his or her score is?

- Is there a timing system in the game, such as a clock that the player must beat? If so, how does the timing system function, and how is it represented?

- How does the player win the game? What happens when the player wins?

- How does the player lose the game? What happens when the player loses?

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Handout 7:
Reverse-Design Document

Use this document to help you unpack and record the design elements of the game your team has chosen to analyze.

Part 1. Overview	
Briefly describe the game and how it is played. Include a short description of the *game world*—the physical world in which the game takes place.	
Part 2. Formal Elements	
Players	
How many players play the game? What is the player interaction pattern (for example, player vs. game)? What role does the player (or do players) take on during the game?	
Objective(s)	
What does the player try to achieve during the game? (If there are multiple objectives, list them and indicate which is the game's main objective.)	
Resources	
What do players use to help them accomplish their objectives (for example, weapons, currency, special powers)?	

Conflicts and Obstacles	
What obstacles make it challenging for a player to accomplish his or her objective(s) (for example, enemies, limited amount of time)?	
Rules	
List three to five rules that you identify in the game. Include different types of rules. (For example, are there rules that restrict actions a player can take? Rules that define how a player can use a particular object in the game?)	

Part 3. Dramatic Elements

Challenge	
What's challenging about the game? What's easy about the game? Does the game have the right level of challenge (not too easy and not too hard)? If so, how did the game makers use game elements to create the right degree of challenge (for example, by limiting the time available to get through a level)? If not, what aspects of the game weren't challenging enough or were too challenging?	

Play	
What activities do players do that make the game fun?	
Premise and Story	
If the game tells a story, briefly describe the story. How, if at all, do player actions affect the outcome of the story?	
Visual Art Style	
Describe the visual style of the game (for example, is the game realistic-looking? Dark and gritty? Cartoon-like? Influenced by anime?). Describe the game's mood and how the art style helps to establish this mood.	

Part 4. User Interface

Manual Interface	
How do you control the game? Describe how to complete two actions in the game (such as movement or shooting). How easy or difficult is it to use the manual interface? Why?	

Visual Interface	
Describe or sketch the visual interface. What is the camera viewpoint? Where is information displayed on the screen? Is the visual interface easy or difficult to navigate? Why?	
Information	
What information is displayed onscreen for the player? Does the visual interface show the right kind and amount of information? If not, what should be added or removed?	

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Handout 8:
User Interface

User interface refers to the way that players and the game interact. In video games, there is a *manual interface*—the controls that players manipulate physically (such as a joystick or keys on a computer keyboard)—and there is a *visual interface*—how information and actions are displayed on the screen.

Manual Interface (Controls)

The manual interfaces are closely associated with the particular game platform.

Computer Games

Players often navigate through a computer game using a combination of the computer's keyboard (especially the arrow keys) and the mouse. Players may also use other kinds of controls, such as joysticks or wands.

Console Games

Similar to arcade games, console games (such as the X-box and Wii) use controls, such as buttons, sticks, and pads, which respond quickly to touch. The controls are designed to respond to quick reflexes, and they handle action games better than computers do. Some specialized console games have unique devices, such as foot pads (*Dance Dance Revolution*), fishing rods (*Bass Fishing*), and guitars (*Guitar Hero*).

A guitar controller that can be used with the game *Guitar Hero*

A game console and remote

Hand-Held Games

Single-purpose hand-held games (such as the Nintendo DS) are like miniature console systems with their own screens. The manual controls are similar to those in console games, though smaller. With multi-purpose devices, such as those that combine games with cell phones, the interface design has to be flexible, so that the system can be used by a "player" sometimes and by a "caller" at other times.

Many games, like *Angry Birds*, are designed to be played on cell phones.

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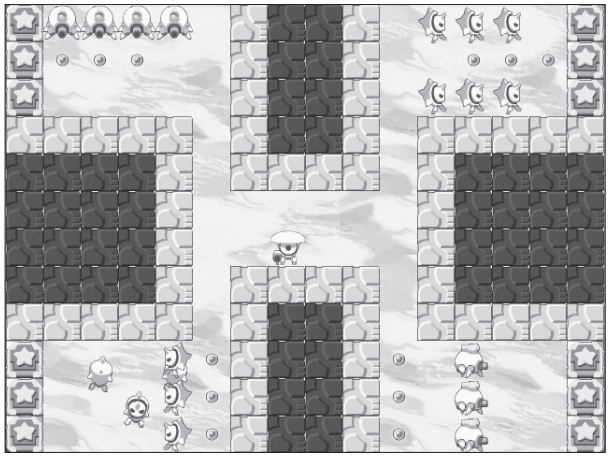
Visual Interface

What does the player see on the screen? The visual interface for a video game is a combination of the camera viewpoint of the game world and the visual display of information and controls that allows the user to interact with the system.

Camera Viewpoint

The camera viewpoint is the angle from which the player sees the game world.

Overhead (or "top-down") view: Early games, especially early sports games, used an overhead view that allowed the player to see the whole game world. Today, this viewpoint is used less often. (Imagine watching a movie that's shot from an aerial view—it's not the most natural way to look at something!)



This game developed in *Gamestar Mechanic* uses an overhead viewpoint.
Screenshot courtesy of E-Line Media.

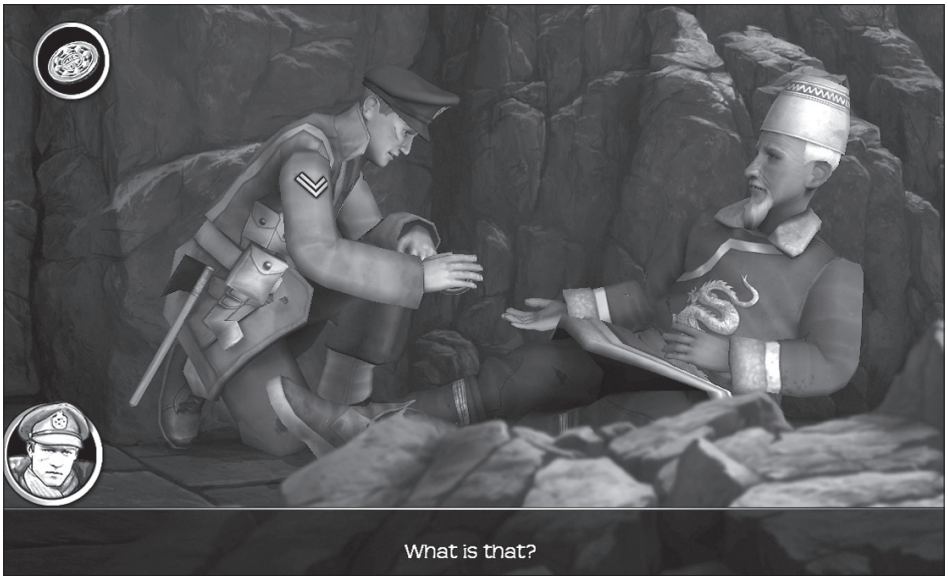
Isometric view: This viewpoint is essentially a fancier version of the overhead view. It uses graphics to give the appearance of three-dimensional perspective, which makes it look realistic.

Grave Shift uses an isometric viewpoint.
Screenshot from *Grave Shift* by Tangerine Pop.

First-person view: This viewpoint puts the player in the main character's shoes. It also limits the player's knowledge of the whole game world, allowing for dramatic moments of tension when an unexpected object or character, such as an enemy, jumps out from around a corner or behind a door. Today, the first-person view is common, creating a level of intimacy and immersion in the game world.

Nerf N-Strike Elite uses a first-person viewpoint.
Screenshot from *Nerf N-Strike Elite* by Electronic Arts, Inc.

Third-person view: This view often follows a character closely, but stops short of putting the player directly inside the character's shoes. Strictly speaking, top-down and isometric views are also third-person views, since they are from the viewpoint of an outsider looking in on the game. But in game design, a third-person view often shows the scene at eye level, like this one.



Lost Horizon uses a third-person viewpoint.
Screenshot from *Lost Horizon* by Animation Arts, published by Deep Silver.

Information and Action

The visual interface contains information that the player needs to access throughout the game. Sometimes this interface is active, which means that the player can interact with it by clicking on displayed items. For example, a player might see icons or buttons on the screen that allow the player to take the following actions:

- Pause a game or start a new game
- Save a game
- Configure the game
- Customize a character
- Choose a player mode
- Perform an action related to game play, such as picking up an object, opening a door, or moving a character

Players cannot interact with items displayed in a *passive* interface. These items might include the player's status—such as score, lives left, energy/strength, or time remaining. Most games' interfaces include both passive and active items.

Visual Interface Styles

There are different styles for displaying information and controls on the screen. For example, some games have a visual information display that is separate from the action in the game. This is intended to make it easy for the player to find the information and controls.

In *Mario Kart Wii*, pieces of visual information such as a map of the course and the player's position in the race are displayed on screen.
Screenshot from *Mario Kart Wii* by Nintendo.

In other games, the interface elements are integrated directly into the game world. For example, the player's health status may appear as lights on the player's armor or clothing or the amount of resources remaining may appear directly on the character's wallet or food bag. These whole-screen interfaces are designed to immerse the player more deeply in the game world.

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Handout 9:
Unit 2 Project Description

How do video game developers come up with ideas for new games? What kind of game would you like to create? For the unit project, you'll explore these questions by taking on the role of a team member at a video game development company. Your task is to come up with an idea for a simple video game and then create the game.

Your game can be based on anything. You can adapt an existing video game, a board or card game, a sport—or you can create a totally new game!

You'll work as part of a team to design the game. You'll produce *wireframes* (sketches of game screens) for the game's visual interface, and you'll create game art. You'll use game development software to build your game, you'll test the game with classmates, and, finally, you'll present your idea to the class.

Step 1: Choose a Game Idea

Brainstorm game ideas on your own, and come up with two to share with your team. Each of your ideas should answer two basic questions from the perspective of a player:

- Who are you?
- What do you do (or what are you trying to do) during the game?

For example, are you an explorer searching for gold? A hero shooting at enemy aliens? A circle eating dots?

Because you will have a limited amount of time to create your game, the game should be fairly simple—you won't need an elaborate plotline, and you probably shouldn't plan on creating different levels. You should also take into account the limitations of the software program you're using (for example, don't plan a 3-D first-person shooter game if the software limits you to platform games) and any limits set by your teacher.

Share your ideas with your team and discuss the kind of player experience each idea offers. For example, will the player be using quick reflexes, navigating a maze, solving puzzles?

As a team, choose one game idea, using the following questions to guide you:

- Which ideas sound like the most fun to play?
- Which ideas offer the most engaging player experience?
- Which ideas are simple enough to be playable and practical to develop, but not so simple that they will be boring?
- Can this game be made with the software you're using?

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Step 2: Write a Treatment

Write a short treatment that describes your team's game idea and answers the following questions:

- What role(s) does the player or players take on in the game?
- What is the objective of the game—what is the player trying to achieve?
- What does the player (or players) do during the game in order to achieve this objective?

Here is a sample treatment:

> *In* The Ghostly Maze*, an individual player navigates through a maze to collect apples while avoiding ghosts that travel through the maze. The player enters the maze and must collect all the apples there and reach the exit in a limited time period without being damaged too much by ghosts.*

Step 3: Get Feedback on Your Game Idea

Share your treatment with another team. Those team members will tell you how appealing your idea is, how much fun they think it will be, and how practical it will be to design it. They'll ask questions to help you think through the details of how your game will work.

Revise your treatment based on any feedback you get from the other team.

Step 4: Complete a Design Document

Work with your team to write a game design document that outlines the game.

This is a working document—keep in mind that you'll build your game and test it with classmates. You'll use their feedback to revise your document, along with the game.

Step 5: Create Wireframes

Sketch the manual and visual interface design for your game. How will players interact with the game? Create *wireframes*, or sketches of different screens in the game, that show how information will be displayed onscreen. Be sure to keep in mind the constraints of the software you're using when you sketch your wireframes.

Step 6: Create Game Art

Your teacher will tell you whether you'll create digital art that you will actually use in the game, such as images of characters and objects, or whether you'll create concept art, such as sketches of what the game world and its characters and objects might look like.

Decide how your game will look. What art style will you use—realistic, abstract, cartoon-like, or something else? Will you use bright colors or pastels? Think about how you want players to feel and how can you create visuals that bring about those feelings.

Step 7: Build Your Game

Use game development software to create a working version of your game.

Step 8: Play-Test Your Game

Have another team play your game and give you feedback. They'll help you answer key questions about your game, for example:

- Do the rules work?
- Can a player achieve his or her objectives?
- Are there significant challenges for players that make the game engaging?
- Does the game have the right level of challenge (not too hard and not too easy)?
- Is the game fun?

They'll also provide specific suggestions for improving the game.

Step 9: Revise Your Game

Revise your game based on your classmate's feedback. Detail any changes in your design document.

Step 10: Present Your Game

Develop a presentation. Include pieces of your game art and your design document, along with a game demonstration. Then present your game to the class and, possibly, AME professionals.

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Assessment Checklist 2:
Unit Project—Game Design Document and Wireframes

Use this checklist to help you plan and assess your project. Make sure that you include all the required components. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Technical Knowledge and Skills		**Student Comments**	**Teacher Comments**
Game design document incorporates formal elements including objectives, resources, conflicts, and rules.	**15%**		
Game design document incorporates dramatic elements, including challenge, play, and story (if relevant).	**15%**		
Team creates at least two wireframes that depict a consistent and clear visual interface.	**10%**		
Content			
Game design document clearly describes the game idea and overall playing experience offered by the game.	**10%**		
Game design document clearly describes the game's manual and visual interface style and provides a rationale for interface design decisions.	**10%**		
Wireframes clearly show how players interact with the game, including how information and actions are communicated.	**10%**		

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Creative Expression			
Game design document provides a compelling argument for how the game's dramatic elements will attract and engage players.	**10%**		
Game design document presents a compelling argument that the game will be fun to play.	**10%**		
Game design document presents a compelling argument that the game will have the appropriate degree of challenge.	**10%**		
Total	**100%**		

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Handout 10:
Giving and Receiving Feedback

Throughout your unit project, you and your classmates will provide feedback on each other's work. Think about the best experiences you've had giving and receiving feedback with other students—how did the giver of feedback behave? How did the receiver of feedback behave? Here are some tips to keep in mind.

As a receiver of feedback:

- **Ask for specific help.** Tell members of the other team what you're having difficulty with and what issues you'd like feedback on.
- **Ask for clarification.** If you don't understand a classmate's comment, ask that person to explain it further.
- **Be open to suggestions.** Listen to team members' suggestions with an open mind and try not to be defensive about the work.

As a giver of feedback:

- **Be considerate of your classmates.** Be as thoughtful in your responses as you would like others to be in responding to you.
- **Speak up.** Your classmates are depending on you for feedback, so don't be afraid to give your opinion.
- **Focus your comments.** For some feedback sessions, you will be given a series of questions to address. Focus your feedback on responses to these questions or to questions that the members of the other team have generated.
- **Be positive.** Comment on strengths as well as on areas that need improvement.
- **Give honest but constructive criticism.** It won't help your classmates in the long run if you tell them that their work is perfect when it still needs some changes or fixes. Be honest about areas that could use improvement, and provide specific suggestions for how the work should change.
- **Point to evidence.** If you are making an observation about a team member's work, point to specific evidence rather than offer only general criticism.

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Handout 11:
Game Design Document Template

Use this document to work on your game design. Treat this like a working document—as you formulate your idea, go on to develop your game, play-test your game with classmates, and get feedback, you'll come back to this document and revise it.

Part 1. Vision Statement	
State your vision for the game in a few sentences. Include the following information: **Game synopsis:** What is the game about, and how do you play? **Platform:** What platform will the game be played on? **Appeal:** Who will the game appeal to and why?	
Part 2. Formal Elements	
Players	
How many players play the game? What is the player interaction pattern (for example, player vs. game)?	
Objective(s)	
What does the player try to achieve during the game?	
Resources	
What do players use to help them accomplish their objectives (for example, weapons, currency, special powers)?	

Conflicts and Obstacles	
What obstacles make it challenging for a player to accomplish his or her objective(s) (for example, enemies, lack of time)?	
Rules and Procedures	
Describe how the game works. For example, how does the game begin? Identify at least three rules to include in the game.	

Part 3. Dramatic Elements

Challenges	
Identify at least two challenging tasks that keep players engaged in the game. Describe how you will design the game to ensure that it is challenging enough to be fun, but not so challenging that it's frustrating.	
Play	
Describe the playful aspects of the game. What activities do players do that make the game fun?	
Story	
If the game tells a story, summarize the story.	

Setting and Game World	
Where does the game take place? Describe what the game setting looks and feels like.	

Part 4. User Interface

Manual Interface	
How do players interact with the game? What kind of controls do they use?	

Visual Interface	
What camera viewpoint will you use to show the game environment? Why? What information do you want players to see on the screen (for example, score, time remaining)? Describe the style of your visual interface. (For example, will there be a split screen with the game world depicted in one part of the screen, and information—such as the score—listed in a separate part of the screen? Or will the interface be more integrated?) **Note:** Keep in mind the constraints of the software you're using to create the game (for example, you may not be able to use a certain camera viewpoint).	

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Handout 12:
Sample Game Design Document: *The Ghostly Maze*

Part 1. Vision Statement	
State your vision for the game in a few sentences. Include the following information: **Game synopsis:** What is the game about, and how do you play? **Platform:** What platform will the game be played on? **Appeal:** Who will the game appeal to and why?	

Part 2. Formal Elements	
Players	
How many players play the game? What is the player interaction pattern (for example, player vs. game)?	
Objective(s)	
What does the player try to achieve during the game?	
Resources	
What do players use to help them accomplish their objectives (for example, weapons, currency, special powers)?	

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Conflicts and Obstacles	
What obstacles make it challenging for a player to accomplish his or her objective(s) (for example, enemies, lack of time)?	
Rules and Procedures	
Describe how the game works. For example, how does the game begin? Identify at least three rules to include in the game.	

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Part 3. Dramatic Elements

Challenges	
Identify at least two challenging tasks that keep players engaged in the game. Describe how you will design the game to ensure that it is challenging enough to be fun, but not so challenging that it's frustrating.	
Play	
Describe the playful aspects of the game. What activities do players do that make the game fun?	
Premise and Story	
If the game tells a story, summarize the story.	
Setting and Game World	
Where does the game take place? Describe what the game setting looks and feels like.	

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Part 4. User Interface

Manual Interface	
How do players interact with the game? What kind of controls do they use?	
Visual Interface	
What camera viewpoint will you use to show the game environment? Why? What information do you want players to see on the screen (for example, score, time remaining)? Describe the style of your visual interface. (For example, will there be a split screen with the game world depicted in one part of the screen and information—such as the score—listed in a separate part of the screen? Or will the interface be more integrated?) ***Note:*** Keep in mind the constraints of the software you're using to create the game (for example, you may not be able to use a certain camera viewpoint).	

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Handout 13:
Creating a Control Table and Wireframes

Now that your team has determined how your game works, you can fill in the details of what your game looks like. To describe the user interface, you'll create a control table and wireframes for the game.

Create a Control Table

How do players communicate actions and decisions to the game? Do they click a mouse, press keys on a keyboard, move a joystick? Create a simple control table that tells how players communicate their actions and decisions.

Include how the player takes the action and how the game displays the action taken.

For example, a control table for a computer-based game might look like this:

Key	**Action**
Up arrow key	Walk forward
Down arrow key	Walk back
Shift + up arrow key	Run

Create Wireframes

Wireframes are sketches of game screens that show how information will be displayed onscreen. To picture a wireframe, imagine a completed game screen with its art and graphics peeled away. What you see is a barebones display of the screen's information and controls.

As a team, create wireframes for two to four screens in your game. For example, one wireframe might be the starting screen where a player chooses and configures a character. Another wireframe might be a screen from the middle of the game.

Each wireframe should show the following:

- The information available to a player on the screen, such as score and time remaining
- The *player controls*—icons that a player clicks on to take action, such as moving a character, picking up something, or shooting something
- The camera viewpoint, such as an aerial view or a first-person perspective

Keep in mind that your wireframes are sketches and not final art. It's okay to draw stick figures to represent different characters on the screen.

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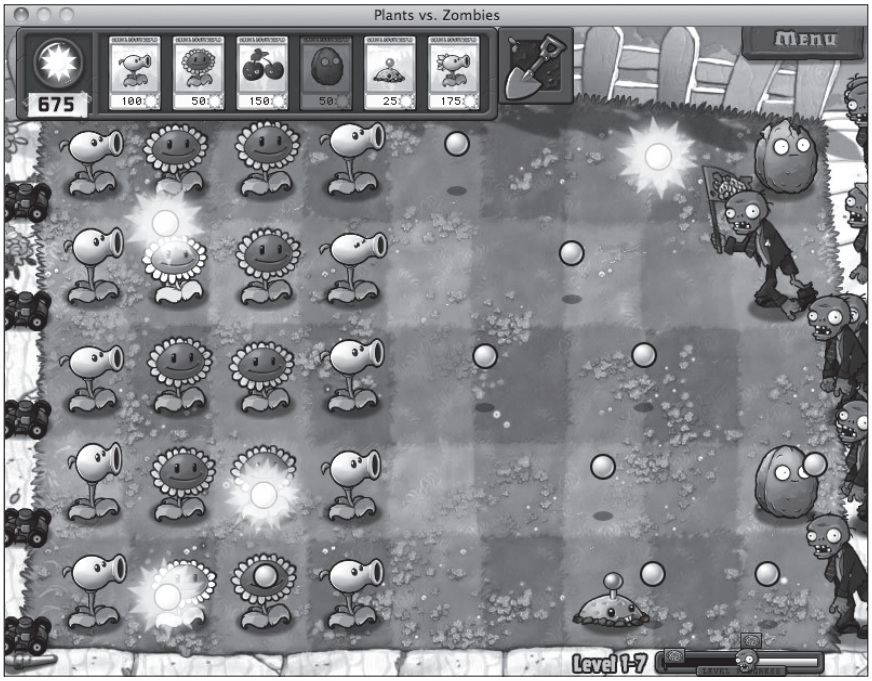
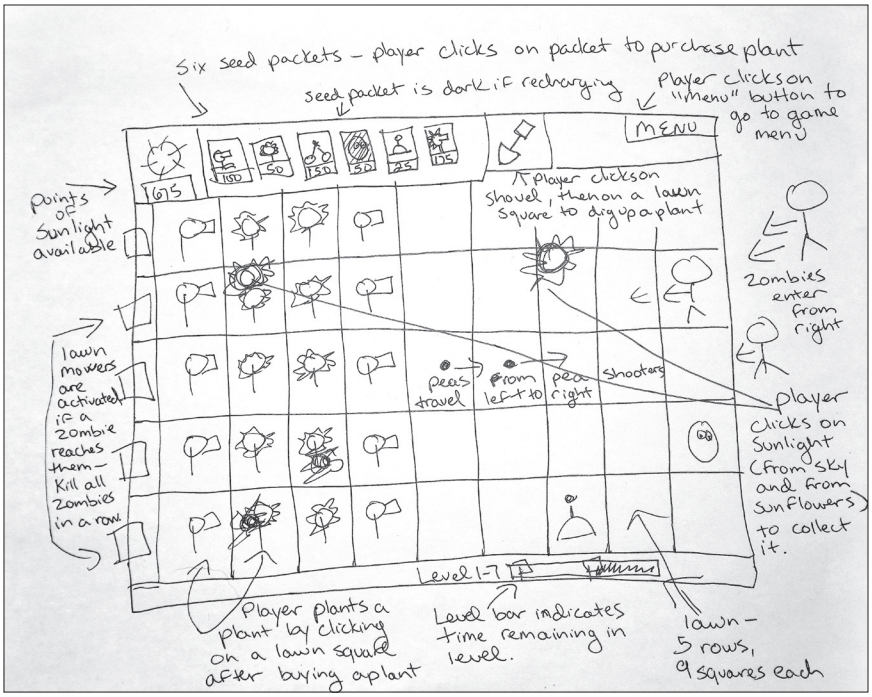
You'll have an opportunity later to work on the visual elements and details of your characters. At that time, you'll also use color, line, and other elements of art to depict your game world.

As an example, here is a screenshot from the game *Plants vs. Zombies* and what the wireframe for that screen might look like.





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Handout 14:
The Elements of Art and Principles of Design

Just as artists who work in other visual art forms do, video game artists use the *elements of art*—the components used to create works of art, such as line, color, and shape—and *principles of design*—concepts relating to how the elements of art are arranged, such as balance, contrast, and rhythm.

Elements of Art

Color: The visual sensation dependent on the reflection or absorption of light from a given surface. The three characteristics of color are *hue*, *value*, and *intensity*.

Form: A three-dimensional object (such as a sphere or cube) or the illusion of three dimensions.

Line: The path made by a point moving in space. Lines can vary in width, length, curvature, color, and direction.

Shape: A two-dimensional area or plane that may be open or closed, free-form or geometric.

Space: The emptiness or open area between, around, above, below, or within objects. *Shapes* and *forms* are defined by the space around and within them. Conversely, *spaces* are defined by the shapes and forms around and within them.

Texture: The surface quality of materials, either actual (felt/tactile) or implied (visual).

Value: The lightness or darkness of a hue or neutral color (such as gray).

Principles of Design

Balance: The arrangement of visual arts elements to create a feeling of stability or an equal distribution of visual "weight" in a work of art.

Contrast: The difference between two or more elements (e.g., value, color, texture) in a composition; the bringing together of dissimilar elements in a work of art; the degree of difference between the lightest and darkest parts of a picture.

Dominance: The emphasis of one aspect in relation to all other aspects of a design.

Emphasis: Special stress given to an element to make it stand out.

Movement: The principle of design dealing with the creation of action; a way of causing the eye of the viewer to travel within and across the boundary of a work of art.

Repetition: The recurrence of elements of art at regular intervals.

Rhythm: Intentional, regular repetition of design elements to achieve a specific effect or pattern.

Subordination: Making an element appear to hold secondary or lesser importance within a design or work of art.

Unity: The total visual effect of a composition, achieved by the careful blending of the elements of art and the principles of design.

Variety: A principle of design concerned with combining elements of art in different ways to create interest.

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Vocabulary for Critiquing Use of the Elements of Art

Terms that you can use to describe different elements of art are given below.

Line

- Descriptive (a line that depicts something in a drawing, helping viewers to understand what is shown)
- Expressive (a line that expresses a feeling)
- Implied (a line that is suggested but not explicitly drawn, such as the line created when one color ends and another begins)
- Curved, jagged, or straight
- Closed or open

You might also use descriptions such as *soft*, *hard*, or *smooth*.

Shape (2-D)

- Positive (figure) or negative (ground)
- Geometric (perfectly straight or round) or organic (irregular; not perfectly straight or round)
- Closed or open

You might also use descriptions such as *large*, *small*, *wide*, *narrow*, *long*, or *short*.

Form (3-D)

- Geometric or organic
- Closed or open

You might also use descriptions such as *large*, *small*, *wide*, *narrow*, *high*, *deep*, or *shallow*.

Color

- Intensity: Low (dull) or high (bright)
- Value: Tint (the lighter range of a color, such as the color mixed with white or lightened with water) and shade (the darker range, such as the color mixed with black or dark gray)
- Expression: Warm (such as yellow, orange, and red), cool (such as blue, green, and violet), or neutral (such as gray, brown, and black)
- Hue: Primary (yellow, red, and blue), secondary (orange, green, and violet), or intermediate (between primary and secondary, such as yellow-orange and blue-green)
- Arrangements: Complementary (contrasting colors, those that are opposites on the color wheel), analogous (colors that are close together), or monochromatic (different values of the same color)

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Space

- Positive or negative
- Perspective in 2-D art: One-point, two-point, or three-point
- Placement in space to create depth in 2-D art: Low, high, or overlapping

Texture

- Real or simulated
- Glossy or matte

You might also use descriptions such as *coarse*, *smooth*, *sharp*, *shiny*, *bumpy*, or *fuzzy*.

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Handout 15:
Analyzing Game Art

Your teacher will assign you an image to analyze. Work with your partner to answer the questions below.

Title of Video Game: _____

What adjectives come to your mind when you see this image?	
How does this image make you feel?	
What can you tell or infer about the setting or world of this particular game? How?	
How do the artists effectively use the elements of art and principles of design?	
What do you think the mood of this game is?	
How do the artists use the elements of art and principles of design to convey this mood?	

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Handout 16:
Creating Game Art

The visual design of your game helps set the game's mood. It also helps attract and engage players. With your team, you will choose a visual style for your game and then create art for the game—either digital art to use in your game or concept art showing what your game would ideally look like. (Your teacher will tell you which.)

Complete the steps below to create art for your game.

Step 1: Choose a Visual Style

Work with your team to answer the questions in the table below.

Mood	
What mood do you want your game to evoke?	
What adjectives would you use to describe the mood of your game (for example, serious, funny, dramatic, dark, light-hearted, scary, silly)?	
Game Setting	
Where does the game take place?	
Is it a real-world setting, an imaginary world, a more abstract world?	
Is it indoors or outdoors?	
When does the game take place (for example, at night, in the springtime, in the next century)?	

Characters and Objects	
Do people or humanoid characters inhabit the game world? If so, what do they look like?	
If the characters are not like people, what are they? How do they look?	
What objects appear in your game world, and what do they look like?	
Visual Style	
Based on the setting for your game and the mood you want to create, what is the visual style of your game. (for example, realistic, cartoon-like, abstract)?	
Why did you choose this style?	

Step 2: Quickly Sketch Game Art

Assign each team member at least one piece of game art to create. If you are creating digital art, your teacher will tell you what kinds of game art to make. If you are creating concept art, make sure that your team has at least one sketch of each of the following:

- A sketch of the game world—either a representative scene from the game or an image that might appear on the game box
- A sketch of characters or objects that appear in the game world
- A sketch of a screenshot during a moment in the game (you may want to use a wireframe sketch as the basis for creating this piece of concept art)

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Create a rough sketch of the game art you've been assigned. As you sketch, think about how you will incorporate the elements of art and principles of design in your work. For example, you might think about the following questions:

- What kinds of lines might you use (such as thick, thin, jagged, or straight)?
- What colors will you include?
- What shapes will you use to create characters and objects?

Step 3: Respond to Sketches

Post your completed game art sketches in the classroom. You'll look at other students' sketches and respond to the following questions:

- What adjectives come to your mind when you see this image?
- What do you think the mood of this game is?

Step 4: Compile Feedback

Gather the feedback on your team's game art sketches. Discuss the following questions with your team:

- Is the feedback about the sketches consistent with the team's intended style and mood for the game? If not, how does the feedback differ?
- Was similar feedback given about each team member's sketch, demonstrating unity in the team's visual style? If not, how did the feedback differ?
- What changes do you want to make to your game art based on the feedback?
- How can you use the elements of art and principles of design in a different way to convey your intended mood and style?

Step 5: Create Polished Game Art

As a team, decide on the changes needed for each piece of game art. Each team member will then create a piece of game art—either a piece of digital art to use in the game, or concept art showing what a polished version of the game would look like.

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Assessment Checklist 3:
Unit Project—Game Art

Use this checklist to help you plan and assess your project. Make sure that you include all the required components. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Technical Knowledge and Skills		**Student Comments**	**Teacher Comments**
Demonstrates technical proficiency in using illustration software OR in drawing with pencil and paper.	**20%**		
Exhibits unity with other team artwork created for the same game.	**15%**		
Drawing techniques (digital or manual) demonstrate effort and perseverance.	**15%**		
Content			
Clearly depicts characters, objects, or scenes from the game world.	**15%**		
Conveys the mood of the game as defined by the team.	**15%**		
Creative Expression			
Makes effective use of the elements of art and principles of design.	**20%**		
Total	**100%**		

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Assessment Checklist 4:
Unit Project—Completed Game

Use this checklist to help you plan and assess your project. Make sure that you include all the required components. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Technical Knowledge and Skills		**Student Comments**	**Teacher Comments**
Student demonstrates technical proficiency in using game development software.	**10%**		
Game is playable from start to finish.	**10%**		
Student demonstrates effort and perseverance in using game development software.	**10%**		
Content			
Premise and rules of the game are clear to players.	**10%**		
Visual interface clearly conveys all the information players need to access during the game and provides the controls players need to take action in the game.	**10%**		

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Creative Expression			
Game makes effective use of formal elements, such as objectives, resources, conflicts, and rules, to make a playable, engaging game.	**15%**		
Game makes effective use of dramatic elements, such as challenge, play, premise, and characters (if relevant), to make a playable, engaging game.	**15%**		
Game is fun to play.	**10%**		
Game has an appropriate level of challenge.	**10%**		
Total	**100%**		

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Handout 17:
Unit 2 Career Information

Below are some AME gaming careers that make use of the skills you are learning in Unit 2:

- Animator
- Art director
- Artificial intelligence engineer/programmer
- **Associate producer**
- Composer
- Environment artist or modeler
- Game tester
- **Lead programmer**
- **Level designer**
- Product development director/ Product planner
- Production assistant
- Quality assurance manager
- Script writer
- User interface designer

Key Careers

Key AME gaming careers, some of which make use of the skills you are learning in Unit 2, include associate producer, lead programmer, and level designer.

Associate Producer

The associate producer helps the production team with the daily tasks needed to ensure the delivery of a high-quality game on time and on budget. Game production is a complex process that can take two or more years. The associate producer is assigned tasks by a producer, who oversees the entire process, from game conception through launch.

An associate producer's tasks change as the game moves through different stages of development. Tasks may include planning and scheduling, identifying potential problems, and setting and communicating priorities. Associate producers also help the producer allocate staff in order to ensure the project's completion.

Associate producers help to monitor budget expenditures and sometimes oversee the budget review and approval process. They may also archive and file documents. As a game launch approaches, an associate producer might organize the release of demos, attend trade shows, or coordinate press visits.

In recent years, an increasing number of tasks related to game development, such as music, voice talent, art, and programming, are completed by outside companies. An associate producer creates contracts with these companies, communicates with them, and oversees the quality and timeliness of their work.

Associate producers are hired by both publishers and independent development studios. The positions may vary slightly. For example, associate producers who work for publishers might focus on communication between the sales/marketing department and the game developer, or they might support the work of an outside producer. In a development studio, an associate producer might manage communication between different departments, such as art, design, and programming.

Skills: Associate producers must have a good understanding of all phases of game production, including pre-production, budgeting and scheduling, development, approval and testing, and marketing. Associate producers should have strong project management skills, such as scheduling, setting goals, and managing priorities. They should be detail-oriented and organized.

Associate producers must be able to use a variety of database and spreadsheet programs. They should have excellent communication skills, both verbal and written; a high level of confidence; and the motivation to learn new skills. They should also be able to work well as part of a team. An associate producer may work long hours, especially as a game launch nears.

Pathway: Associate producer is a low-level, though not entry-level, job in the production department. A person can move into this position with three years of experience. There are no formal education requirements for an associate producer, but most candidates have a four-year degree in computer science or liberal arts. Classes in business administration are also desirable.

Many associate producers begin as play-testers for a developer or publisher, moving on to become assistant producer and then associate producer. Some associate producers move into the field after a few years of production experience in a related industry, such as film, TV, or Web development.

Much of an associate producer's training occurs on the job. Associate producers can move up to become producers. After many years experience, some may become executive producers in charge of an entire game franchise.

Lead Programmer

The lead programmer runs the programming department, which is responsible for writing all the computer code for a game. Lead programmers work at both independent development studios and studios owned by publishing companies.

In the early stages of game development, lead programmers work with the game designer and lead artist to develop the technical specifications for a game. Lead programmers then assemble a team of programmers from within the studio or hire programmers to fill specific needs.

Lead programmers are responsible for overseeing each "build," or version, of a game. They work with the programmers on their team to fix bugs and solve problems so that each subsequent build is an improvement over the previous one. Lead programmers may also help to write code.

The lead programmer oversees a wide range of specialized roles within the programming department. These include game engine development, development of tools (such as game-world editing tools used by level designers), artificial intelligence, physics, and character control. Lead programmers are responsible for ensuring the quality of a game's programming and for moving the project forward on schedule.

Skills: Lead programmers must have an understanding of the different programming requirements of multiple gaming "platforms," such as consoles, PCs, and mobile or hand-held devices. They must also be

knowledgeable about the newest trends in software development. Lead programmers must have a solid technical grounding in C++ and other programming languages.

In order to solve problems or complete a project on time, lead programmers may take on programming tasks. They need to be able to perform all types of specialized programming, from game engine development to user interface development.

Lead programmers must be excellent leaders, able to inspire and motivate their teams. They must also have excellent communication skills in order to work with other departments. The ability to think creatively to solve problems is critical. Lead programmers have a very high level of responsibility and often work long hours to meet project deadlines.

Pathway: Lead programmer is one of the highest-paid positions in the gaming field and requires considerable experience, both as a programmer and as a project and team leader. In most cases, applicants must have at least five years experience as a programmer.

A typical career route might be to start as a play-tester, move into the programming department as a junior programmer, and then become a specialized programmer, such as a physics, interface, or artificial intelligence engineer. Some lead programmers go on to become chief technology officers or directors of technology.

Most programmers are avid game players, and many began programming as a hobby. Lead programmers must have a four-year degree in computer science, math, physics, or electrical engineering. Because of the desirability and competition for the position, many applicants also have post-graduate training. While education is very important for this role, demonstrating strong experience is equally as important in acquiring a job.

Level Designer

Level designers (LDs) work in a gaming company's design department, which is responsible for creating the setting, the story, the characters, and all design elements that make up a game. Designers communicate these needs to the artists and programmers who make the game run. A game designer responsible for the entire game directs the work of the LDs for each game.

The game designer assigns each LD a "game level" or self-contained scenario or mission. While the LDs must follow the vision set out in the game design document, each LD has a major impact on the overall game-play experience of the user.

LDs create and map the environment for their level, including designing the layout and lighting of the objects, characters, and structures in the game. By imagining themselves as players, LDs also figure out the logical flow of the game-play in their level, the goals and challenges, and the actions a character must take to move to the next level.

LDs sketch on paper or use a 2-D drawing program to map out their ideas. To create and make edits to a level, an LD might use a 3-D modeling program. Many gaming companies have developed their own unique editing tools for making changes to game worlds.

LDs act as a game's first play-testers by playing their levels to check for problems. LDs must be able to understand the technical limitations of a game. Throughout the design process, LDs work closely with the programmers and the artists to create a list of all the level assets, which are the files that artists will create for the level.

Skills: To map out exciting game play, LDs need to be creative and imaginative. They also need to be able to think logically. LDs should have an understanding of basic art and design principles, as well as composition and color, so that they can communicate the feeling of the game world to the artists. LDs should also be comfortable using 3-D modeling programs, such as *Maya* and *Autodesk 3ds Max*.

While the ability to do detailed programming is not required, an understanding of programming principles and working knowledge of programming languages, such as C++, is critical. Because LDs interact frequently with artists and programmers, they need to be good communicators and be able to work as part of a team.

Pathway: LDs are hired by independent development studios and studios owned by publishing companies. LD positions are highly sought after, and competition for jobs is keen. Most LDs hold a four-year degree, with majors in graphic or technical design or engineering and software development. One to three years of previous experience in game design is required.

Many LDs begin as assistant designers or production assistants. Some LDs break into the field by working as game testers in a quality assurance department. Additional training is usually acquired on the job. Many LDs aspire to become game designers and then lead or senior game designers on larger projects.

When applying for a job as an LD, it is important to have a portfolio of quality work that includes finished game levels that are fun and interesting. To gain experience, professionals in the field suggest "modding" or creating unique levels for games. Some games provide software for this purpose as part of the game package. Professionals also advise playing many different games in order to build an understanding of what makes a dynamic and appealing game experience.

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Handout 18:
Play-Testing

You are going to work with another team to play-test each other's games and provide feedback on how functional, playable, and fun the other team's game is—and that team will do the same for you.

Decide which team's game to play-test first, and then complete the steps below.

Step 1: Give an Overview of the Game

Tell the other team about your game. Go over the game rules and procedures.

Step 2: Have the Play-Testers Play the Game

Ask your play-testers to "think aloud" as much as possible as they're playing the game. This will help you understand the players' expectations. For example, a play-tester might say, "*Okay, I'm going to try this path because I think the treasure is over there. Oh, I guess it's a dead end. So what do I do now?*"

Depending on the type of game you created, you may need to guide the play-testers or answer questions for them while they play the game.

Step 3: Observe

Watch the play-testers as they're playing. Take notes about your observations:

- What parts of the game do play-testers seem to enjoy?
- Are the play-testers having any problems playing the game? Do any parts of the game seem confusing to them?
- Are there parts of the game that seem too challenging? Not challenging enough?

Step 4: Listen to Feedback

After the play-testers finish playing the game, ask them to respond to the specific feedback questions your team has come up with. Listen and take notes on the play-testers' comments without responding or defending the decisions your team made about your game. Ask if the play-testers have any other comments on the game.

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Important Points About Feedback

One of the most difficult parts of this process is listening to feedback without responding immediately to each comment. Try to listen carefully to what the play-testers say without interrupting them.

At the end of the feedback session, you can ask the play-testers follow-up questions or clarify information about the game for them.

Remember that the goal of play-testing is to get valuable feedback that will help you improve your game. With that purpose in mind, you should listen carefully to all of the play-testers' comments.

Ultimately, you and your teammates will choose which comments and advice to follow when you make changes to your game.

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Assessment Checklist 5:
Career Profile Project

Use this checklist to help you plan and assess your project. Make sure that you include all the required components. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Written Career Profile		**Student Comments**	**Teacher Comments**
Describes AME professional's education and training background.	**20%**		
Describes how the professional began his or her career and the career path that led to his or her current position.	**20%**		
Lists the media productions the professional has worked on and the role that she or he played on each.	**10%**		
Includes a timeline of major career milestones and media productions.	**15%**		
Includes an analysis of a clip from one of the professional's media productions, pointing to visual and/or audio elements that contribute to the work's success.	**20%**		
Describes the role the professional played in making the media production successful.	**15%**		
Total	**100%**		

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Requirements	Percentage of Total Grade	Comments	
Career Profile Presentation		**Student Comments**	**Teacher Comments**
Clearly outlines the AME professional's education and training.	**30%**		
Succinctly describes the professional's career path.	**30%**		
Describes and analyzes a media production and explains the professional's role in its creation.	**30%**		
Successfully addresses the audience's questions.	**10%**		
Total	**100%**		

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Handout 19:
Career Profile Presentation

Throughout the course, you've had the opportunity to learn more about an AME professional whose work and career you found interesting or inspiring. Now you'll have the chance to share what you've learned with your classmates and to learn about the AME professionals they've chosen to profile. Your presentation should:

- be short and to the point (about five minutes long)
- include information about the person you've profiled
- include information about the career field this person works in

At the end of the presentation, you'll also show a short clip from the media production that you analyzed and answer questions from your classmates.

As you design your presentation, be sure to include each of the following components.

Information about the AME Professional

Briefly describe the AME professional you've chosen:

- What is the professional's name and job title?
- What company does the person work at (or does the person freelance)?
- What kinds of productions does he or she work on?
- Why did you choose to profile this person?

Education and Training

Describe the professional's education and training, including information about the college this person attended and any other training he or she received.

Career Path

Show the timeline you've created with the professional's major career milestones and the productions he or she has worked on. Answer the following questions:

- How did the professional get started in the industry?
- What role does he or she play in the industry today?
- What different jobs has the professional had throughout his or her career?
- What major media productions has the professional worked on?

Short Clip of the Media Production

Play a one- to two-minute clip from the media production that you analyzed for the career profile. Answer the following questions:

- What role did the professional play in creating this work?
- What factors make this work successful? How do you think the professional you profiled contributed to the success of the work?
- If the professional has a particular style that he or she usually works in (such as an animation style), how is that style expressed in the work?

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Handout 20:
Career Profile Peer Assessment

Complete the table below as you listen to your teammates' presentations. Keep in mind that you will share your assessment with the presenter.

Name of presenter	
Name of AME professional profiled	
Your question for the presenter	Question: Notes on the answer you received:
What was one interesting thing that you learned about the AME professional or his or her career during the presentation?	
What did the presenter do well during the presentation? *Note: For this question and the one below, you can look at Assessment Checklist 5 for ideas.*	
What areas could the presenter improve on in future presentations?	

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Handout 21:
Presenting Your Game

You and your team have developed a great game. Now it's time to share it with the class! With your team, you will design and deliver a presentation for your game.

What to Include in Your Presentation

Your Vision

Give a brief synopsis of the game and an overview of the player's experience:

- What does a player experience and feel when playing the game?
- Describe why you came up with this game idea and who you think the game will appeal to.

Formal and Dramatic Elements

Provide an overview of the formal elements of the game. Describe how the game is structured, including basic game play, player objectives, obstacles, resources, and key rules and procedures.

Describe how the game's dramatic elements, such as its challenges and story (if your game has a story), engage players and make the game appealing.

Art Style

Present your game art and explain how the art style supports the game's vision and purpose.

Demonstration of Game Play

Have one or more teammates demonstrate the game by playing it for a minute or two while another teammate describe what's happening in the game.

Appeal

Describe why people will be interested in playing your game.

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Assessment Checklist 6:
Unit Project—Presentation

Use this checklist to help you plan and assess your presentation. Make sure that you include all the required components. Your teacher will use this checklist to help evaluate your work.

Requirements	Percentage of Total Grade	Comments	
Presentation		**Student Comments**	**Teacher Comments**
Clearly and concisely describes the game's concept, the player's experience, and the game's formal and dramatic elements.	**20%**		
Demonstrates why the game will appeal to and engage players.	**20%**		
Demonstrates how the game art supports the vision and purpose of the game.	**20%**		
Presents a clear demonstration of game play.	**20%**		
Successfully answers audience questions.	**20%**		
Total	**100%**		

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Appendix B: Video Game Genres

There are many types, or genres, of video games. In competitive games, a player competes against other players or against the game in order to win—or to achieve what's called the *victory condition*. In cooperative games, all players work together to achieve the victory condition. And some games have no victory condition—rather than try to win, players set their own goals or use the features to explore the game world.

Most games can be categorized under one of the genres below, though some games might not fall under any of these genres and some might fall under more than one.

Puzzle Games

In puzzle games, the core mechanics center around the completion of a logical, spatial, language, or other type of puzzle. For example, in *Tetris*, the player ponders a simple spatial puzzle, arranging shapes composed of blocks to complete finished lines.

Examples: *Puzzle Quest*, *Plants vs. Zombies*

First-Person Shooter Games

Two key characteristics define these games. The first is that the camera is directly embedded at the eye level of the player's *avatar* (electronic image), giving the player a "first person" perspective. The second is that the player's primary interaction with the world is through the collection and application of weaponry (hence the word "shooter").

Examples: *Borderlands*, *Jet Force Gemini*, *Wolfenstein 3D*

Action Games

Action games put players into exciting, action-based roles, engaging them in combat, acrobatics, super powers, or other sets of reflex-based interaction in a fictional environment. These games often use an "over the shoulder" camera, or "third person" perspective, to allow players to see their avatars in the environment.

Examples: *Dynasty Warriors: Strikeforce*, *Devil May Cry*

Role-Playing Games

The strict definition of a role-playing game is one in which the player takes on a rich identity in a game world and explores the world through that perspective. The genre, however, also includes games that use number-based statistical systems (for example, strength, hit points, and weapon damage) to evaluate the player's capabilities. Players cycle through adventures to increase their "stats" and tackle stronger opponents.

Examples: *Dragon Age*, *Ultima IV*

Massive Games

Massive games are played exclusively online, where players log into a large, shared, and persistent world. This world exists for other players even when you aren't playing, and special events and interactions occur whether you are logged in to the experience or not. Massive games are often developed as role-playing games called *massively multiplayer online role-playing games*.

Examples: *World of Warcraft*, *Runescape*, *EVE Online*

Real-Time Strategy Games

Real-time strategy (RTS) games usually involve the control of a group of military units, where battlefield commands and maneuvers define the strategy. These games also often involve managing and producing resources; players fight over and control these resources, which can then be turned into more units or upgrades to existing units. The "real time" component of RTS refers to the fact that the game does not pause to allow you to consider your next move, and players must make tough decisions about which components of their teams to attend to at any given time.

Examples: *Dawn of War II*, *Sins of a Solar Empire*

Turn-Based Strategy Games

Turn-based strategy games are similar to RTS games but allow players to consider all of their options. These games are often more detailed in their mechanics and lean toward historical accuracy or simulation-like modeling of the game's world.

Examples: *Civilization IV*, *M.U.L.E.*

Racing Games

In these games, players control a vehicle and compete in a race. The games range from simulation racing to more outrageous "kart" style racing, but all involve players using their reflexes and the vehicle's capabilities to get ahead of the pack.

Examples: *Wipeout HD*, *Gran Turismo*

Sports Games

These games re-create a particular sport. They generally reference a set of rules from a real-world game to build their structure. Interestingly, in many sports games, the player controls a team from the viewpoint of someone watching sports on TV, rather than from a first-person perspective or other viewpoint.

Examples: *Blood Bowl*, *Madden NFL 10*

Platformer Games

Platformer games involve exploration puzzles that require the player to use well-timed jumps or other acrobatic abilities to navigate a challenging environment. These games have their roots in 2-D (side-scrolling) classics, but have moved on to include games developed in 3-D space as well.

Examples: *Tomb Raider*, *Braid*

Adventure Games

Adventure games are an old and venerable genre, with their roots in the earliest text adventure games, before graphics were feasible for gaming. Adventure games are generally narrative-driven, placing the player in a story. While exploring the game's world, the player acquires inventory objects, which can be combined and used with objects in the game's environment in order to solve puzzles. Solving these puzzles allows the player to continue exploring and move the narrative forward.

Examples: *The Neverhood*, *Tales of Monkey Island*

Fighting Games

Fighting games pit characters against one another in martial combat. They are often two-player games or one-player games with computer artificial intelligence substituting for the second player. The player uses a specific fighter's array of special moves and combinations to defeat opponents. To win, players need a deep understanding of the other character's capabilities, strong pattern recognition skills, and lightning reflexes.

Examples: *Soulcalibur IV*, *Samurai Shodown*

Rhythm Games

Players take on the role of musicians and perform beat-matching interactions that parallel a component of music in order to win. These games often feature peripheral controller devices that emulate real-world instruments.

Example: *Guitar Hero*, *Dance Dance Revolution*

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Handout: Design Challenges

Design Challenge #1: Child's Play

Choose a simple game that you played as a child, such as Tag, Duck Duck Goose, or Tic-Tac-Toe. Work with a partner to come up with an idea for a video game based on this children's game.

As you consider ideas, think about the following elements of the original game and how you will recreate or adapt those elements for your video game:

- **Objective:** What is the game about? What does the player try to accomplish during the game?
- **Conflict:** What obstacles in the game make it challenging for the player to reach the objective?
- **Target audience:** Who does the game appeal to?
- **Fun:** What makes the game fun? What aspects of the player experience in the original game do you want to recreate in the video game? What aspects will need to be different?

Prepare a two-minute pitch of your game that includes a description of your game concept, who the game appeals to, and why the game appeals to that audience.

Design Challenge #2: Improving or Adapting the Game

Choose and complete one of the challenges below. Then prepare a two-minute pitch of your idea that includes the following:

- A brief description of the new game concept
- A description of who the game appeals to and why

Challenge: Improving the Game

Consider the strengths and weaknesses of the game you reverse-designed. Change up to five of the game's formal or dramatic elements in order to address its weaknesses. (For example, you might choose to change the objective, a rule, the player interaction pattern, a source of conflict, or the story.) Describe how your proposed changes would affect the game play and the game's appeal.

Challenge: Adapting the Game

Come up with a nondigital game idea that is a version of the game you reverse-designed. Think about the core mechanics of your game. In your design, consider the following questions:

- What is the main player objective(s) in the game?
- What makes the game challenging and fun? How would you translate that core idea to a board game, card game, or other nondigital game?
- Why would this game be fun to play?

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Design Challenge #3: Interface Design

Choose one of the interface design challenges below. Develop a two-minute pitch of your idea to present to classmates.

Interface Challenge #1

The makers of *Dance Dance Revolution* want to expand their current market. Markets they'd like to target include senior citizens, children with disabilities, sports fans, animal lovers, and stay-at-home parents. They want you to take the game's existing hardware—the dance pad—and come up with two different uses for it, each of which targets a different market.

Interface Challenge #2

Design a game controller that interfaces directly with the body. For example, you might design a wearable glove that transmits the wearer's hand movements to the game console. Draw a sketch showing how the player uses the controller, and describe two ways that the controller could be used during game play.

Interface Challenge #3

Come up with a unique manual interface that could be used as an alternative manual device for one of your favorite games. (Your only restriction is that it can't be a gun or other weapon for a first-person shooter game.) Describe how this interface would change the game. Consider the following questions in your design:

- How would players control actions differently?
- Would this interface change the game play at all? Why?
- How would this alternative interface make the game more enjoyable?

Interface Challenge #4

A gaming company is designing a new car racing game and wants your help in designing the user interface. In the game, players race against one another on an obstacle course, competing for the best time. Your tasks:

- Decide what information the players should see in the onscreen user interface.
- Design and draw what the interface looks like.
- Explain why this game would be fun to play.

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Handout: Design Challenge Pitch Protocol

Now that you've come up with a great new game design idea, you'll pitch the idea to another game design team to get some feedback. Use the following steps to pitch your game design and listen to the other team's pitch.

Step 1: Two-Minute Pitch

The first team takes two minutes to pitch its idea to the listening team and convince them that the idea is a good one.

Step 2: One-Minute Question Generation

After hearing the pitch, the listening team takes one minute to come up with at least one question to ask about the pitch. The team might ask, for example:

- Clarifying questions about game play
- Questions about why the team made certain design choices
- Questions related to audience appeal
- Questions on another topic the team is curious about

Step 3: Two-Minute Q&A

The listening team asks its question(s), and the pitching team provides answers.

Step 4: One-Minute Reflection

The listening team reflects on the pitching team's game design idea and gives feedback on the design. Feedback might include, for example:

- Aspects of the game design that are successful
- Aspects of the game design that could use improvement
- Suggestions for changes to improve the game design

Step 5: Two-Minute Feedback Session

The listening team takes two minutes to share its feedback with the pitching team and answers any questions or thoughts the pitching team may have about the feedback.

Step 6: Switch Roles and Repeat

The team that had been listening in the first round pitches its game design idea while the other team listens, following Steps 1–5.

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Handout D1: Prototyping

What Is a Prototype?

A *prototype* is a working model of your game idea. It allows you to test whether the game is functional, feasible, and fun. It also allows you to make changes to your game.

Game designers make both digital prototypes and physical prototypes. You are going to make a physical prototype—using craft materials and basic household objects.

Why Build a Video Game Prototype Out of Paper?

Video game developers—especially small companies—make paper prototypes because they are inexpensive and can be built quickly. Paper prototypes also allow game designers to test aspects of a game before spending time and money on programming and creating game art.

How Do You Build a Physical Prototype?

Focus on Game-Play Mechanics

Your purpose in building a prototype is to test some or all of your game's *mechanics*—what the player does and what happens to the player during the game. Some game-play mechanics you might want to test are fighting an opponent, escaping an enemy, searching for treasure, or solving puzzles. Before you build your prototype, decide which of the game's mechanics you're going to focus on.

Keep It Simple

Try not to be concerned with perfecting the look of the game. Colors or art details are not important in a prototype. You want to represent important aspects of your game world (i.e., its characters and objects), but what they look like is not the primary focus now. (Stick figures are fine!)

Start by Building the Game World

Think about how the player or character moves through the game world. Identify the important characteristics of the game environment. For example, is there a path with obstacles? Is there an open area that the player can move through in any direction? Are there locked gates or hidden treasures?

You can use a large sheet of graph paper to make your game board or the map of your game world. You can also draw your own grid on a sheet of chart paper. Using a grid can help you control how far and how fast a character moves within the game world.

If your game world includes walls, consider using objects to represent the walls that can easily be repositioned on the grid. It will be easier to adjust the game world after play-testing. Matchsticks, straws, cardboard, or thin blocks work well for walls.

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Represent Essential Characters, Units, and Objects

Choose the characters and objects that you want the play-testers to see and use in the game. Represent your characters and objects with pieces from real board games, coins, or other small household objects. You can also use different-shaped pieces of colored paper. If you are using a grid for your game, it will be helpful to have your characters and objects fit within one cell on the grid.

Make Necessary Adjustments to Game Rules

Here is the trickiest part of making a physical prototype of a video game: In order to recreate the *playing experience* of your video game, you may have to make some changes in the game's rules and procedures.

For example, suppose that in your video game a player moves along a path and randomly encounters monsters and finds treasures. In the digital version, you would program the game so that the monsters appear at different times each time you play the game. With your physical version, in order to test *what it feels like* for a player to randomly encounter monsters and treasures, you'll have to adapt the game so that the player can experience these random events.

Use Cards or Dice to Represent Chance

Suppose there are 10 possible events that could happen to a player. You can make 10 different event cards or use a 10-sided die along with a written key that tells what each card or dice roll means. If one event is supposed to occur more often than others—for example, if the player should encounter many monsters and few treasures—you can just make more cards for that event.

It may feel like you're inventing a new game by adding cards to represent random events, but remember that you're testing the *playing experience*, not the game technology.

Simulate Moving and Shooting

You can also use cards, dice, and turn-based rules to recreate the feeling of chasing, being chased, and shooting.

Here's an example of how to prototype a game that focuses on movement and shooting:

- Use a metronome (available free online) to control when players can move. Set your metronome to tick once every five seconds. Make a rule that a player can move one grid on the game board with each tick. When there is a line of sight, a player can take a shot at another player or a monster, but a player has only one shot per metronome tick.
  OR:
- Create several copies of each of the following cards:
  - Move one space
  - Move two spaces
  - Turn any direction
  - Shoot

- Have the game proceed as follows:
  1. Players place their characters on a cell grid and choose cards. Each player chooses three cards and places them face down in a stack.
  2. Reveal: Each player turns over his or her top card.
  3. If anyone turned over a "shoot" card, that person "fires" in the direction that his or her character is facing. Follow an imaginary line across the grid. If the line intersects with a cell containing another character, the shot hits. If the line comes to a wall or does not encounter another character, the shot misses. Shots can occur simultaneously, so that two or more players can be hit at the same time.
  4. If anyone turned over a "turn" card, that person can turn his or her character in any direction. If two or more players reveal turn cards, roll a die to determine who turns first.
  5. If anyone turned over a "move" card, that person moves his or her character the number of spaces specified. If two or more players reveal move cards, roll a die to determine who moves first. Players cannot occupy the same cell.

You might also add a scoring system and determine a hit percentage—that is, how many hits it takes before a character "dies."

Stay True to the Game

Make your rules as similar as possible to the rules for the digital version of the game. Change or add rules only when it's necessary to recreate an important part of the playing experience.

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Handout D2: Building Your Prototype

Work with your team to complete the steps below to build a prototype for your game.

Step 1: Plan Your Prototype

A carefully planned prototype can help you focus on the features you'll want to play-test in your game. Play-testing, in turn, will give you feedback to refine and improve the game.

Answer the questions below to help you plan your prototype.

Mechanics	
What is the core mechanic of your game? What do players spend most of the game *doing* (for example, chasing, being chased, solving riddles, engaging in combat, searching for treasures)? Which mechanic(s) do you want to focus your prototype and play-testing on?	
Feedback Questions	
What questions do you want to ask play-testers in order to get feedback about your game? Brainstorm a mix of general and specific questions. (You will narrow this list after you build your prototype. For now, include all the questions that your team comes up with.)	

Game World	
Describe how you will build your game world. What features will you include on your map or game board (for example, paths, walls, hidden rooms)? What materials do you need to build the game world?	
Characters and Objects	
What important characters, units, and/or objects do you want to represent in your prototype? What materials will you use to represent them?	

Step 2: Build Your Prototype

Gather the materials to build your prototype. Build the game world and the important characters, units, and/or objects.

Step 3: Adapt Procedures and Rules as Necessary

Determine the process that play-testers will use to play the game. You may need to adapt or create new rules in order to make the prototype game playable.
Create a handout for your play-testers that includes the following:

- Rules that play-testers need to know in order to play the game
- Procedures that your play-testers should follow in order to play the game

Depending on your game, the handout might include, for example:

- Adapted Procedures for Movement
- Adapted Procedures for Interacting with Other Players
- Game Designers' Roles During Game Play

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Handout D3:
Sample Prototype: *The Ghostly Maze*

Planning Your Prototype

Mechanics	
What is the core mechanic of your game? What do players spend most of the game *doing* (for example, chasing, being chased, solving riddles, engaging in combat, searching for treasures)? Which mechanic(s) do you want to focus your prototype and play-testing on?	
Feedback Questions	
What questions do you want to ask play-testers in order to get feedback about your game? Brainstorm a mix of general and specific questions. (You will narrow this list after you build your prototype. For now, include all the questions that your team comes up with.)	

Game World	
Describe how you will build your game world. What features will you include on your map or game board (for example, paths, walls, hidden rooms)? What materials do you need to build the game world?	
Characters and Objects	
What important characters, units, and/or objects do you want to represent in your prototype? What materials will you use to represent them?	

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Adapted Procedures and Rules

Adapted Procedures for Movement

- Use a metronome to control the movement of the player's character and the ghosts. Set the metronome to tick once per second. Each second is one "turn."
- Use a stopwatch to indicate the amount of time the player has to collect the candy and reach the maze's exit (this amount of time is a variable that can be changed by the game designers).
- On each turn, the player can move one square in any direction.
- The player collects apples by landing on a square and picking up the apple.
- The ghosts (controlled by the game designers) move one square per turn.
- If a ghost lands on the same square as the character, the character loses one piece of health and must remove a piece of candy corn from the health meter.
- If the player lands on a square that has a candy apple, one bar of health is restored (the player removes the candy apple from the square and puts it onto the health meter). If the player already has three bars of health, the candy apple is discarded.

Game Designers' Roles During Game Play

- One game designer monitors the metronome and the stopwatch.
- Other game designers move the ghosts through the maze. Depending on the number of ghosts, each designer may control more than one ghost. The ghosts move in set patterns established before the game starts (for example, moving back and forth over a limited number of squares, or chasing after the player's character).

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Appendix E: The Career Profile Project

What's it really like to have a career working in the arts, media, and entertainment (AME) industry? What education and training path gets you there? And what does the work of a talented AME professional look like?

For this project, you'll answer these questions by focusing on a successful professional who works in audio, video, animation, or gaming. You'll research the professional's career, education, and training, and analyze a clip from a production that this person has worked on. Your final step will be to present what you've learned to your classmates.

Step 1: Choose an AME professional.

Pick an AME field that you are interested in, such as audio, video, animation, or gaming, and select a professional working in that field. You can take one of three approaches to choosing this person:

- **Think of a media production that you like** (e.g., a movie or game) and choose someone who worked on it—the director, animator, lead artist, cinematographer, level designer, or producer.
- **Choose a professional whose work you admire.** Be sure to choose someone who works on media production, rather than a performer.
- **Choose someone you know personally or someone in the community** who works in this field.

Start with two or three professionals and conduct research to see how much information you can find—work samples, education and career paths, or interviews. Check to see if there are Web sites with clips of their work. (This is especially important for gaming and animation, since it can be hard to pick out an individual's contribution to finished games and animated movies.)

Narrow your choice to one professional by asking yourself the following:

- Does this professional work on media productions that I admire and want to watch, play, or listen to?
- Is there enough information available about this professional's career for me to complete the project?
- Has the professional had an interesting or instructive career path?

Step 2: Find out about the professional's education and training.

Look online or in books or magazines to find out:

- What college (if any) did this person attend?
- What other training has this person pursued (e.g., technical training)?

Write a short paragraph about your professional's education and training.

Step 3: Find out about the professional's career path.

Conduct research to learn about the path your professional has taken:

- How did your professional begin his or her career?
- What jobs or education has your professional taken or completed to get to his or her current position? Does your professional have further work or career goals?
- What media productions has your professional worked on, and what role did he or she play on each? List them in chronological order.
- Has your professional been interviewed or has he or she written about what it's like to work in this field? If so, what has your professional said?

Write a paragraph describing your professional's career path. Create a timeline that includes the following:

- Major career milestones
- Media productions the professional worked on

Step 4: Analyze a media production.

Choose a successful media production that your professional has worked on. Try to find a good example of your professional's contribution—for example, an animator or gaming professional's reel, or a scene with a character designed by your professional.

Analyze a short (10-minute or less) clip from the production:

- What makes this production successful? What visual and/or audio elements work well? What principles (such as the principles of animation or cinematography) are used effectively?
- How does the production make effective use of the elements of art and principles of design? (Disregard this question if you are analyzing an audio production.)
- What role did your professional play in contributing to the success of the production?
- Is there a particular style that can be attributed to your professional? (For example, some animators' work is clearly identifiable.) How is that style expressed in this work?

Write a paragraph analyzing the clip you've selected.

Step 5: Share your profile with your classmates.

Share what you've learned with your classmates, and learn about the professionals they profiled.