

Employee Skill Requirements for Various Game Development Jobs

Unit: Basic Business Skills

Problem Area: Global Market Outsourcing

Lesson: Employee Skill Requirements for Various Game Development Jobs

■ **Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

- 1 List the common traits and skills required for game development jobs.**
- 2 Identify the education and specific skill requirements for various game development jobs.**

■ **Resources.** The following resources may be useful in teaching this lesson:

Career Cruising. Accessed Feb. 17, 2009.
<<http://www.careercruising.com/>>.

“Courses for Video Game Producers,” *Game Career Guide*. Accessed Feb. 11, 2009. <http://www.gamecareerguide.com/features/456/ask_the_experts_courses_for_video_.php/>.

“Games from Within,” *Indie iPhone Game Development*. Accessed Feb. 11, 2009. <<http://gamesfromwithin.com/>>.

Hodgson, David S.J., Bryan Stratton, and Alice Rush. *Video Game Careers*. Random House, 2008.



■ **Equipment, Tools, Supplies, and Facilities.**

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with printers and Internet access
- ✓ Classroom resource and reference materials

■ **Key Terms.** The following terms are presented in this lesson (shown in bold italics):

- ▶ game designer
- ▶ game genres
- ▶ game programmer
- ▶ methodology
- ▶ skill
- ▶ trait

■ **Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situation. A possible approach is included here.

Conduct a brainstorming session with the class regarding the common traits in successful students. Prompts may be helpful to get the conversation started. For example, you may steer students toward traits such as dedication to learning, time management, and homework completion in addition to skills like reading and writing.

Next, discuss the diverse number of classes available to students. Indicate that many skills and traits are common to success regardless of the class topic or the level of difficulty. Finally, prompt students to consider the common skills and traits among game professionals and what skills would be job specific.

SUMMARY OF CONTENT AND TEACHING STRATEGIES

Objective 1: List the common traits and skills required for game development jobs.

Anticipated Problem: What are the common traits and skills required for game development jobs?

- I. Common traits and skills—A **trait** is a characteristic of a person’s personality, and a **skill** is the ability to do something well. Common traits and skills include:
 - A. Passion for gaming
 1. This involves knowledge and enjoyment of game play. A gaming professional does not have to be a hard-core gamer, but he or she must enjoy playing video games.
 2. The professional needs to have knowledge of consoles.
 3. The professional should have knowledge of the gaming market.
 - a. Games for sale in the market
 - b. Games that are selling well
 4. The professional should have knowledge of **game genres** (categories of game types based on the game play) used in the game, such as an action game or a role-playing game.
 - B. Enthusiasm
 1. Employees in game development should have a positive attitude.
 2. Game development employees should have a willingness to defend their ideas.
 3. Employees in game development should have a desire to do the job.
 4. Game development employees should have self-motivation.
 - C. Dedication to life-long learning
 1. Game development employees should be dedicated to technology and its advances.
 2. Game development employees should have an interest and ability with languages.
 3. Game development employees should be devoted to increasing knowledge of game development methodologies. A **methodology** is a system of accepted practices and procedures used to accomplish a task. As technology changes and better ways to accomplish a given task are developed, methodologies change.

D. Ability to work with others

1. A project team is typically made up of people from several disciplines. People within these disciplines often have distinct personality traits.
 - a. An artist creates a character for the game. The artist may view that character as an extension of himself or herself.
 - b. Programmers are likely to view the character as simply a game asset and as nothing particularly personal or creative.
 - c. Should the programming team or the design team require the character to be modified, the artist may take offense that a request is being made to change his or her work of art. However, egos must be set aside for the good of the project.
2. Many game companies believe that conflict is a productive way to generate great ideas and features for a game. Project team members must be able to engage in conflict without assaulting a member of the team on a personal level. Team members must also be professional and avoid taking constructive criticism as a personal attack.

E. Flexibility

1. Gaming professionals are not always on a nine-to-five schedule. When deadlines are close at hand, project teams may be required to work as many hours as necessary to meet delivery commitments.
2. Tasks assigned to a project team member may not fall specifically within the member's job description. To meet project commitments, team members may be asked to help in any development area that their skill set allows. For example, a game designer may be asked to write program code.

F. Well-rounded education and interests

1. Designers work on different types of games. One example is an educational game designed to teach middle-school students how the heart works.
2. The designer needs to have a solid understanding of how the heart works to achieve a sense of reality in the final game product.
3. People on the project team must be willing to learn about many topics. Taking a variety of classes in high school and college and having a broad range of hobbies and interests is useful to all gaming professionals.

G. Professionalism (including effective written and verbal communication skills)

1. Gaming professionals must be willing and able to communicate regularly with the development team. The success of the game depends on team members sharing ideas, giving and receiving constructive criticism, and checking the task status.
2. Time management, organization, and problem-solving skills are necessary traits for all gaming professionals.

Prior to class, write the following words on poker chips (enough for one per student): flexible, dedicated, well-rounded, passionate, able, professional, and enthusiastic. For example, if you have 21 students, write each of the words one

time on three different chips. You will have a total of 21 chips with each word appearing on three different chips. Pass one chip out to each student.

Group the students by the words on the chips, and have the groups discuss what they believe their word means with regard to professional skills and traits in gaming. (Some groups may not have the same number of students.) Have each group develop a sample game development scenario that reinforces the need for the skill or trait listed on the chip. Each group should share its scenario with the rest of the class. Use VM–A to emphasize the traits and skills important to all game development jobs.

Objective 2: Identify the education and specific skill requirements for various game development jobs.

Anticipated Problem: What are the specific skill requirements for various game development jobs?

II. Game development professional skill requirements

A. Writer

1. Education: Bachelor's degree in journalism, English, or communication
2. Skills: Knowledge of an industry or a specific topic is necessary. For instance, when a writer is primarily writing for a company that develops games for pre-schoolers, the writer should be knowledgeable about how preschoolers play and learn.

B. **Game designer**

1. Education: Bachelor's degree in game design or programming
2. Skills: A person rarely begins a career in gaming as a game designer. This role is typically reserved for seasoned game programmers, artists, or sound designers who have worked on many successful projects. Skills include:
 - a. Experience on several game projects
 - b. Critical-thinking skills
 - c. Problem-solving skills
 - d. Programming skills
 - e. Understanding of graphics for gaming
 - f. Understanding of computer hardware and consoles
 - g. Understanding of operating systems
 - h. Some programming experience
 - i. Creative vision and design skills
 - (1) Game levels
 - (2) Characters
 - (3) Vehicles
 - (4) User interface

- j. Ability to create development documents
 - (1) Game progression flow charts
 - (2) Concept documents
 - (3) Design documents
 - (4) User interface navigation flow charts
 - (5) Functional specification documents

C. Game programmer

- 1. Education: Bachelor's degree in computer science or related major or gaming with a minor in psychology
- 2. Skills:
 - a. Efficiency in using and reading programming languages, such as:
 - (1) C + +
 - (2) Visual Basic
 - (3) Java
 - b. Broad understanding of computer technology
 - (1) Graphics
 - (2) Operating systems
 - (3) Computer hardware and platforms
 - (4) Gaming consoles
 - c. Familiarity with game engines
 - (1) Mathematics
 - (2) Physics
 - d. Problem-solving skills
 - (1) Debugging code
 - (2) Troubleshooting and testing logic problems

D. Game producer

- 1. Education: Bachelor's degree in business management or marketing
- 2. Project management skills, such as the ability to:
 - a. Set timelines
 - b. Track and report progress
 - c. Manage and lead people individually
 - d. Manage and lead project teams
- 3. Broad and in-depth understanding of the gaming industry

E. Sound designer

- 1. Education: Associate or bachelor's degree in music or audio production
- 2. Skills:
 - a. Understand audio engineering principles
 - b. Play one or more instruments
 - c. Ability to use computer software tools

- d. Create game music and dialog tracks
 - (1) Compose music and dialog
 - (2) Edit music and dialog
 - (3) Mix music and dialog
 - (4) Implement music and dialog
- F. Animator
 - 1. Education: Associate or bachelor’s degree in art or animation
 - 2. Well-rounded artistic skills
 - a. Ability to sketch and draw
 - b. Talent in diverse media (e.g., clay and textiles)
 - c. Effective use of computer software (e.g., Photoshop, Illustrator, and programs for 3D graphic development)
 - d. Understanding of anatomy
 - e. Understanding of emotional expressions
 - f. Ability to create and read storyboards
 - g. Understanding of basic animation principles
 - 3. Proficient in 2D and 3D software animation products
- G. Game tester
 - 1. Education: This is an entry-level position that requires no college coursework. Additional training and education will be necessary when a game tester hopes to advance his or her career and move into a different role in game development.
 - 2. Skills:
 - a. Basic understanding of game terminology
 - b. Ability to multitask
 - c. Attention to detail
 - d. Ability to play a single level or area of a game for extended periods of time over and over again
 - e. Excellent documentation skills

Use VM–B to illustrate the education and skill requirements for game development jobs. Assign LS–A.

■ **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle.

■ **Application.** Use the included visual masters and lab sheet to apply the information presented in the lesson.

- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

■ **Answers to Sample Test:**

Part One: Matching

1. c
2. e
3. b
4. f
5. d
6. a

Part Two: Short Answer

1. A game development professional must be flexible for two primary reasons. First, work hours may vary and can be long, especially when a project deadline is close. Secondly, game professionals are expected to assist in areas other than their assigned job roles to help the team meet project deadlines.
2. Answers will vary but should include a statement similar to the following: Game development team members' communication skills must include regularly sharing ideas, giving and receiving constructive criticism, and providing project status updates for a game project to be successful.
3. Answers will vary but should be similar to the following:
 - a. A skill is the ability to do something well. An example would be the ability to ride a bicycle.
 - b. A trait is a characteristic of a person's personality. An example would be the love of outdoor sports.

Part Three: Multiple Choice

1. d
2. c
3. b
4. c

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► Part One: Matching

Instructions: Match the term with the correct definition.

- | | |
|----------------|--------------------|
| a. skill | d. game designer |
| b. game genres | e. methodology |
| c. trait | f. game programmer |

- ____ 1. A characteristic of a person's personality
- ____ 2. A system of accepted practices and procedures used to accomplish a task
- ____ 3. Categories of game types based on the game play
- ____ 4. A person who is skilled with languages and has a broad understanding of technology and a familiarity with game engines
- ____ 5. A seasoned professional in the industry with critical-thinking and problem-solving skills, programming experience, and an understanding of graphics, computer hardware, and consoles
- ____ 6. The ability to do something well

► Part Two: Short Answer

Instructions: Answer the following.

1. Why is flexibility an important trait for all game professionals?



2. Why is effective communication important to a project team?

3. What is the difference between a skill and a trait? Give an example of each.

► **Part Three: Multiple Choice**

Instructions: Write the letter of the correct answer.

____ 1. The game development job of ____ typically requires no college coursework.

- a. animator
- b. sound designer
- c. writer
- d. tester

____ 2. Sound designers must have ____.

- a. an understanding of operating systems
- b. experience with computer hardware
- c. the ability to play at least one instrument
- d. knowledge of the gaming market

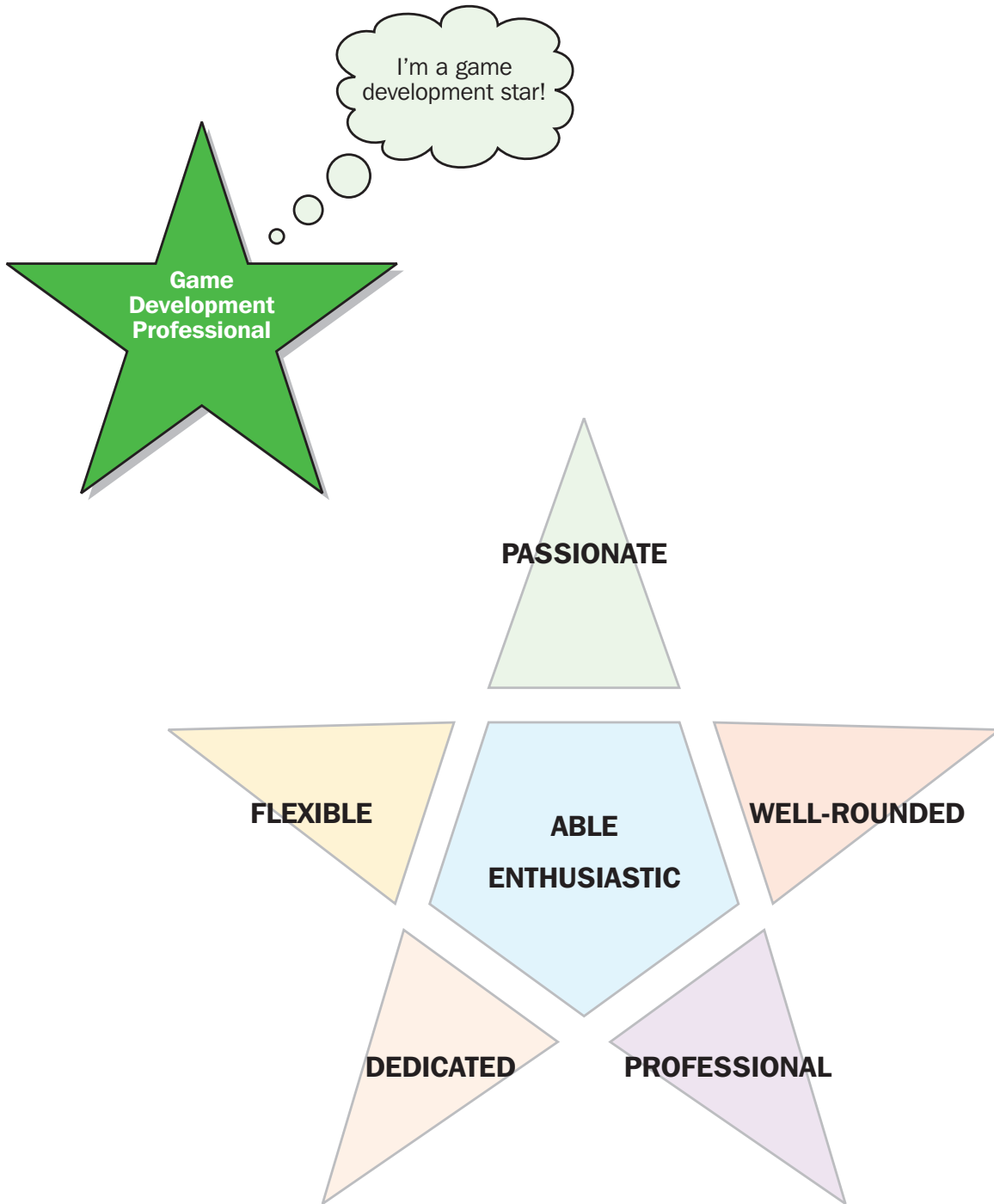
____ 3. Categories of game types based on the game play used in the game (e.g., an action game or a role-playing game) are called ____.

- a. game play
- b. game genre
- c. game group
- d. game class

____ 4. A methodology is ____.

- a. a rule for playing a game
- b. the status report about a game development project
- c. a system of accepted practices and procedures used to accomplish a task
- d. a document that dictates all parameters to be built into the game

TRAITS AND SKILLS FOR GAME DEVELOPMENT JOBS



GAME DEVELOPMENT JOB SKILL REQUIREMENTS

Job Title	Education	Other
Writer	Bachelor's degree <ul style="list-style-type: none"> • Journalism • English • Communications 	Knowledge of industry or topic
Game designer	Bachelor's degree <ul style="list-style-type: none"> • Various disciplines 	Seasoned game development veteran with experience in various development job roles on many game development projects
Game programmer	Bachelor's degree <ul style="list-style-type: none"> • Computer science • Gaming 	Broad understanding of computer technology, gaming consoles, and various programming languages like Java and C++
Game producer	Bachelor's degree <ul style="list-style-type: none"> • Business management • Marketing 	Project management skills and an in-depth understanding of the gaming market
Sound designer	Associate or bachelor's degree <ul style="list-style-type: none"> • Music • Audio production 	Ability to play at least one instrument and to use computer programs to edit and mix sound
Animator	Associate or bachelor's degree <ul style="list-style-type: none"> • Art • Animation 	Diverse talent in artistic media and the ability to use computer programs to create 2D and 3D graphics and animations
Game tester	High school graduate	Passion for gaming along with professional and effective written and verbal communication skills

Job Snipe Hunt

Purpose

The purpose of this activity is to reinforce the skill requirements for the gaming industry.

Objectives

1. Find an online help wanted advertisement for a game development professional.
2. Identify and list gaming job requirements as skills or traits.
3. Create a tri-fold flyer advertising the position to prospective employees.

Materials

- ◆ writing utensil
- ◆ computer with word processing, desktop publishing software, and Internet access
- ◆ printer

Procedure

1. Search the Internet for a game professional help wanted job board. A good Web site to begin with is <http://www.gamasutra.com/>. Find a position that interests you; read the job description, education, and skill requirements closely.
2. List the job title and description in the appropriate spaces below.
3. Next, list each job requirement in the appropriate skill or trait column.
4. Recreate this advertisement as a tri-fold flyer using word processing software or a desktop publishing software.
5. Post your advertisement, and discuss your findings with the class.
6. Turn in your advertisement to your instructor.



Identifying Job Skills and Traits

Job title:

Job description:

Skill Requirements	Trait Requirements