

UNIT 4: STORY AND GAME CREATION

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4.A: UNIT OVERVIEW

4.A.1: UNIT DESCRIPTION



This unit of study introduces the learners to the major elements of narrative for interactive environments. The focus is on the concepts of storytelling in relationship to game design. Learners will explore the fundamentals of narrative creation and the crucial importance of interactive storytelling. Learners will also use storyboards to create a visual sequence of story development and game play.

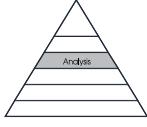
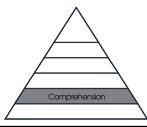
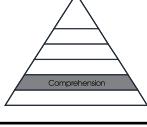
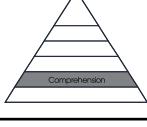
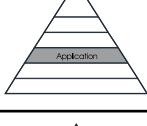
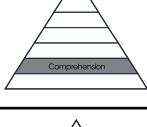
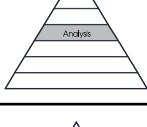
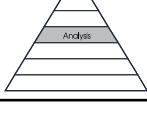
4.A.2: MAJOR TOPICS

In this unit, learners will explore the following topics:

- Storytelling (e.g. theme, genre, tone)
- Character development (e.g. archetypes, personality traits, player and non-player characters)
- Storyboards (e.g. pre-visualization of scene flow, interactive sequencing)
- Environment development (e.g. terrain creation)
- Documents associated with gameplay storytelling (e.g. concept, story treatment, Game Design Document (GDD))

4.A.3: LEARNING OBJECTIVES

By the end of this unit, learners should be able to perform the following tasks:

| | Blooms Domain | Learning Objective | Level of Difficulty |
|---|---|--|---|
| 1 |  | Deconstruct and review the general principles of storytelling |  |
| 2 |  | Explain the benefits of storytelling and the power of narrative |  |
| 3 |  | Describe the process of creating characters and designing character actions |  |
| 4 |  | Explain the use of storyboarding in game design |  |
| 5 |  | Identify the benefits of creating a storyboard |  |
| 6 |  | Create and control terrains within the Unity Editor |  |
| 7 |  | Explain how storyboard techniques can be used to further a storyline |  |
| 8 |  | Differentiate between the Concept Document, the Story Treatment Document, and the Game Design Document (GDD) |  |
| 9 |  | Distinguish components of a Work Breakdown Structure (WBS) |  |

4.B: INSTRUCTIONAL RESOURCE GUIDE

This section provides a guide for delivering the unit content within a structured course.

4.B.1: COURSE OUTLINE

1. What is a story? Introduction to storytelling principles
 - a. Story structure
 - b. Storyline
 - c. Conflict and drama
 - d. Types of narrative
2. Creating the characters for your story
 - a. Types of characters
 - b. Character archetypes
 - c. Character development elements
 - d. Visual development: appearance in the game
 - e. Verbal development: abilities, weakness and vulnerabilities, role in the game
 - f. Character backstory
3. The importance of images in telling a story: storyboarding fundamentals
 - a. Why use a storyboard?
 - b. Use of sketches, text and technical instructions to provide thorough descriptions of video game levels, scenes, goals, etc
 - c. Impact of sequence of frames in a storyboard and how this affects the story
 - d. Cues that help a visual storyteller to communicate ideas



4.C: LEARNING ACTIVITIES GUIDE

This section provides a guide for delivering the unit content with integrated activities and assessments. When reviewing the content in this unit, important questions to consider may include:



- What learning experiences can your learners engage in during this unit?
- How can you integrate formative assessments into these learning experiences?
- How can you integrate formative assessments into the tangible deliverables (e.g. documents, projects, test applications, game builds) that your learners produce?
- How can you integrate summative assessments towards the end of this unit?

As these can be challenging questions, this section will provide resources and recommendations to help you determine the appropriate answers.

4.C.1: INSTRUCTOR-LED TRAINING (ILT) ACTIVITIES

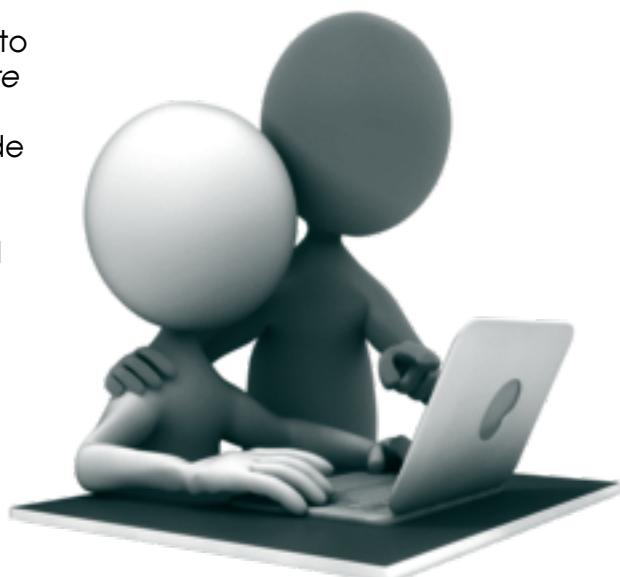
4.C.1.A: Exploring the Unity Editor

This tutorial below introduces the concepts of terrain and is a continuation of the development process for setting up a game build in the Unity Editor. This tutorial introduces the basic skills the learner will need to start any project in Unity. As learners finalize their game genre, story, and begin character development, the next tutorials will prepare them for bringing their storyboard to life within the Unity Editor. Provide time and opportunity for learners to complete the Terrain Sculpting Tutorial and previous tutorials as necessary to develop ability to begin the actual creation of their game for the *Capstone Project*.

Terrain Sculpting: <http://unity3d.com/learn/tutorials/modules/beginner/live-training-archive/terrain-sculpting>

4.C.1.B: Work Breakdown Structure (WBS) Exercise

In the last unit, learners were introduced to a basic project charter. In this unit, they will learn how to manage resources (i.e. time and talent) to accurately predict how long a project will take. They will also create a roadmap, which details the steps they need to take in order to meet the milestones to keep the project on track. The *Work Breakdown Structure (WBS)* document will be used to itemize specific tasks to be completed in order to finish a project. This can include very high level tasks as well as very detailed and highly specific tasks. For this part of the project, just enough project management is recommended and learners will only create a WBS for the higher level tasks. They will complete the WBS by listing the higher level tasks to be completed on the *Capstone Project*. This can be changed and edited as new knowledge and understanding of the process occurs.



4.C.1.C: Group Story Generation Exercise

Divide the class into groups of three learners each. Within the small groups, each person is assigned a number (one, two, or three). Each group is given a sheet of paper and asked to write the words “Once Upon A Time...” at the top. Next, write the word “Who?” on the board for the class to see. Instruct the first person from each group (number one’s) to write one or two sentences, describing who was going to be in the story. Tell them that they only have two minutes to write their notes, encouraging them to write adjectives and have fun with it. Next, write the word “Where?” on the board for the class to see. The second person from each group then has two minutes to write where the story takes place. Continue the process until all of the following questions are addressed on the sheet of paper:

- When?
- What is the problem?
- Who said What? (Let the learners know that someone in the story has to say something, so that learners have an opportunity to reinforce quotation marks)
- Who said What back to that person?
- Something bad happens
- Something good happens
- Something funny happens
- How it ends

Direct the learners to work together to convert their sentences into a storyboard with illustrations. Next, using a ‘round-robin’ type of routine, ask each group to share their story with the class.

4.C.1.D: Consider this Image Exercise

Based on this image alone, create a 350-500 word story that includes the scene depicted below. Discuss what happened to bring the character to this point. How did the fish get into the scene? What happens after this scene? You are creating the backstory, as well as the future story.



4.C.1.E: Five Card Flicker Exercise

Based on the Five Card Nancy card game, by [Scott McLeod](#), Five Card Flickr is an exercise in visual storytelling. Players are dealt five random images from a [Flickr](#) tag (*Instructor note: You must set up the Flicker images and the tag to ensure learners do not choose inappropriate images*) or by using this link <http://5card.cogdogblog.com//play.php?suit=etmoo>. Repeat this process four more times, building a coherent storyline from your five photos, during each round.

4.C.2: SELF-PACE LEARNING (SPL) ACTIVITIES

4.C.2.A: Game Design Document (GDD) Entry



1

In your *Game Design Document (GDD)*, create a storyboard for your game idea. This is still a pretty high level storyboard, so you do not need all the nitty-gritty details but at least a storyboard of the major story components. Jot down a few paragraphs of narrative that introduce your storyline. Introduce the back-story. What happened just before the action in the game – how did the main character end up in the situation they are placed at the beginning of the game? If your game does not have an actual storyline, jot down the background for how you developed the idea for your game. What was in your mind? Why do you think your idea is a good one? What was your inspiration? Remember your game will have a storyboard even if you are not developing a narrative type game.

2

In your *Game Design Document (GDD)*, provide details on the main characters and any supporting characters for your *Capstone Project*.

- Write out the physical features of the character, using five bullet points.
- Using the provided Character traits list, identify two dominant traits for your main character. Include an explanation of the character's development of those traits.
- In paragraph form, create a back story for the character. The back story must lead the character up to a point of current conflict, but does not need to include their current conflict. In paragraph form, write out emotional/personality of the character.

3

Create a draft for sections *1.5-Game Atmosphere*, *1.6-Game Play*, and *2.6-The Story* in your *Game Design Document (GDD)*. You will revisit and revise these sections as you learn more throughout the course.

4.C.2.B: Contemporary Game Assignment

1

Using this link, <http://www.games.jocuri-unity3d.com/minotaur-labyrinth-unity-3d.html>, watch the initial cut scene in the game: Minotaur Labyrinth. Then, pause the game. Discuss how the initial cut scene sets the stage for gameplay. What kind of mood does the story create? Based on the story, what do you expect from gameplay? What type of environment do you anticipate? What kind of challenges.

2

Now play the game: Minotaur Labyrinth. Explain how the game fits in with your expectations based on the initial backstory created via the cut scene. How would you have done the intro scene differently?



4.C.2.C: Critical Thinking Assignments

1

Write a short story about a character that is lost. You can choose the setting: woods, city, mall, etc. What does the setting look like? What is your character like? Physically? Personality wise? Where did the character come from? How did your character get lost? What does your character hear? Smell? Think? Feel? Who does your character talk to or with whom does your character interact? How does the problem in the story develop and resolve? Does the drama end in tragedy or comedy?

2

Create a storyboard that visually communicates your short story. Sketch out the scenes, character(s) and major objects. From sketch-to-sketch, include scenes, actions and transitions that detail the flow of the story. To enhance the communication value of the sketched panels, add titles and notations to detail any key sounds and special effects.

3

Write a 150-200 word essay explaining the butterfly effect. Then watch the short film "The Butterfly Effect" (found at <http://unity3d.com/pages/butterfly>), created by Unity Technologies and Passion Pictures. How is this film related to the butterfly effect? Discuss the elements used by the creators to generate the feelings and emotions engendered by the film. What was the "feel" at the beginning of the film? What techniques did the creators use to change that to the feeling of the film after the point where the main character encounters the skateboard?



4.D: STANDARDS ALIGNMENT GUIDE

4.D.1: PROFESSIONAL STANDARDS FOR INTERACTIVE APPLICATION AND VIDEO GAME CREATION

- ⇒ 1.1.8. Investigate the concept of “Interactive Narrative” and explain how it could pertain to game design.
- ⇒ 1.1.10. Determine the relevance of character development, backstory and attributes (power, speed, intelligence, empathy, etc.) in game design.
- ⇒ 1.3.1. Use appropriate, accurate terminology when communicating about artistic concepts and technology.
- ⇒ 1.3.2. Write effectively, producing clear, correct, & coherent prose adapted to purpose and audience.
- ⇒ 1.3.13. Assemble sketches & annotations into storyboards and presentations for both print and web.
- ⇒ 1.3.14. Create a narrative & storyboard for a new interactive app/video game.
- ⇒ 2.3.10. Explain what differentiates characters from other objects.

4.D.2: COMMON CORE STATE STANDARDS (CCSS)

- ⇒ [CCSS.ELA-Literacy.W.11-12.2](#) Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.
- ⇒ [CCSS.ELA-Literacy.W.11-12.3](#) Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.
- ⇒ [CCSS.ELA-Literacy.W.11-12.4](#) Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- ⇒ [CCSS.ELA-Literacy.W.11-12.5](#) Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.
- ⇒ [CCSS.ELA-Literacy.W.11-12.6](#) Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
- ⇒ [CCSS.ELA-Literacy.W.11-12.10](#) Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

4.D.3: STEM CAREER CLUSTERS (SCC)

- ⇒ SCC02 COMMUNICATIONS: Use oral and written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information.
- ⇒ SCC04 INFORMATION TECHNOLOGY APPLICATIONS: Use information technology tools specific to the career cluster to access, manage, integrate, and create information.
- ⇒ SCC07 LEADERSHIP AND TEAMWORK: Use leadership and teamwork skills in collaborating with others to accomplish organizational goals and objectives.

4.D.4: 21st CENTURY SKILLS

- ⇒ Learning and Innovation
 - Creativity and Innovation
 - Think Creatively
 - Work Creatively with Others
 - Critical Thinking and Problem Solving
 - Reason Effectively
 - Making Judgments and Decisions
 - Communication and Collaboration:
 - Communicate Clearly
 - Collaborate with Others
- ⇒ Information, Media and Technology Skills
 - Information Literacy
 - Access and Evaluate Information
 - Use and Manage Information
 - ICT (Information, Communications and Technology) LITERACY
 - Apply Technology Effectively
- ⇒ Life and Career Skills
 - Initiative and self-direction
 - Manage Goals and Time
 - Work Independently
 - Be Self-Directed Learners
 - Productivity and Accountability
 - Manage Projects
 - Produce Results

4.D.5: NEXT GENERATION SCIENCE STANDARDS (NGSS)

- ⇒ NGSS8: Obtaining, evaluating, and communicating information



4.E: ASSESSMENT REFERENCE GUIDE

4.E.1: Work Breakdown Structure (WBS) – Assessment Rubric



| | Unacceptable | Basic | Proficient | Distinguished |
|--|--|---|--|---|
| Work Breakdown Structure Components | Incomplete project steps and sequence. | Limited project steps and limited sequencing errors. | Project details identified on the charter by correct level of effort, WBS Code and descriptions to enable delivery of project to meet identified milestones. | The WBS is very accurate and complete with in depth levels and codes that clearly delineate all tasks to be completed. Descriptions are well thought out and clearly articulates tasks. |
| Completeness (quality of content) | Incomplete information provided. | WBS is completed, but lacks some key information or has errors such as inaccurate levels or WBS codes, Element Identification and definition. | WBS is properly completed but may have a few minor errors such as inaccurate levels or WBS codes, Element Identification and definition. | WBS is very well thought out in terms of sequence of events. Levels of work are very accurate and well thought out. The specific elements are very accurate in terms of major tasks to be completed in a measured block. Definitions are very clear and provide specific deliverables for each Element and Level. |
| Mechanics: spelling, grammar, punctuation | Paper has 7 or more errors. | Assignment has between 5 and 6 errors. | Assignment is proofread well, with only 3 or 4 errors. | Assignment has been thoroughly proofread with no more than 2 errors. |
| Accuracy of Elements | Elements are vague and/or incomplete. | Elements are partially identified, but not stated such that a developer understands what is to be completed. | Most elements are identified so that a developer could successfully create the game. | Elements are clearly stated and are specific and sized right to escribe what a developer must to do to schedule and create the project. |

4.E: ASSESSMENT REFERENCE GUIDE

4.E.2: Story Writing – Assessment Rubric



| | Unacceptable | Basic | Proficient | Distinguished |
|------------------------------|---|--|---|--|
| Story Idea | The idea for the story needs work. Message is unclear. | The idea for the story was good. Message fairly clear. | The idea for the story was very good. Message very clear. | The idea for the story was excellent. Message extremely clear. |
| Characters | Characters are vague—more effort required. Characters' suitability to the storyline is unclear. Difficult to identify main characters. Very little description. | Characters are interesting—good effort. Characters are suitable to storyline. Main characters are named, but not described well (through words and/or images). | Characters are very interesting—very good effort. Characters are very suitable to storyline. Main characters are named and clearly described (through words and/or images). | Characters are extremely interesting—excellent effort. Characters are extremely suitable to storyline. Main characters are named and very clearly described (through words and/or images). |
| Setting | The reader has trouble figuring out when and where the story took place. Very little use of descriptive detail. | The reader can figure out when and where the story took place, but the author didn't supply much detail. | Some vivid, descriptive words are used to describe when and where the story takes place. | Many vivid, descriptive words are used to tell when and where the story takes place. |
| Problem/ Conflict | It is not clear what problem the main characters face. | It is fairly easy for the reader to understand the problem the main characters face, but it is not clear why it is a problem. | It is fairly easy for the reader to understand the problem the main characters face and why it is a problem. | It is very easy for the reader to understand the problem the main characters face and why it is a problem. |
| Creativity | There is little evidence of creativity in the story. The author does not seem to have used much imagination. | The story contains a few creative details and/or descriptions, but they distract from the story. The author has tried to use his imagination. | The story contains a few creative details and/or descriptions that contribute to the reader's enjoyment. The author has used his imagination. | The story contains many creative details and/or descriptions that contribute to the reader's enjoyment. The author has really used his imagination. |

4.E: ASSESSMENT REFERENCE GUIDE

4.E.3: Character Creation Rubric – Assessment Rubric

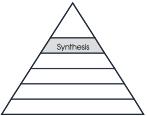
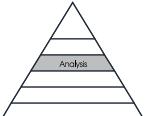
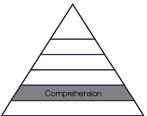
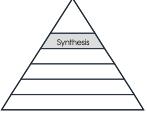
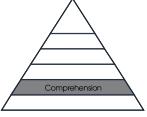
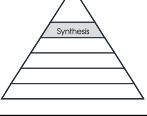
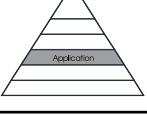
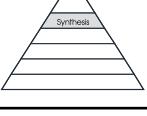
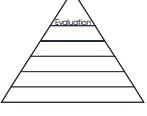


| | Unacceptable | Basic | Proficient | Distinguished |
|---|--|--|---|---|
| Character creation and development | Shows little or no evidence of character creation. Reader could not pick the character out of a crowd. | Describes certain characteristics about the character, but leaves the readers feeling a little vague. | Establishes a believable character that is knowable and real, but some things are missing in the description. | Creates a believable and fully developed character. Reader feels like they know the character. |
| Character Attributes | Communication of character attributes is awkward and not fully developed. | Clearly describes at least two major character attributes (physical, mental, or emotional). | Clearly describes at least three major character attributes (physical, mental, or emotional). | Clearly portrays at least four or more major character attributes (physical, mental, or emotional), and maintains specific traits throughout. |
| Originality | Bases ideas on other's games or stories (does not give credit), but there is little or no evidence of original thinking. | Bases ideas on other's games or stories (giving them credit), but there is little evidence of original thinking. | Character shows some original thought. Characteristics and traits are creative and inventive. Descriptions show new insights and ideas. | Character shows a large amount of original thought. Characteristics and traits are creative and inventive. |

4.E.4: Storyboard Rubric – Assessment Rubric

| | Unacceptable | Basic | Proficient | Distinguished |
|-------------------------------------|---|---|---|--|
| Storyboard Required Elements | Storyboard not done or is incomplete. Not suitable even as general guide. Very little evidence if any of planning of the visuals. | Large omissions in scene planning. Some sketches with notes and other information. Effective planning of visuals. | Relatively complete with sketches for most scenes. Titles, notes, transitions and other information provided for all scenes. Good planning and organization of visuals. | Sketches for all scenes. Titles, detailed notes, transitions, special effects, sound all described. Shows excellent planning and organization of visual details. |

1.E.2: ASSESSMENT OF LEARNING OBJECTIVES

| | Blooms Domain | Learning Objective | Level of Difficulty |
|---|---|---|---|
| 1 |  | Given a brief storyline, the learner will create character profiles of the protagonist and antagonist. |  |
| 2 |  | Given a set of character descriptions, the learner will be able to categorize the archetype. |  |
| 3 |  | Given a specific archetype, the learner will be able to summarize the characteristics and typical function within the storyline. |  |
| 4 |  | Given an image, the learner will be able to create an original character for use in a story. |  |
| 5 |  | The learner will be able to summarize at least three functions of storyboards and how they communicate information to the audience. |  |
| 6 |  | The learner will begin to experience the process of creating characters and stories. |  |
| 7 |  | The learner will begin the process of creating environments (e.g. terrains) utilizing the Unity Editor. |  |
| 8 |  | Given a short story, the learner will be able to create a storyboard to communicate a visual depiction of the storyline. |  |
| 9 |  | The learner will estimate the time and activities required to complete an accurate <i>Work Breakdown Structure (WBS)</i> as part of applying project management techniques to completion of the <i>Capstone Project</i> . |  |

4.F: SUGGESTED RESOURCES

Which books, digital resources, & other materials will be used in this lesson? Listed below is a recommendation of resources to consider for this unit:

1. The 7 keys of storytelling <https://www.youtube.com/watch?v=hVcg9L6FLPA>
2. A List of Character Archetypes (pdf)
3. Methods of Characterization worksheet (pdf)
4. Just Enough Project Management Text: <http://www.amazon.com/Just-Enough-Project-Management-Indispensable/dp/0071445404> and for download: http://ebookee.org/Just-Enough-Project-Management_3617.html
5. Guide for Creating a Work Breakdown Structure: <https://www.workbreakdownstructure.com/>
6. Templates for WBS Creation: <https://www.workbreakdownstructure.com/>

