UNIT 6
GAME DEVELOPMENT

START-UP

1. Answer the questions.

1. Do you play computer games? If yes, name your favourite ones.
2. Do you know any games created by Belarusian developers?

VOCABULARY

1. Match the words to their definitions.

1) game development	a) to write a program or set of instructions that tells a computer to do something
2) content	b) a software development environment designed for people to build video games
3) to script	c) a program or framework that lets you to play sound files
4) sound engine	d) a degree of lightness, darkness, strength, etc. of a colour
5) surround sound	e) computer software that provides an approximate simulation of certain physical systems, such as rigid body dynamics (including collision detection), soft body dynamics, and fluid dynamics, of use in the domains of computer graphics, video games and film
6) vertex shading	f) a platform for developing software applications
7) hue	g) a graphics processing function, which manipulates vertex data values on an X (length), Y (height) and Z (depth) 3D plane through mathematical operations on an object
8) physics engine	h) a system of sound recording and reproduction that uses three or more independent recording channels and loudspeakers in order to give the impression that the listener is surrounded by the sound sources
9) framework	i) everything that is contained within something

10) game engine   j) the process of making a video game

2. Match the synonyms given below.

1) to test   a) features
2) to be charged with   b) additional
3) supplemental   c) to be developed for
4) attributes   d) achievement
5) to be designed for   e) to perform
6) accomplishment   f) to remind
7) to execute   g) from the beginning
8) to resemble   h) available
9) from scratch   i) to be assigned to
10) accessible   j) to check

3. Complete the table with the necessary derivatives. Pay attention to the meaning of the words.

Verb		Noun	Adjective
		engagement	
			educational
exclude			
			supplemental
		animation	
alter			
		prediction	
			accomplished
expand			
			indicative

READING

1. Read the text and answer the questions.

1. What is a computer game?
2. Who can be a game developer?
3. What does the process of game development involve?
4. What are the tasks of a video programmer in game development?
5. What game engines are used in game development?

Game Development

       Game development is the art of creating games and describes the design, development and release of a game. It may involve concept generation, design,

build, test and release. While you create a game, it is important to think about the game mechanics, rewards, player engagement and level design.

A game developer could be a programmer, a sound designer, an artist, a designer or many other roles available in the industry.

Game development can be undertaken by a large game development studio or by a single individual. It can be as small or large as you like. As long as it lets the player interact with content and is able to manipulate the game's elements, you can call it a 'game'.

A video programmer, also known as a game software engineer or a video game programmer, develops video games intended for entertainment or educational purposes. While there are usually several layers to this position, a video programmer is primarily charged with the task of writing the code that runs the game and directs probable outcomes of play. They are also involved in scripting supplemental components, such as development tools and computer assisted software to establish the game's platform and interface capability, as well as to develop its architecture. Typically, a team of programmers works together in the production of a single video game. However, many video programmers specialize in a specific area of development.

For example, a video programmer may be dedicated to working exclusively on the sound engine of a video game, including writing script to project 3D positional sound, what is more commonly known as surround sound. The challenge to this role is developing code to drive specific sounds and variations in sound to reflect the attributes of certain characters in the game and the actions they perform, as well as to indicate the level of play or goal accomplishment.

In contrast, a video programmer may be assigned to concentrate on developing the graphics for a game. Depending on the device the game is designed for, the programmer may be asked to develop two dimensional (2D) or three dimensional (3D) graphics, with the former usually being reserved for handheld games, PDAs, and cell phones. In the case of the latter, the video programmer may specialize in creating code to execute advanced 3D graphic effects known as pixel and vertex shading, which provides sharp contrast and color hues to produce a realistic 3D appearance.

Some video programmers specialize in animation, which involves developing a predictable set of physics laws that may or may not resemble those found in the natural world. Also known as dynamical simulation, this aspect of game development is attributed to the creation of a physics engine, which defines how certain characters and objects will move in a given environment and how they will behave when that environment is altered due to an event taking place in the game.

To resolve problems that game frameworks had, tools like libGDX and OpenGL were developed. They helped game development to be a lot faster and easier, providing lots of pre-made functions and features. However, it was still hard to enter the industry or understand a framework for someone coming from a non-programmer background, a common case in the game development scene.

Then game engines like Construct, Game Maker, Unity and Unreal were developed. Generally, an engine has everything that a framework had, but with a more friendly approach by using a graphic user interface (GUI) and helping with the graphic development of the game.

In some cases, like Game Maker and Construct, the amount of pre-made functions are so big that people with no previous programming skills could build a game from scratch, really expanding the scene and making game development accessible for almost anyone.

https://www.wisegeek.com/what-is-a-video-programmer.htm
https://guide.freecodecamp.org/game-development/

2. Read the text again and say whether these statements are true or false.

1. A game developer can be only a programmer.
2. Game development is the art of creating games and describes the design, development and release of a game.
3. Video games are intended only for entertainment.
4. A video programmer is a versatile specialist.
5. A physics engine defines how certain characters and objects will behave in a given environment.
6. Game frameworks provide lots of pre-made functions and features.
7. People with no previous programming skills could build a game from scratch using game engines.

3. Make a short summary of the text.

LANGUAGE FOCUS

PROGRESSIVE TENSE FORMS

Consult grammar rule using the link:
https://drive.google.com/file/d/1oz8C_7hQd2M5jXoRMFPyo4lrxFg0fOnV/view?usp=sharing

1. Choose the correct form of Present Progressive (Active or Passive):

1. The popularity of the video game development field *is being boomed / are booming / is booming* these days.
2. Amazing progress *is making / is being made / are being made* in the industry of game development at present.
3. I *is learning / am being learnt / am learning* specific skills through technical tutorial on the topic AR Photography with Unity Toolkit.
4. Nowadays real-time 3D projects *are building / are being built / is being built* with the help of Unity.

5. Our game designers *are being dealt / are being dealing / are dealing* with a new game concept this week.

6. Game studios *are always being looked /are always looking / are always being looking* for great programming talent.

7. Some adjustments *is making / are making / are being made* to the game mechanics right now.

8. In game design teams you *is collaborating / are being collaborating / collaborating* all day with other team members.

9. Our studio *are being used / is being used / is using* C# for coding in Unity.

10. I *am focusing / are focusing / am being focused* on learning Java because it's a very dynamic language with lots of applications.

2. Change the verb into the correct form of Present Progressive (Active or Passive):

1. Denis ____ (to study) to be a game programmer.
2. They ____ (to use) Unity to simulate new building designs in interactive 3D space.
3. ____ Julia (to start) a new game development course tomorrow?
4. Unity 3D game engine tools ____ (to learn) by a great number of individuals these days.
5. The designers ____ (to brainstorm) the initial vision for a game right now.
6. ____ you (to have) a better understanding of the Unity 3D editor now?
7. Godot engine has a community that ____ constantly (to fix) bugs and (to develop) new features.
8. ____ Nick (to look) for a game developer position?
9. Steam games ____ constantly (to improve) with the gamers' feedback.
10. Nowadays Artificial Intelligence ____ (to enter) a new growth phase.

3. Choose the right tense form (Present, Past or Future Progressive).

1. Nowadays the popularity of game development *was only increasing / will only be increasing / is only increasing.*

2. All day tomorrow we *are being tested / will be testing / were tested* the game to make sure it runs smoothly.

3. When I *am planning / will be planning / was planning* a game I joined a channel of game designers.

4. This evening at 7p.m. Andrew *was playing / will be playing / is being played* PUBG.

5. The battle royal genre *is expanding / were expanding / was being expanded* with new games releasing on a monthly basis.

6. I *will be watching / is watching / is being watched* the latest video uploads on the Construct YouTube channel tonight.

7. DOTA 2 *was currently being played / will currently be playing / is currently being played* by most of my friends.

8. A new mobile app *is developing / was being developed / was developing* by our team the whole last month.

4. Write questions about the things underlined in the sentences.

1. Cloud computing is completely changing our society.
2. Ann was working hard the whole last week to complete the project.
3. Philip will be learning the Unity 3D game engine tools at tomorrow's seminar.
4. The selection of games for Linux is being risen these days.
5. About 7000 games for MacOS are currently being supported by Steam platform.
6. Many people are starting to replace regular laptops with smaller, more mobile devices.
7. Our team will be discussing the game prototypes from 2 till 5 p.m. tomorrow.
8. The world's largest car manufacturers are exploring innovative ways to speed up and enhance the design process.
9. DVD disks are constantly being pushed back by more convenient online game stores.
10. Alexander was trying to sell his laptop the whole last month.

5. Fill in the gaps with a verb from the box in the correct Past Progressive form (Active or Passive) or Future Progressive.

| play, discuss, fix, practice, talk, improve, chat, work, test, focus |

1. I remember, when designing one of my mobile games, I ____ on a way to allow players to switch easily between weapons.
2. Tonight at 8 p.m. as Denis ____ the bugs, Pavel ____ the graphics.
3. Every time a new major element was added, the game ____ .
4. Tomorrow at this time we ____ on better game interaction with a player.
5. Yesterday while Max ____ Dota 2, Nick ____ to his friend.
6. All day yesterday the issues relating to Game Design Patterns ____ .
7. I ____ building a game through a tutorial with Unity all evening yesterday.
8. Tomorrow at this time, the designers ____ about the game mechanics and the flow of the game.

6. Correct the mistakes.

1. If you're on a team, you are being worked with loads of other people who have different backgrounds.
2. Our game developers will be determined the initial game requirements when you come.
3. Yesterday from 9 to 11 a.m. I am reading the fantastic The Art of Game Design by Jess Schell.

4. The world of automotive design is being changed rapidly these days.
5. AAA (Triple-A) game commonly denotes that a game are publishing by a large, established publisher.
6. All day tomorrow our team was being developed the game interface.
7. When the customer came the app was still testing.
8. Microsoft has research labs that is working on a number of breakthrough technologies to improve cybersecurity.

7. Complete the sentences with the correct Progressive tense form (Active or Passive) of the verbs in brackets.

1. Next week at this time we ____ (to work) hard to get this project done.
2. Dota ____ constantly (to evolve), but it's never too late to join.
3. Many things about game development ____ (to become) extremely easy with today's game engines.
4. Tomorrow from 3 to 5 p.m. they ____ (to adjust) the game physics.
5. Fiber optic cable and the infrastructure for 5G ____ currently (to deploy) by the company across the country.
6. Microsoft security engineers ____ constantly (to adjust) their security approach.
7. Yesterday while Pavel ____ (to visualize) data and locations, Alexander ____ (to build) various levels.
8. I ____ (to plan) to use an already-made game engine as it provides a wide range of functionalities.
9. 3D modeling of characters and objects ____ (to create) the whole last month.
10. Tomorrow as David ____ (to fix) the problem with the code, we ____ (to make) adjustments to the game mechanics.
11. Now they ____ (to partner) with the leading providers of online education.
Currently optical drives ____ (to drop) from pre-made computers and laptops by hardware manufacturers.

SPEAKING

1) You have reviews of two computer games (A and B). The reviews are from both critics and from users. Read about one of the games. Before that, learn the words below.

1. noble - знатный, дворянин
2. plague [pleig] - чума, мор
3. revenge - месть
4. distract - отвлечь, сбить с толку

8. glitch - накладка, «глюк»
9. hibernation - гибернация, спящий режим
10. corporate board - коллегиальный орган
11. terraforming - изменение условий на планете на более подходящие для

5. potion - зелье, снадобье
6. slingshot - рогатка
7. on the spot - в тот же момент, тут же

12. conspiracy - (зд.) тайный сговор
13. threaten - угрожать
14. faction - (зд.) группировка
человека

Student A

A Plague Tale: Innocence

<u>**Critic Review**</u>
General Information
Release: May 14, 2019
Available on: PC, PlayStation 4, Xbox One PC
Developer: Asobo Studio (France)
Genre: an action-adventure horror stealth game
Mode: single-player

A Plague Tale: Innocence is a solid single-player game. It is a combination of action and emotional storytelling.

Players take the role of **Amicia De Rune**, the daughter of a <u>noble</u> man in 14th century France at the time of the <u>plague</u> that is spread by rats. She has a five-year-old brother, **Hugo**, who has a supernatural thing in his blood that makes him a target of the Inquisition. After the Inquisition soldiers attack their home, Amicia and Hugo must make their way through the country. During their journey, they meet other children who help them in their search for answers and <u>revenge</u>. Amicia and Hugo have to hide from Inquisition soldiers and distract enemies with various skills and alchemical <u>potions</u>. Rats can also be dangerous if they get too close. Amicia arms herself with <u>a slingshot</u>, which can sling rocks at soldiers and can be upgraded. Hugo also gains some skills to fight off the rats and even use them to get past soldiers. Hiding is always preferable to fighting, but sometimes the children have no choice. Amicia can also collect resources in her environments, things that she can use to make alchemical potions <u>on the spot</u>. There are some emotional situations throughout the game that can leave a player in tears. The voice acting is particularly good.

The game has no noticeable bugs or <u>glitches</u>. The graphics are also much better than one might expect: for example, you can see the textures of the clothing distinctly and hair flows in a very natural way. There's nothing to complain about. It is a successful combination of horror, action, survival, combat and story.

<u>**User Reviews**</u>
<u>**Johnnybg1981**</u>
May 24, 2019
At the beginning the game looks very interesting and promising, but at one point it becomes too repetitive.

<u>**lls27**</u>
May 25, 2019
rats rats rats rats rats ratsrats rats ratsrats rats ratsrats rats ratsrats rats ratsrats rats ratsrats rats ratsrats rats rats

<u>**Sioux123**</u>
May 22, 2019
It is a lot of dialogues. You don't manage to read. Especially, when it is necessary to move. The text quickly disappears and is badly readable.

Student B
The Outer Worlds
<u>**Critic Review**</u>
General Information
Release: Oct 25, 2019
Available on: PC, PlayStation 4, Xbox One
Developer: Obsidian Entertainment (USA)
Genre: RPG
Mode: single-player
Description: The Outer Worlds is a new single-player player-driven story sci-fi RPG. According to the plot of the game, you wake up after a long <u>hibernation</u> on a spaceship on its way to Halcyon — a human colony on the far edge of the galaxy. Halcyon is a colony owned and operated by a <u>corporate board</u>. They control everything... except for the alien monsters left behind when the <u>terraforming</u> of the colony's two planets didn't exactly go according to plan. As the main character, you will find yourself involved in a deep <u>conspiracy</u> that <u>threatens</u> to destroy the entire human settlement. During your journey through the furthest colony, you will meet a lot of characters who will want to join your crew. Armed with unique abilities, these companions all have their own missions, motivations, and ideals. It's up to you to help them achieve their goals, or turn them to your own ends. A unique character created by you will be able to influence the course of this story, exploring the depths of space and meeting numerous <u>factions</u> that are fighting for power on Halcyon … Find your ship, build your crew, and explore the settlements, space stations, and other intriguing locations throughout Halcyon.
<u>**User reviews**</u>
<u>**Cygnusmoon**</u>
Nov 3, 2019
Before buying, everything seemed so attractive, it sounded like nothing could fail. Well, lots of things did. Let's begin with the STORY: The idea and the theme feel so badly carried out. All the missions feel so simple, with a great lack of originality in the quest designing.
It's the low levels of greatness in what happens in the missions. There's no action beyond combat in the game. Nothing blows up, no cinematics, nothing. It seems like the game forgets about the existence of feelings in the players. It will never make you feel sad, happy, furious, nostalgic.
The COMBAT is quite poor, there's little variety of weapons, and the kind of enemies you face is also very repetitive and limited.
<u>**Esthete**</u>

Nov 29, 2019

RPG must have an interesting plot, characters, variability and an interesting gameplay. The Outer Worlds not about that. Plus lags.

devilchao0

Oct 26, 2019

Very, very average. The story is not very engaging. I wouldn't call this game bad. It feels very dated and like something that would have come out early. Wait for a sale if you really want to try it.

2) Get into pairs **A-A, B-B.** Make questions you will ask a partner from the opposite group about their game. Use the prompts below to help you.

Ask about

1. the name of the game. (What/ the name…..?);
2. the company which produces it. (What company…?);
3. the platform on which it is played. (What platform…?);
4. the plot and the characters. (Who/ characters? What/ do? When/ happen?);
5. the tasks players have to perform. (What tasks/ have to do? Who helps...? What weapon/ have?);
6. the bad points and good points. (What/ good/bad..?).

Answer these questions about your game and take notes for later use when you will have to answer similar questions from the opposite group partner.

3) Get into pairs A-B, interview each other about the games using the questions you have made. Don't forget to take notes. You will make use of them to complete the writing task.

What similarities and differences have you found?

WRITING

Write a passage comparing the two games.

Show the similarities and differences of the games. Use the prompts and the template below, the prompts from Unit 5 (Writing), and your own notes on the games:

Comparison	Addition	Generalising	Summarizing
Equally	Additionally	On the whole	Finally
In the same way	Furthermore	In general	Last of all
In a similar way	Along with	To some extent	To sum up
In comparison with	Besides	In many ways	All in all
	In addition		
	Moreover		

Template:

Topic: **A Plague Tale: Innocence and** *The Outer Worlds*

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1. Introduction (*Here is a comparative analysis of two video games…*)
2. Main body
- Paragraph 1: similarities (*The two games have much in common…* : the year of release, platforms, mode, using stealth, etc.)
- Paragraph 2: differences (*One can't but mention certain differences* … :the developer, genre, characters, weapon, tasks, etc.)
3 Conclusion

LISTENING

SETTING THE CONTEXT

1. All people have played video games at least once, but not all of them are gamers. There may be some gamers among your friends or relatives.
2. Think of 3 games that you really enjoy playing. What do you like most about them?
3. Can you tell the difference between a gamer and an e-sports athlete? What is the latter like?

ACTIVATING VOCABULARY

Match the English words (phrases) with their Russian equivalents.

1. fundamentals	a) ритм, периодичность
2. to master	b) предвещающий; зловещий
3. successive	c) говорить, сообщать
4. rhythm	d) вырабатывать стратегию, разрабатывать подробный план
5. thoughtful	e) изменение; внесение изменений
6. ominous	f) овладевать, усваивать; достичь вершин мастерства (в чём-л.)
7. to communicate	g) последующий; следующий один за другим
8. workflow	h) мгновенный; немедленный, незамедлительный
9. alteration	i) задумчивый
10. to strategize	j) основы, основные положения
11. instantaneous	k) последовательность выполняемых действий; технологический процесс

Before proceeding to CHECKING YOUR UNDERSTANDING section, please follow the link to watch the
video: https://www.youtube.com/watch?v=rHEJZXvFc5I

CHECK YOUR UNDERSTANDING

Match the words from column A with the words from column B to form phrases:

1. critical	a) effect
2. linear	b) of the iceberg
3. game's	c) of an eye
4. the tip	d) speed
5. to be grounded	e) eye
6. gameplay	f) in reality
7. in the blink	g) aesthetic

Circle the best answer to these questions.

The 12 Principles of Animation were first set out ___
  • in a book called *The Illusion of Life* by some ex-Disney animators;
  • by the author of this video on his blog;
  • in a book *Character Animation Crash Course!* by Eric Goldberg.

The 12 Principles of Animation represent ___
  • a collection of techniques established by the animators of those earliest Disney feature films;
  • a new set of rules for game animators;
  • none of the above.

Animation is a time-based ___
  • craft;
  • draught;
  • draft.

Timing is ___
  • about measuring change over time;
  • the speed or tempo at which an action takes place;
  • all above.

What action is not listed in the video as having fast Timing?
  • the bounce of a rubber ball;

- the sharp kick of a fired gun;
- the quick blinks of a character's eyelids.

What action isn't said to have slow timing?
- the action of standing up from a seated position;
- the leisurely descent of a paraglider;
- the ominous opening of a Dark Souls door.

According to the video you can use timing to communicate all sorts of stuff such as ___
- size, scale and weight;
- character's feelings and emotions;
- all above.

Let's consider the action of standing up from a seated position again. What can a game animator communicate if they program the action to take much longer than usual?
- the character seems excited;
- the character may be startled;
- the character feels tired or depressed.

What is the animator's standard unit for measuring time?
- a frame;
- a second;
- a minute.

What is Spacing in games animation?
- Spacing is about how far something moves or changes from one frame to the next;
- Spacing means increasing the number of frames at the beginning and end of a movement;
- none of the above.