TOOL – VIDEO GAMES

DIGITAL CONTENT CREATION > 3.1 DEVELOPING DIGITAL CONTENT

TARGET GROUP	AGE GROUP	PROFICIENCY LEVEL	FORMAT	COPYRIGHT	LANGUAGE
Facilitators	N/A	Level 0	Preparatory guide	Creative Commons (BY-SA)	English, French

This document contains background information for facilitators before they run the workshop with participants. The internet today is replete with video games. This document is helpful for understanding the different ingredients that come together to make up a good video game.

General Objective	Knowledge acquisition
Preparation time for facilitator	less than 1 hour
Competence area	3 - Digital content creation
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WORKSHOP DIRECTIONS

1 Introduction

Video games have gone through enormous growth over the past quarter of a century. Starting as a simple pastime, they are now seeped inextricably into our culture, often considered to be the tenth art (where the eight is photography and the ninth being the graphic novel). 20 years ago, games offered a few hours or even just a few minutes of entertainment. Today, many last much longer. And while they extend in length, their world's expand and their rules grow in complexity. This sheet will give an overview of the video game: their characteristics, history, how much time it they take create as well as what kind of careers are involved (there are many!).

Let's start with the basics: how do we define a video game?

A game requiring a user interface such as a computer or a games console, via which the player acts in a virtual environment.

2 Games beyond gaming: history and art

Video games are not always purely for playing. They can also be used to narrate and/or model historical situations and environments as well as incorporate artistic aspects in their design. Video games are far from being a simple pastime: over time, it has developed in diversified. Today we find all kinds of games, whether they be 'basic' – to relax – to interactive videos in the form of puzzle games to educational games designed to transmit particular messages.

History-related to video games

This relation to history may manifest in: the reproduction of buildings, cities, historical scenarios, historical figures, etc.

Assassin's Creed Origins is a game developed by Ubisoft released on October 27th 2017, taking place in Cleopatra's Egypt. Beyond some fictional embellishment, poetic license and gameplay, the game strives to faithfully recreate the Egypt of this time period, based on what we know. Take for example architectural details that appear in the game for example pyramid luminosity, or the colours of sphinxes.

Such details are faithful to the our historical knowledge of the period, as historians assisted in the game's development. As a result, Ubisoft realised the 'Discover Tour' in 2018, which removed game elements such as gameplay and story and presented a purely historically immersive experience which was critically lauded from an educational perspective.

Kingdom Come Deliverance*: more controversial, but still a solid genre example, this was released in February 2018. It is based in the Kingdom of Bohemia of the 15th Century and the developers have tried to be as authentic as possible in their recreation. This includes places, people, history, even gameplay, which includes for example sword blows and movements accurate to those of the time period.*

The art of video games

Many games feature paintings, sculptures, poems, people linked to art history, references/allusions to artists. A large number of games also feature a strong emphasis on art design and incorporating artistic invention in their presentation.

Ori and the Blind Forest *is a game released by Moon Studio in 2015. The game was wildly successful critically lauded for its soundtrack, visuals, story and gameplay. The combination of its powerful soundscape and enchanting graphics form a particularly beautiful and whimsical environment reminiscent of a Miyazaki film.*

Journey*, developed by thatgamecompany in 2012, is a kind of exploration game. There is no combat nor powerful hero characters. The player navigates desert ruins, while the game emphasises ambiance and atmosphere. The style is quite minimalistic, almost dreamlike and allows the player to really immerse themselves in the game.*

Layers of Fear*, is a little different from the others. It is a horror game, designed to spook the player. There is a link here with painting. Essentially, the player character, a painter, moves though their house which is filled with all kinds of paintings from all eras. The player is initially asked to complete a particular painting by figuring out the best way to do this. The combination of scary ambiance and obsessional passion for an artistic endeavour brings real depth to the game.*

3   Different types of video games

There are a large number of video games that vary according to certain criteria, allowing them to be

categorised in various ways. For example:

Battle Royale: this term refers to the idea of a number of combattants fighting at the same time, a situation from which only one victor can emerge.

Multiplayer online battle arena: Multiplayer online battle area. This is a multiplayer genre played by generally by two teams of five players. The objective is to destroy the other team's main structure.

MMORPG: massively multiplayer online roleplaying game. These games allow players to control a character in huge online interconnected world populated by other players.

FPS: first person shooter. In these games, usually based on gun-based combat, players see the action from the eyes of the protagonist.

4   Four elements of a video game

A video game can be thought of as comprising four elements:

- First, there is what the player identifies as the **objective**, i.e. the game's goal.

For example: the goal in Mario is to reach the end of the a level.

- Next, there are the **win and loss conditions**.

In Mario, the player wins if they reach the flag at the end of the level. They lose if they are killed by an enemy or fall outside the boundaries of the level.

- **Controls**: do we use several keys? Mouse clicks? Controllers?

In Mario, which is played on consoles, either d-pad (directional pad) or analogue stick is used to move your character. Other buttons are used for actions such as jump and run.

- Finally, the game's **visual design**. This is essential for identifying many of a game's mechanisms.

The world of Mario is designed coherently so the player can anchor themselves in their environment at all times. Ennemies are bumper shaped, inviting players to jump on them. Passages leading to underground areas are in the form of pipes, tempting players to enter. When Mario is big, he needs to be hit twice to die; when small, once, etc. The design is therefore vital in establishing different rules that govern the game's world.

5   Analysis of famous games

Flappy Bird:

Objective: The player controls a bird and must move as far as possible while avoiding instances (represented by pipes).

Win conditions: There are no win conditions. The player gains one point per obstacle avoided.

Loss conditions: If the earth of an obstacle is touched, the game ends – the Game Overs screen appears.

Control:

- The bird loses altitude constantly (its position on Y axis is always dropping).
- The screen must be touched to increase the bird's altitude, i.e. to move the bird up.

Visual design:

- The environment is fixed
- Obstacles scroll on an X axis at regular intervals (from left to right). It is their movement that gives the impression that the bird and the environment is actually moving.
- The obstacles are of random sizes.

Crush Saga :

Objective: The player needs to align sweets of the same type to complete a level and advance to the next one. The goal is to complete all levels. Currently, there are more than 1800.

Win conditions: To finish games, all levels must be completed.

Loss conditions: None.

Level win conditions: The level's goal must be complete. Objectives depend on the level.

Level loss conditions : The player loses if they do not complete a level's conditions in the given time or in the number of moves allocated.

Control: While moving a sweet, we can swap its position with an adjacent one:

- If this movement aligns 3 similar sweets, these disappear and award a certain number of points according to their value and game mode.
- This disappearance makes the other sweets move down to fill in the empty spaces.
- If not, the movement is deemed incorrect and the sweets move back to their original places.

Audiovisual design:

- Each level's initial layout is determined in advance
- The falling of new sweets is generated semi-randomly (this is just a supposition – it is difficult to know without having access to the source code).
- As levels progress, the rules evolve and some are unique to particular levels (incorporation of jelly for example).
- The diegetic sound effects (i.e. those occurring within the game such that they would be heard by a character) are there to create a certain atmosphere and immerse the player in the game.

GTA V [single player] :

Objective: This is an open world sandbox style game in which players set their own objectives: follow the story, pursue side quests, or do whatever. The only limit of the game is player's creativity.

Win conditions: We could image the idea of finishing a story. Since we can continue to play after this, would this really be a satisfying win condition? We could also say that the game is over when there are no more side quests to complete or 'achievements' to gain (100% completion). We could also consider the idea that there are no more win conditions.

Loss conditions: Dying brings us back to the most recent checkpoint or save point.

Mission win condition: Complete a mission's win condition.

Mission loss condition: Fail to complete a mission's win condition

Control:

- The controls depend on the consol (Xbox, PS3, PC) and the game mode we find ourselves in (on foot, driving, etc.).
- Controls are listed in the pause screen and modifiable by the player. While on foot for example, there are four buttons to move, one to shoot, one to choose a weapon, one to pause the game...

Audiovisual design: The game's environment is realistic, and each element is considered according to its criteria:

- Objects fall and can break if we drop them, airplanes have a certain lift, cars are subject to centrifugal force. Cars and planes can be damaged and can even explode.
- None players characters (NPCs) react in a way coherent with the world: pedestrians flee when they witness gunshots, fight if we provoke them or speak to us if we approach them. Drivers follow rules of the road (to various extents). Police will try to arrest you if you commit an offence and the army will get involved if things get really dangerous (and from this point, streets will be empty as if they have been evacuated). The player and NPCs can be injured and killed.
- Non-diegetic music (not heard by the player, playing outside the scenario, can emphasise the action, for example during a cutscene), and diegetic music (that characters in the world hear, for example coming from car radios) is used.

6 The teams behind games

These rules and worlds we have just outlined require teams of various sizes. Today, as technology advances, it can happen that huge numbers of people work on a project. Take the previous game examples:

- **Flappy Bird**: a single developer worked on this game for 2-3 days. The game was created by Dong Nguyen from Vietnam, who was 19 years old at the time. He later claimed that the game was earning $50,000 per day from in-app ads and sales. No longer wishing to manage the project, he withdrew the game from Google Play in February 2014.
- **Candy Crush**: when launched, the team comprised of 10 people. Now, the number is closer to 40. It probably took several months to develop.

- **GTA V**: this game took five years to develop. It involved a team of around 1000 people working in seven different places (Scotland, New York, Los Angeles, ec.) Today, a game series like GTA requires the skills of thousands of people to lead to a final product. These include programmers as well as graphic designers, artists, sound designers, composers, etc.

A few careers in the field of game design:

- Game designer: they conceive game content, rules and mechanics.
- Level Designer: they come up with the different levels in a game, the environments in which mechanics are applied.
- Tester: as their name indicates, these are people who test games in order to spot programming errors. This is an extremely repetitive kind of job, as it often involves for example playing the same section of. game over and over until the exact nature of a bug is ascertained.

A few careers in the field of audiovisual:

- Graphic designers/artists: those who design characters as well as the game world.
- Modeller: those who bring dimension to design. For example, for a 3D game, we require three dimensional modelling, for example drawing characters in three dimensions.
- Animator: those make things move in the game. They define the way characters move and behave.
- Sound Designer: those who use sound elements to create a desired effect. They design the game's sound effects.

Other jobs...

Programmer: also called coders or developers. They program games by creating algorithms using programming languages.

Marketer: those who create advertising and marketing materials for the relevant target audiences. This will not be the same if a game was designed for an age group of 12-18 versus 18-30 for example.

7   Impact of technological advances on game production

The complexity of video game design and production increases as technology advances.

A game on the 1970s Atari console only took a couple of weeks to develop, whereas today a AAA game can take several years. As technology advances, games get longer, more complex, more visually realistic and require larger processing power. This involves more and more labour. According to Gordon E. Moore, the power of technology doubles around every two years. This increase in power gradually introduces more demanding elements to the game design process. The longer an element takes to develop, the more complex it is.

What do we mean by complex element?

- **Moving through an environment**: the first video games were static and took place on grids. The first games involving frame rates (i.e. frames per second) appeared in the 1980s.
- **Saving progress on the first consoles**: the first consoles did feature the ability to save progress. A password system was introduced in the 1980s. After completing a particular level for example, the player would receive a password and could use this to start from that point in the game. However this did not allow a true continuation of progress, as the player would start with a default score and inventory. In the 90s, game cartridges for 16-bit consoles such as the Super Nintendo the Sega Mega Drive were equipped with memory allowing a certain amount of save files.
- **3D**: the first 3d games appeared in the 1990s. Some attempts were made in the 80s however, for example *Battlezone*.