

RATIONAL LEVEL DESIGN

ACT II | SUMMARY



COURSE OBJECTIVES

◆ COURSE OBJECTIVES ◆

-  To share a common vocabulary
-  To share ideas and methods
-  To adopt rational methods to create **fun** and innovative games



ACT I

BRIDGING GAME DESIGN
AND LEVEL DESIGN

For Honor / Ubisoft

Remember our general course objectives for Act 1 and Act 2:

- To share a **common vocabulary**
- To share **ideas** and **methods**
- To adopt rational methods to **create fun** and **innovative games**

COURSE OBJECTIVES

◆ COURSE OBJECTIVES ◆



Learn about the different types of prototyping and 3C



Dive in the macro/micro flow and learn about dynamic systems and mechanics



Explore how cognitive psychology can help you provide a great user experience



Identify the player's motivation factors and learn about the variety matrix



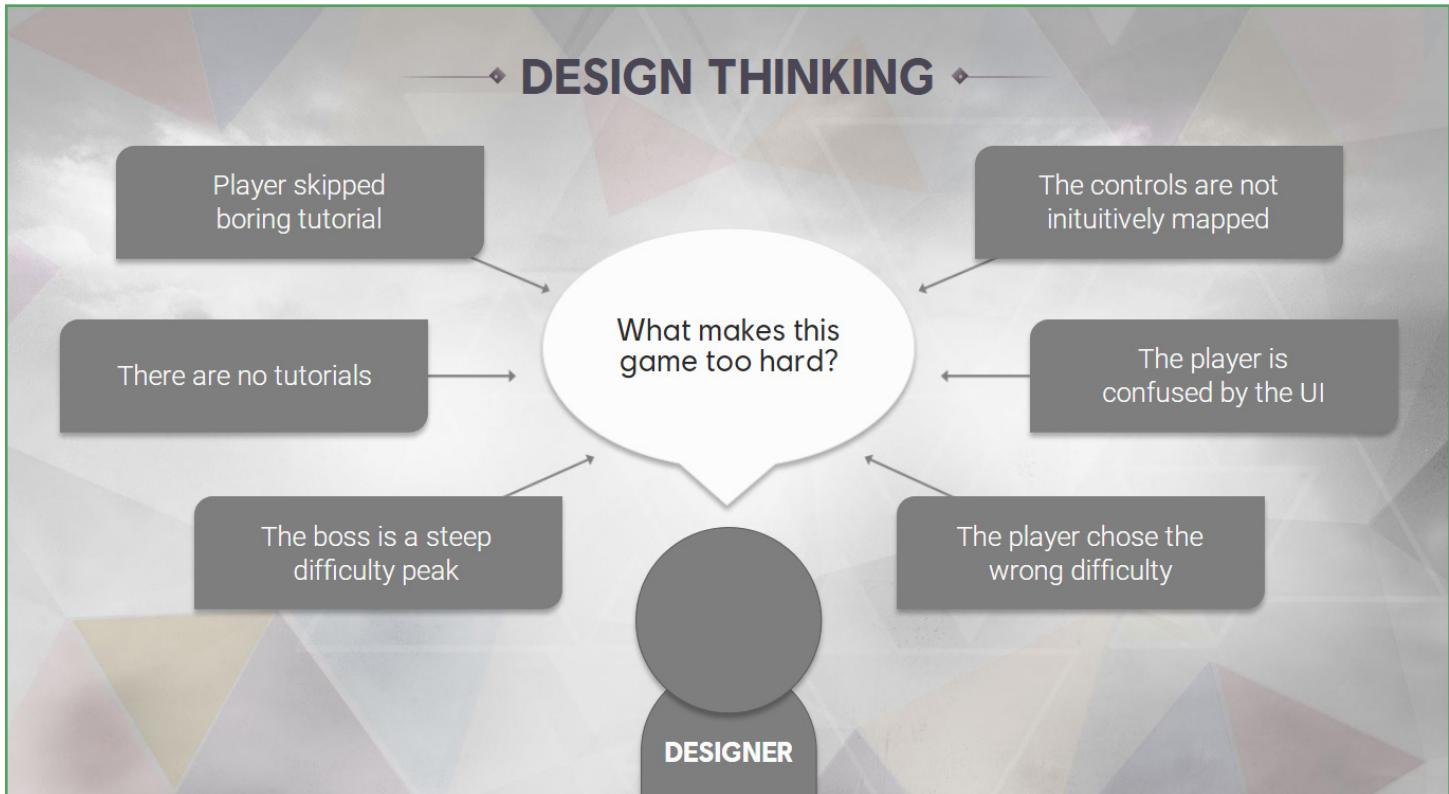
Learn to build a RLD table



In Act 2, you were able to:

- Learn about the different types of **prototyping** and the **3C**
- Dive in the **macro/micro flow** and learn about **dynamic systems and mechanics**
- Explore how **cognitive psychology** can help you provide a **great user experience**
- Identify the player's **motivation factors** and learn about the **variety matrix**
- Learn to build a **RLD table**

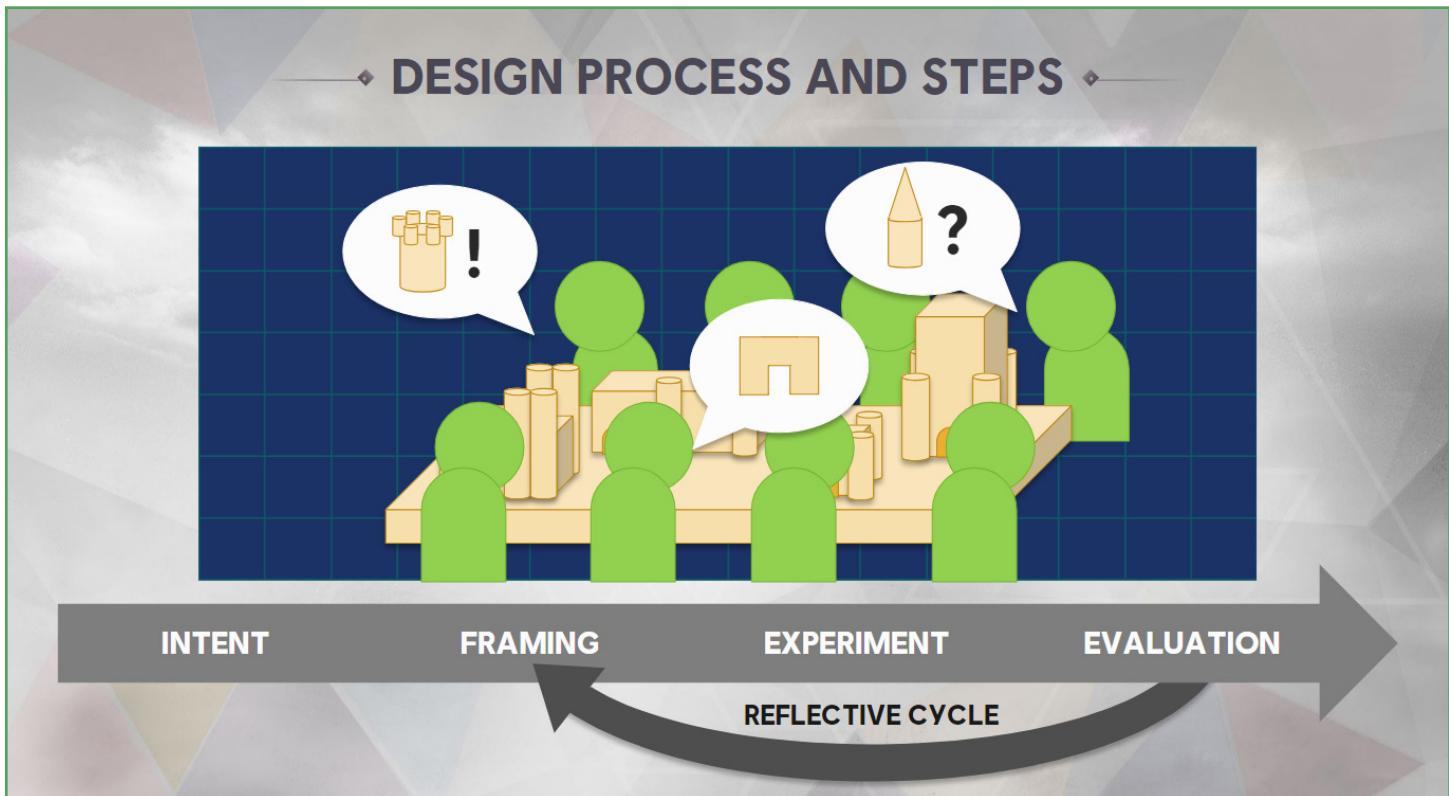
DESIGN THINKING



"Design Thinking" is an iterative process that is **user-centric** and that allows designers to redefine problems in order to find new strategies and solutions that might not be instantly apparent with our initial level of understanding of a situation.

A symptom can sometimes be mistaken as a problem. A player feeling that the game is too hard can be the result of many possible things. This is why the **analysis of a problem** must be **deep** and **thorough**. Keep asking why until you find the **root cause** of the issue.

DESIGN PROCESS AND STEPS



The design process can be categorized in four main steps.

Intent is where the designer chooses and describes a specific situation (a mechanic, a system, etc.) that they wish to design.

Framing is about identifying the constraints, the requirements and the process they wish to use.

Experimenting is where designers can test what they have planned in the previous steps.

The designers will **evaluate** the results of the experimentation and gather feedback from others.

A **reflective cycle** can then begin as the designers revisit the steps with each iteration.

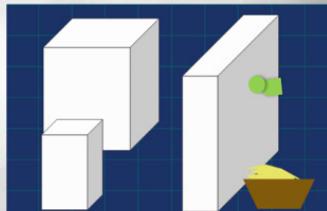
ACT II | SUMMARY

PROTOTYPES

◆ PROTOTYPES ◆

PROOF OF CONCEPT

SOME FUNCTIONS	YES
ALL FINAL FUNCTIONS	YES
SOME FORMS	EVENTUALLY
FINAL FORMS VISUALS	NO
MANUFACTURING PROCESS	NO



FORM STUDY

SOME FUNCTIONS	NO
ALL FINAL FUNCTIONS	NO
SOME FORMS	YES
FINAL FORMS VISUALS	NO
MANUFACTURING PROCESS	NO



CONCEPT ART

SOME FUNCTIONS	NO
ALL FINAL FUNCTIONS	NO
SOME FORMS	NO
FINAL FORMS VISUALS	YES
MANUFACTURING PROCESS	EVENTUALLY



PUBLISHABLE

SOME FUNCTIONS	NO
ALL FINAL FUNCTIONS	YES
SOME FORMS	NO
FINAL FORMS VISUALS	YES
MANUFACTURING PROCESS	YES



All industries make prototypes, this doesn't only apply to the field of game development.

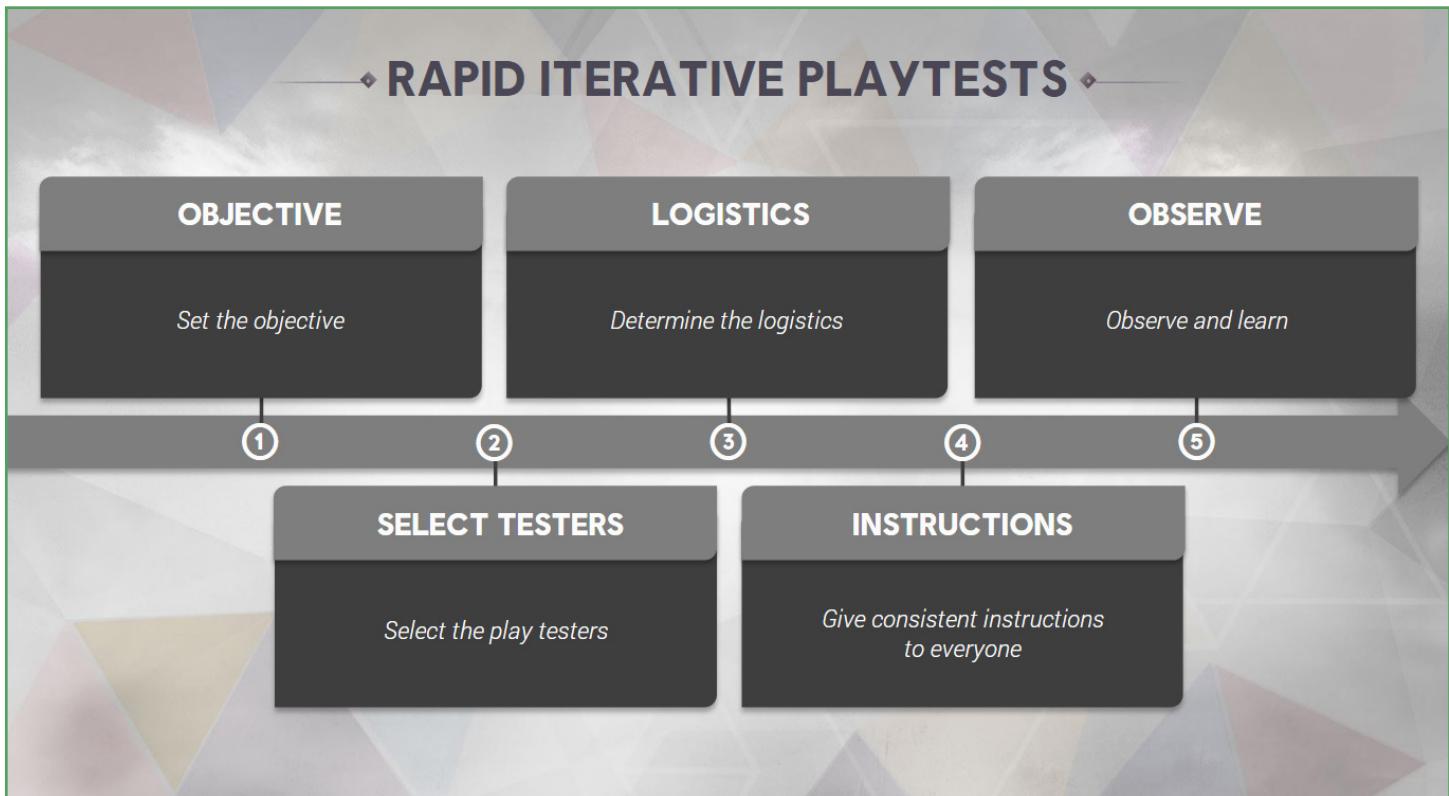
There are different kinds of prototypes that serve different purposes:

- Proof of concept
- Form Study
- Concept Art
- Publishable

Prototypes are a **great design tool** to **test** ideas but also to **communicate** ideas to others.

Find which type would help you the most to illustrate your ideas and/or combine them!

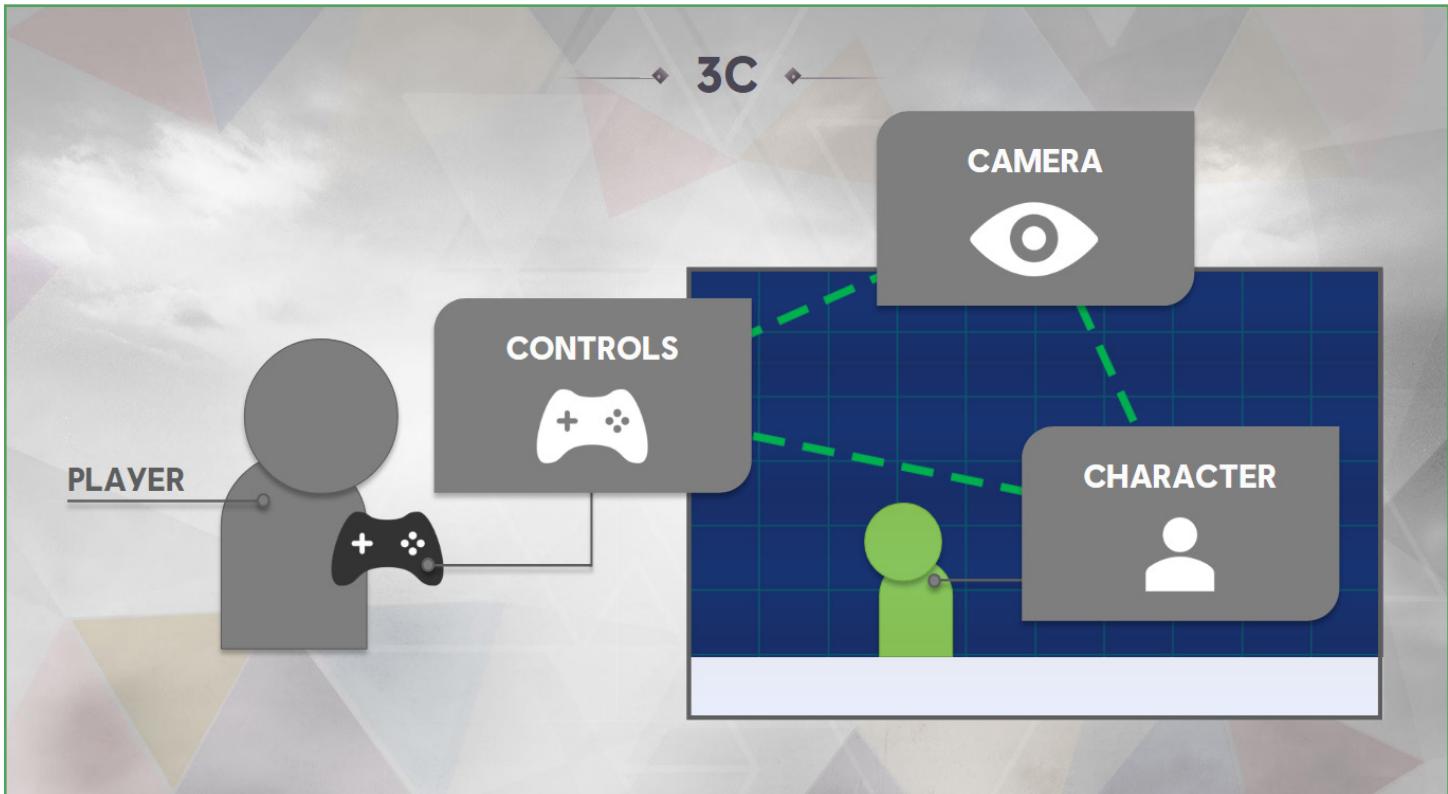
RAPID ITERATIVE PLAYTESTS



The Rapid Iterative Playtests (R.I.P.) is a process that helps the designers to frame their testing:

- **Set the objective**: what function needs to be tested?
- **Select the play testers**: 4 to 5 play testers per session should be enough
- **Determine the logistics**: the time and location of the tests
- **Give consistent instructions to everyone**: remember to welcome discussions
- **Observe and learn**: be invisible and silent, leave your assumptions and ego at the door, don't try to correct the testers, don't play down the importance of technical bugs.

3C



The term "3C" refers to Camera, Controls and Character.

Camera refers to the player's point of view.

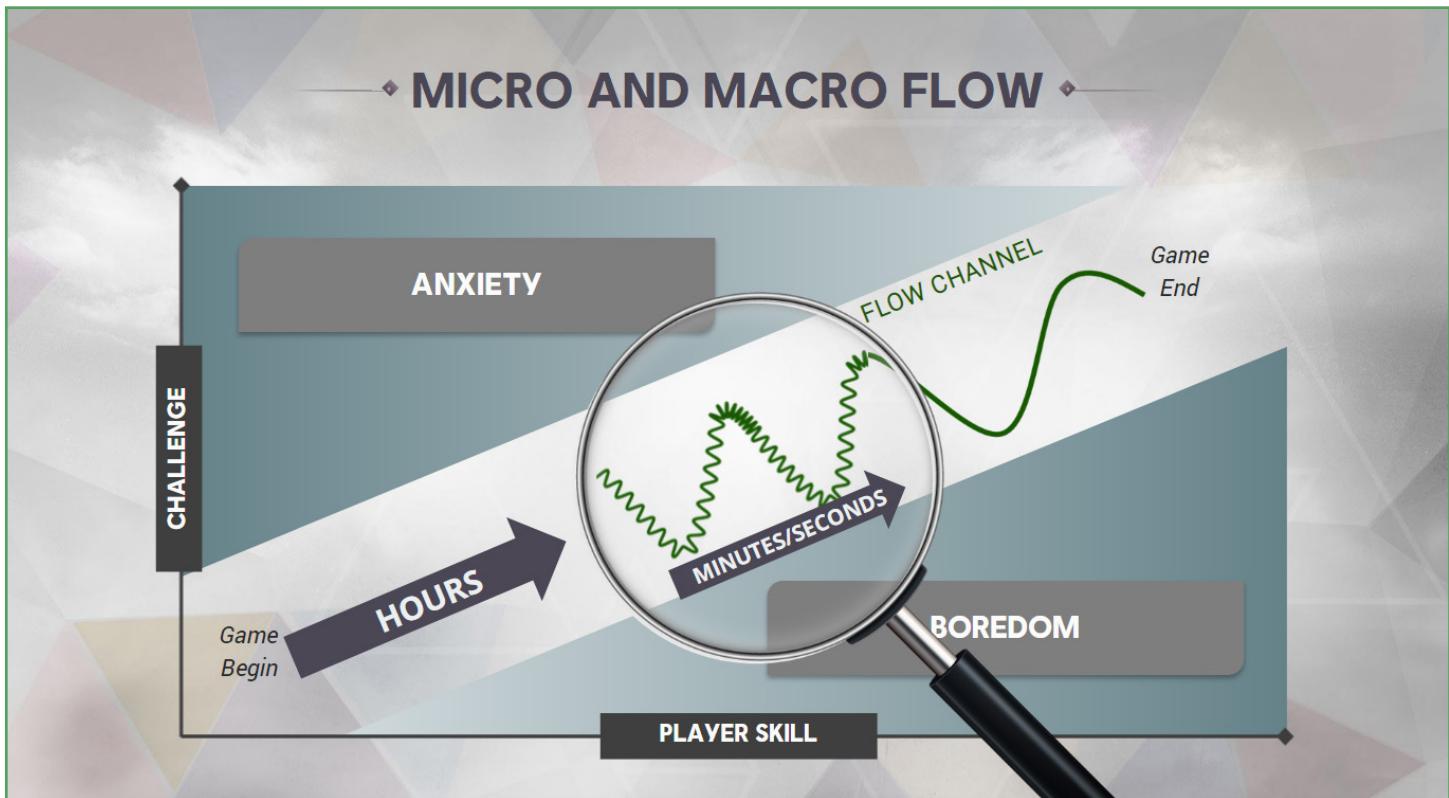
Controls refer to the player's inputs.

Character refers to the protagonist or object that the player controls.

The 3Cs can be compared to the interface between the player and the game. They should always be taken into account by the game designer and level designer. The way the camera will be controlled by the player (or not) and what is the field of vision will impact the game elements and their placement.

Use the 3Cs as a framework to test your game systems. If one of the Cs is not well designed or not working in harmony with the other Cs, it will create frustration for the player.

MICRO AND MACRO FLOW



The concept of Flow is described through two different scales: the Macro and Micro Flow.

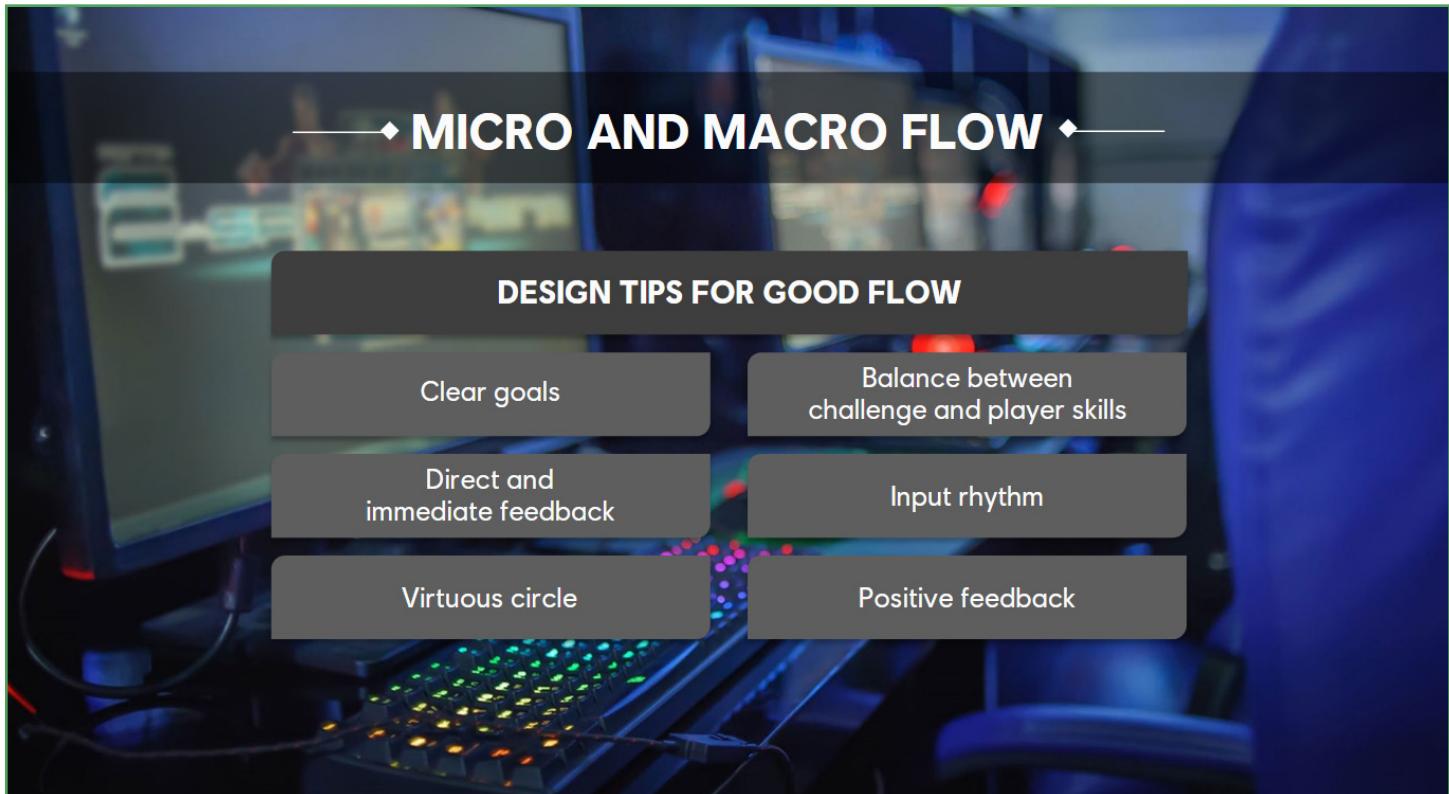
Macro Flow represents the **constant progression** of the challenges that **adapt** to the evolution of **player skills** throughout the game.

The scale of the Macro Flow can be measured in **hours**.

Micro Flow is about **intense and focused** experiences that last for **short periods**, but **repeated** over time.

The scale of the Micro Flow can be measured in **seconds or minutes**.

MICRO AND MACRO FLOW



◆ MICRO AND MACRO FLOW ◆

DESIGN TIPS FOR GOOD FLOW

Clear goals

Balance between challenge and player skills

Direct and immediate feedback

Input rhythm

Virtuous circle

Positive feedback

In order to promote a fun experience for the player, designers can:

- Give clear **goals**
- Maintain **balance** between **challenge** and **player skills**
- Give **direct** and **immediate** feedback
- Create Input **Rhythm**
- Design a **virtuous circle**
- Give **positive** feedback

MICRO AND MACRO FLOW



The effects of the flow state on the player can include:

- A heightened **concentration**
- A loss of **self-consciousness**
- A feeling that the activity is **intrinsically rewarding**
- A **distorted sense of time**
- A sense of **personal control** over the situation

DYNAMIC SYSTEMS AND MECHANICS: DYNAMIC SYSTEM

◆ DYNAMIC SYSTEMS AND MECHANICS ◆			
	OBJECTIVE	CHALLENGE	REWARDS
DYNAMIC SYSTEM	Guide the player towards next objectives Ex.: Dynamic hints from AI character, Re-onboarding (after long break)	Adapt the difficulty to player skills Ex.: Reduce boss difficulty after 3 trials.	Spawn/give a reward that helps or incites the player Ex.: Medical kit for health regen, rare/exotic reward to engage the player
	Dynamic missions generated based on player count/class	Reduce the skill gap between players	Adapt rewards depending on the strengths of the team

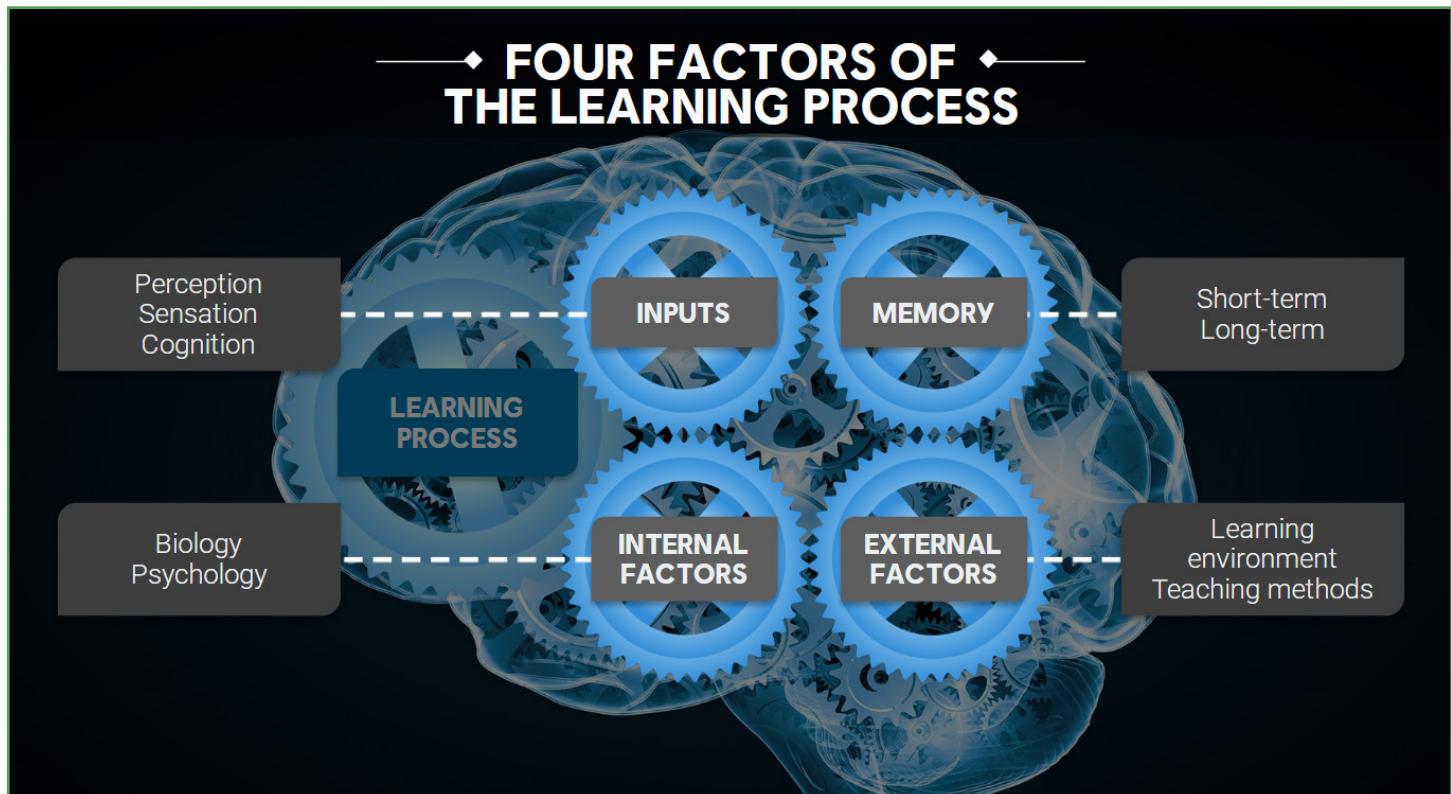
Remember that the goal of dynamic systems and mechanics is about creating **challenges** that **adapt** to the **player's skill level** or that provide them with different **gameplay options**.

DYNAMIC SYSTEMS AND MECHANICS: PLAYER AGENCY

		◆ DYNAMIC SYSTEMS AND MECHANICS ◆		
		OBJECTIVE	CHALLENGE	REWARDS
PLAYER AGENCY	SINGLE PLAYER	Choice of mission	Easy Medium Hard	Player has multiple choices for rewards
	MULTIPLAYER	Choice of mission requirements (# players, levels, ...)	Choice of mission based on the level of difficulty Extra challenge to unlock by team choice	Choice of mission and challenge get different rewards

Player Agency refers to how the player can choose their own **level of difficulty** and experience. The game can make **suggestions** for them, but the **final decision** is up to the player.

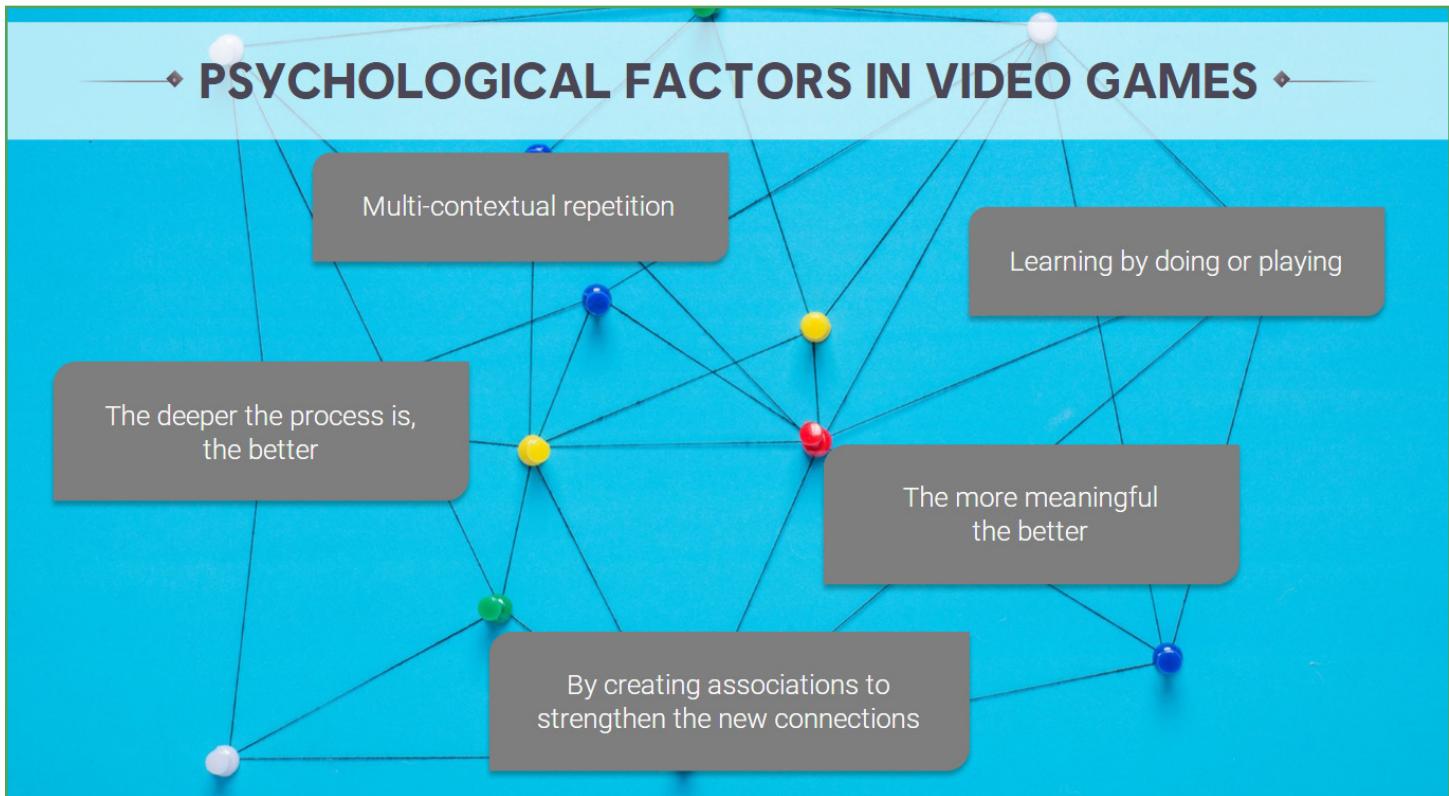
FOUR FACTORS OF THE LEARNING PROCESS



There are four main factors that contribute to the learning process.

- **Inputs**, through perception, sensation and cognition
- **Short and long-term memory**
- **Internal factors** such as biological and psychological factors
- **External factors** such as the learning environment and teaching methods

PSYCHOLOGICAL FACTORS IN VIDEO GAMES



To help players understand new content that is presented to them, you can consider the following tips in your designs.

We memorize content better if we can **play with it**. The deeper the process is, the better the content is memorized, because associations and connections with other concepts encourage semantic analysis (sense-making).

We should always try to **contextualize** and give **meaning** to the player rather than just ask that they learn things by heart.

The learner should be able to process and manipulate the content. To **learn by doing**, for example.

Use **multi-contextual repetition**: present the same topic in multiple ways and contexts.

Finally, **we memorize better what we understand**, but comprehension alone is not enough to learn effectively. Repetition is also very important, and basic repetition is not as efficient as multi-contextual repetition.

MOTIVATION STRATEGY



Remember that **motivation** and **rewards** can be mapped to **human needs**. For example, you can use the Maslow's pyramid as an inspiration to guide you.

MOTIVATION STRATEGY



There are three main elements that maintain a player's motivation.

This refers to the acronym: O-C-R. **Objective, Challenge, Reward.**

When designing your motivation strategy, propose objectives based on the player or story progression, adapt the challenge to the player skills and adapt the reward to the player needs.

SHORT, MEDIUM AND LONG-TERM MOTIVATION

◆ SHORT, MEDIUM AND LONG-TERM MOTIVATION ◆



SHORT TERM

SCENE LEVEL OBJECTIVE
It can have a duration of less than a minute



MEDIUM TERM

MISSION LEVEL OBJECTIVE
It can have a duration of around 20 minutes.



LONG TERM

GAME LEVEL OBJECTIVE
It can have a duration of the whole game or franchise.

Create short, medium and long-term motivation loops.

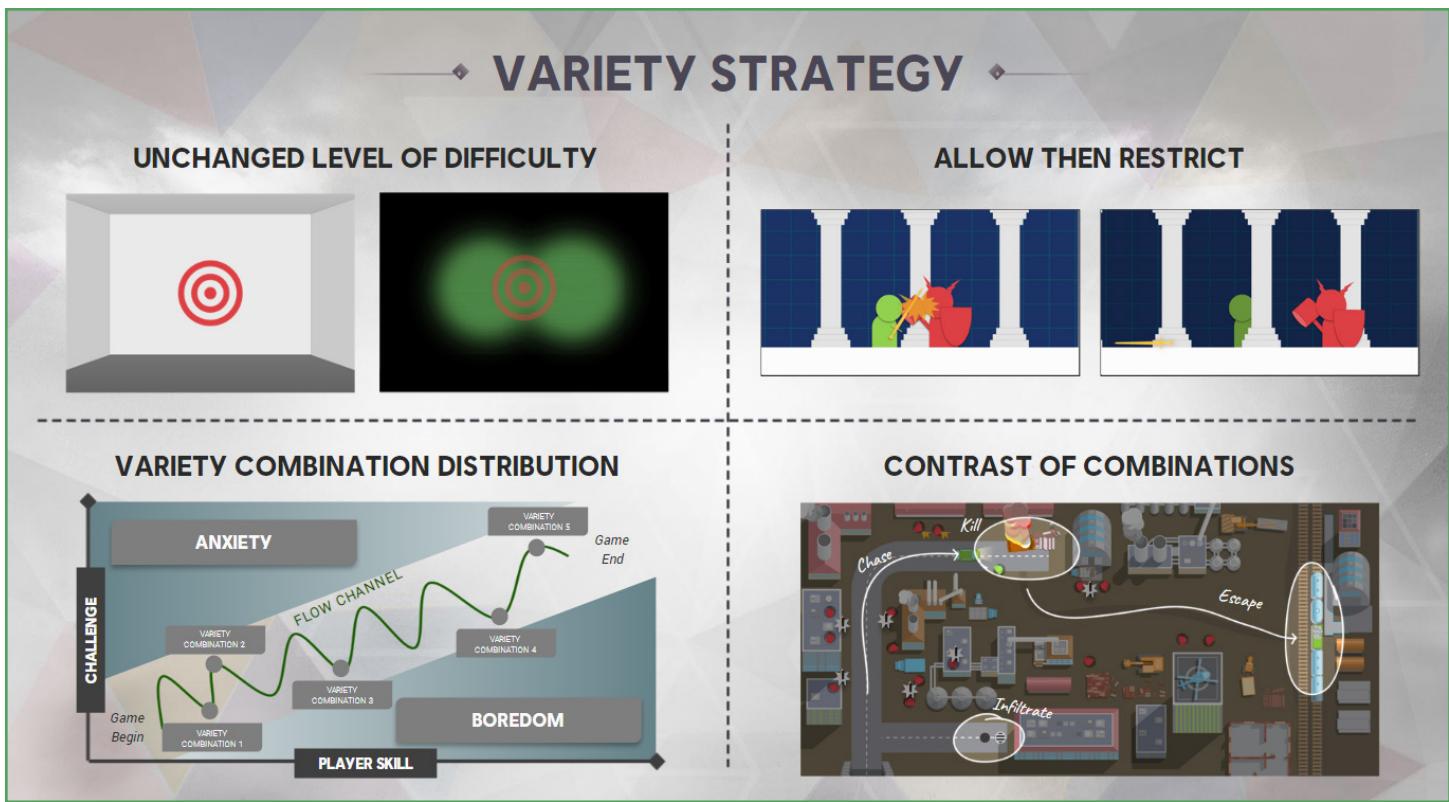
Short-term motivation can be designed at the **scene level**; for example, the player has to fulfill multiple small objectives to complete a mission. It can have a duration of less than a minute.

Medium-term motivation can be designed at the **mission level**; for example, the player has to complete multiple missions to unlock an open-world zone, or an act in a more linear story. It can have a duration of around 20 minutes.

Long-term motivation can be designed at the **level of the entire game**; the final objective of the game is the main long-term motivation of the player. It can have a duration of an entire game or even an entire franchise.

Remember that the duration of each timeline is **relative** to each game.

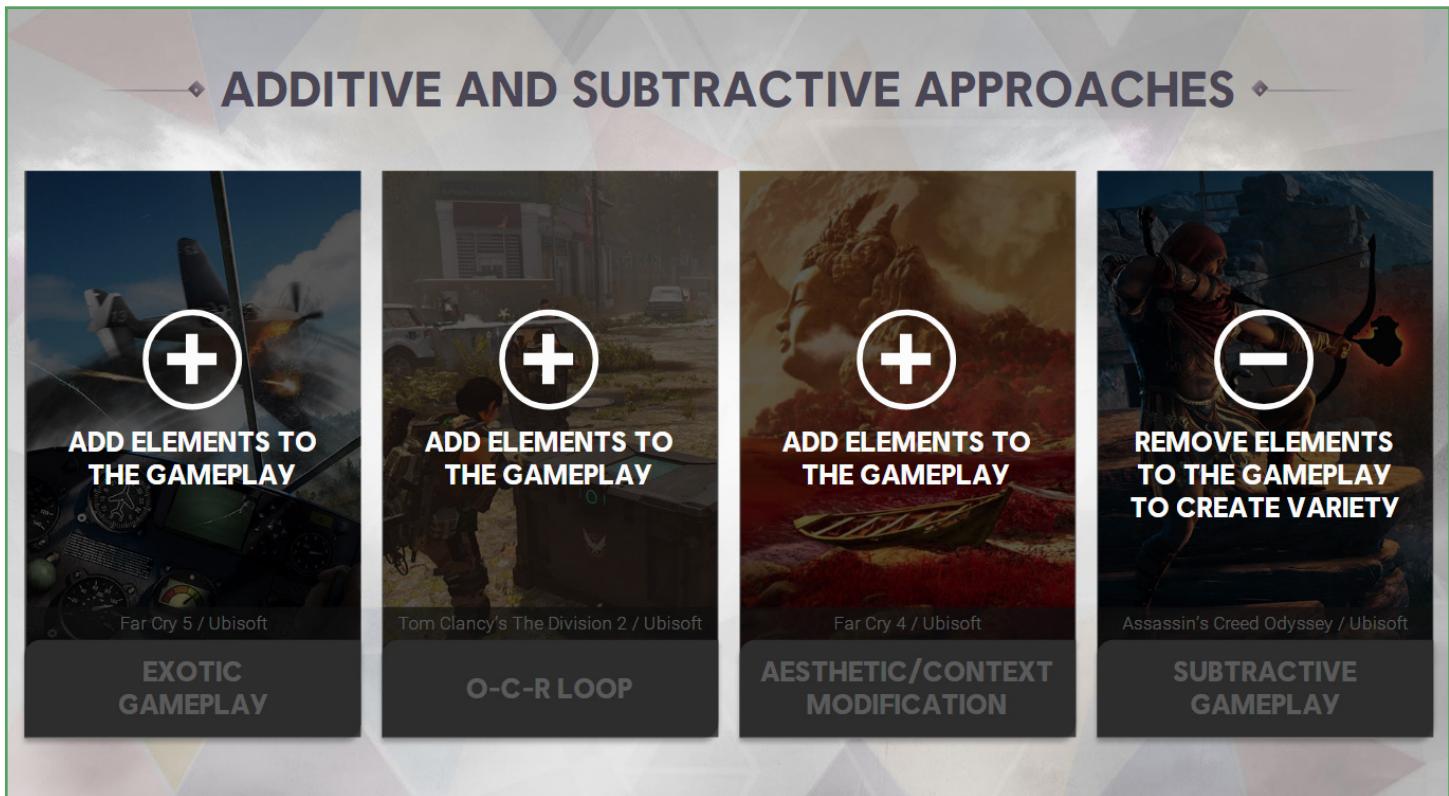
VARIETY STRATEGY



Remember, the variety strategy must include:

- **Unchanged level of difficulty:** Subtractive design should not make the game harder, since you control the final difficulty. You can always adjust your parameters to avoid peaks of difficulty.
- **Variety Combination Distribution:** Variety combinations and designs should be distributed throughout the entire game to maintain the player's motivation. If all the variety is concentrated in a small section of the game, it means the player will not encounter a lot of new experiences for the rest of the game and may grow bored. Spreading out variety combinations will ensure that each experience will be memorable to the player: if everything is special, then nothing is special.
- **Allow then restrict:** Variety by restriction only exists if the player was able to play with the gameplay components before restricting them.
- **Contrast of combinations:** The more the combinations are different, the more variety will be felt by the player.

ADDITIVE AND SUBTRACTIVE APPROACHES



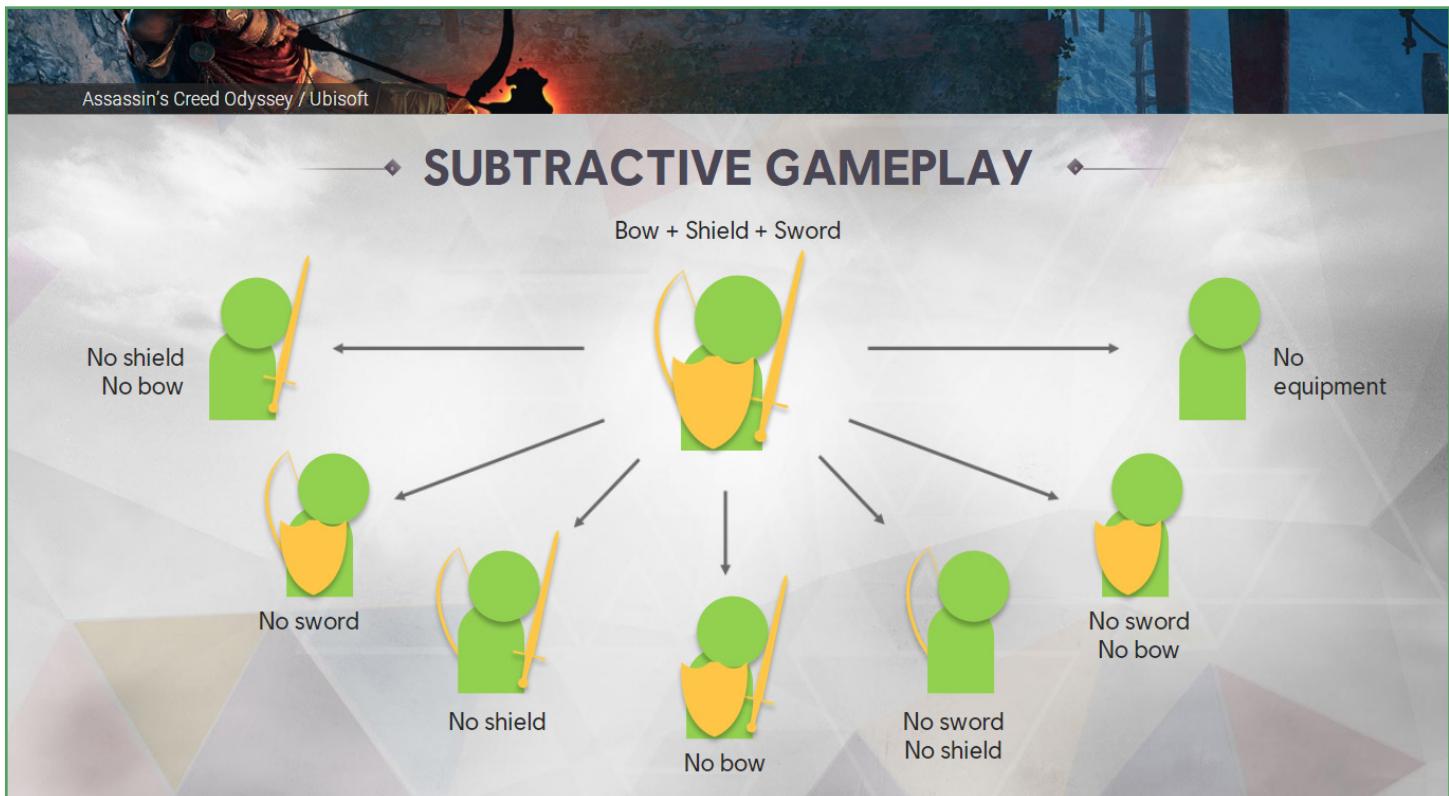
Additive approaches have benefits: the player will encounter many different experiences within the game through new environments and exotic gameplays. This sustains curiosity and creates memorable experiences.

However, additive approaches can also increase production time and costs: every new element that is added needs to be designed, created and integrated in the game.

The main benefit of the **subtractive approach** is that it creates variety while minimizing production time and costs.

To design a **subtractive gameplay**, designers intentionally deactivate existing features and elements of the game to allow the players to approach familiar game situations in new ways.

SUBTRACTIVE GAMEPLAY



The different constraints can help designers to come up with **new ideas** they may not have thought about in the beginning.

For the player, it allows them to revisit **game features** in a new light.

ADDITIVE AND SUBTRACTIVE APPROACHES

◆ ADDITIVE AND SUBTRACTIVE APPROACHES ◆

VARIETY MATRIX

CHARACTER ABILITIES	SWORD	BOW	SHIELD
COMBINATION 1	○	○	○
COMBINATION 2	○	✗	✗
COMBINATION 3	✗	○	○
COMBINATION 4	○	○	✗
COMBINATION 5	○	✗	○
COMBINATION 6	✗	○	✗
COMBINATION 7	✗	✗	○
COMBINATION 8	✗	✗	✗

Remember that you can use the **variety matrix** to find new **gameplay combinations** that you wouldn't necessarily think of!

ACT II | SUMMARY

RLD CHART

	MISSION 1	MISSION 2	MISSION 3	MISSION 4	MISSION 5	MISSION 6	MISSION 7	MISSION 8	MISSION 9	MISSION 10	MISSION 11	MISSION 12	MISSION 13
ABILITIES													
ABILITY 1	E	N	X	X	X	X	X	X	X	X	X		X
ABILITY 2			N	X	X	X	X	X	X	X	X		X
ABILITY 3				E	X	X	X	X	X	X	X		X
MECHANICS													
MECHANIC 1		E	N	X	X	X	X	X	X	X	X	X	X
MECHANIC 2						E	N						
MECHANIC 3	N	X	X	X	X						N	X	X
MECHANIC ...													
INGREDIENTS													
INGREDIENT 1			N	X	X	X	X	X			X	X	
INGREDIENT 2				N	X	X	X		X	X			
INGREDIENT 3								N	X	X	X	X	
INGREDIENT ...										N			X
LD PATTERNS													
MECH 1 PATTERN 1						N							
MECH 1 PATTERN 2								N					
MECH 1 PATTERN ...													
MECH 2 PATTERN 1											N		
MECH 2 PATTERN 2												N	
MECH 2 PATTERN ...													
MECH 3 PATTERN 1	N												
MECH 3 PATTERN 2		N											
MECH 3 PATTERN ...													
VARIETY COMBINATION													
COMBINATION 1	N												
COMBINATION 2		N											
COMBINATION 3			N										
COMBINATION ...									N				
RWARD													
REWARD TYPE 1	E	N	X		X			X					X
REWARD TYPE 2						N	X		X	X	N	X	
REWARD ...													

The RLD chart is an efficient production tool to help you gain a **global overview** on the game. It can help you with documenting your:

- **Variety distribution**
- **Difficulty progression**
- **Distribution of mechanics, LD Patterns and ingredients**
- **Missions briefs** for Level Designers

Remember that no matter the tool you choose to communicate your gameplay elements, you should use something that will **make sense to you and your team**.