



Game Design 1: Core Loops and the MDA Framework

What players repeat, and how rules turn into feelings

Goals, Rules, Feedback and the Core Loop

Every game gives the player a **goal** (what they are trying to achieve), **rules** (what they can and cannot do) and **feedback** (how the game shows what just happened, like a sound or a score change).

The **core gameplay loop** is the small cycle of actions a player repeats most often, such as *explore, fight, collect loot, upgrade, explore again*. A strong loop gives a **reward** at the end of each pass that makes the next pass more interesting, so the player wants to go around again.

The **MDA framework** (Hunicke, LeBlanc and Zubek, 2004) splits a game into three layers. **Mechanics** are the rules and actions as written in the design and code (jump height, a 60-second timer, a 10-item inventory). **Dynamics** are the behaviors that appear while people actually play with those mechanics (hiding, rushing, trading, teaming up). **Aesthetics** are the emotional responses the player has, such as **challenge, discovery, fantasy, fellowship** or **expression**.

Designer vs. player perspective: designers build Mechanics, which produce Dynamics, which create Aesthetics (M to D to A). Players meet the game in reverse (A to D to M): they feel the Aesthetics first and may never notice the Mechanics. Designers can only change mechanics directly.

1 Sort It: M, D or A?

For each item, write **M** (mechanic), **D** (dynamic) or **A** (aesthetic).

Item	M/D/A
a. Jumping costs 10 stamina points.	
b. Players camp by the respawn point.	
c. Tension in the final 5 seconds.	
d. Enemies drop 1 to 5 coins.	

Item	M/D/A
e. Players team up to share supplies.	
f. The thrill of finding a hidden room.	
g. The map shrinks every 60 seconds.	
h. Everyone rushes to the center.	

2 Two Perspectives

After a playtest, a player says: "The boss fight feels unfair."

a. Which MDA layer is this comment about? Circle one.

A. Mechanics **B.** Dynamics **C.** Aesthetics

b. Why can't the designer fix "unfair" directly? Name one kind of change they *could* make, and explain.



Game Design 1: Core Loops and the MDA Framework (page 2)

3 Analyze a Game: Glowmoth

Read this original game description, then answer the questions.

GLWMOTH (GAME DESCRIPTION)

You fly a moth through a dark cave. Your **light** starts at 30 and drops by 1 every second. Flying through a glowing mushroom adds 10 light (never above 30). Spiders hide in the dark and are only visible while your light is **above 10**. Touching a spider costs 5 light. Collect 5 crystals to open the exit to the next, deeper cave. If your light reaches 0, you restart the cave. A soft chime plays when you grab a crystal, and the screen slowly dims as your light fades.

a. What is the player's **goal** in each cave?

b. List two **rules** from the description.

c. Give two examples of **feedback** in Glowmoth and what each one tells the player.

d. Write Glowmoth's **core gameplay loop** as 3 or 4 repeated steps.

Step 1:

Step 2:

Step 3:

Step 4:

f. Predict one **dynamic** players will show, and name the **mechanic** that causes it.

g. Which **aesthetic** do you think Glowmoth is aiming for? Use one term from the reading and support it with a mechanic.

e. A player starts with 30 light and never touches a mushroom or spider. Show your work.

Spiders become invisible after (s): _____

Light reaches 0 after (s): _____



Game Design 1: Core Loops and the MDA Framework (page 3)

4 Fix a Weak Loop

In a prototype, the player clicks a tree to get 1 wood, and sells wood for 1 coin each. Coins cannot be spent on anything. Testers stop playing after two minutes.

a. Using the idea of a **reward** from the reading, explain why this loop does not make players want to go around again.

b. Change or add one **mechanic** to fix the loop. Remember: you can only change the game through its mechanics.

5 Design Your Own Core Loop

Invent an original game (not one that already exists).

a. One-sentence pitch: what does the player do, and what is the **goal**?

b. Draw your **core loop** as a cycle: 3 to 5 steps joined by arrows, with the **reward** marked.

c. Two **mechanics** in your loop:

d. Your target **aesthetic**, and a **dynamic** you hope it creates:

e. **Feedback**: how does the player know a pass went well?
