

# Case Study: Design Principles in Game Design

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## UX Design Process

### Relevance of UX Design Process to Games

According to the video by CareerFoundry, the UX Design Process consists of 5 steps: **Understand**, **Analyze**, **Ideate**, **Validate**, and **Iterate**. These steps can also be utilized in designing games as the goal of Game Designers is to create experience and make people feel things.

Understanding the market and your audience first is a key step in designing games as the market trend and sentiment of the audience are always changing with time. This will enable you to effectively do the next steps in designing a game as it's the most important step in the process.

The succeeding steps revolve around your understanding from the first step and gets more technical as you progress further. This is where the other roles in Game Development come in. The developers help the game designers in analyzing and ideating on what features and elements are viable in development. QA Testers can then help validate these through their own process in testing the game's aspects. Each of these roles contribute in making the game reach its best form. Finally, with the players' feedback, the game can be shaped into what the audience really wants through iteration.

### Constructive Criticisms

One of my childhood favorite games is definitely **Monster Rancher**.




The gist of the game is to raise and train monsters to increase their chances of winning battles. The main selling point of the game is similar to Pokemon and Tamagotchi—players get to treat their monsters like pets that they can grow attachment with. One aspect that I would improve in the game is its **character design**. Even though there are 215 monsters in the game, most of the monsters don't differ much from each other until you get to the later parts of the game. This produces a lower fun curve after the initial introduction of the game's core mechanics. If there are more diverse types of monsters, the players can repeat the core mechanics but still experience a difference when trying out different monsters.

Another feature I would add is having more **non-training interaction** with your monsters. There really isn't much interaction between the player and their monsters outside of training and battles. Having mini-game modes such as cooking and farming will add more spice to the game and introduce more options to the players.

Lastly, I would improve upon the **story-telling** of the game. The lore of Monster Rancher is rich and unique, however, the game was short in telling these. The cutscene on how the humans started co-existing with monsters in the start of the game was a great start, but throughout the game, it's pretty much lacking to say the least. I would add random events in between the training sessions and battles to immerse the player to the story.

## Gestalt Principles

### Gestalt Principles in Games

Principle	Example in Game
Figure-ground	 <p>Games with pixel art give emphasis on this principle as 2D games have to</p>

	<p>work on making their characters pop out and differentiate them from the background. Surprisingly enough, this is also evident in hybrid 2D-3D games such as <b>Octopath Traveler</b> as the pixel characters pop out more when put in a 3D environment.</p>
<p><b>Similarity</b></p>	<div data-bbox="561 407 1341 890" data-label="Image"> <p>A screenshot from the game League of Legends showing a team of champions in a battle arena. The champions are grouped together, and the interface shows various game elements like health bars, abilities, and a scoreboard.</p> </div> <p>This principle is commonly used in games with merging mechanics, which is popular in mobile games. It can also be seen with games under the Auto-Battler genre where the players need to find similar heroes to level them up. Some of the popular Auto-battler games are <b>Teamfight Tactics</b> and <b>Auto-Chess</b>.</p>
<p><b>Proximity</b></p>	<div data-bbox="571 1163 1331 1633" data-label="Image"> <p>A screenshot from the game Starcraft II showing a large cluster of buildings and units. The units are grouped together, and the interface shows various game elements like health bars, abilities, and a scoreboard.</p> </div> <p>RTS games that feature controlling a lot of units portrays this principle as the players tend to group up their units closely and orderly. In <b>Starcraft</b>, you can still tell that an area is a base of one's clan despite having multiple buildings and units as our brains clamp these similar elements into one.</p>



## Common region





Games with zone mechanics take advantage of this principle. **Hexonia** is an example as it makes it easier for users to see which zones are conquered by a tribe by changing its theme—hence the zones look as one and distinguishable from other zones.

## Continuity



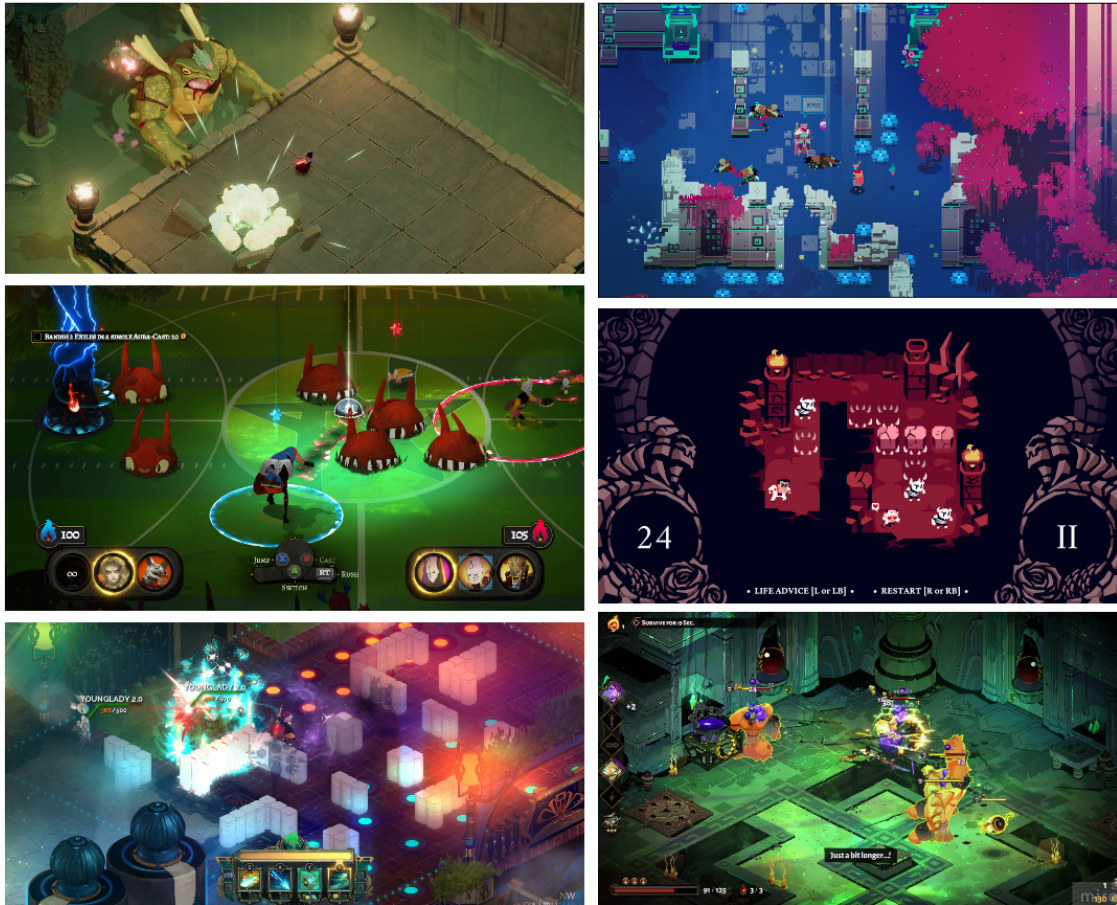
**PlateUp's** step-by-step process from preparing ingredients to cleaning



	<p>customer's dishes is a great example of this principle. The game's level design caters to this as the path from the kitchen flows from the kitchen to the customer's table, making it intuitive to prepare the food in the kitchen then serve the meal to the customers.</p>
Closure	 <p>In this example, <b>Minecraft</b> used this principle in an artwork using different blocks. Although this is composed of various blocks, our eyes sought for the bigger picture that is formed.</p>
Focal Point	 <p>This principle is evident in <b>The Legend of Zelda: Link's Awakening</b> where the main character, Link, is the main focal point of the game. It features a tilt-shift effect that slightly blurs the character's surrounding elements at all times. This is an effective and unique strategy to capture the player's attention while contributing to the game's visual appeal.</p>

## Principles in Action

To further apply the Gestalt Principles in game design, here is a brief game design document of an **Imaginary 2D Topdown Dungeon Crawler**.



Moodboard

The game is set in a fantasy world where you, the main character, is resurrected as their savior, together with three (3) other humans. Each of the humans has their own weapon; you got the shield. As the Shield Savior, you cannot attack. However, you can block all enemy attacks or absorb them to let them out in a burst attack. This idea is inspired by the **Focal Point Principle**.

Applying the **Figure-ground Principle**, the top-down camera view is angled at an isometric angle to complement the combination of 3D environment with a 2D character—also known as a 2.5D game. Similar to Death's Door shown in the moodboard, the graphics of the game has a non-saturated palette for the environment while having a strong color palette for the characters, especially the main character.

# Atomic Design for UI

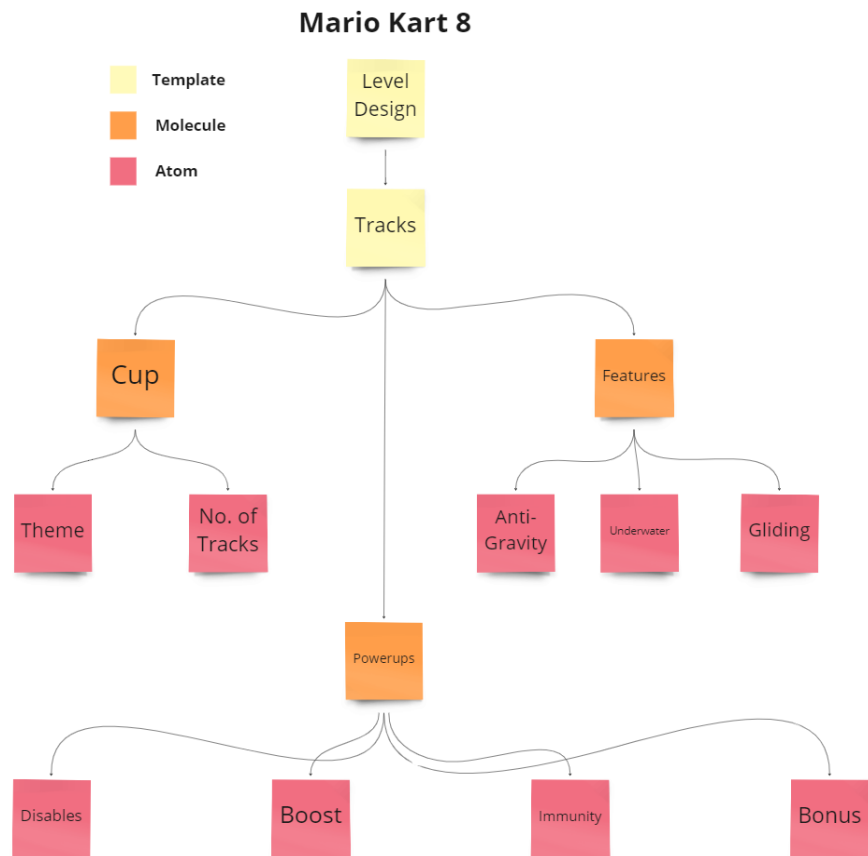
## Breaking Down a Game's Atomic Structure

Chosen Game: **Mario Kart 8**

Chosen Aspect of Game: **Level Design**

Atom	Molecule	Organism	Prototype
Theme, No. of Tracks;  Disables, Boost, Immunity, Bonus;  Anti-Gravity, Underwater, Gliding	Cup, Powerups, Features	Tracks (Level Design)	Mario Kart 8

Brief Explanation:





Using Atomic Design's principles, the diagram above shows the atomic structure of Mario Kart's level design. Each level in Mario Kart is called a **Track**.

Each track is in its own **Cup** (e.g. Mushroom Cup) which is a collection of tracks inspired from multiple games, such as Super Mario, since this is a game with characters from other popular game titles. Each track has their own **unique features**—some maps have areas that require the players to go underwater, while some launch players into the air and let them glide. Lastly, each track also has their own set of **items** or **power-ups** that helps the players to gain advantage over other players when used correctly.

## Designing from Mario Kart's Atomic Structure

### Snow Crash Racing

Mini-Game Design Document

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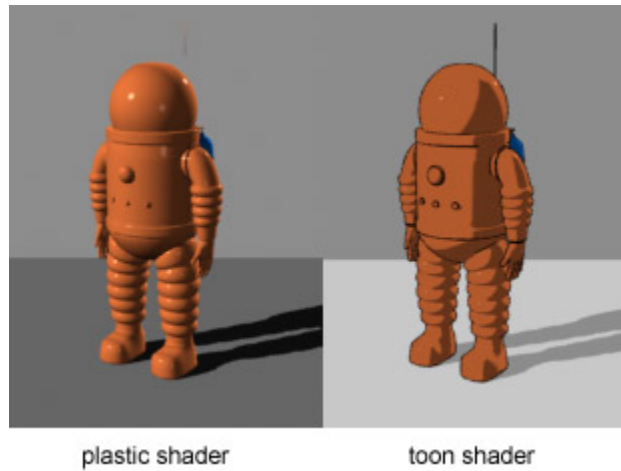


Clean Road by SayGames

## Overview

Snow Crash Racing is a Casual mobile game where the player's goal is to reach the finish line while traversing the snowy road. It is a multiplayer game that allows four (4) players per match.

## Visual Direction



The target visuals of the game is to be performant while producing enticing aesthetics for the mass audience. This can be achieved by using low-poly assets to minimize performance impact, and apply toon shader to produce a popular look for casual mobile games.

## Features

### Kart Customization

Players can customize their own Kart prior to game start. Each of the parts will affect the overall handling and speed of the Kart.



## Power-ups

There are power-ups scattered throughout each map. Each map has its own set of power-ups based on the unique features of the map. When used correctly, power-ups can be a huge advantage for the player using it.

Power-up	Effect
Disable	This lets the player stun and slow down their opponents.
Boost	When acquired, it boosts the player's speed and handling.
Immunity	This gives the player immunity to disabilities and obstacles.

## City Maps

There are multiple maps in the game that serve as the game's levels. Each map is based on a city with their own unique features.

City Map	Features
Tokyo	This map has wider roads than usual. It also has cyclists that slow down the player when hit.
Atlantis	Half of this map is underwater.
Antarctica	This map has areas on ice that reduces the players' handling.



## Mechanics



The game is played using touch controls. Players control their kart using the touch joystick control at the center-bottom of the screen. All Karts have the gas pedal stepped on at all times automatically; the only way to brake is to touch anywhere else on the screen outside of the touch joystick controls.

Karts are slowed down when they hit obstacles or go off-road. The path is cleared of snow when a kart passes through it. Areas without snow give the karts a higher speed, so players behind of the race can use this to their advantage.