

# Game Environment Design



**Title: Game Environment Design**

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## Chapter 2      Game Environment Design

### Learning Outcome

Objectives of this chapter are: -

- What is the Game Design?
- What are the Game Assets?
- What are the sprites?
- Game Types

## WHAT IS THE GAME DESIGN?

Game design is the process of creating the content and rules of a game. Good game design is the process of creating goals that a player feels motivated to reach and rules that a player must follow as he makes and making meaningful decisions in pursuit of those goals.

In the broadest sense, game design refers to the idea behind a game. But it has come to mean a whole lot more than that. In large immersive games, game design refers to the central theme or point, as well as the story and plot and the characters' back-stories. In smaller games and in games in which there are no significant characters or plot.

For example, in a racing game, game design refers to: -

- How one plays the game.
- What are the rules?
- How is the game scored?
- How does the level of difficulty change with play?
- What makes the game fun or challenging?

Game design is the art of applying design and aesthetics to create a game to facilitate interaction between players for entertainment or for educational, exercise, or experimental purposes. Game design can be applied both to games and, increasingly, to other interactions, particularly virtual ones.

Game design creates goals, rules, and challenges to define a sport, tabletop game, casino game, video game, role-playing game, or simulation that produces desirable interactions among its participants and, possibly, spectators.

## WHAT ARE GAME ASSETS?

**Game assets** are 2D sprites, 3D models, missions, levels, areas, voice, key framing and motion capture, sound effects, music, and special effects. In the other words the **Game assets** are the "things" that go into a game. Some examples of assets are artwork (including textures and 3D models), sound effects and music, text, dialogue, and anything else that is presented to the user.

Here is a list of examples of game assets:

2D/3D Design: -

- Characters
- Objects
- Environments
- Vehicles

GUI: -

- Heads-Up Display (HUD)
- Icons

Scripting:

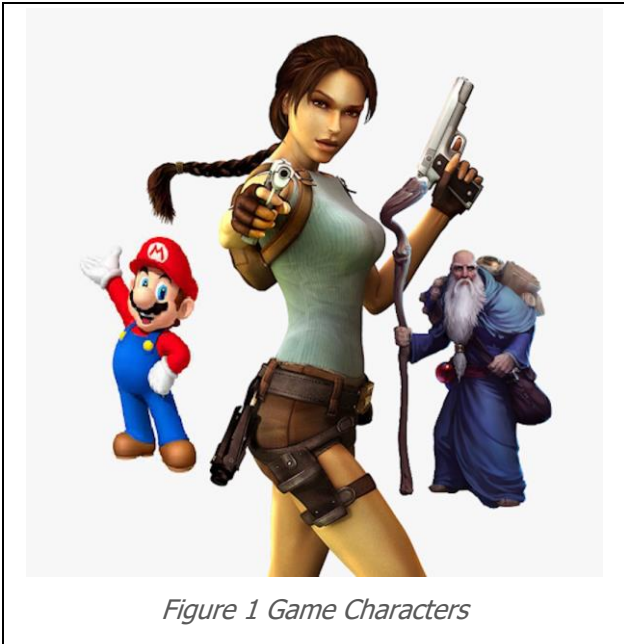
- Artificial Intelligence (AI)
- Special effects
- Networking
- Physics

Audio: -

- Background music
- Sound effects

### Characters

The game characters are the game hero's and enemies within the game.



## Game Objects

The game objects are the things exists inside the game like stone, trees, mountain, grass, flowers, waterfall, rivers, and etc.





## Game environments

The game environments are the place where the game played. Like open land, inside house, inside water, in the space and etc.



*Figure 5 Land*



*Figure 6 in the building*



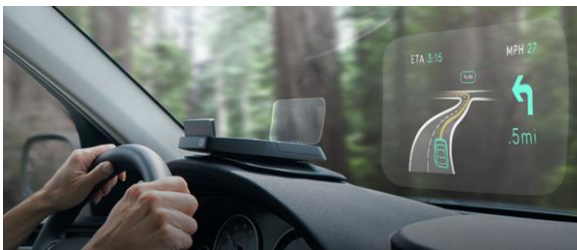
*Figure 7 Space*



*Figure 8 Water*

## Heads-Up Display (HUD)

Heads-Up Display, also known as a HUD, is any transparent display that presents data without requiring users to look away from their usual viewpoints.



*Figure 9 HUD Example*



*Figure 10 HUD Example*

## Icons

Figure 11 The Game Icons



## WHAT ARE SPRITES IN GAME MAKER?



*Figure 13 Game Sprites*



*Figure 14 3D Model for Game*



*Figure 15 3D Model for Game*



## TYPES OF COMPUTER GAMES

Today's computer games are loaded with action, and there are many different categories or genres of games. But many games can be considered to be more than one genre. For instance, a soccer game could be considered a sports game, as well as a simulation game. Here is some information that will help you to better understand the various computer game genres.

There are 12 types of computers game.

1. Massively Multiplayer Online (MMO)
2. Simulations
3. Adventure
4. Real-Time Strategy (RTS)
5. Puzzle
6. Action
7. Stealth Shooter
8. Combat
9. First Person Shooters (FPS)
10. Sports
11. Role-Playing Game (RPG)
12. Educational

### Massively Multiplayer Online (MMO)

These games are played over a LAN (local area network) or via the Internet. Players use a network and interact with other players in the virtual game room. You can play against people from all over the world. The creation of these games involves thousands of hours of programming, giving you, the player, the most amazing gaming experience possible.



*Figure 16 Massively Multiplayer Online (MMO) Game*



## Simulations

These games involve taking control of real-world vehicles, including tanks, ships, and aircraft. You learn how to control these vehicles and use simulation games that can also be used to train professionals. In fact, many pilots are trained using airplane simulators before they actually take flight.



*Figure 17 Simulator Game*



*Figure 18 Simulator Game*

## Adventure

These are usually single player games and are often set in fantasy or adventure worlds. Your complete puzzles to advance levels. The game generally starts with a back story of your character, and let you know what your mission is. You have to figure out how to complete the mission.



*Figure 19 Adventure Game*



*Figure 20 Adventure Game*



## Real-Time Strategy (RTS)

For these games, you usually need to build up your inventory of items, armies, etc. Similar to a strategy game, RTS games move in real-time, and players can play at once without taking turns so you can play together at the same time.



*Figure 21 Real-Time Strategy (RTS)*

## Puzzle

These games appeal to those who love to solve difficult puzzles. There are many levels, from beginner to expert, and games usually have colored shapes and simple actions. These are brain games, with no action involved.

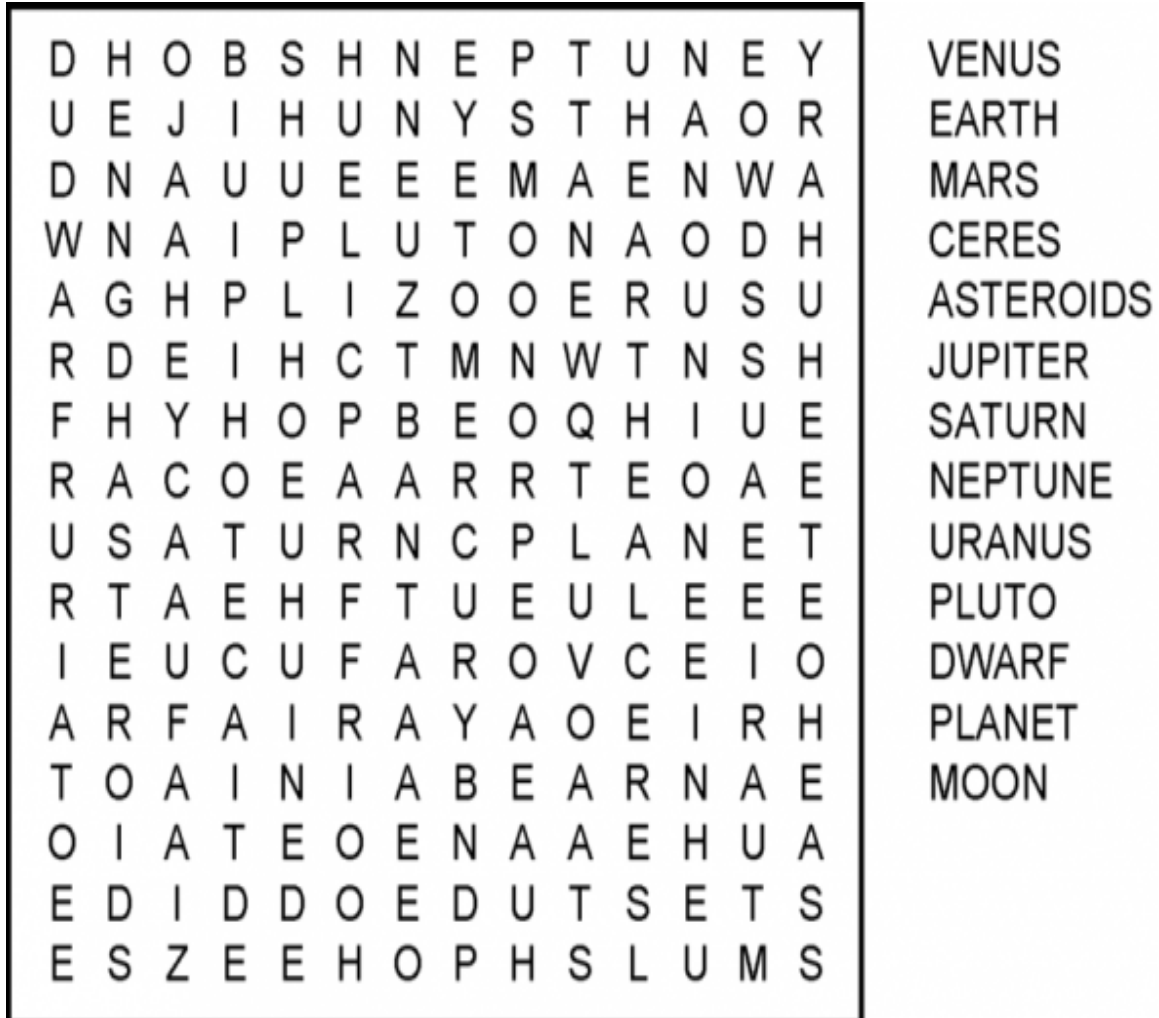


Figure 22 Puzzle Game



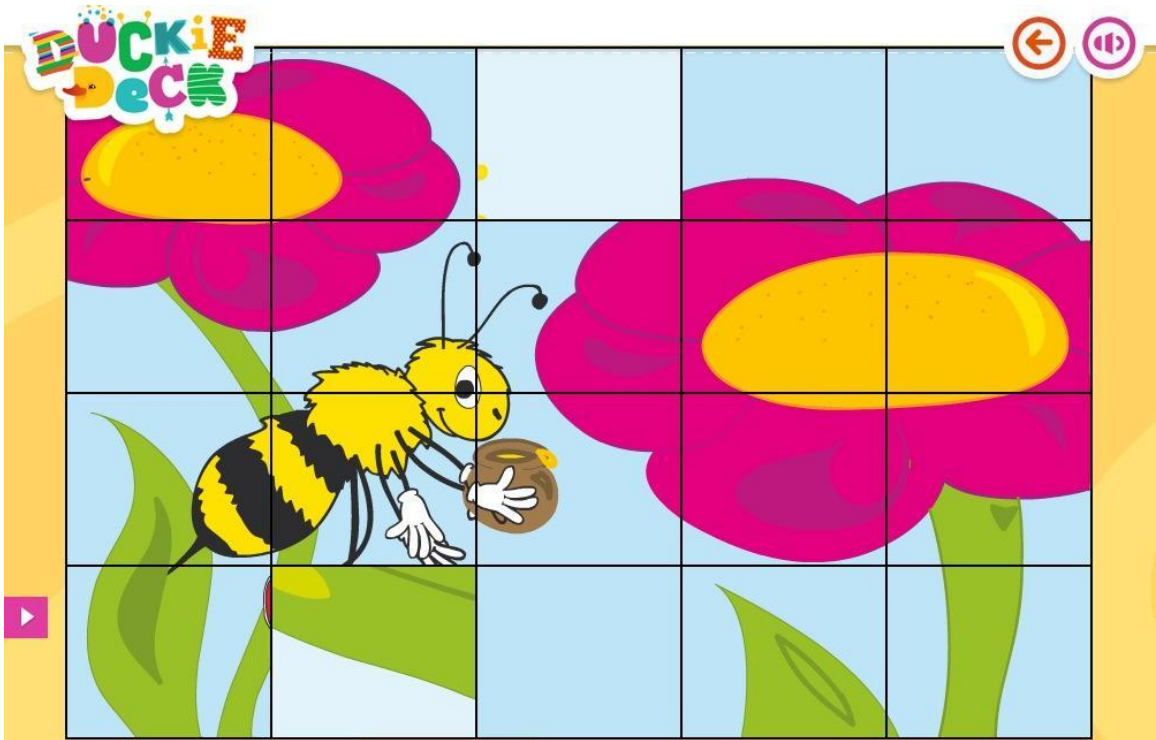


Figure 23 Puzzle Game



Figure 24 Puzzle Game

## Action

You need to be fast to enjoy these fast-paced games, and you need to have excellent reflexes. Complete challenges by fighting with enemies and use a character of your choice to represent yourself and jump into the action.



*Figure 25 Action Game*



*Figure 26 Action Game*



## Stealth Shooter

These tend to be war games or spy-based games, where you use stealth to defeat your enemies.



*Figure 27 Stealth Shooter Game*



*Figure 28 Stealth Shooter Game*

## Combat

Fight one on one with opponents, up close and personal. You need good reflexes, and the ability to use the controls for all kinds of fighting moves.



Figure 29 Combat Game





Figure 30 Combat Game



Figure 31 Combat Game

## First Person Shooters (FPS)

You are the protagonist, and the game is viewed through your eyes. You can really get into these games. The only downfall is that you are not able to see how you look in the game, because you are seeing things through your own eyes.



*Figure 32 First Person Shooters (FPS) Game*



*Figure 33 First Person Shooters (FPS) Game*



*Figure 34 First Person Shooters (FPS) Game*



## Sports

Play real-world sports like baseball, basketball, soccer, and more. As you work up through the various skill levels, your game will involve mimicking real professional athletes and how they move. The most popular sports games are usually based around specific popular sporting events.



Figure 35 Sport Game



## Role-Playing Games (RPG)

If you love fantasy, you will love role-playing games. You get to act out the part of the main character, be the hero, etc., and make decisions that go along with the games' story lines. Many of these games have narrative guides.



Figure 36 Role-Playing Game (RPG)



Figure 37 Role-Playing Game (RPG)

While many parents and teachers complain about video games, there are some great educational games out there that can help with the learning process. Train in a variety of subjects, using games to make learning fun instead of boring. There are testing functions, where you can answer multiple choice questions. The most common types of education games are for math, science, and ICT.





Figure 40 Educational Game