

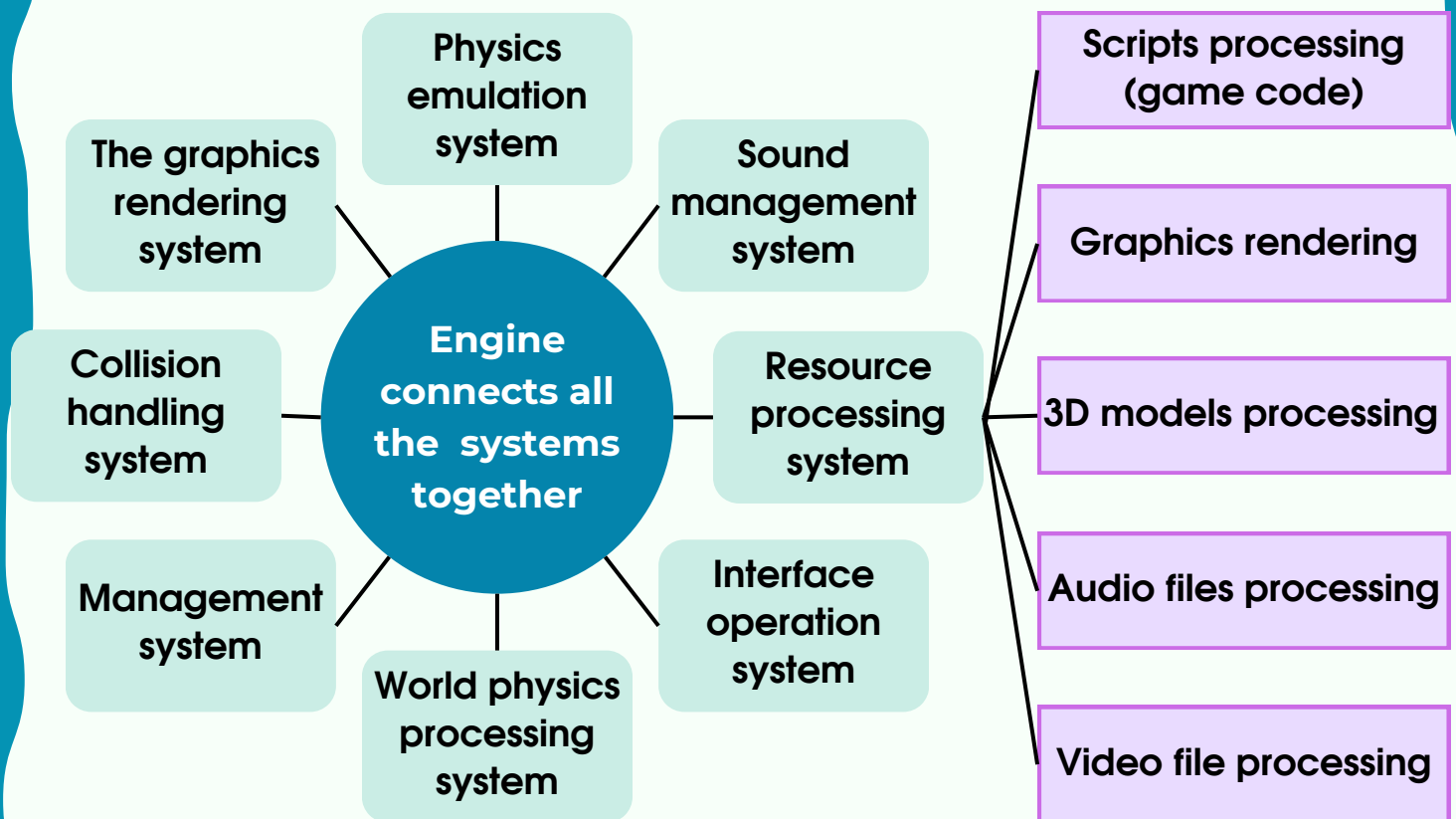
CODDY Game Engine Courses

1. What does game engine mean?

A game engine is a software around which all the other elements of the game are developed.

It's like a foundation on which everything else is layered.

Programs related to engines provide visual, sounds, character movement, compliance with the laws of physics, and so on.



To understand what a game engine is, let's look at its main components:

- **Rendering engine.** This component is responsible for creating the visual effects that you see on the screen. He is engaged in rendering 3D models, texture mapping and modeling lighting conditions.

- **Physics engine.** He is responsible for modeling the physics of the real world in the game. It is used to implement gravity, collisions, and object interactions, providing realistic behavior of game objects.
- **Sound engine.** Sound effects that create an exciting game atmosphere are crucial. This component generates all the sounds of the game, from footsteps to explosions, synchronizing them with the actions taking place.
- **Scripting engine.** This component allows developers to create custom behaviors and interactions in the game. He acts as the brain of the game, processing commands and making decisions.

Here is one example. **GODOT** is a relatively new engine that is gradually gaining popularity. CODDY offers a [2D and 3D Game Development in Godot](#) course for students from the age of 11.



Our course includes the study of all aspects of game creation: from the program interface to the programming language relative to Python. This engine does not require a powerful computer and the output of the game is rather small.

We invite all interested children to our exciting course to gain the following skills:

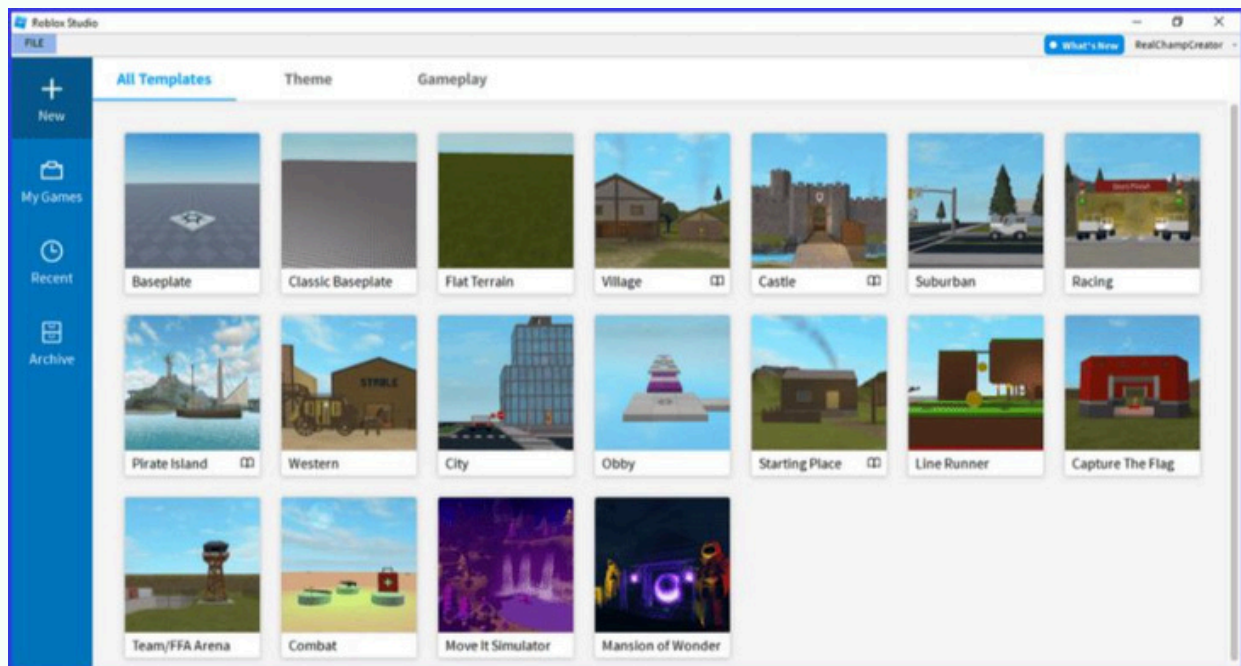
- knowledge of the professional GDScript programming language;
- ability to work in the Godot game engine;
- 2D and 3D game development skills;
- create several custom game projects;
- the ability to understand the fundamental concepts and rules of programming.

The industry is dominated by several popular game engines, each of which has its own strengths and specialization.

2. Roblox Studio

Roblox Studio is a game creation platform developed by Roblox Corporation. It allows users to create their own games and virtual worlds with ease. The tool has become the basis for many successful games thanks to its accessibility.

Roblox Studio was launched in 2005, providing users with the opportunity to share their creations on the Roblox platform.



Roblox Studio allows users to create games from the ground up, from designing graphics to programming the game's logic. The platform provides a library of ready-made assets and models that can be easily integrated into games. Roblox also offers a variety of game templates that simplify the development process. These templates include settings for game mechanics, design elements, and sound effects, allowing developers to concentrate on creating unique and original content.

The main features of Roblox Studio:

- **Intuitive interface.** Roblox Studio provides a simple and user-friendly interface that allows even beginners to easily start creating games. This tool is suitable for both novice developers and experienced professionals.
- **Lua scripting language.** Using Lua as the main scripting language allows developers to create complex game mechanics and interactions. This language is easy to learn, which makes it ideal for beginners.
- **Multiplatform.** Games created in Roblox Studio can be published and played on various platforms, such as PCs, mobile devices, and game consoles. This allows the games created on Roblox to reach a wide audience of players.
- **Access to a huge asset library.** The platform provides access to a library of ready-made models, textures and scripts, which allows you to speed up the development process and focus on creating unique content.

Roblox Studio, which has conquered young hearts, now allows you to create a game in its environment in the Lua language and share your product in the Roblox gaming community. In our course, students will also try to monetize their creations. Let your child feel like a real developer in a game studio on the course [Creating games in Roblox Studio](#) for children **aged 8-12**.

3. Unreal Engine

Unreal Engine, developed by Epic Games, is a powerful engine that allows you to create visually stunning games. Many famous games have been created on this engine, and it is known for its realistic graphics.

Unreal Engine debuted in 1998 with the release of the first-person shooter game "Unreal". This was the beginning of a revolutionary path that turned the idea of the gaming industry upside down.



Over the years, the Unreal Engine has seen significant changes, with each iteration expanding the boundaries of what is possible in virtual environments. From the first version of Unreal Engine to the latest version 5, this engine has constantly raised the bar for both graphical realism and development tools.

The main features of Unreal Engine:

- **Graphic Rendering.** Real-time rendering technology enables the creation of stunning visual effects and realistic environments. This makes it the ideal choice for game development and other industries.
- **Blueprint Visual Scenarios.** Blueprint simplifies game development by allowing designers and artists to create complex game logic without the need for deep coding knowledge. This has democratized the game development process, making it more accessible to a wider audience.
- **Virtual Production Tools.** Film producers can use virtual production tools to create virtual sets and environments. This reduces the need for physical locations and streamlines the production process.

The Unreal Engine is a powerful tool for creating high-quality three-dimensional games. During the course, students will learn the Blueprint language, which is used by PlayStation and Xbox games.

They will have an immersive experience in the world of game development!

CODDY offers several courses to master Unreal Engine for older students. For example, [Unreal Engine 4](#) can be learned **from the age of 12.**

Therefore, to prepare for this, we recommend taking one of the courses in 3D modeling.

[TinkerCAD: Creating 3D Objects for Minecraft](#)
for children aged 7-10



TinkerCAD is a free and user-friendly web application that helps children learn the basic skills necessary to master 3D design. TinkerCAD offers a wide range of opportunities to showcase and develop your creative skills. You can create models of varying complexity and detail, ranging from a simple mushroom to a complex city plan or even a living cell.

Or **Blender**, which is already familiar to you from these classes



[3D game modeling in Blender](#) for kids from the age of 10

The skills of a sculptor, the insights of an architect, and the foresight of an engineer - all these can be developed through a course in modeling in the Blender engine. Here, any object can be visualized in 3D format. Professionals who possess these skills are in high demand in various fields, from construction to game development and animation. By laying a solid foundation in these skills, you can create a promising future for your child.

4. Unity

Unity is a versatile and powerful game engine that allows developers to create 2D, 3D games, augmented reality (AR), and virtual reality (VR), on various platforms. Unity Technologies, released the first version of Unity in 2005, and since then, has been continued to update and improve the engine, solidifying its position as a leader in the industry.



If you are just starting out in game development, Unity is an excellent place to begin. Its user-friendly interface and vast library of tutorials make it approachable for both beginners and more experienced developers.

The main features of Unity:

- **Cross-platform support.** Unity supports a wide range of platforms, including Windows, Mac, iOS, Android, and many others. This makes your game accessible to a diverse audience.
- **Incredible graphics.** Unity's powerful rendering engine allows developers to create games with stunning graphics and realistic physics.
- **Asset store.** Unity's Asset Store offers a vast selection of pre-made assets, from characters and environments to scripts and plugins. These resources save developers time and effort, making development faster and more efficient.
- **C# scripting.** Unity uses C#, a popular programming language, for scripting, making it easy for developers familiar with C# to create games.

[Unity 3D technology - game development course for beginners](#) from the age of 11

During the course, we will introduce you to the basics of Unity and teach you how to create your own three-dimensional games. In addition, children will also learn the fundamentals of the C# programming language. We offer a comprehensive course that covers design, programming, and physics understanding.