

## Section 3

### Chapter 14 - From Videogames to Work: Interactive Languages and Three-Dimensional Environments as Reference Models in Tomorrow's Professions.

## Exemplary case 5

Title: **An authoring system for creating video games and interactive applications: Unity**

#### Description:

*Unity* is a powerful 3D development platform for video games and interactive applications, the most widely used in the world even at the professional level. It is therefore an extremely widespread working tool, both in the world of videogames and in that of Apps, but also in Virtual and Augmented Reality, in the development of information points and in the scenario of *Internet Of Things*. With *Unity*, you can create video games in three dimensions for the most popular platforms (*Desktop* or *Mobile*). A free version called *personal* is available, which can also be easily used in schools<sup>1</sup>.

Unity's operation is centered around the *Scene View*, the representation of the game environment, which displays game objects in a manner similar to 3D modeling programs. *The Scene View* contains both "tangible" objects present in the scene and lights, cameras and *controllers* of the objects themselves. The scene is visible both on Cartesian planes and in perspective.

Objects are all elements of our game. Cameras, lights, 3D models, *sprites*, particle effects, user interface elements. A project can be composed of one or more scenes. The *House* is the subjective

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<sup>1</sup> <https://unity3d.com/get-unity/download>

view of the video game. In game mode, the action is taken from exactly where the camera is located. In Unity you can create simple objects, but to develop complex objects you should operate with modeling software (such as *SketchUp*) and then import the 3D models and *textures*, which will appear among the *assets* of the scene, where you can move, scale and rotate them. The objects in the *Scene View* are all considered "*game objects*".

*Game objects* can be equipped with interactive features through a simplified programming language that allows basic interactions to be made. Each *Game Object* has a name and some basic properties, and can be placed in the 3D space and provided with a *script*. *Game Objects* can be very different: they can be visible or invisible, emit sounds or be interactive. While the *Scene View* provides an operational view of the 3D scene in which the game takes place, the *Game View* is available to show what players will see during the action, showing the viewpoint of the game camera.

When *Play* is pressed on the *Game panel*, *Unity* starts running the game, which can finally be exported via the *build* function, to a large number of platforms and *devices*, including PCs, *smartphones*, *tablets* and augmented reality and virtual viewers.