



UNIVERSITAT  
POLITÈCNICA  
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CAMPUS D'ALCOI

# GAME ENGINES AND UNITY

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# Introduction

- Game market is in one of its best moments
- In addition to the traditional platforms (desktop, consoles), the new platforms are a huge market
- Mobile devices, social networks and platforms like Steam offer the opportunity to develop successful games with few resources (small teams, a few months of work)



# Introduction

- The problem is that we have many possible platforms and specific development tools
  - Desktop (PC, Mac, Linux)
  - Web (Facebook, WebGL etc.)
  - Mobile platforms (iOS, Android)
  - Consoles (Nintendo Switch, Xbox One, PS4, etc.)
- This makes game development really challenging



# Why a game engine?

- Is it possible to avoid native tools and make game development easier?
  - Using a game engine
- Advantages
  - Less development complexity, multi-platform distribution of your project, less costs and development time (we don't need a team for each platform), less initial training, specific tools for developing any type of game, interactive apps and VR/AR etc.



# What do we need from a game engine ?

- A **powerful editor**: 3D scenes, import multi-format resources, scripts, animations, 2D and 3D, advanced GUI in our games or apps, game preview, input manager, sound management etc.
- Efficient **scripting** engine (games and interactive are real-time, so we need high performance)
- Advanced **physics** and **rendering** engine
- **Others**: multi-platform distribution, multi-platform editor, particle system, terrain editor, LOD, version control, plugins, editor extensions through scripting, complete docs, third party add-ons, affordable cost etc..



# Why Unity?



- Because it fulfills much of the previous demands
- The engine with the most users and games of the moment
- Important games in the market:  
<http://unity.com/madewith>



# Why Unity?

- Personal (free), Plus, and Pro editions
- We can start with the Personal edition that has all the core engine features
- Editor available for Windows and Mac (Linux as experimental build)
- It's the most popular game engine, with an AssetStore with thousands of third party addons, that are going to help us to develop any interactive app or game



# Why Unity?

- Similar engines:
  - Unreal Engine (<http://www.unrealengine.com>)
  - Corona SDK (<http://www.anscamobile.com/corona>)
  - Construct 3 (<http://www.scirra.com>)
  - Cry Engine (<http://mycryengine.com>)
  - Godot (<http://godotengine.org>)
  - Gamesalad (<http://gamesalad.com>)
  - GameDevelop (<http://www.compilgames.net>)
  - GameMaker (<http://www.yoyogames.com>)
  - Etc.





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