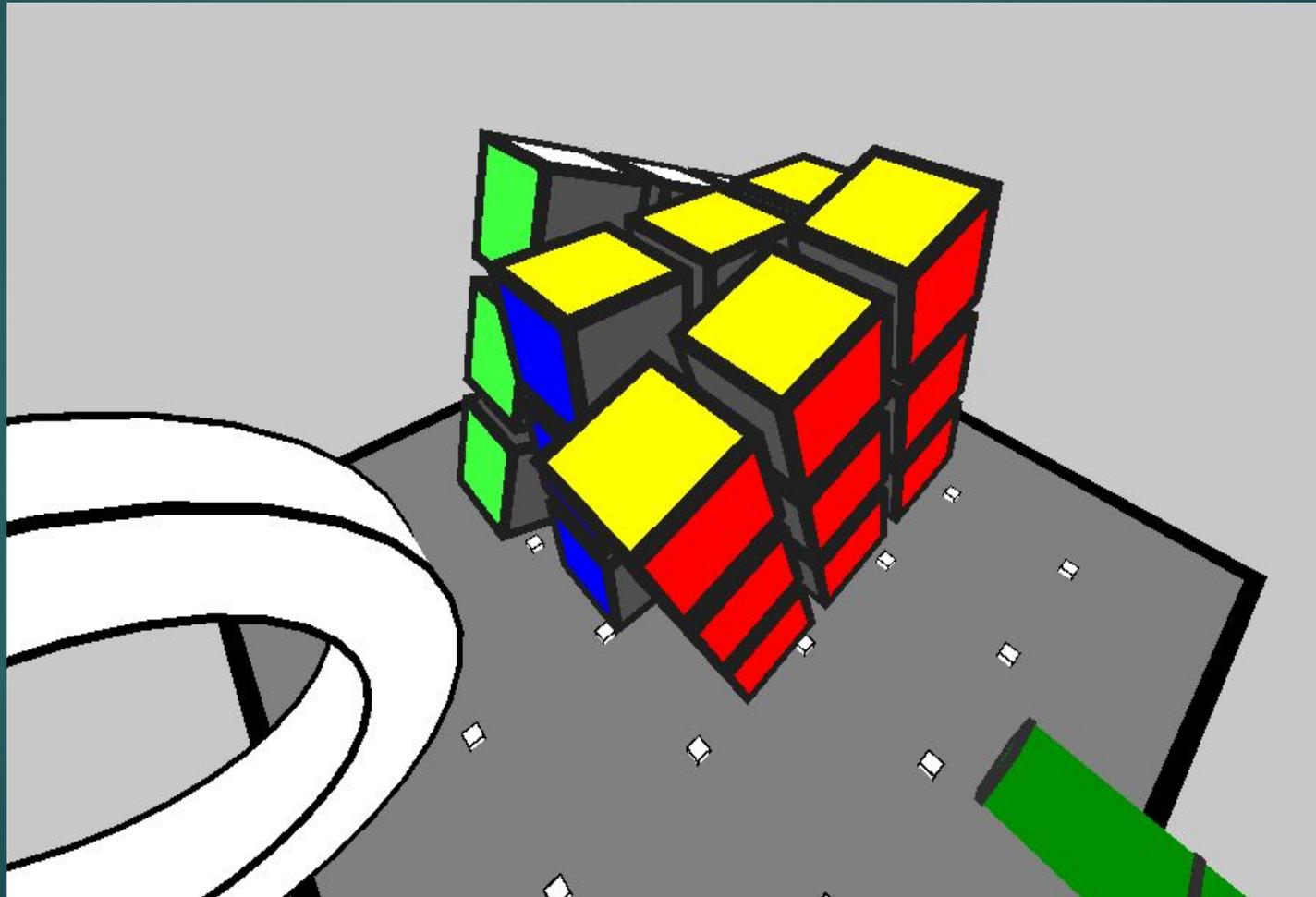
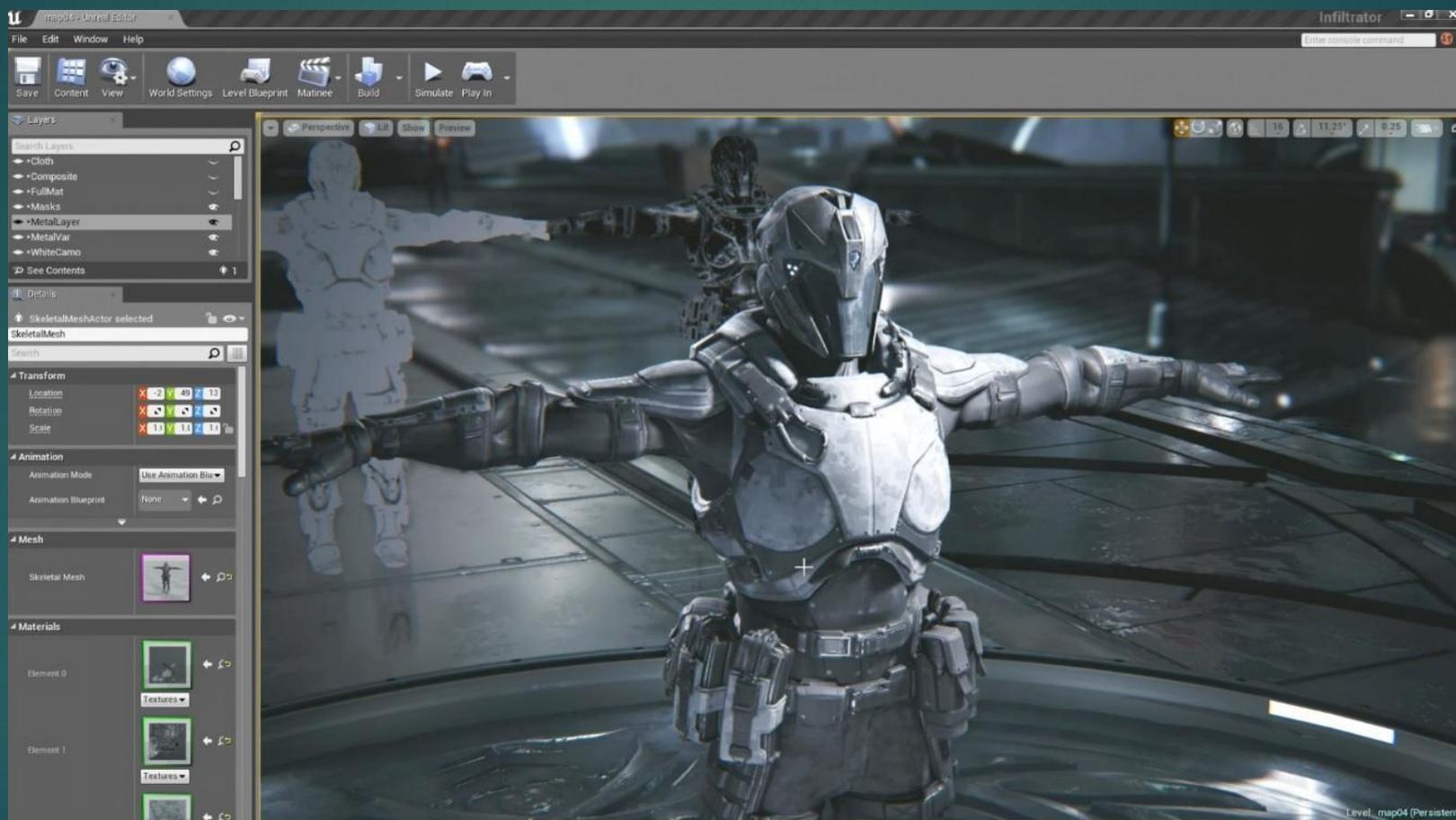


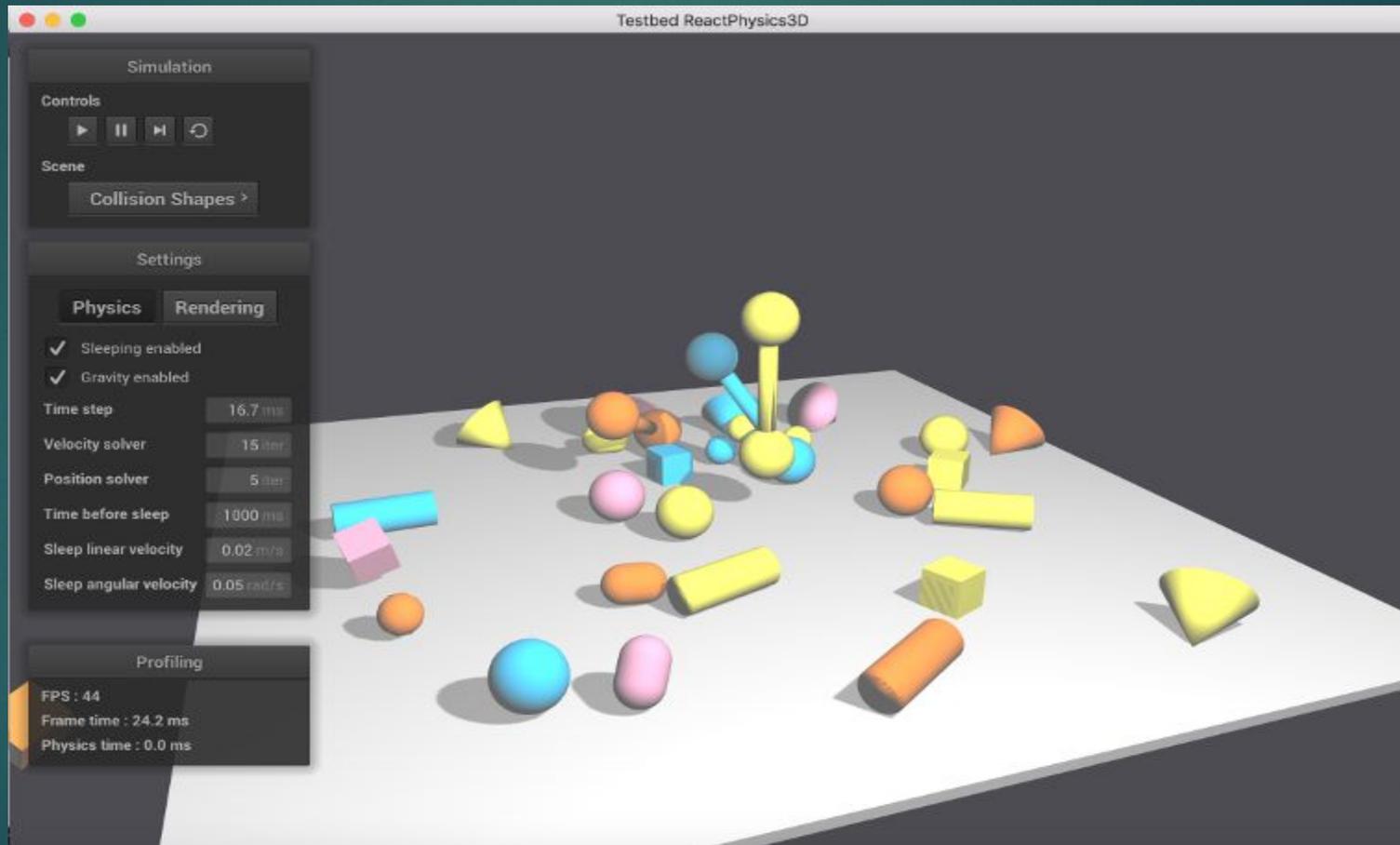
# Основные технические элементы компьютерного симулятора



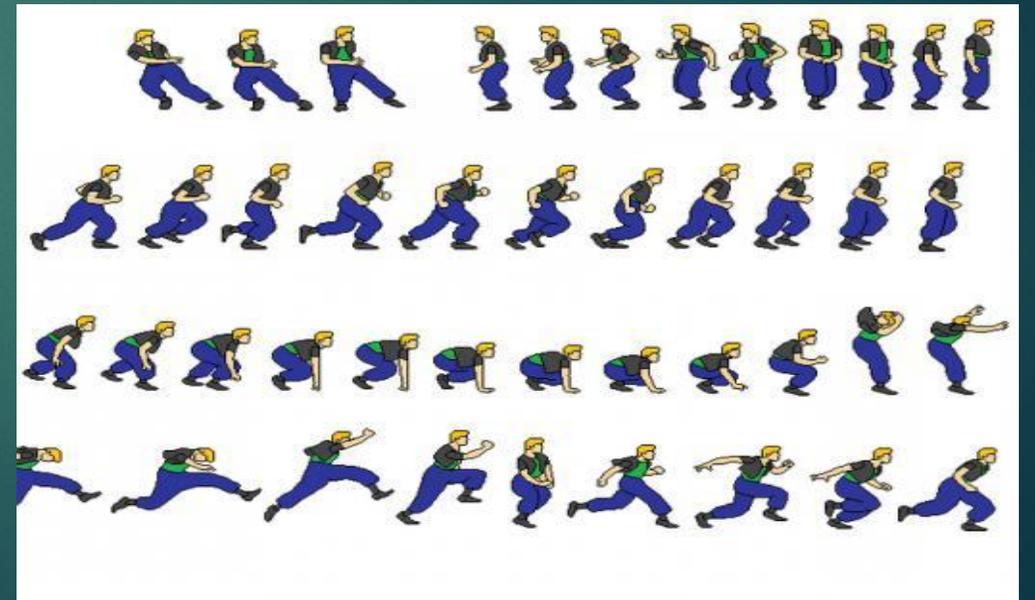
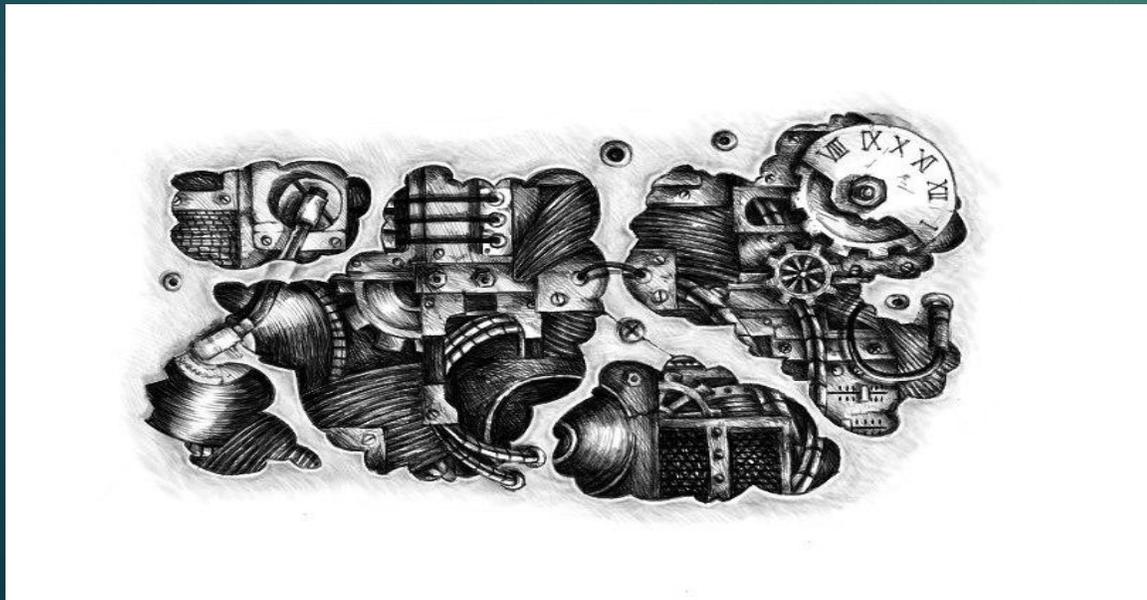
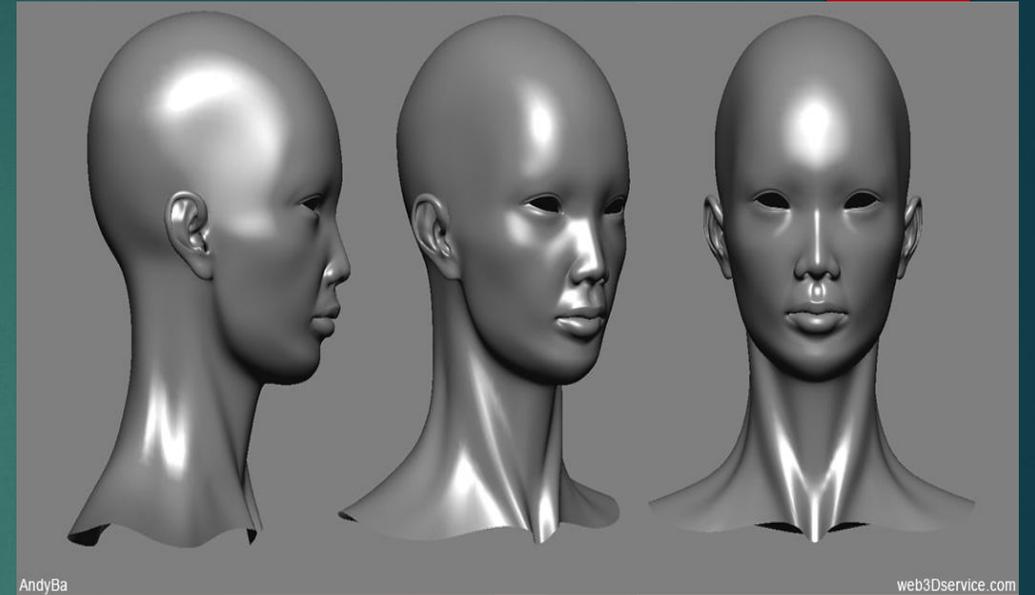
# Пример работы в графическом движке Unreal Engine 4 (2016)



# Пример работы в физическом движке Source Engine. (2009)



# Графические файлы



# Искусственный Интеллект (ИИ)

- ▶ Пример использования ИИ в компьютерных симуляторах:





▶ **Список актуальных графических ядер**

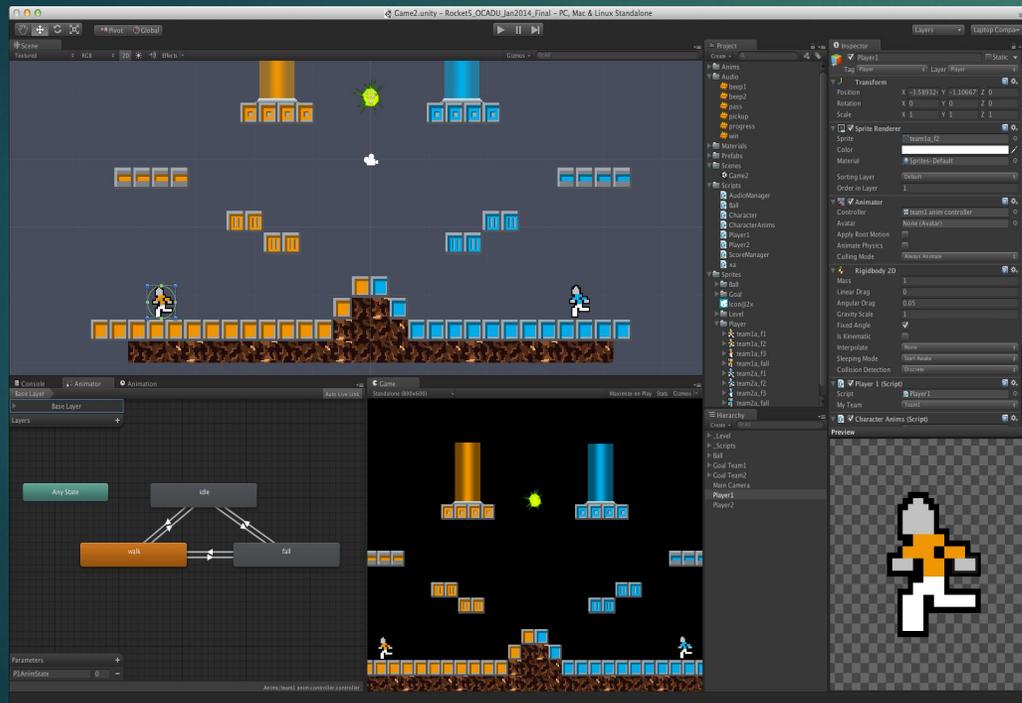
- ▶ Unreal Engine 3
- ▶ Unreal Engine 4
- ▶ Cry Engine 3
- ▶ Cry Engine 4
- ▶ Frostbite 3,5
- ▶ Dune
- ▶ Unity 5
- ▶ Serious Engine 3
- ▶ IDTech 5
- ▶ IDTech 6
- ▶ GameMaker
- ▶ Fox Engine
- ▶ Source
- ▶ Source 2
- ▶ IW Engine
- ▶ X-Ray Engine



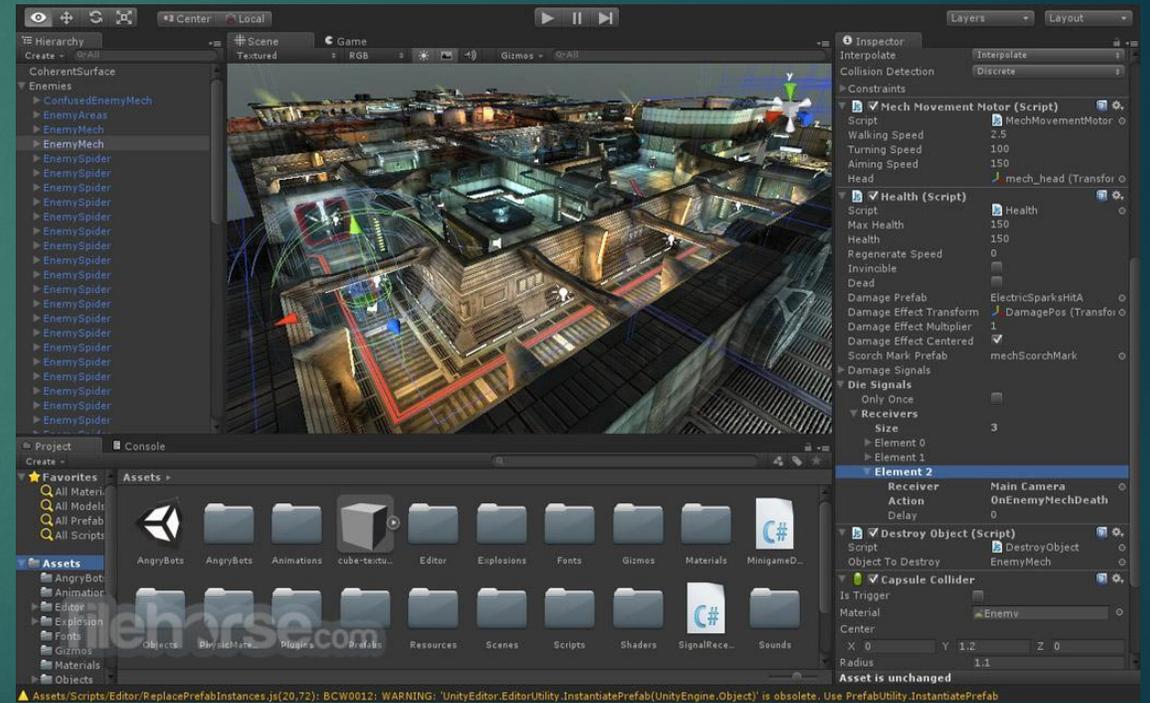
- ▶ **Список актуальных физических ядер**
- ▶ Bullet
- ▶ Newton Dynamics
- ▶ Tokamak Physics
- ▶ ODE
- ▶ Havok
- ▶ Nvidia PhysX
- ▶ Meqon
- ▶ TrueAxis
- ▶ SPE
- ▶ Source Engine

# Пример работы в движке Unity 5 (2015)

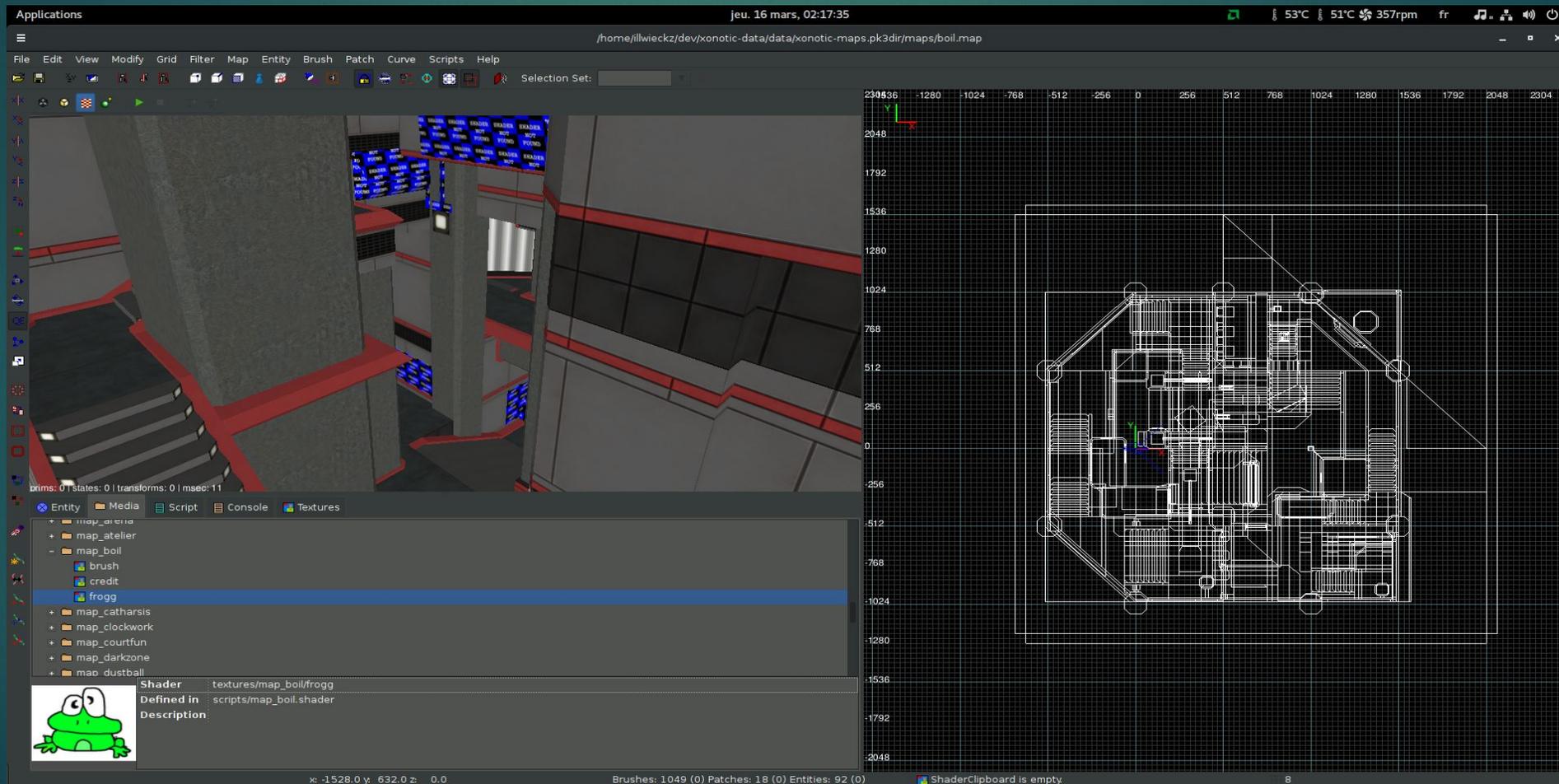
▶ 2D разработка



▶ 3D разработка



# Пример старого движка IDTech 3 (2003)



# Doom Engine (1996)

