Game Engine Survey

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Quake Family

- A family of game engines created by idSoftware

- Castle Wolfenstein 3D (1992), Doom, Quake, Quake II, Quake III

- Technology was incorporated in other titles/engines: Sin, Medal of Honor

- Quake II source code free at https://github.com/ id-Software/Quake-2. You can compile it yourself and use the assets from your private copy of the game.

Unreal Family

- Started with Epic's Unreal game in1998

- Unreal Engine 2 is the base for Unreal Tournament 2004 and is at the base of numerous mods and projects

- Unreal Engine 4 is the latest version with some of the best tools and richest engine features in the industry:

  - graphical interfaces for shader creation and logic programming

- Lots of online community resources and documentation

Half-life Source Engine

- Source is the game engine behind Half-life 2 and its sequels

- High quality engine rivalling Unreal Engine 4 in terms of graphics and tools

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DICE's Frostbite Engine

- Emerged out of Battlefield Bad Company (2006)

- Widely adopted in Electronic Arts

- Used in:

  - Mass Effect, Battlefield, Need for Speed, Dragon Age

  - Frostbite 3 used in Battlefield 4 (PC, Xbox One, Xbox 360, PS3 and PS4)

- Powerful unified asset creation and game engine.

CryENGINE

- Started as a tech demo for Nvidia

- First game: Far Cry

- Other titles: Crysis, Codename Kingdoms, Warface and Ryse: Son of Rome

- CryENGINE 3 is latest version with asset creation tools and sophisticated real-time graphics

- Targets all major platforms: Xbox One, Xbox 360, PlayStation 4, PlayStation 3, Wii U and PC.

Sony's PhyreEngine

- Grew from an effort (2008) to make game development for PS3 easier (Cell processor is quite unique)

- Used in many studios

- Tied to Sony's platforms: PS4, PS3, Vita and PSP

- Free of charge to any licensed Sony developer as part of the PlayStation SDK

Microsoft's XNA Studio

- Easy to use and highly accessible game development platform

- Based on C# and Common Language Runtime (CLR)

- Used with Visual Studio or Visual Studio Express

- Creates games for PC and Xbox platforms

- Games can be uploaded to Xbox Live network (subscription) and shared with friends.

- Virtually free development tools for everyone.

Unity

- Powerful game development environment and runtime engine

- Targets around 20 native platforms: mobiles, consoles, desktop, in almost all flavours and Web too.

- Easy to use integrated editor environment to create and manipulate assets and entities.

- Quick preview in the editor or on target hardware.

- Supports scripting in Javascript, C# or Boo.

2D Engines

- Lots of 2D engines for non programmers out there…

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OpenSource Engines

- Ogre

- jMonkeyEngine (Java)

- Panda3D (Python/C++)

- Torque

- Irrlicht

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Further readings

- http://en.wikipedia.org/wiki/History_of_video_games#Defining_the_video_game

- http://en.wikipedia.org/wiki/Game_engine

- http://www.slant.co/topics/341/~2d-game-engines

- http://en.wikipedia.org/wiki/First-person_shooter

- http://en.wikipedia.org/wiki/Platformer

- http://en.wikipedia.org/wiki/Fighting_game

- http://en.wikipedia.org/wiki/Racing_game

- http://en.wikipedia.org/wiki/Real-time_strategy

- http://en.wikipedia.org/wiki/MMOG

- http://en.wikipedia.org/wiki/List_of_game_engines