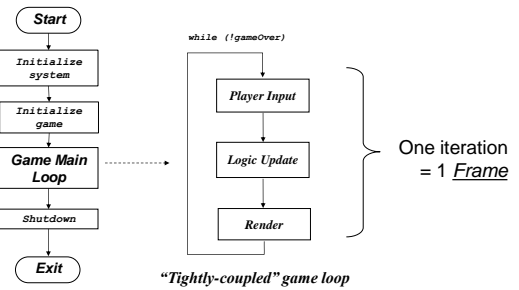


1 - Game Engines

Basic Game Structure

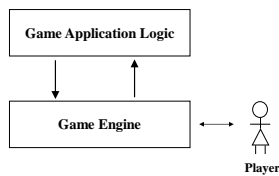


2

Game *ENGINE*

A reusable collection of modules

- Independent of any particular Game Logic
- Encapsulates platform dependencies
- Possible because all games have things in common



3

Typical Game Engine Functions

- Simulation of elapsed time
- Scene Management
 - Objects, geometry details
- Rendering
- Collision Detection/Handling
 - Physics simulation
- Lights, Shadows, Textures
- View (camera) control
- Input handling
- Sound generation
- Network communication
- Special effects
 - Explosions, fire, ...

4

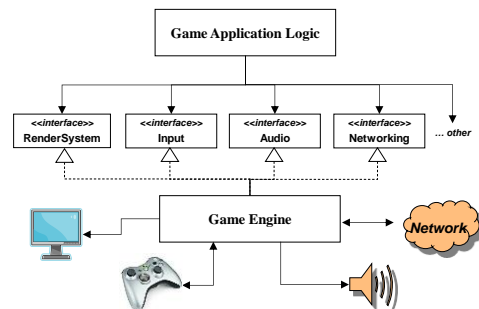
Some Game Engines

- Unity
- Unreal
- Hero Engine
- CryEngine
- Blender
- Panda 3D
- LeadWerks
- jMonkey
- OGRE
- Quake
- Lumberyard (Amazon)
- Torque 3D
- SAGE

For an expanded list see:
http://en.wikipedia.org/wiki/List_of_game_engines

5

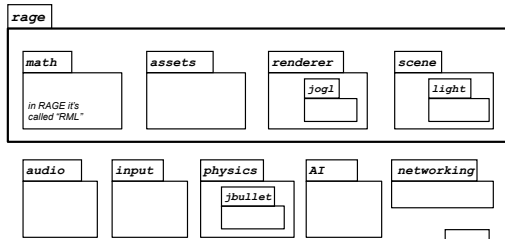
Game Engine Design



6

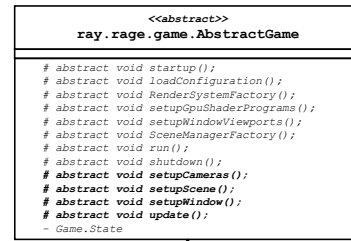
RAGE : "Raymond's Awesome Game Engine"

A collection of Java packages



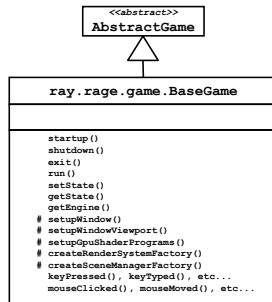
7

Abstracting Game Structure



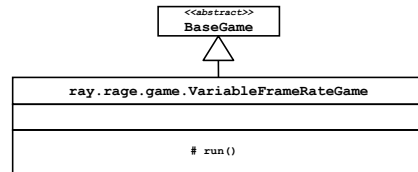
8

Abstracting Game Structure (cont.)



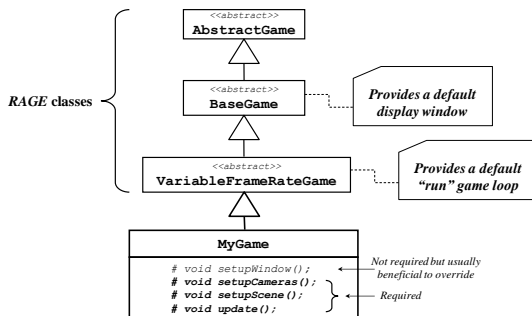
9

Abstracting Game Structure (cont.)



10

Creating A Simple Game



11

Note – there is another, proprietary game engine called "RAGE".

used by Rockstar Games
for Grand Theft Auto, Max Payne, etc.

"Rockstar Advanced Game Engine"

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