



UE4 HTML5

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UE4 HTML5 Overview

- Development environment
 - Visual Studio 2013
 - UE4 Editor
 - Firefox 64-bit
- WebGL
 - UE4 “feature level ES2”
 - Rendering like on a mobile device, using our OpenGL code path
- JavaScript
 - Emscripten compiles UE4 C++ into JavaScript
 - Browser client JIT compiles into ASM.JS
 - ASM.JS is further optimized to native machine code

UE4 HTML5 Experimental

- Currently “experimental” in UE4
 - We hope for full support in Unreal Engine 4.5
- Browsers are currently under heavy fast-paced development
 - Heavy competition and racing to be “first”
 - New APIs and GL extensions are being added at a quick rate

UE4 HTML5 Caveats

- Half CPU performance compared to native
 - But ASM.JS still a magnitude faster than regular JavaScript
 - And we can use C++ for web game development!
- Single-threaded
 - Mozilla & Google working on supporting multithreading (pthreads)
- 64-bit browser recommended
 - 32-bit address space is a little small for games (with all browser overhead)
 - Not standard yet, still need special “nightly” builds for 64-bit

UE4 HTML5 Example

URL: <https://www.unrealengine.com/html5>



UE4 HTML5 Setup

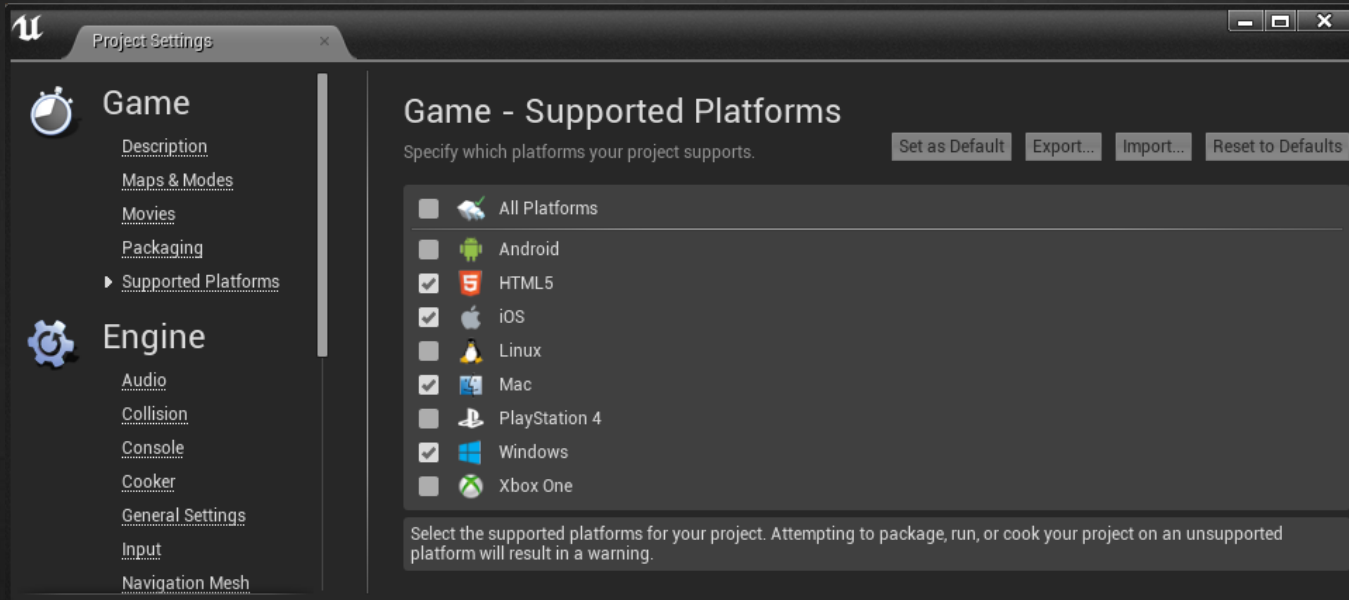
- UE4 “Getting-Started” documentation
 - <https://docs.unrealengine.com/latest/INT/Platforms/HTML5/GettingStarted/index.html>
- Install Emscripten
 - <https://github.com/kripken/emscripten/wiki/Emscripten-SDK>
 - emsdk-1.21.0-web-64bit.exe
- Install 64-bit Firefox
 - <ftp://ftp.mozilla.org/pub/mozilla.org/firefox/nightly/latest-mozilla-central>
 - firefox-33.0a1.en-US.win64-x86_64.installer.exe

UE4 HTML5 Workflow

- Regenerate project files
 - UE4 now has HTML5 available as a target platform in Visual Studio
- Compile UE4 as “Development Editor” for “Win64”
- Compile UE4 as “Development” for “HTML5”
- Launch the UE4 Editor and open your project
 - HTML5 is now available as a Supported Platform in the UE4 Editor

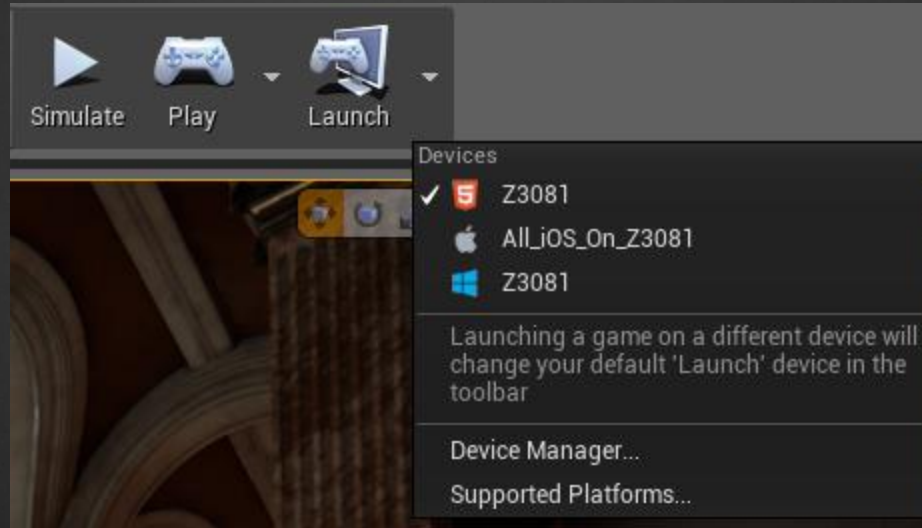
UE4 HTML5 Workflow

- Enable HTML5 as a Supported Platform in your project settings:

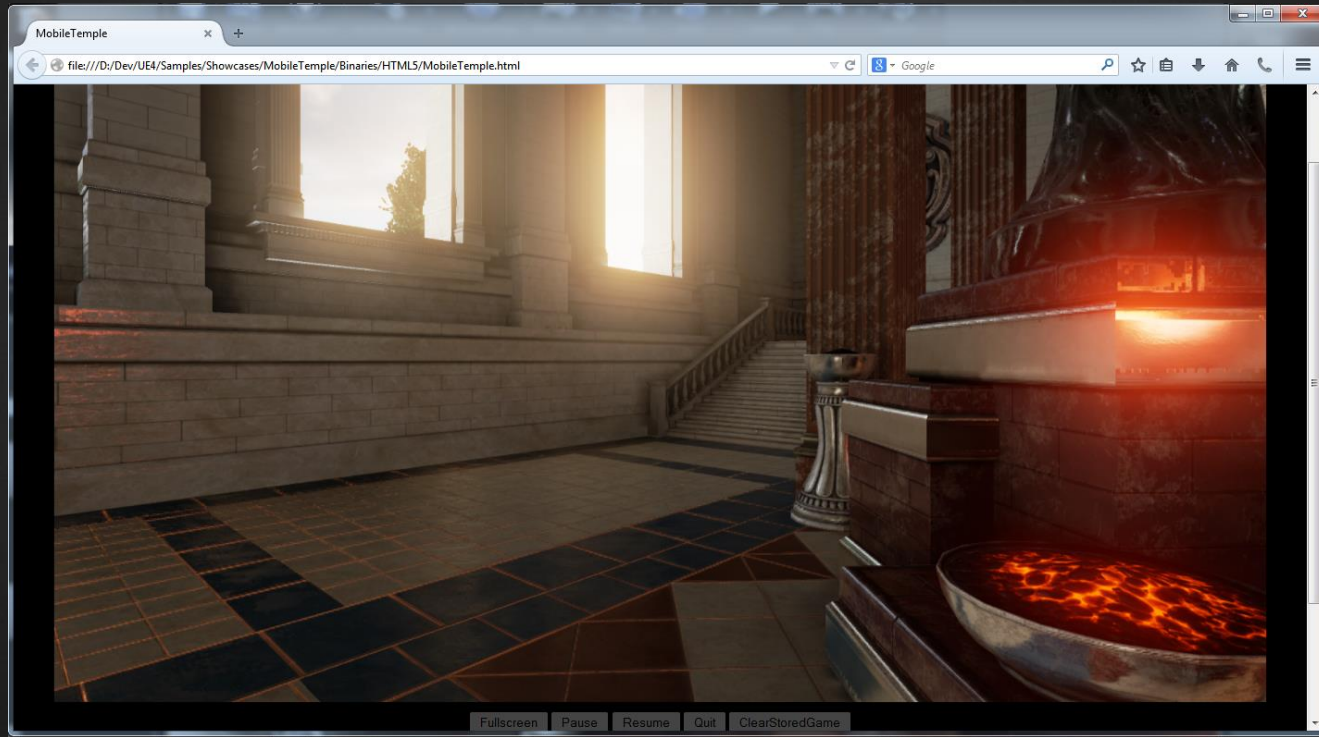


UE4 HTML5 Workflow

- Choose HTML5 as your Launch Device and hit “Launch”!



“MobileTemple” in Firefox



UE4 HTML5 Tips

- Builds go into the “Binaries” folder
 - E.g. `D:/Dev/UE4/Samples/Showcases/MobileTemple/Binaries/HTML5/MobileTemple.html`
- If your project doesn't launch properly from the UE4 Editor:
 - Try setting Firefox as your default browser
 - Open the .html file manually in Firefox
- Use the full Emscripten .exe installer, not the .zip installer
 - The full installer sets up the environment properly
- Check that the EMSCRIPTEN environment variable is correct
 - Should point to the folder that contains the file “emcc”
 - E.g. `D:\Emscripten\emscripten\1.21.0`

UE4 HTML5 Questions?

Documentation, Tutorials and Help at:

- AnswerHub: <http://answers.unrealengine.com>
- Engine Documentation: <http://docs.unrealengine.com>
- Official Forums: <http://forums.unrealengine.com>
- Community Wiki: <http://wiki.unrealengine.com>
- YouTube Videos: <http://www.youtube.com/user/UnrealDevelopmentKit>
- Community IRC: [#unrealengine](#) on FreeNode

Unreal Engine 4 Roadmap

- imgtfy.com/?q=Unreal+engine+Trello+