



COPPERLICHTH

Fast WebGL JavaScript 3D Engine

D.Veerendra Kumar,
Department of Software Systems,
Tampere University of Technology



INTRODUCTION

- CopperLicht is a JavaScript 3D engine for creating games and 3d applications in the webbrowser.
- It uses the WebGL canvas supported by modern browsers and is able to render hardware accelerated 3d graphics without any plugins.
- CopperLicht comes with a full 3D editor and supports all features necessary to create full 3d games in the browser.



BACKGROUND :

- ❖ Ambiera is an independent game development company which provides commercial development services and tools to simplify the development of multimedia software and games.
- ❖ The 'Copper' part shows that CopperLicht was originally intended only to be the WebGL rendering backend for the CopperCube editor.
- ❖ The 'Licht' part is German which means 'Light'. Maybe one reason for this could also be that the main developer of CopperLicht is also the original author of the popular 3d engine 'irrLicht'.



TECHNICAL OVERVIEW:

- ❖ CopperLicht comes with a full 3D editor and supports all features necessary to create full 3d games in the browser.
- ❖ CopperLicht compiles your 3D meshes into a small, binary file which downloads quickly, reducing bandwidth usage.
- ❖ The following 3D file formats are supported: 3ds, obj, x, lwo, b3d, csm, dae, dmf, oct, irrmesh, ms3d, my3D, mesh, lmts, bsp, md2, stl and more...



TECHNICAL OVERVIEW:

- ❖ CopperCube can publish your 3d scenes using Flash or WebGL.
- ❖ Create your scene or import your 3D models into the CopperCube 3D editor, set camera controllers, materials and more, and click 'publish'. CopperCube then creates a WebGL JavaScript/HTML file ready to be published on your website.
- ❖ Creating interactive 3D scenes can be done using CopperCube without the need to write one single line of code
- ❖ But if you want to make your scenes even more interactive, you can script and access everything in the engine using either ActionScript 3, Squirrel or even JavaScript.



FEATURES :

- ❖ 3D World editor
- ❖ Many supported 3D file formats
- ❖ Incredibly fast
- ❖ Simple to use
- ❖ Binary compilation

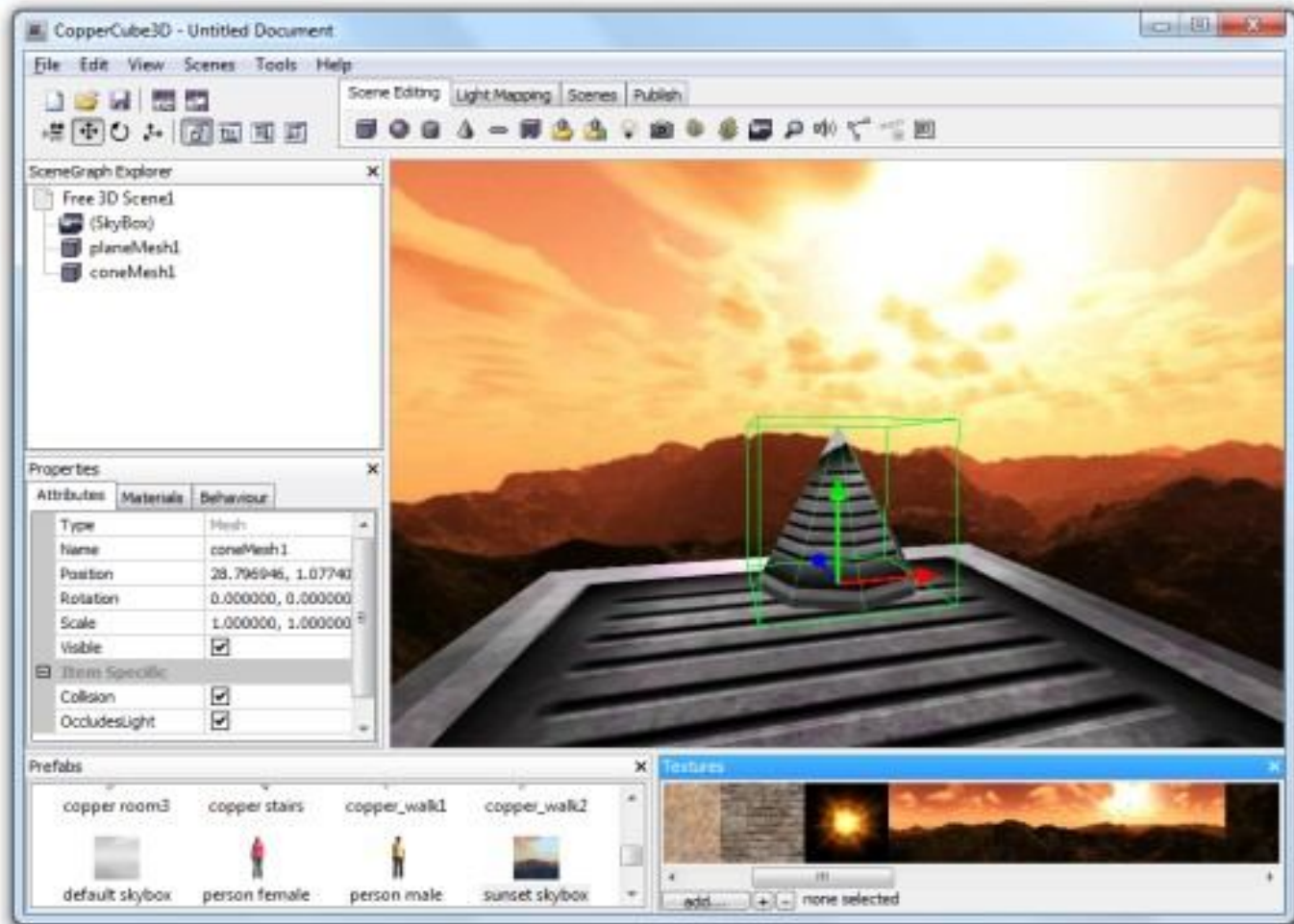


TECHNICAL OVERVIEW:

Steps to publish a scene:

- ✓ Import your 3D files into CopperCube
- ✓ Edit your scene in the editor
- ✓ Select a 'WebGL JavaScript/HTML file ' and click 'Publish'
- ✓ Done!

EXAMPLE FOR SIMPLE SCENE:





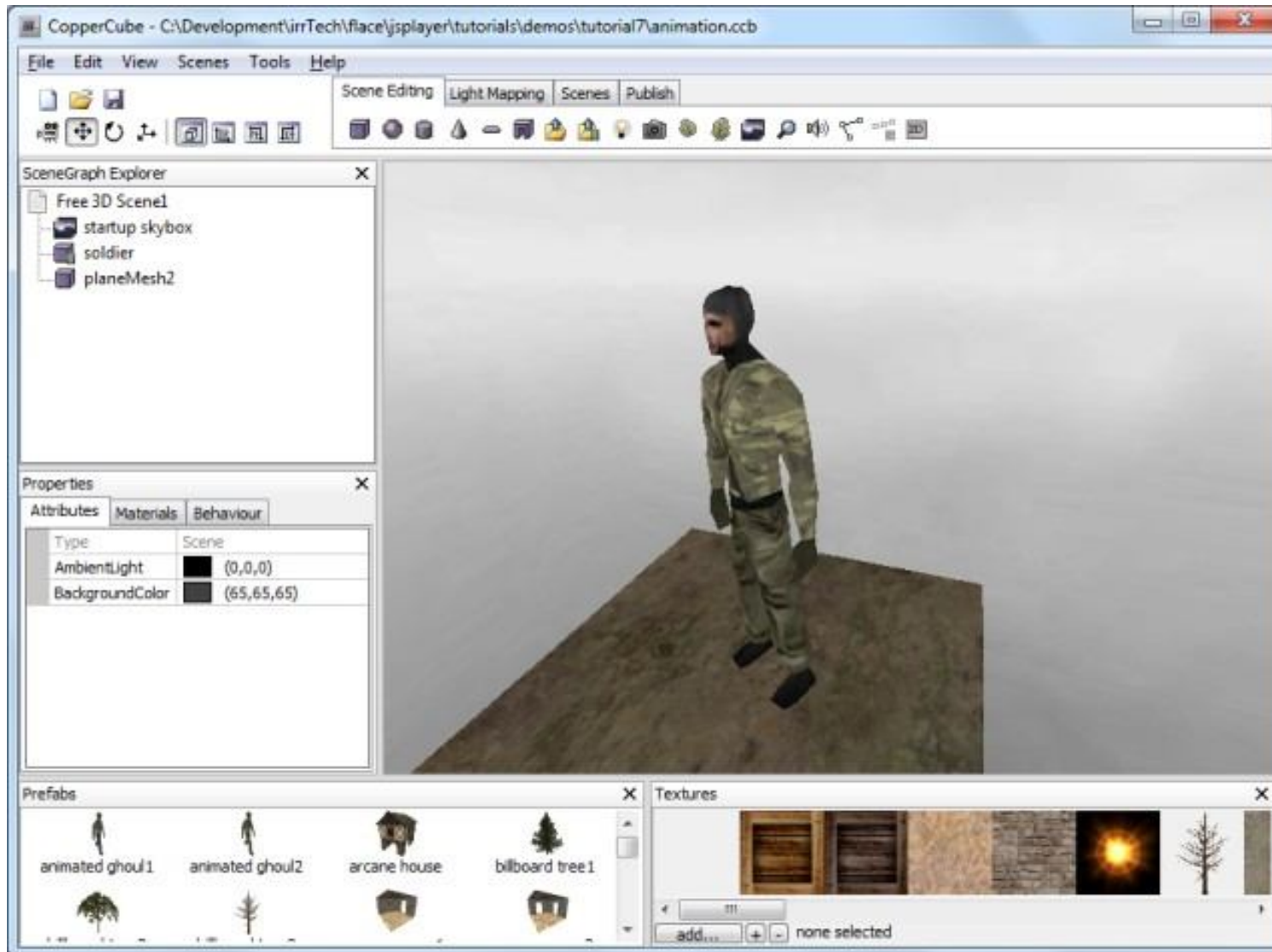
```
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
    <script type="text/javascript" src="copperlichtdata/copperlicht.js">
  </script>
  </head>
  <body>
    <div align="center">
      <canvas id="3darea" width="640" height="480" style="background-
      color:#000000">
    </canvas>
    </div>

    <script type="text/javascript">

    <!-- startCopperLichtFromFile('3darea', 'copperlichtdata/coppercube.ccbjs');
    -->
    </script>

  </body>
</html>
```

ANOTHER EXAMPLE :





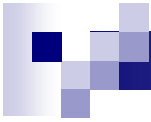
EVALUATION :

- Very easy to use and understand.
- Good Documentation.
- Present Version is CopperLicht 1.3.3
- It has very good editor through which we can develop 3D applications and games.
- But coppercube editor is not free!



References :

- Copperlicht : <http://www.ambiera.com/copperlicht/index.html>
- Demos : <http://www.ambiera.com/copperlicht/demos.html>
- Tutorials : <http://www.ambiera.com/copperlicht/tutorials.html>
- Documentation: <http://www.ambiera.com/copperlicht/documentation/index.html>
- Forum : <http://www.ambiera.com/forum.php>
- Downloads : <http://www.ambiera.com/copperlicht/download.html>



Any Queries ?



For your Attention