What's new:

Introduction

Thanks for downloading this prerelease version of Flare3D 2.5. Please note that this is an early build so it has a couple missing features and will most likely contain a few bugs here and there. However, even at this point its very useable and brings a lot of new and enhanced things to the table. That's why we decided to get this release out the door and let you experience first hand the future of Flare3D. Also, once we get through this testing stage, the final release will be labeled as Flare3D 3.0.

Of course, please don't hesitate to contact us with any questions and / or feedback you might have. We're very interested in hearing from you!

FLSL

This is probably the biggest change of this release since it was rewritten from scratch. Originally intended as an internal tool, we worked very hard to turn FLSL into a professional, cutting-edge technology, able to create materials, post-processing effects, realtime shadows and much more.

FLSL is divided in two parts: The FLSL Compiler and the FLSL Virtual Machine. Included with this release is a tool to edit and compile FLSL sources (go to window -> FLSL Editor): Just double click or drag them into the app and, if no errors are found, it will generate a compiled file in the same location of your source file. If errors are found, they'll be displayed in the tool's output panel. It's also possible to see the AGAL output for debugging purposes.

The output generated by the FLSL compiler is a binary file that contains the compiled FLSL bytecode. This bytecode is platform independent and can be loaded as either a FLSLMaterial or FLSLFilter to be used in conjunction with other filters. Once loaded, this bytecode is processed by the FLSL Virtual Machine to generate and smartly optimize the resulting AGAL code.

New Exporter

Our Max exporter has been greatly enhanced for this release, featuring much better integration with Max materials and even Max lightmap support. Lightmaps are exported automatically with just one click. So now, your exported scenes should be much closer to what you see in Max than ever before.

More details:
- Added support for instanced geometry.

- Added support for any kind of texture formats supported by Max.
- Better support for Max Standard Material channels
  - Diffuse channel.
  - Specular level and glossiness and specular map level.
  - Bump map.
  - Reflection map.
  - Refraction map.
  - Self illumination (value/color).
  - Opacity and opacity map (rgb or alpha mask).
- "Flare3D CubeMap" as a Map to use in texture map channels like (reflection/refraction).
- Support for "map channel", "uv offset" and "tilling" properties in all texture maps.
- Support for 4 uv maps channels.
- Support for 3 vertex color channels.
- Support for "F3D User Data", "F3D Animation Labels" and "F3D Render" modifiers.
- General improvements and fixes in camera projection.

Note: At the moment, the new exporter is only able to export ZF3D files, F3D support will be added in a later version. Some features are temporarily disabled and will be restored in future versions too. This version will replace the old Flare3D menu, but you can still access to the old exporter though Customize User Interface menu to attach it to a shortcut, menu, or a toolbar.

New ZF3D Format

The new exporter is able to export to a new format called ZF3D, intended to use as an exchange format. It's much simpler to build compared to standard F3D files and it's our first step towards adding export support to other 3D authoring tools besides Autodesk 3D Studio Max. The main difference with F3D is that ZF3D isn't completely binary, it's a mix of XML and binary blobs. It's also completely lossless and will be used as the standard development format for the next version of Flare3D Studio.

Note: The ZF3D format doesn't support as much compression as standard F3D files, so it's not recommended for production use.

Enhanced COLLADA loader

We've greatly enhanced the COLLADA loader for this release, and more enhancements are to come. While getting 100% COLLADA support is a very difficult task, the idea is that you should be able to load your models regardless of the 3D authoring tool you used to create it.

Note: We plan to remove COLLADA support from the runtime library on future versions and only leave it as an import option in Flare IDE. Future versions of Flare IDE will be available for all users, not just commercial ones.

New Flare3D IDE

Flare3D IDE has also received a major overhaul, sporting a new plugin-based architecture and a very customizable GUI system. With this release, we're only releasing the needed plugins to work as a FLSL editor and main functionality to inspect Flare3D files. We'll be doing incremental updates to bring back previous functionality and new features.

Note: In this version of the tool, the save or export capabilities for files edited inside the tool is temporarily disabled, we're working to get this back as soon as possible.

New Filters

Powered by FLSL, some of the new filters are: Self Illumination Filter, Lightmap Filter and Color Matrix Filter. We have more in the works for future releases.

New Primitives and debug helpers

It's now possible to add debug helpers to your scenes with support for dots, crosses, lights and more. It's also possible to draw fake wireframe views of static objects for debugging purposes. The new Quad primitive and the new Mesh3D.getScreenRect() method makes it easy to integrate 3D content with 2D content.

New in the Library

Improved workflow for different custom rendering modes and manual rendering, post processing,giving you all the flexibility you need to get the best of Stage3D content. We also added direct support for ATF compressed textures and enhanced all-around performance on mobile and desktop platforms.

What's changed:

Flare3D 2.5 has changed from 2.0. Here are some general changes to keep in mind when migrating your projects to this new version:

- We made a lot of optimizations and streamlining on most of the engine core functionality. Along with support for Flash Player "constrained mode", this version should work much better on slower hardware and mobile platforms.

- Thanks to the new FLSL functionality, the material system has changed greatly. Even if you're not using new functionality, it's possible that your scenes might look a little different than before.

- There are a few API changes like TextureFilter that has been renamed to TextureMapFilter.

- scene.targetMaterial was replaced by scene.targetFilters:Vector.<Material3D>, so now it's possible to automatically concatenate many post process filters. Please note that

each filter is a different full screen pass so you might get a hit on performance, but for fast prototyping or just simple things, it's very useful.

- scene.defaultLight was moved to scene.lights.defaultLight

- This is a **huge** change... but it's very important: The Pivot3D.world matrix was replaced by Pivot3D.transform and Pivot3D.global was replaced by Pivot3D.world. So, now, world matrix represents the global position, and transform represents the local one. Those names have been wrong since very old versions, but now we need them to match correctly because in FLSL we have the WORLD matrix corresponding with the global matrix. It's kind of a mess and we're very sorry for that, but it's a change we *had* to make.

What doesn't work:

- This version doesn't support F3D v1 format. This will be added later to Flare3D IDE, but won't be coming back to the engine.

- No support for particles yet, they're also planned for a future version. The reason is to get a full GPU accelerated particles system to dramatically improve performance in this area.

There are probably other bugs / missing features lurking that we haven't noticed yet. If you find something, please let us now by mail. We also welcome any feedback you might have regarding any feature of the engine / tools, please don't hesitate to contact us if you have any doubts or ideas :)