



glTF

graphics **l**ibrary **T**ransmission **F**ormat

<https://github.com/KhronosGroup/glTF>

Fabrice Robinet
COLLADA Working Group Chair.
Patrick Cozzi
Analytical Graphics Inc, and University of
Pennsylvania.

Overview

- status
- motivations
- design principles
- glTF pipeline
- scope
- early support and adoption
- demos

Status

- COLLADA Working group initiative.
- Work in progress - Not a ratified specification yet.
- Community feedback welcomed on GitHub.

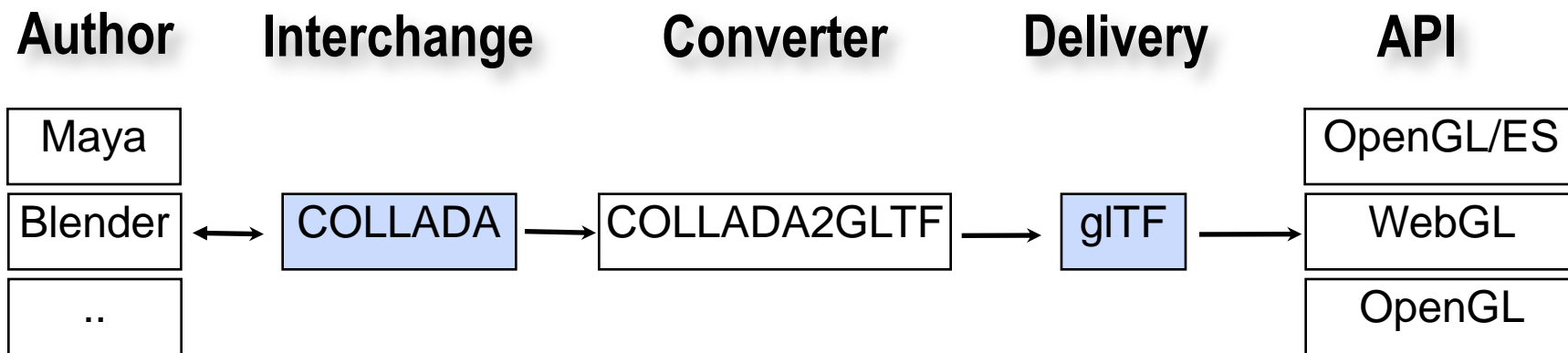
Motivations

- Bridge the gap between 3D formats and GL based APIs.
- Reduce duplicated effort in content pipeline.
- A common format for contents providers.

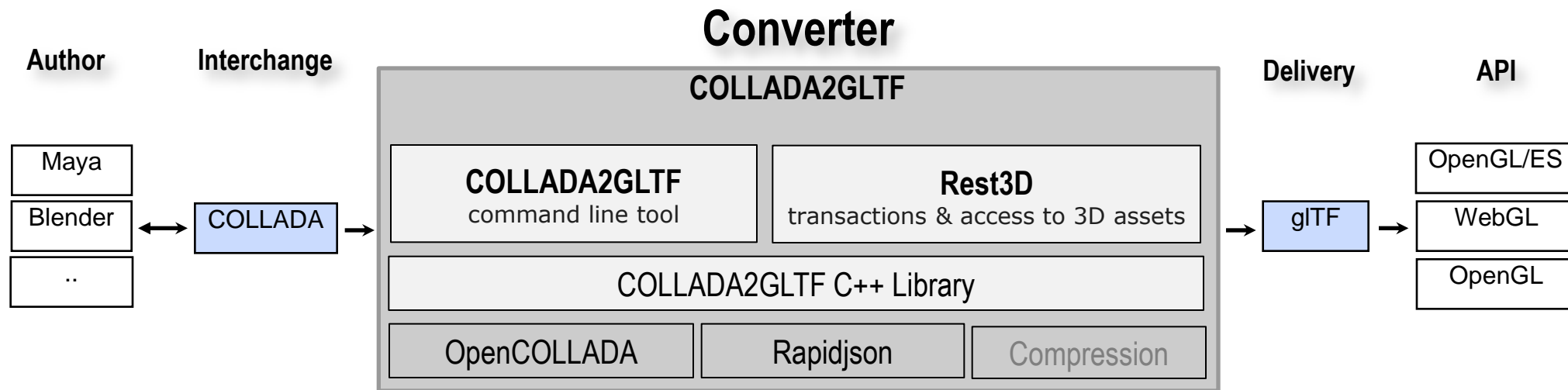
Design principles

- Streamline rendering: size, speed and ease of implementation
- Offload processing from runtime.
- Maps well to GL APIs and Typed Arrays.

glTF Pipeline - overview



glTF Pipeline - overview



glTF Pipeline - COLLADA2GLTF

Mandatory transformations

- Triangulate
- Unify indices
- Split meshes
- Generate shaders
- Axis up conversion

Planned optimizations & transformations

- Minify shaders
- Flatten hierarchy & combine meshes
- Convert images
- Compress meshes
- Interleave vertices
- ... Suggestions welcomed !

Scope

- 1.0
 - node hierarchy with geometry, materials/lights (shaders), and cameras
 - Key-frame animations
 - Skinning
- Mesh compression discussions engaged with partners.
- Target feature complete draft for late summer 2013.
- Community feedback welcomed on GitHub !

Early support and adoption

- **Montage.js:** <http://montagejs.org> & <https://github.com/montagejs/>
Implementation and JS API on-going.
- **Cesium:** <https://github.com/AnalyticalGraphicsInc/cesium>
- Sample **Three.js** loader in glTF repo:
<https://github.com/KhronosGroup/glTF>

Demos

- **Model Viewer:** Fabrice Robinet.
awesome cloud shader by Iñigo Quílez
- **WebLVC Viewer using Cesium:** Patrick Cozzi.
<http://video.weblvctestbed.com/cesium-VR-TheWorld/Apps/SimSpy/index.html?wsPort=80>

Thank you - See you on GitHub !

Specification : <https://github.com/KhronosGroup/gITF/blob/master/specification/README.md>
Converter: <https://github.com/KhronosGroup/gITF/wiki/converter>