



MaterialX: Standard Surface to glTF Export Workflow

Autodesk Graphics Platform

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Problem Overview

Material Model



 **AUTODESK**

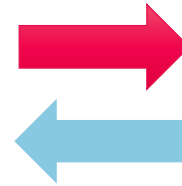


Material Encoding



MATERIALX

ASWF / ACADEMY
SOFTWARE
FOUNDATION



Material Transmission



KHRONOS
GROUP

Stakeholders & Impact



- De-couple export from internal components
- Streamlines export for customers



- First-class content delivery format



- Production use-case for MaterialX
- Foster interoperability ecosystem



glTF sample models, Khronos Group

Implementation

Standard Surface *.mtlx

```
<materialx version="1.38">
  <standard_surface name="SR_gold">
    <input name="base_color"
      type="color3"
      value="0.944,
        0.776,
        0.373" />
    <input name="metalness"
      type="float"
      value="1" />
  </standard_surface>
</materialx>
```

Render



glTF PBR *.mtlx

```
<materialx version="1.38">
  <gltf_pbr name="SR_gold_baked">
    <input name="base_color"
      type="color3"
      value="0.976471,
        0.894118,
        0.643137" />
    <input name="roughness"
      type="float"
      value="0.0196078" />
  </gltf_pbr>
</materialx>
```

Translate

Render



glTF PBR *.gltf

```
"materials": [
  {
    "name": "SR_gold_baked",
    "pbrMetallicRoughness": {
      "roughnessFactor": 0.0196077991,
      "baseColorFactor": [
        0.976471007,
        0.894118011,
        0.643136978,
        1
      ]
    }
  }
]
```

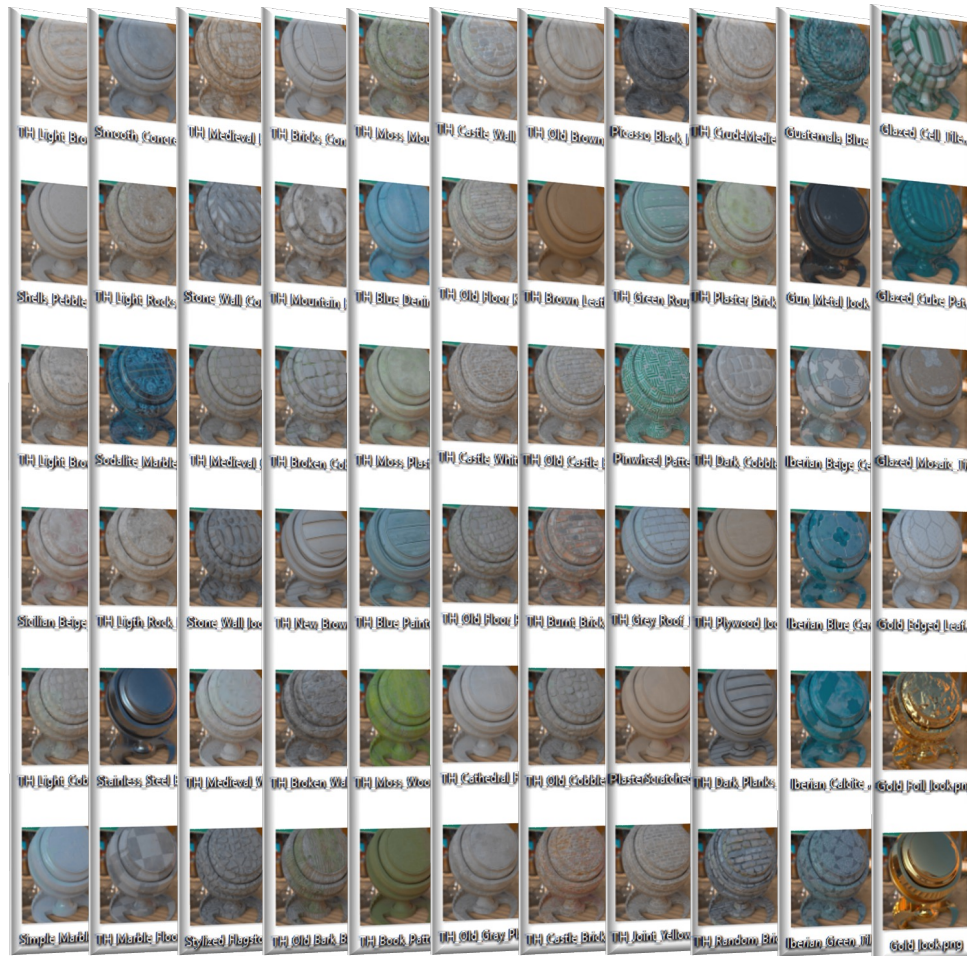
Export

Render



Results

- Maps core features
- Test set of 350+ materials
- Presented at ASWF Open Source Days
- Reusable pipeline assets
- Roadmap for Internal & Open Source contribution



Learnings and Takeaways

- Deep engagement with state-of-the-art
- Collaborated with key contributors
- Hands-on with many repositories
- Contributing to Autodesk products

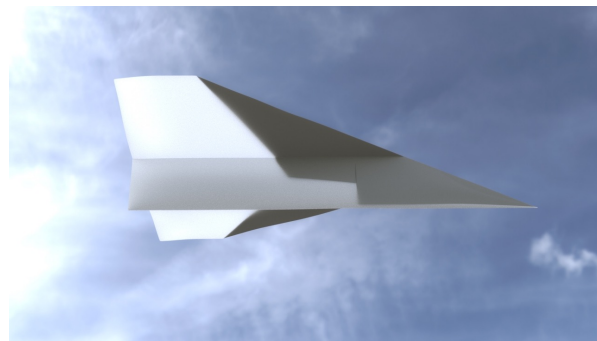
Thank You!

Sankar Ganesh, Manager

Nicolas Savva, Mentor



Standard Surface "Thin Film", Autodesk



Standard Surface Diffuse Transmission, Autodesk