IPackThat Batch File

This document is about the batch operation capabilities of the tool IPackThat. With a small XML file the user can auto-pack numerous meshes and output them to different locations.

XML File file overview

The extension of the file should be .xml

```
<IPackThatStartUp>
	<MeshData>
		<Files>
			<Config>
				<UVChannel>
					<ImportOptions/>
					<SceneOptions/>
					<PackingOptions/>
				</UVChannel>
			</Config>
		</Files>

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			</Config>
		</Files>
	</MeshData>

	<MeshData>
	</MeshData>

</IPackThatStartUp>
```

IPackThatStartUp

Main header notation to identify as batch XML file. Only one time allowed

Possible properties

NoGui true/false

- if true the tool will start in task-bar, no UI will be started.
- If false the UI will be started, good for see whats going on

SaveComparsionImage true/false

- if true a comparison image (png) will be saved to the output roots to check the result (before/after)

Example

```
<IPackThatStartUp NoGui="true" SaveComparsionImage="true">
```

MeshData

Data block for defining root in and out and multiple files in the defined input root. Can be added multiple times for more in- and outputs.

Possible properties

RootIn directory

- input directory for loading the following defined mesh files (see Files definition)

RootOut directory

- output directory for the packed mesh files

Example

```
<MeshData RootIn="d:\_Test\_UVBinPacking\" RootOut="d:\_Test\_UVBinPacking\Result\">
```

Files

A mesh file that needs to be packed. Can be added multiple times for more meshes.
Valid extensions are *.obj, *.fbx, *.3ds, *.dxf and *.dae

Possible properties

Filename file name with extension

- the mesh file name to be packed.
- will be loaded relative from the defined parent MeshData RootIn
- it will look for the file inside the defined root only (for a sub directory define another MeshData)

SkipMeshConfig true/false

- if true it will skip a previously saved and defined mesh file config (can be saved for each mesh individually inside IPackThat itself) and use the following definitions

Example

```
<Files Filename="AutoPackTest.FBX" SkipMeshConfig="true">
```

Config

Config block for defining language and holds the different options per UV channel.

Possible properties

Language English / 日本語 (Japanese) / Türkçe (Turkish) / Norsk (Norwegian)

- only of use if NoGui inside IPackThatStartUp block is set to true.

Example

```
<Config Language="English">
```

UVChannel

UVChannel block for defining packing options per UVChannel. Can be added multiple times for different UV Channels. First channel block is first found UV Channel inside mesh, second channel block is second found UV Channel inside mesh etc pp.

Possible properties

SkipChannel true/false

- skips the packing for this UV channel if set to true

Example

```
<UVChannel SkipChannel="false">
```

ImportOptions

Options for defining how the mesh will be imported.

Possible properties

`ContainsBakeOffsets` true/false

- offset polygons will be marked and removed to x + 1 on save
- **not implemented in current build. Will be added shortly !!**

MoveBounds true/false

- if true move UV shells not within 0-1 space back inside

SplitByMesh true/false

- if true splits UV by Mesh, no overlaps will be searched between those meshes

SplitByMaterial true/false

- if Splits UV by Material, no overlaps will be searched between different materials
- property won't be used in current build. Will be added shortly

AllignGrid true/false

- if true align all splits to fill the UV Area (better visibility if they overlap)

Example

```
<ImportOptions MoveBounds="false" SplitByMesh="false" SplitByMaterial="false" AllignGrid="false"/>
```

SceneOptions

Scene options for defining texture resolution and aspect ratio.

Possible properties

Resolution texture size in pixel
- texture width in Pixels

AspectHeight 1 / 2
- height Ratio

StretchArea true/false
- stretch the UV shells when changing aspect ratio

Example

```
<SceneOptions Resolution="2048" AspectHeight="1" StretchArea="false">
```

PackingOptions

Options for defining how the mesh will be imported.

Possible properties

`MarginClusters` 1 - 64
- defines the minimum distance between each UV-Cluster (in texels)

MarginBorder 0 - 64
- defines the minimum distance the UV-Clusters should have to the border (in texels)

StepSize 1 -64
- lower values will result in longer search times but are more accurate (in texels)

CanRotate true/false
- maximum number of iterations
(0 = infinite until stopped manually)

AutoSave true/false
- if true align all splits to fill the UV Area (better visibility if they overlap)

MaxRunCount 0 - 65
- maximum number of iterations
- (0 = use maximum of 65 iterations)

DesiredUsedArea 10.0 – 100.0
- if this percentage of coverage is reached, the packing will automatically stop

Example

```
<PackingOptions MarginClusters="4" MarginBorder="0" StepSize="32" CanRotate="true" AutoSave="false"
MaxRunCount="3" DesiredUsedArea="95" />
```

Final Example

```
<IPackThatStartUp NoGui="true" SaveComparsionImage="true">
  <MeshData RootIn="d:\_Test\_UVBinPacking\" RootOut="d:\_Test\_UVBinPacking\Result\">
    <Files Filename="AutoPackTest.FBX" SkipMeshConfig="true">
      <Config Language="English">
        <UVChannel SkipChannel="true"/>
        <UVChannel SkipChannel="false">
          <ImportOptions MoveBounds="false" SplitByMesh="false" SplitByMaterial="false" AllignGrid="false"/>
          <SceneOptions Resolution="2048" AspectHeight="1" StretchArea="false" />
          <PackingOptions MarginClusters="4" MarginBorder="0" StepSize="32" CanRotate="true" AutoSave="false" MaxRunCount="3"
DesiredUsedArea="95" />
        </UVChannel>
      </Config>
    </Files>
    <Files Filename="Rif_Calderaner_01.obj" SkipMeshConfig="true">
      <Config Language="English">
        <UVChannel SkipChannel="false">
          <SceneOptions Resolution="4096" AspectHeight="2" StretchArea="true" />
          <PackingOptions MarginClusters="8" MarginBorder="0" StepSize="32" CanRotate="true" AutoSave="false" MaxRunCount="1"
DesiredUsedArea="95" />
        </UVChannel>
      </Config>
    </Files>
  </MeshData>
</IPackThatStartUp>
```