features

- Automatic bump map texture generation and mapping.
- Creates a 3D OpenFlight surface from a decal texture.
- Allows custom paint-brush style surface modifications.
- Plug-ins compatible with Multigen Creator v 3.0 or better.
- Outputs a variety of images for bump mapping or parallax mapping.
- Exports high fidelity correlated data for use in a terrain query.
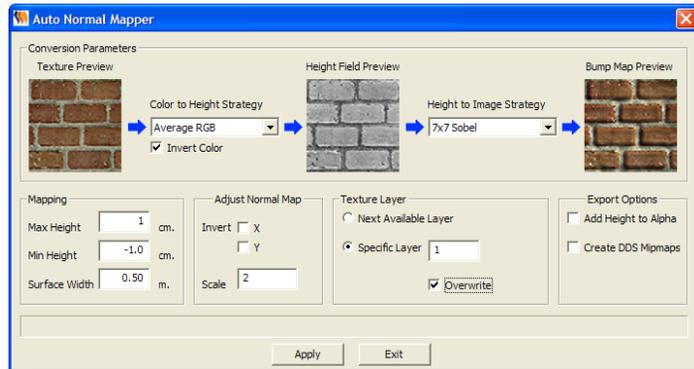
SimSurface

Realtime Technologies has a full-featured height field editor and a complete NURBS surface generation toolset. The tools output both a terrain query surface representation and a visuals representation, to offer maximum artistic flexibility.

Once the surface files are generated, they are simply mapped to an OpenFlight database in the same manner as decal textures, so that modelers proficient in Creator can quickly and easily begin adding high frequency content to existing OpenFlight databases. For a completely automated solution, the Auto-Normal Mapper tool will generate height fields for all textured polygons in the database and apply them automatically as a secondary texture layer.

Decal   Height Field   Result
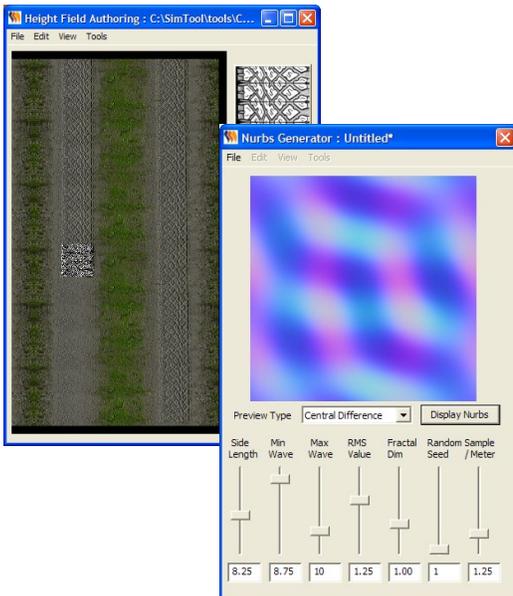
Left: Height field Editor.
Right: NURBS Surface Generator.
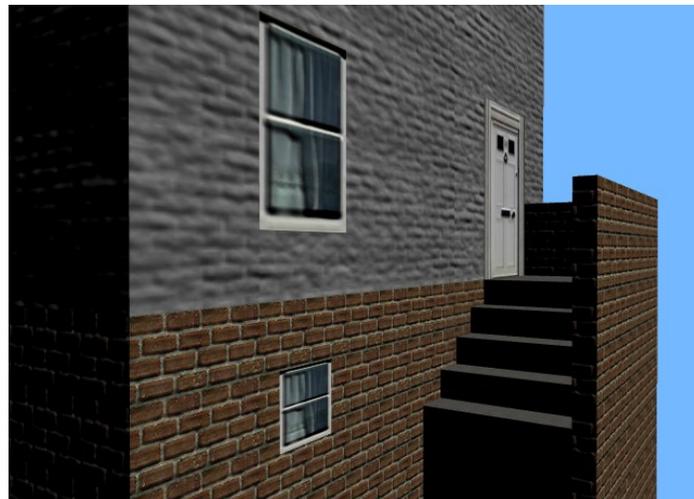
Top: Auto Normal Map Generator.
Bottom: Bump maps generated for an apartment building.

High Frequency Surface Overview

High frequency surfaces augment the polygonal terrain representation by providing detail that would be too expensive to model explicitly. These surfaces fall into two broad categories – height fields and parametric surfaces. Height fields model high frequency terrain by explicitly storing height value offsets and surface normals in a texture map, which may be mapped to polygonal terrain in the same manner as a decal texture.

Original Terrain.

Parametric surfaces (e.g. NURBS surfaces) are mapped similarly, but use texture coordinates as inputs to a parametric surface, rather than a texture map.

Both approaches ultimately output height offsets and surface normals, augmenting an existing terrain query to add high frequency detail (e.g. a gravel road) to an otherwise flat polygonal terrain model.

Terrain with bump map textures applied.

Original building.

Bump map textures applied.

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