

# A Parallelised Skeleton Sandbox

## Read Me

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This distribution contains a version of Skeleton Sandbox, which has been modified to make use of multiple processors during curve skeleton computation. It is based on the original **Skeleton Sandbox** by Dennie Reniers, but lacks some of its features.

## 1 Compiling the software

The following software is required to compile this program. Other configurations may work but have not been tested:

- Visual C++ 2010 (any edition)
- **Windows SDK 7.1**
- **Boost 1.49.0**
- **wxWidgets 2.9.3**
- When working with Visual Studio 2010 SP1, **this update** may be required.

When the above software has been downloaded and/or installed, follow the following steps:

1. Extract the contents of this distribution to some folder, let's call it **skeleton\_root**.
2. Extract Boost and wxWidgets to the folders **skeleton\_root\Boost** and **skeleton\_root\wxWidgets**, respectively. If the archive contains a single folder use the contents of that folder.
3. Compile wxWidgets:
  - (a) Open a Windows SDK 7.1 Command Prompt.
  - (b) Navigate to the folder **skeleton\_root\wxWidgets\build\msw**.
  - (c) Execute the following commands:

```
setenv /Release /x64
nmake -f makefile.vc BUILD=release TARGET_CPU=AMD64
```

This creates a static 64-bit release build. To create other builds see the **setenv** and wxWidgets documentation.

4. Open **skeleton\_root\SkeletonSandbox\SkeletonSandbox.sln** in Visual Studio.
5. Check if the Solution Configuration is set to Release and the Solution Platform is set to x64. Other configurations will require a matching wxWidgets build.
6. Compile by hitting the Build Solution button. If compilation fails during the linking step this may be because of multi-threading issues in Visual Studio itself, try hitting the Rebuild Solution a few times.

## 2 Running the software

When the program has been compiled it can be run using the following steps:

1. Make sure the `lua52.dll` library (included in the `skeleton_root\Lua` folder) can be located by the program, for example by copying it to the same folder as the executable.
2. Start the `SkeletonSandbox.exe` executable, located in the `skeleton_root\SkeletonSandbox\bin` folder.
3. Select Skeletonize from the File menu.
4. Select a volume file to use. The `skeleton_root\Data` folder contains the volumes used for the thesis “Fast and Robust Extraction of Curve Skeletons from Voxel Models”.
5. Hit the OK button. After some time a few layers should appear in the layer set on the right. Tick the check boxes to view them.