ReadMe

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**PUBLICATION** : This repository contains the source code of the applications used in the following paper;

Takashi Ijiri, Hideki Todo, Akira Hirabayashi, Kenji Kohiyama, Yoshinori Dobashi. Digitization of Natural Objects with Micro CT and Photographs, submitted to PLoS ONE.

Please refer this paper when you use codes in this repository in your publication.

**LICENSE :** These codes are released with GNU GPL v3.

**3RD PARTY MATERIAL**: This software uses the following 3rd party libraries.

(\*) Eigen :

released under MPL2.0

Visit http://eigen.tuxfamily.org/index.php?title=Main\_Page#License for detail.

Visit each file for its copyright.

(\*) The OpenGL Extension Wrangler Library (GLEW) :

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Visit http://glew.sourceforge.net/credits.html for detail

Visit https://github.com/nigels-com/glew#copyright-and-licensing for detail.

**EXPOSITION : (see the paper in detail)**

We list the applications in this repository below;

* TextureReconstruction folder (VisualStudio2015)
  + **TexMapper** is an application to search the camera position relative to the 3D model by adopting silhouette matching.
  + **TexMapperViewer** is an application to visualize the matching results.
  + **TextureGenerator** is an application to compute 2D texture from a 3D model and photographs with camera position computed with TexMapper.exe.
* **GraphCut2D** is an application to segment 2D photograph by using graph cut segmentation algorithm. (VisualStudio2015)
* **TextureSynthesisOnSurface** is an application to perform texture synthesis to fill holes in a texture atlas computed by TexGenerater that were caused by occlusions. (VisualStudio2015)
* **ThickenTexAtlas** is an application to thicken texture atlas generated by TextureGenerator and TextureSynthesisOnSurface, which is necessary to avoid artifact on seam of a texture atlas. (VisualStudio2017)