3DTK – The 3D Toolkit

The image depicts how our robot Irma3D sees itself in a mirror. The laser looking into itself creates distortions as well as changes in intensity that give the robot a single eye, complete with iris and pupil.

Thus, the image is called "Self Portrait with Duckling".

Prof. Dr. Andreas Nüchter

3DTK – The 3DToolkit

- Toolkit means
 - ...it is no library!
 - ...set of programs that perform a certain job



- GNU GPLv3 license with a few additional restrictions
- Same code may be licensed in some other ways as we are the sole authors and copyright holders of the work.

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3DTK – The 3DToolkit



Non-OpenSource

· our crown jewels

- · slam6d
- · show
- scan_red
- · featurebasedree
- · scanner/camera
- · and much much

User specific applications

BSD or similar license models

...that allow the lib to be used in commercial software

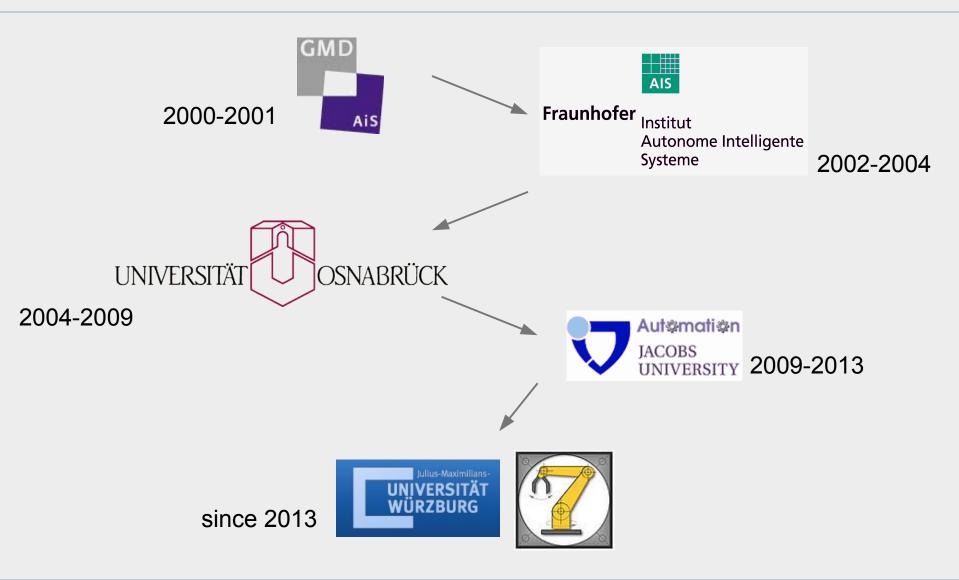
- · Boost, ROS, newmat, OpenGL, freeglut, glui, csparse, ...
- · OpenCV

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History



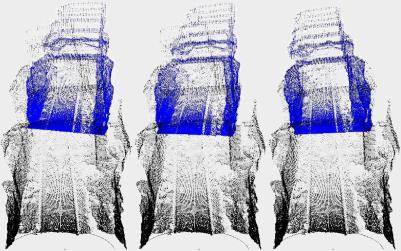


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Background – SLAM/Robotics

CMU 3D mapping of abandoned mines





(video)

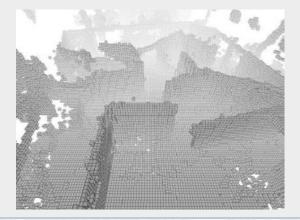
RoboCup Rescue







(video) (video)





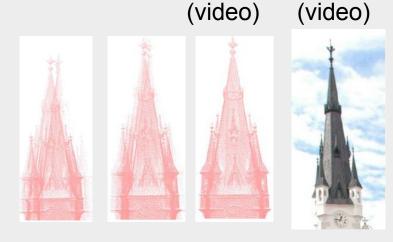
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Processing of Professional 3D Laser Scans

- Terrestrial 3D Scanning
- Terrestrial & Mobile Mapping









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