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Slicer3 Based Surgical Robot Console System

abstract:

We propose a Slicer 3 based robot console system for image guided surgery.

Considering the image guided surgery, since image workstations have complex User Interface (UI) and extra functions, it is supposed that such UI is not suitable for surgeon.

The proposed robot console is designed as a simple GUI, which is composed an endoscope video image, overlaid sensor data, and a simple image to guide the surgery.

Therefore, the surgeon can concentrate the operation itself.

On the other hand, since it is based on Slicer3, there are some advantages using abundant image operation functions and a flexibility of tool connections utilizing OpenIGTLink protocol.

In addition, the video image is captured utilizing OpenCV. Therefore, the proposed system configuration is expected applying trucking function, not to mention camera carlibration easily.