MatlabQtVTK

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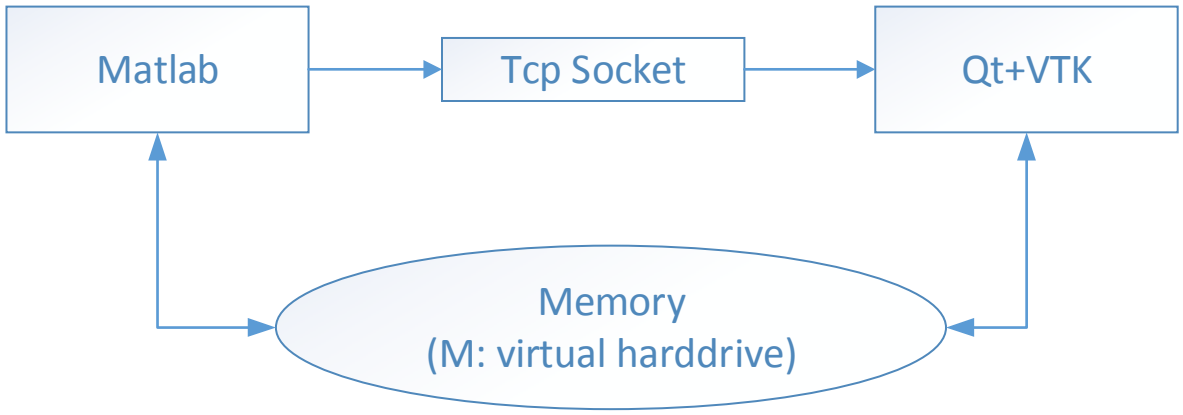
1. How it works:

There are two independent processes: Matlab, and Qt+VTK (C++), and a virtual hard drive M:

The user writes some code in Matlab (e.g., to plot a line), and press "F5"

Matlab sends a signal to Qt+VTK program via Tcp Socket, and writes task files to a folder in the virtual hard disk (M:). In the task folder, there are usually two files: one is task.json file to tell Qt+VTK to execute a command, and the other is data file.

Qt+VTK receives the signal, and reads the task files, and follows the command.



2. Compare to matvtk from http://www.cir.meduniwien.ac.at/matvtk/

	MatlabQtVTK	MatVtk
Communication between Matlab and Qt+VTK	TCP is used to send signals. Data and task descriptions are stored in virtual disk (memory).	TCP is used to transfer data and command. A special protocol is designed to send/receive command.
Translation between Matlab Command to VTK Function	It is done by using json file. There is no restriction on the content: a function in VTK can be described in a json file.	A fixed command structure is used. (It cannot represent all the functions in VTK.)

3. What it can do:

I have used it to show DICOM 3D images and plot 3D meshes of heart.