## Proposal for “Questions” of questionnaire

Definitions:

* Task type: Identifications, classifications, …
* Task: average metric identification (FA or MD), orientation identification, etc.
* Question: the specific question actually used in the questionnaire

**Practical considerations**:

* We assume we can’t add primitives in CGV. (box, dots, etc)
* It is more convenient not to use CGV directly in the questionnaire. Instead, to use 2D images. This way we can also use Mac systems (including Alaleh’s)

The paper’s choice of task types and tasks is used here.

## Ensemble Average

1. Base question: “What is the average **FA** and **MD** value of the tracts?”
   1. Description:
      * + We could put pictures for each color-maps and show them.
        + Then ask the user to estimate the average FA and MD.
        + For convenience, we can replace the slider. We can just put the color-bar and quantize it. Then allocate some labels like A,B,C … and ask the user to write the answer in the box.
   2. Results:
      * + For FA and MD: We can compare them first for FA itself, and MD itself. Then compare the FA and MD together.
   3. Number of questions:
      * + For each available scalar color mappings we should do it.

Exactly the same region of the brain. Two picture: one for FA and one for MD.

* + - * For each choice of FA and MD, few samples (regions of the tractography) to increase reliability of the results.
      * For this task: We should crop the segment of the tracts like the one in the paper then calculate the average (**can we?**)
      * Final number: 2 (FA/MD) \* (number of available scalar color mappings) \* (number of samples for each choice of metric (FA/MD) and color map)  
        example: 2 \* 4 \* 4 = 32

# Ensemble Orientation

Base Question:

* 1. Description:
     + - First take the pictures from the colormaps.
       - Then we could divide the picture into several parts (like a puzzle).
       - Ask the user to order them by following the tracts.
       - Record the time duration
  2. Results:
     + - According to the time, we can figure out which color-mapping is better and identifiable.
* **Number of questions and duration:**

I checked it if we do these 2 tasks, it can take about 40 min. And more than that would not be reasonable. And the first one have a lot of information for us and it is enough I think.