

Fourth PMT meeting on the EADC-ADNI Harmonization of Protocols for Hippocampal Segmentation

Wednesday, November 30, 2011

Participants:

Giovanni B. Frisoni	(GBF)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Marina Boccardi	(MB)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Martina Bocchetta	(MBocch)	– IRCCS S. Giovanni di Dio - Fatebenefratelli, BS, Italy
Clifford R. Jack	(CJ)	– Mayo Clinic, Rochester, MN, USA
Simon Duchesne	(SD)	– Laval University, Québec City, Canada
Lennart Thurfjell	(LT)	– GE
Gunnar Krueger	(GK)	– Siemens

Dr. Duchesne shows the web-platform for tracers Qualification. It is finished, except for images, benchmark reference and final logic for computation.

Who will authorize the users, and how this issue can be resolved with ADNI-LONI, need to be defined.

Users can download MultiTracer and images on their own pc, trace them and then upload the ucf files for the computation.

The idea is that they can train on a sample of images few times and when they will reach an acceptable expertise, they can learn and Qualify (only once).

It needs to be defined how often they can train and if they can use the same sample of images.

They can verify their training by three different metrics: global volume/area; overlapping area; contours distance from the mean of the 5 Master Tracers.

For the Qualification, the feedback refers only to “numbers” (global volume), thus the user cannot visualize his performance. User can only visualize the Master mean contours.

Dr. Jack asks the requested time to get the Qualification feedback. The system will take 20 minutes.

Dr. Jack, dr. Duchesne and dr. Krueger discuss about the criteria for humans and for automated algorithms Qualification, wondering if “global volume computation” will be sufficient for the Qualification of both. “Local distance computation” may introduce a bias due to different screens and operative systems visualization.

Dr. Frisoni claims that the very urgent issue that needs to be soon faced is the definition of thresholds and criteria for Qualification. They would be better defined *a priori* and they can be adjusted and verified from the first 10 Naïve tracings. A possible solution can be the following: to be acceptable, a tracing volume (globally and slice by slice) needs to be included between the minimum and the maximum volume of the 5 Master tracings; locally, a tracing will be rejected if its summary area exceeds the 10% of the total Master contour area (i.e. too red lines defined by the distance difference from the mean contour).

Dr. Duchesne will prepare a flow-chart of the possible solutions and we will discuss how to implement it.

Dr. Frisoni will develop a draft, that will be circulated, regarding the policy of data exploitation and sharing among the same participants in the context of our project.

The next TC is scheduled for December 21, 2011 from 4 pm to 5 pm CET.