Cognitive State Representation and Visualization of Human Brain

Simple Labs / 11.05.2014
Iteration Report III

Introduction

As Simple Labs, we completed some tasks which belong to this iteration. The detailed information about this iteration and tasks are given below.

Iteration III

Task 1: Semitransparent brain modeling

During this iteration we have examined different data sets and we have decided to remove this task; because the model of the brain obtaining from fMRI data do not have the shape of the brain <u>exactly</u>. Due to this situation, it will be very hard to place a semi-transparent brain model behind the voxels & edges.

Task 2: GUI

Previous GUI implementation is renewed for the reusability of GUI and a better look. The implementation of the classes are completed and a simple GUI is prepared with the default unity tools and skin. Additionally we have started searching Unity GUI skins which will be deployed for a better look during the next iteration.

Task 3: Processors

Duration of this task includes this iteration and the next one. There are 4 main processors implemented during this iteration:

- **Normalization of intensities within a range:** This filter normalizes the intesity values of voxels and edges within a range [m,n].
- **Brain transformations:** This filter rotates and/or translates the brain as a whole.
- **Edge average-intensity processor:** This processor eliminates the edges having less intensity than the average intensity of all edges.
- **N max edge processor:** This processor finds n edges which have the max intensity values and eliminates the others.

Task 4: Regioning

We have started implementing "regioning", however we need to be in contact with the image processing laboratory assistants for this task, therefore the time required for this task is held over.

Conclusion

As of third iteration ends, we have removed the task "semi-transparent brain modeling". Besides we have a small part of GUI as incomplete which will be completed in a couple days and also regioning is remaining as incomplete and it will be completed in next iteration. Our plans on next iterations will continue as written before.