From: "David Van Essen" <vanessen@brainvis.wustl.edu>
Subject: **File format suggestions - in preparation for GIfTI Conference Call October 18th, 3pm EST**
Date: October 14, 2005 12:48:56 PM EDT
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Colleagues,

In preparation for next Tuesday's (Oct 18) conference call, our group would like to propose a specific format for XML-based representation of surface geometry. It includes separate components that specify coordinate locations and topology = tiling information (which is important for Caret), but these can be considered part of a single geometry file for applications that treat these as inseparable. The examples appended below include several types of metadata that we consider especially important.

Also appended are examples for two XML file types that represent node-specific attribute data. The 'metric' file format includes a specified number of real-valued attributes for each node - one value for each 'column' of data. The provision of including separate metadata entries for each column is very important in our view. In the 'RGB paint' file, each 'column' includes a set of RGB assignments for each node in the surface.

We converged on these particular formats after discussions among John Harwell, James Dickson, Donna Hanlon and me, after considering constraints and issues that are important from our Caret-oriented perspective, but hopefully with a fair amount of generality. We hope that this will help bring the general issues into sharper focus in the conference call discussion.

>
> I was about to send you the information for joining the conference
> call but got stopped just before pressing the send button. Some issue
> came up that has to do with toll free numbers and international calls.
> I'll be sending you the proper calling information once all is
> resolved.

Ziad - what are the final details regarding the call?

Best regards,

David VE

=====

```
<?xml version="1.0"?>

<!------------------------------------------------------------------>
< A coordinate file with 52890 nodes. >
<!------------------------------------------------------------------>
```

```
<Points>
<MetaData>
<Name>Fiducial Coordinates</Name>
<Date>Fri Sep 2 13:01:02 2005</Date>
<Hemisphere>Right</Hemisphere>
<Space>711-2C</Type>
<Type>Fiducial</Type>
<Comment>the coordinates comment</Comment>
</MetaData>
<DataArray dimensions="52890,3" type="Float32" format="ascii">
<Data>
136.004  151.557  50.5002
137.548  151.919  50.4257
139.639  136.782  52.2743
...
...
168.32  110.469  192.869
176.747  111.281  192.869
179.018  111.927  192.615
</Data>
</DataArray>
</Points>
```



```
<!------------------------------------------------------------------>
<! A Topology File with 105780 triangles. >
<!------------------------------------------------------------------>
<Topology dimensions>
<MetaData>
<Name>Closed Topology</Name>
<Type>Closed</Type>
<Comment>the topology comment</Comment>
</MetaData>
<DataArray dimensions="105780,3" type="Int32" format="ascii">
<Data>
0  25217  25237
0  25237  25291
...
...
17729  52819  52817
17729  52817  52854
</Data>
</DataArray>
</Topology>
```



```
<!------------------------------------------------------------------>
<! A metric file with 52890 nodes and 4 columns. >
<!------------------------------------------------------------------>
<Metric>
<MetaData>
<Name>Vision Test</Name>
<Comment>comment for the metric file</Comment>
```

```
</MetaData>

<DataArray dimensions="52890" type="Float32" format="ascii">
<MetaData">
<Name>Column 1</Name>
<Comment>column 1's comment</Comment>
</MetaData>
<Data>
136.004
137.548
139.639
...
...
168.32
176.747
179.018
</Data>
</DataArray>

<DataArray dimensions="52890" type="Float32" format="ascii">
<MetaData">
<Name>Column 2</Name>
<Comment>column 2's comment</Comment>
</MetaData>
<Data>
136.004
137.548
139.639
...
...
168.32
176.747
179.018
</Data>
</DataArray>

<DataArray dimensions="52890" type="Float32" format="ascii">
<MetaData">
<Name>Column 3</Name>
<Comment>column 3's comment</Comment>
</MetaData>
<Data>
136.004
137.548
139.639
...
...
168.32
176.747
179.018
</Data>
</DataArray>

<DataArray dimensions="52890" type="Float32" format="ascii">
<MetaData">
<Name>Column 4</Name>
```

<Comment>column 4's comment</Comment>
</MetaData>
<Data>
136.004
137.548
139.639
...
...
168.32
176.747
179.018
</Data>
</DataArray>

</Metric>

<!-->
<! Equivalent to a Caret RGB Paint File with 52890 nodes and 2 columns
named >
<! Geography and Sulci. Note: third dimension is for the Red, Green,
and Blue >
<! components. Data is base 64 encoded binary. >
<!-->

<RGBPaint>
<MetaData>
<Name>RGB Paint</Name>
<Comment>comment for the metric file</Comment>
</MetaData>

<DataArray dimensions="52890,3" type="UChar8" format="base64">
<MetaData>
<Name>Geography</Name>
<Comment>RGB of Geography</Comment>
</MetaData>
<Data>
377F0981AE4B...
</Data>
</DataArray>

<DataArray dimensions="52890,3" type="UChar8" format="base64">
<MetaData>
<Name>Sulci</Name>
<Comment>RGB of Sulci</Comment>
</MetaData>
<Data>
377F0981AE4B...
</Data>
</DataArray>

</RGBPaint >