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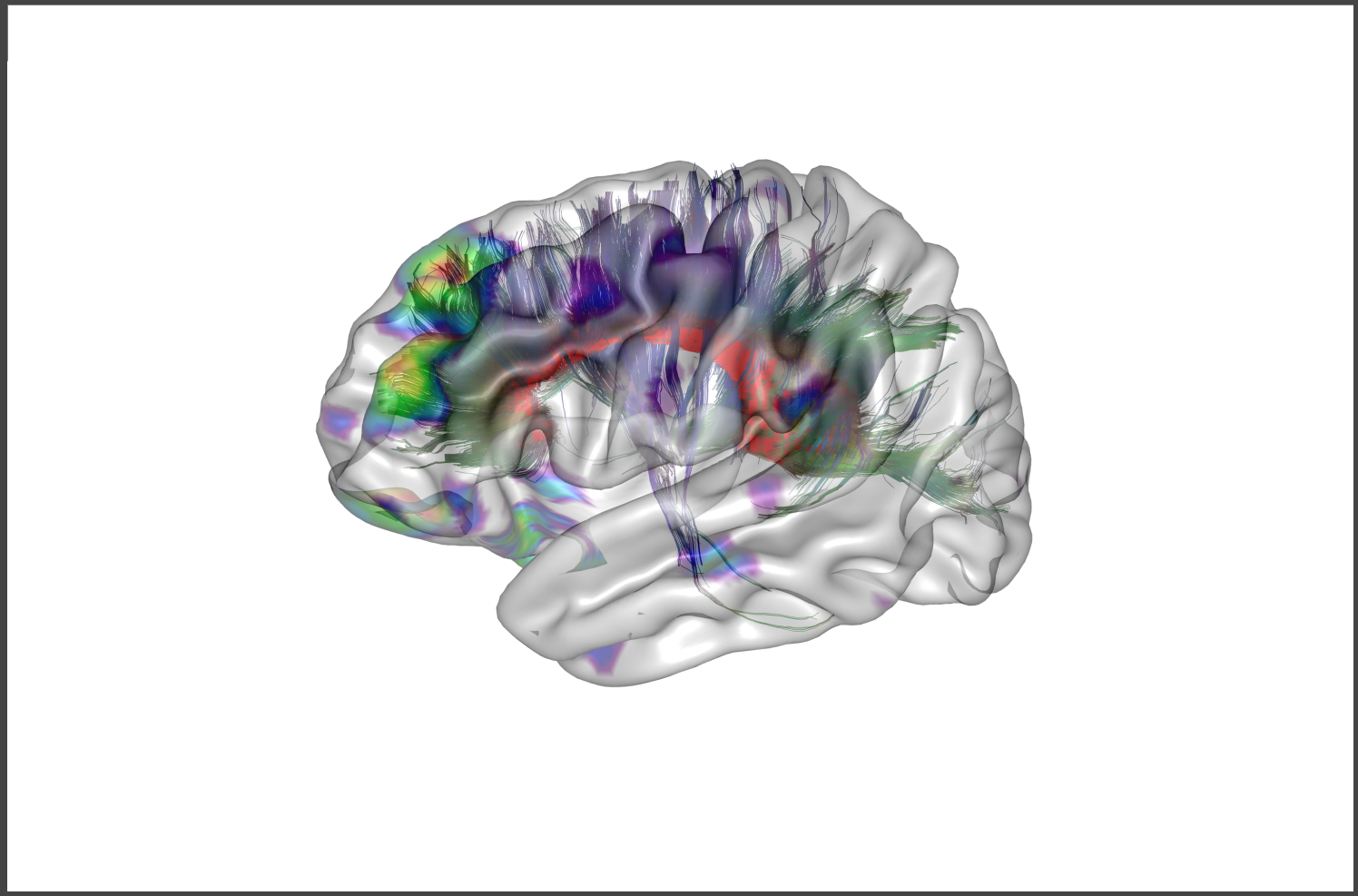
BrainBrowser



Brain Exploration on the web

The Problem

- Providing access to large datasets internationally and without unnecessary data replication
- Achieving low-requirement web-based workflow
- Providing new features not available in current tools

What is BrainBrowser

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BrainBrowser is a open source, web-based brain imaging visualization toolkit that runs mainly as client-side javascript.

Technology used

- WebGL
- O3D library
- HTML5 FileAPI
- Typed Arrays and Array Buffer
- Canvas for 2D

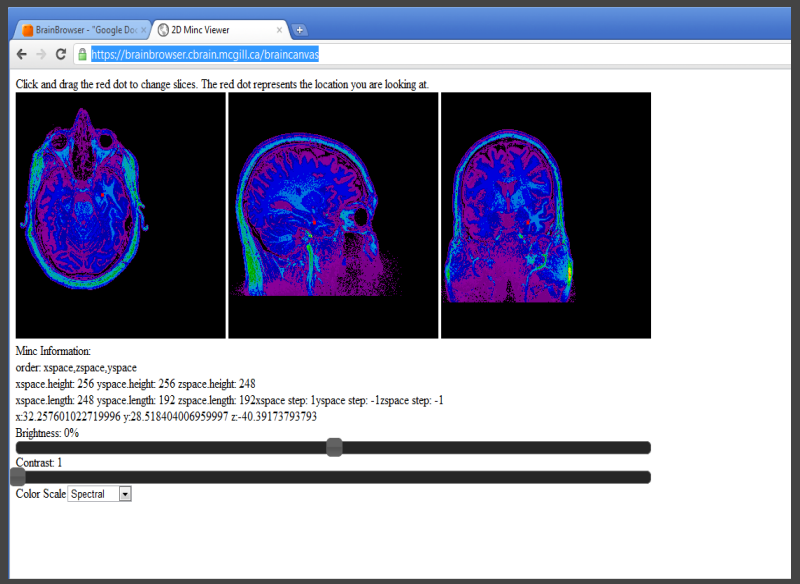
Surface Viewer and MACACC Dataset

Example use:

- Mapping anatomical correlations across cerebral cortex
- Functional MRI
- DTI
- 2D MRI Volume viewer

MRI Viewer

- 2D view of MRI Volumes
- Allows viewing 4D volumes (x,y,z and time)
- Built using the Canvas API
- Full resolution (upgrade from previous tool)
- Loads full MRI volume into browser allowing for fast slice viewing and cross section at any angle. (Using xmlHttpRequest and Array Buffers).



Getting Binary data with async request.

```
var xhr = new XMLHttpRequest();
xhr.open('GET', volume_url, true);
xhr.responseType = 'arraybuffer';

xhr.onload = function(e) {
  var uInt8Array = new Uint8Array(this.response);
  ...
};

xhr.send();
```

Modified From: http://www.html5rocks.com/en/tutorials/file/xhr2/#toc-reponseTypeArrayBuffer

Live Examples

More Info

Web Site: http://brainbrowser.cbrain.mcgill.ca
Email: nic.kassis@gmail.com