

BrainBox: A co-editing platform for neuroimaging data.

Katja Heuer^{1,2}, Satrajit S Ghosh¹,
Amy Robinson Sterling³ & Roberto Toro⁴

katjaheuer@mail.com, rto@pasteur.fr
¹ Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany
² MIT, Cambridge, United States of America
³ EyeWire, Cambridge, United States of America
⁴ Institut Pasteur, Paris, France

Motivation

Data sharing is a great first step. However, one key challenge remains: its curation, editing and analysis are still done locally and redundantly – reducing the amount of data we are able to edit and finally analyse. BrainBox is a co-editing platform for neuroimaging, similar to Wikipedia or Google Docs. It facilitates the creation of distributed teams of researchers collaborating in the analysis of open data – promoting a community effort instead of competition.

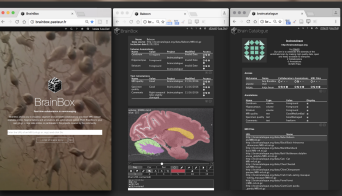


Fig 1. BrainBox. A Take any link to shared data for example from Zenodo, FigShare, or even Dropbox, paste it on BrainBox and visualise it online. B annotate it or C collect it into projects where you can add collaborators and define access rights.

Results

Our Web app makes it easy to work with shared brain imaging data directly online: Discover and visualise it, collaboratively curate and annotate it, connect research teams and manage access rights. BrainBox allows users to view data in a stereotaxic viewer or to compute and visualise a 3D model from segmentations. Users can collaboratively create or edit several multi-colour volume and text annotations for each MRI. They are updated in real-time and let users see joint progress with all connected users. Collect data into projects, add collaborators, define access rights and set project-specific annotations. The connection with MetaSearch allows users to find all MRI data relevant to them for use in BrainBox.

Public user pages keep track of all projects which a user has created or those in which they collaborate and become a way to discover new data and projects.

No data has to be downloaded or stored, no software has to be installed, and it will be possible to recruit a large, distributed group of collaborators online.

Conclusion

BrainBox brings real-time collaboration and co-editing to neuroimaging and all you need is just a Web browser. As the amount of publicly available data grows, platforms such as BrainBox will allow increased collaboration, more effective hypothesis testing, and improved reproducibility.

Join us!

 <http://brainbox.pasteur.fr>
<https://github.com/openneurolab/BrainBox>

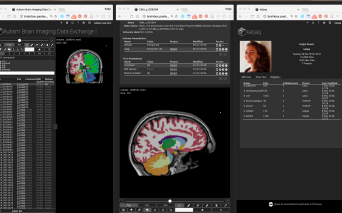


Fig 2. BrainBox. A Project page with the list of MRIs, the defined text annotation fields and the provided volume annotations. B An MRI page with the available segmentations (here Freusser; 48 segments) and text annotations (Comments, MRI Quality, Motion Artifacts). C A user page with MRI and atlas files added by this user and projects that this user has created or collaborates in.

Many thanks to

