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Brainomics - A management system for exploring and merging heterogeneous brain mapping data

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Introduction
● Number of large datasets for brain mapping have been released [1, 2].
● Neuroimaging datasets more routinely include clinical data or genetics data.
● Exploitation requires
  ➔ An efficient organization to integrate all the measures
  ➔ An easy access to the relevant information.
● Neuroimaging [3] and genomics[4] databases are dedicated to their own field of research.

Data model
✔ Described in Python, using reusable modules called “cubes”.
✔ Modelisation of Scans, Questionnaires, Genomics results, Behavioral results, Subjects and Studies information.
✔ Data model optimized for large volumes (> 2000 subjects).
✔ Tested with several publicly available datasets [1, 2].

Conclusion
✔ Open source solution to manage brain imaging datasets and associated meta data.
✔ Powerful querying and reporting tool, customized for emerging imaging-genetics field.

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