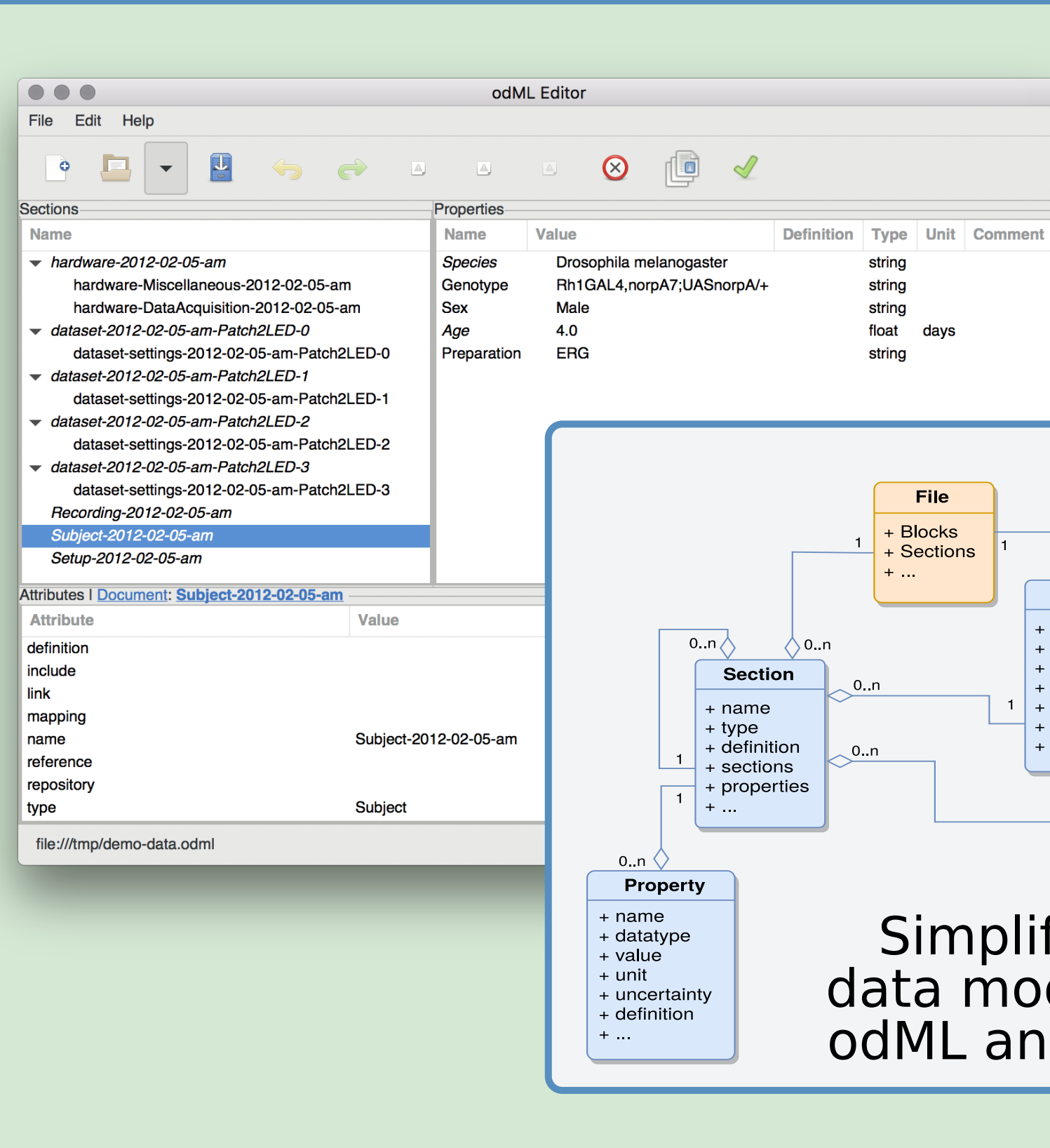


Maintaining reproducible data workflows while keeping data in sync, backed up, and easily accessible from within and outside the lab is a key challenge in research. To minimize time and effort invested in these tasks scientists have to spend on these tasks, we provide a suite of tools designed for comprehensive, reproducible and versioned management of scientific data.


Organize and Store Data and Metadata

odML: Manage all information about an experiment

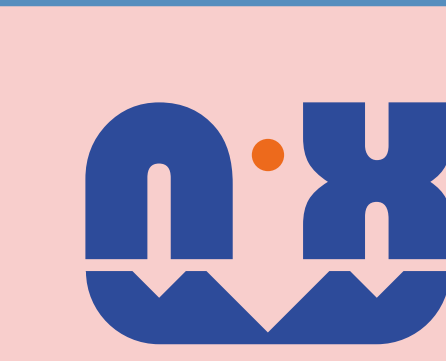
NIX: Manage data and metadata in one versatile format



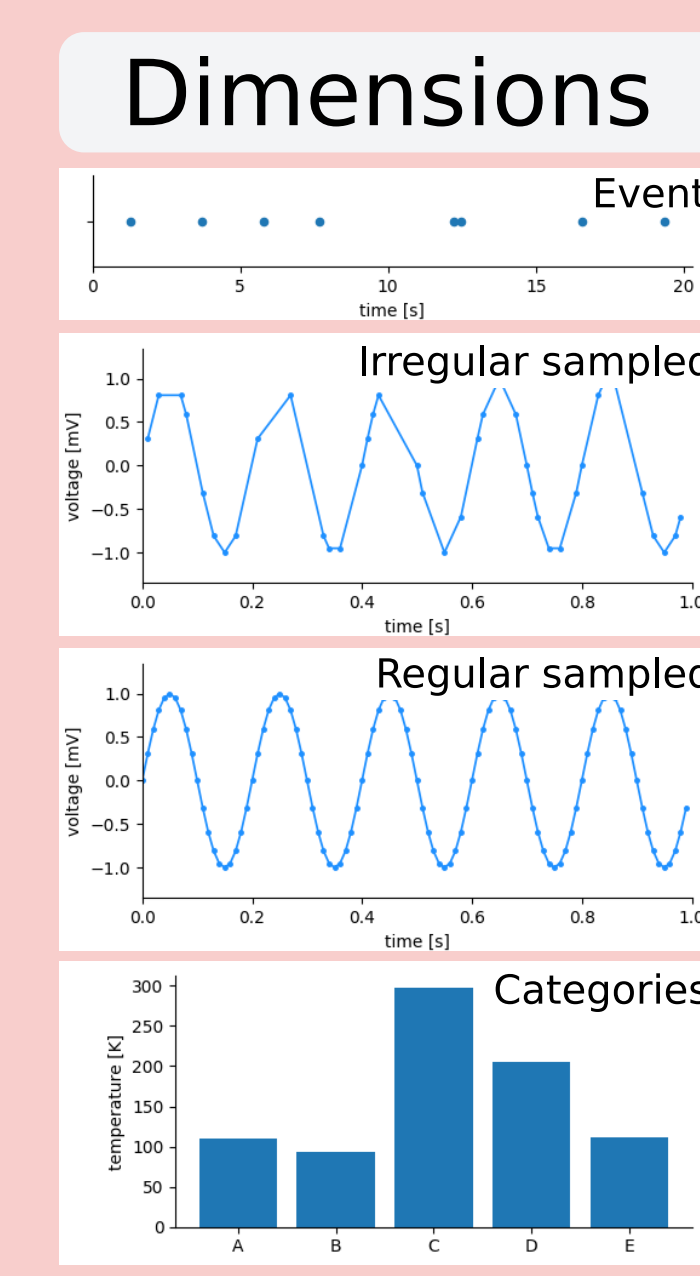
odML Editor



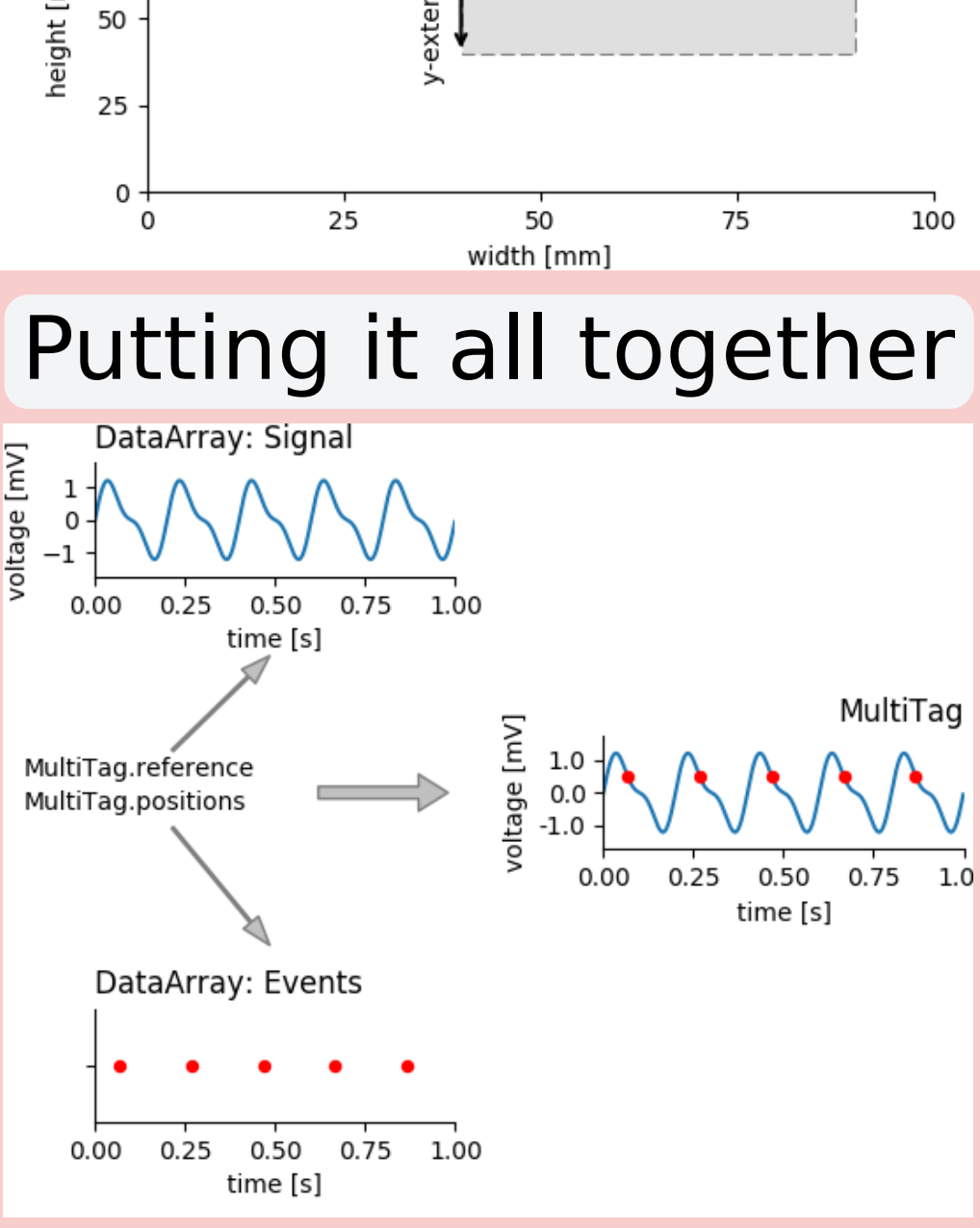
odML



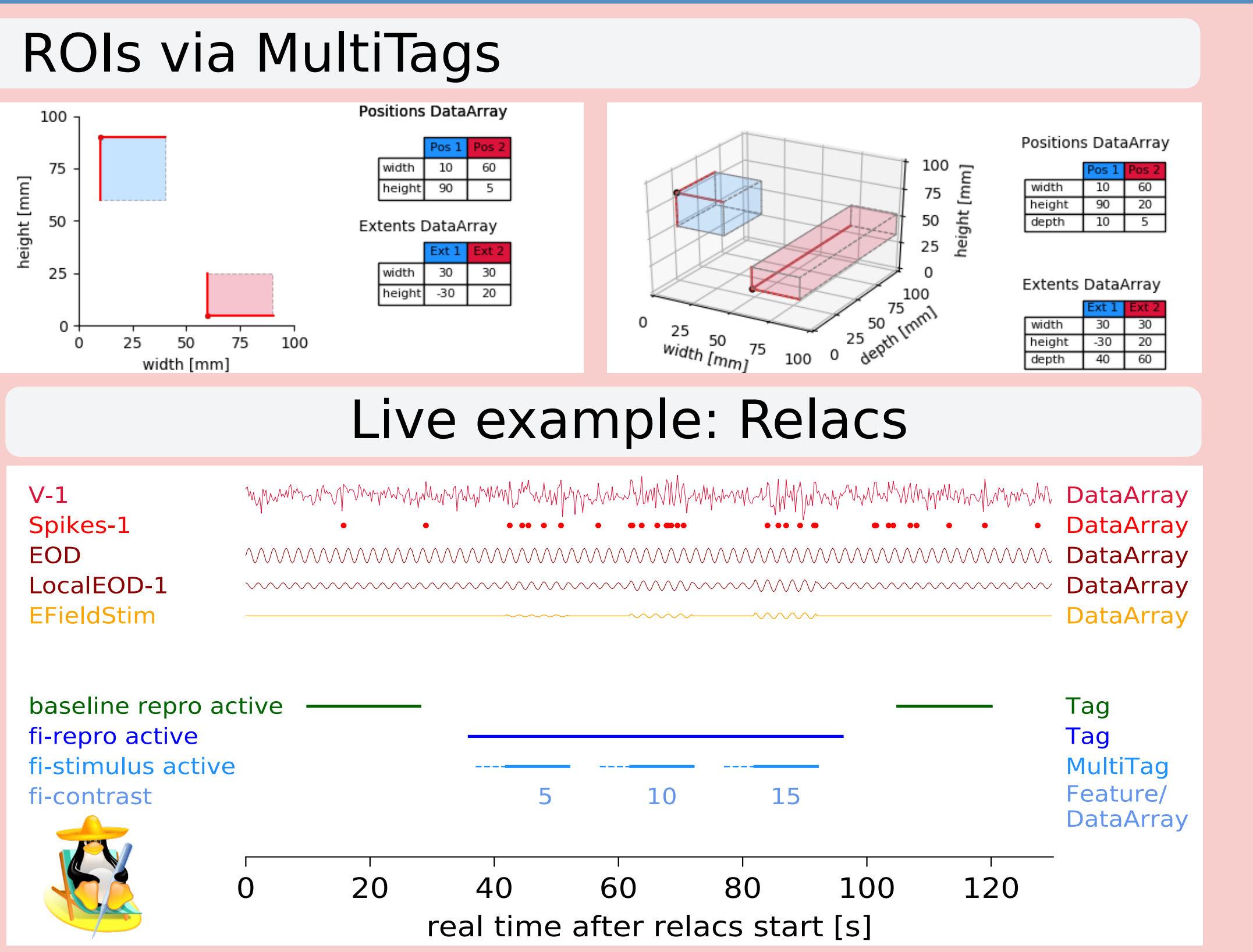
NIX



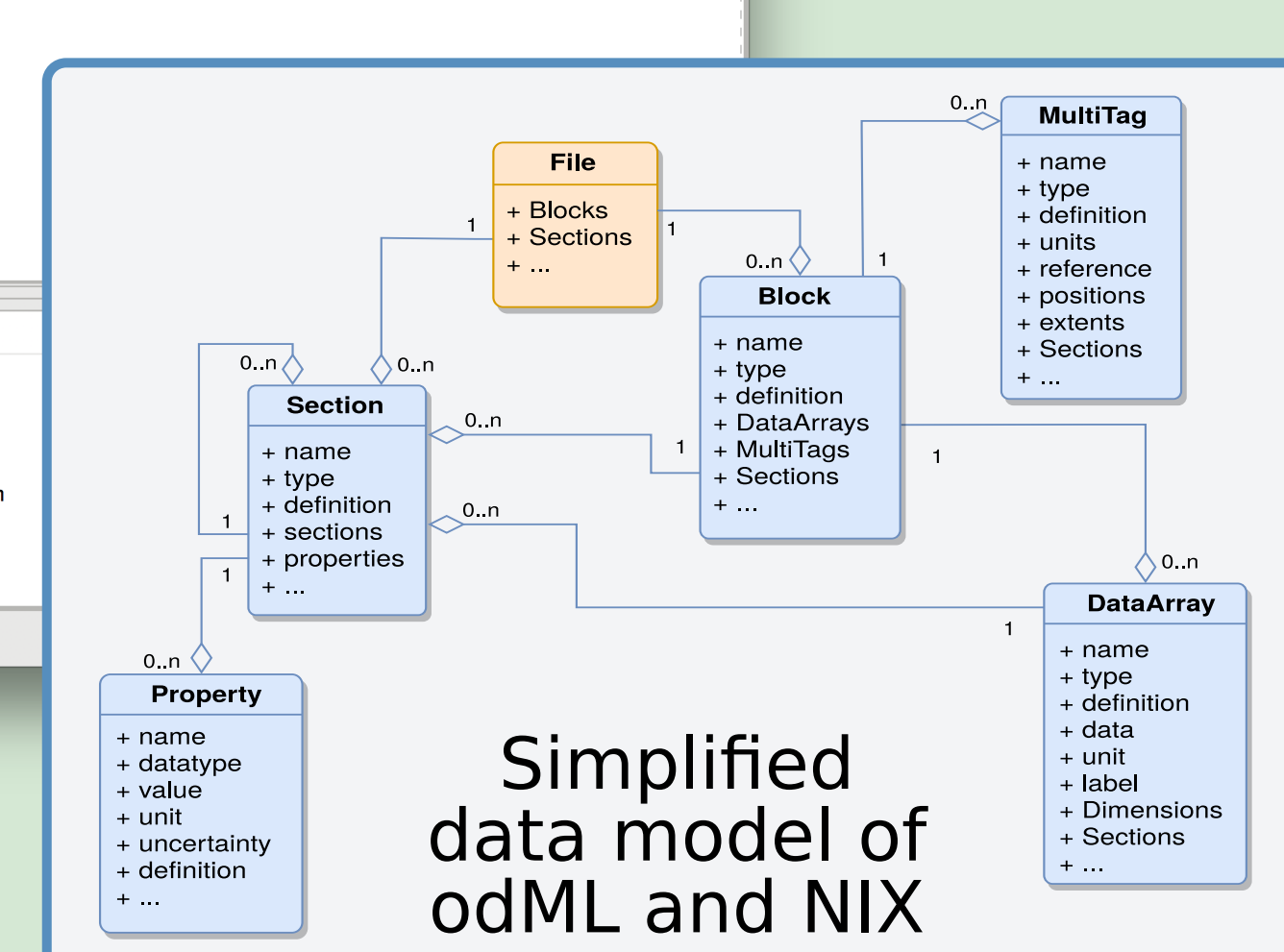
Dimensions



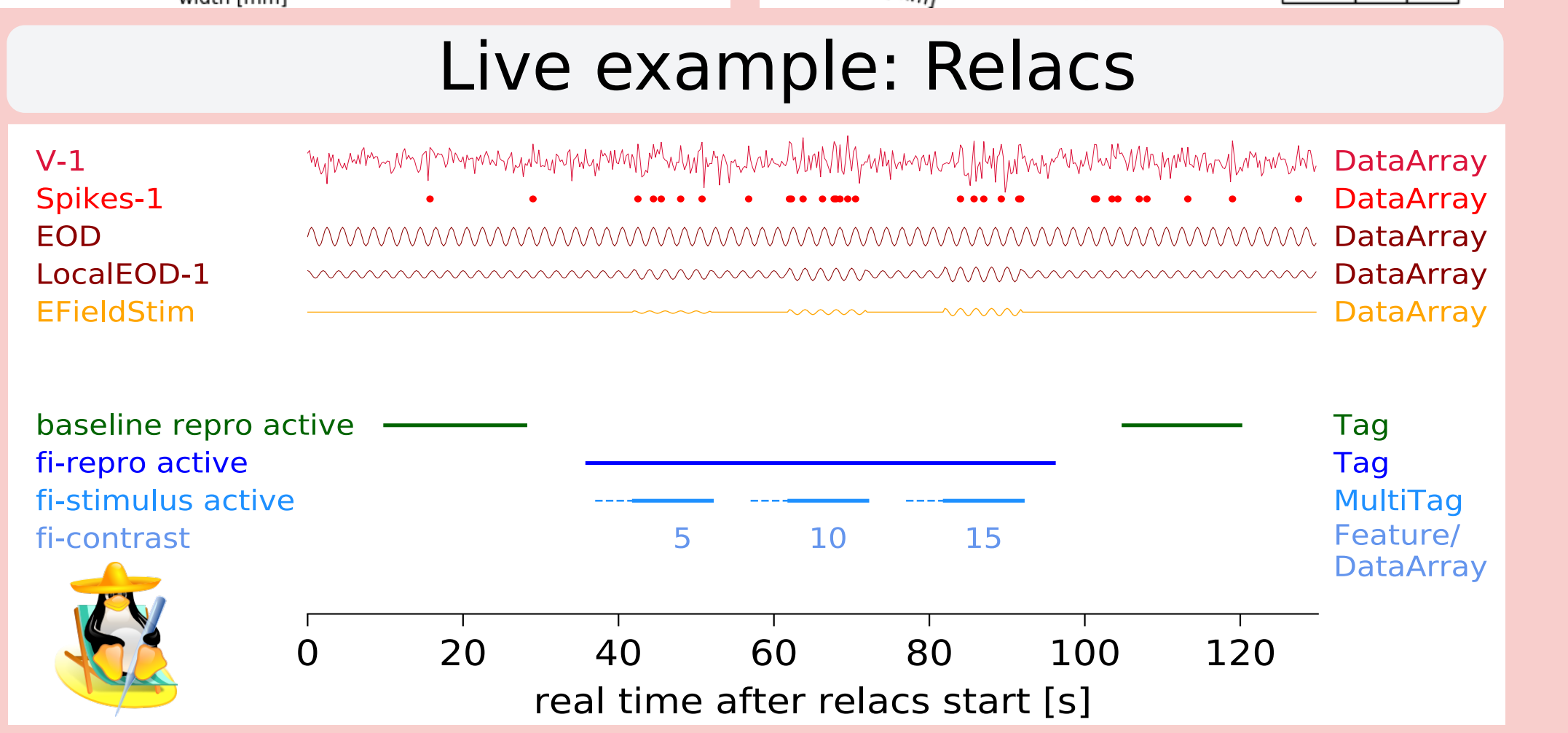
Putting it all together



ROIs via MultiTags

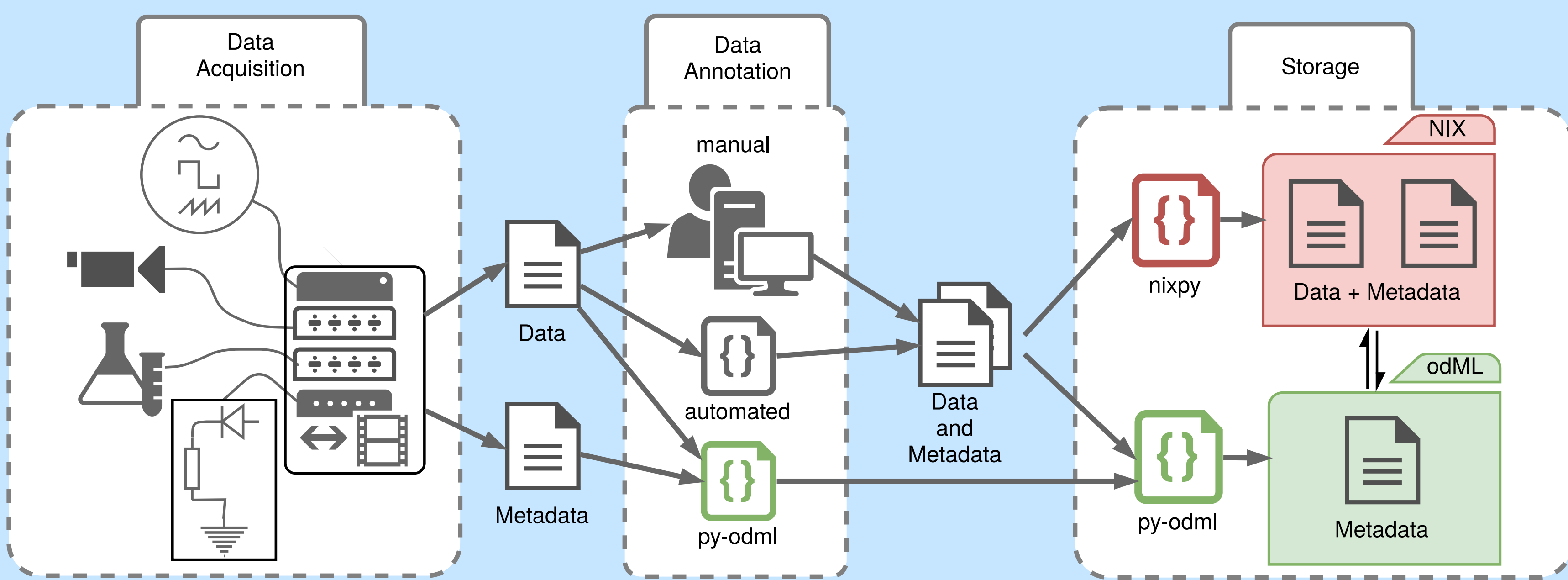


Simplified data model of odML and NIX



Live example: Relacs

Data / Metadata acquisition workflow using odML and NIX



Changes to files can be tracked in GIN (see below)

The NIX format

- Open data format
- Raw data, analysis results, and metadata in the same file
- Descriptive associations between data, analysis results, and metadata

The odML format

- Open metadata format
- Flexible hierarchical key-value storage
- Template system for reusable metadata structures


Libraries

Free open source libraries for:

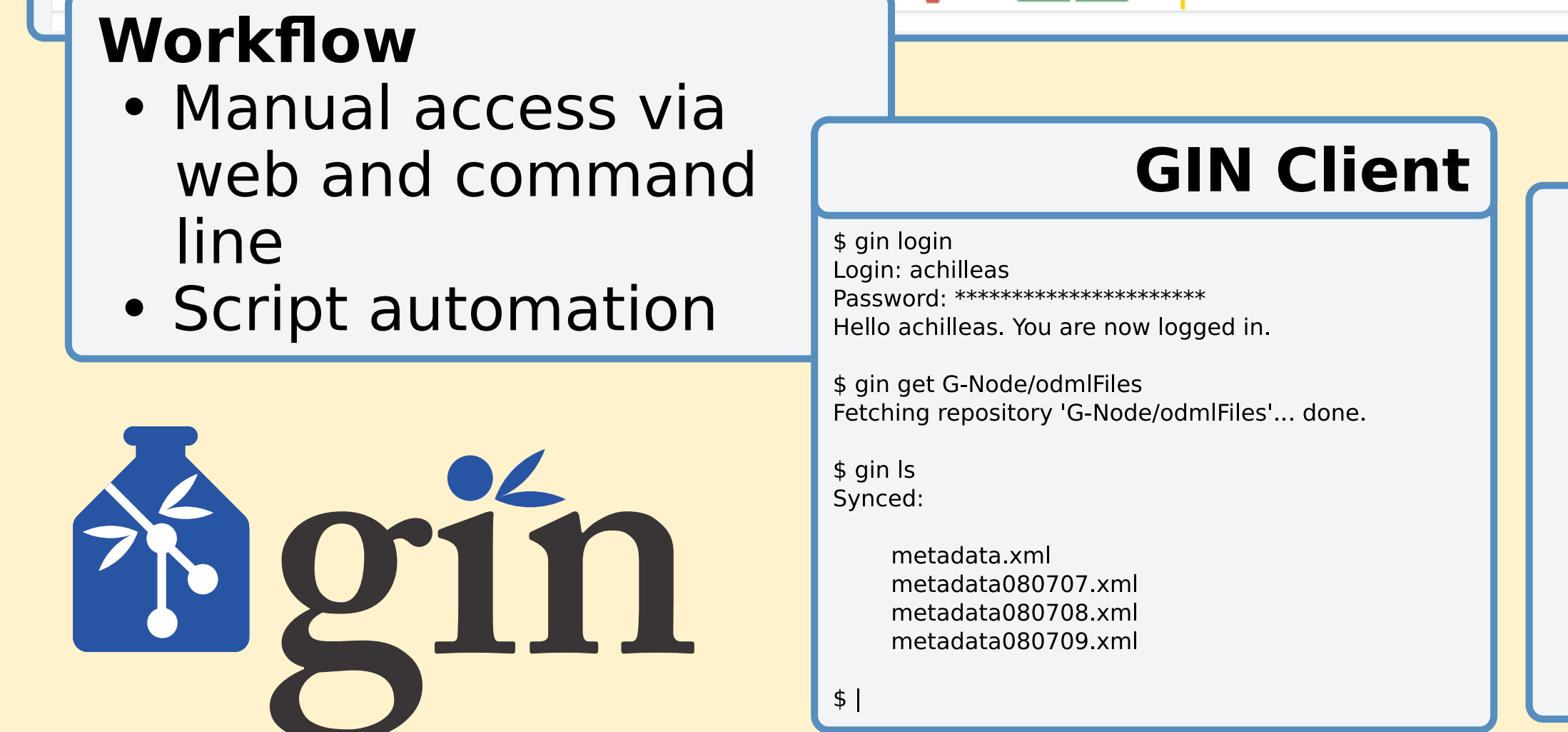
meta.g-node.org

- export odML to RDF
- access diverse metadata datasets
- all datasets are publicly available
- searchable by SPARQL via API and web

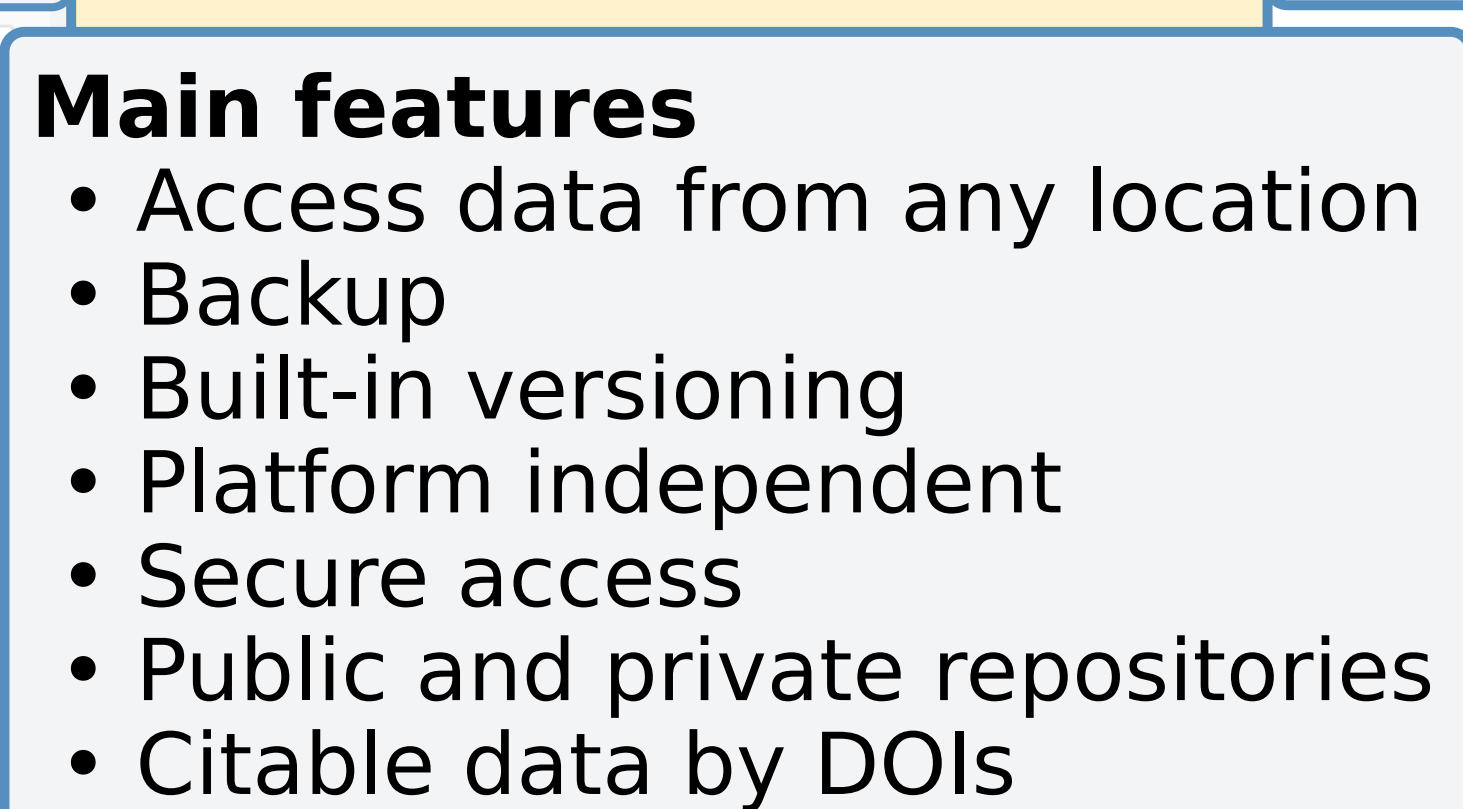
Store data securely; publish and collaborate with ease



GIN Web

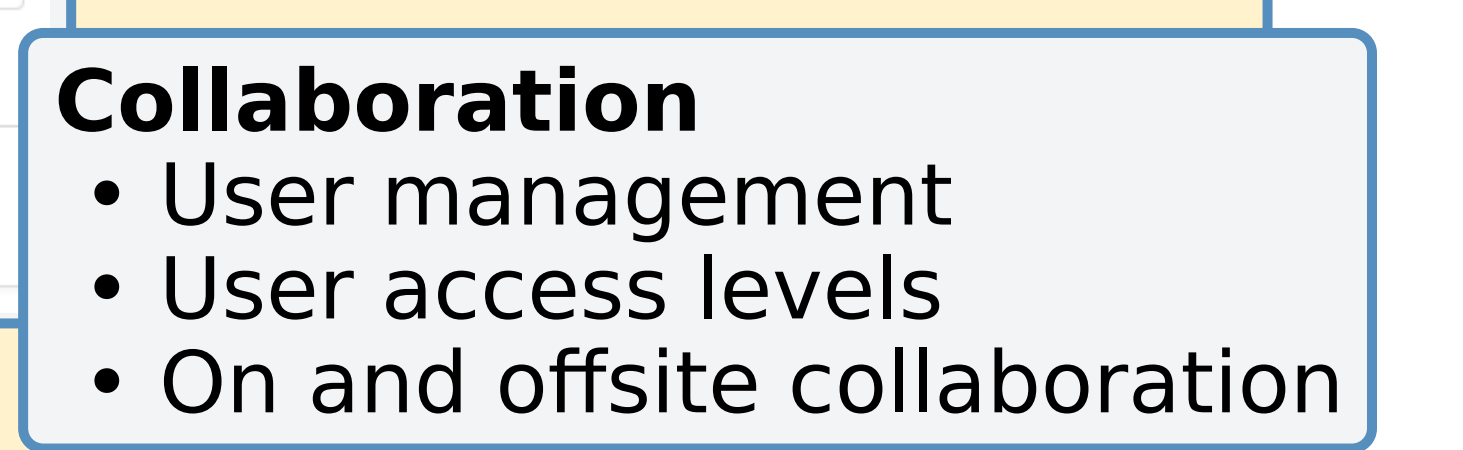


GIN Client



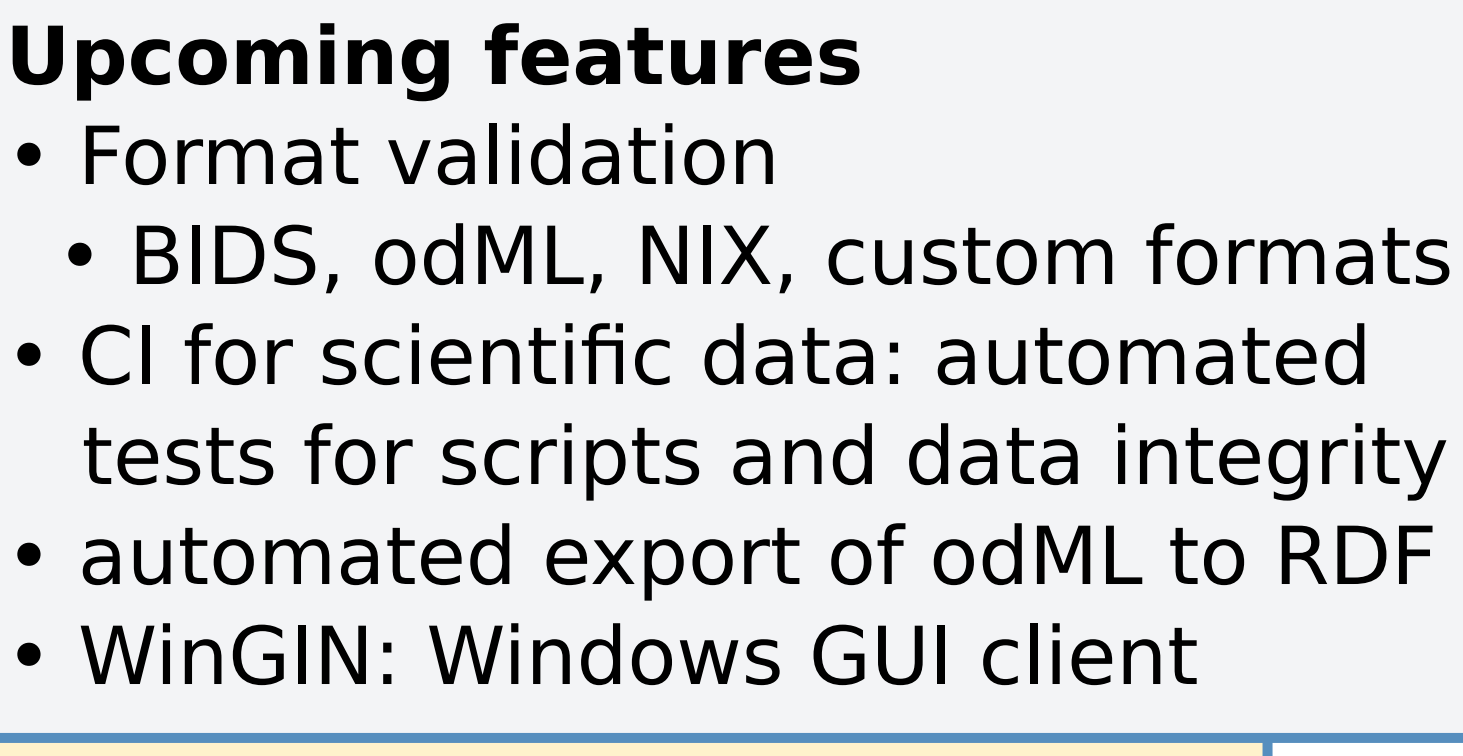
Main features

- Access data from any location
- Backup
- Built-in versioning
- Platform independent
- Secure access
- Public and private repositories
- Citable data by DOIs



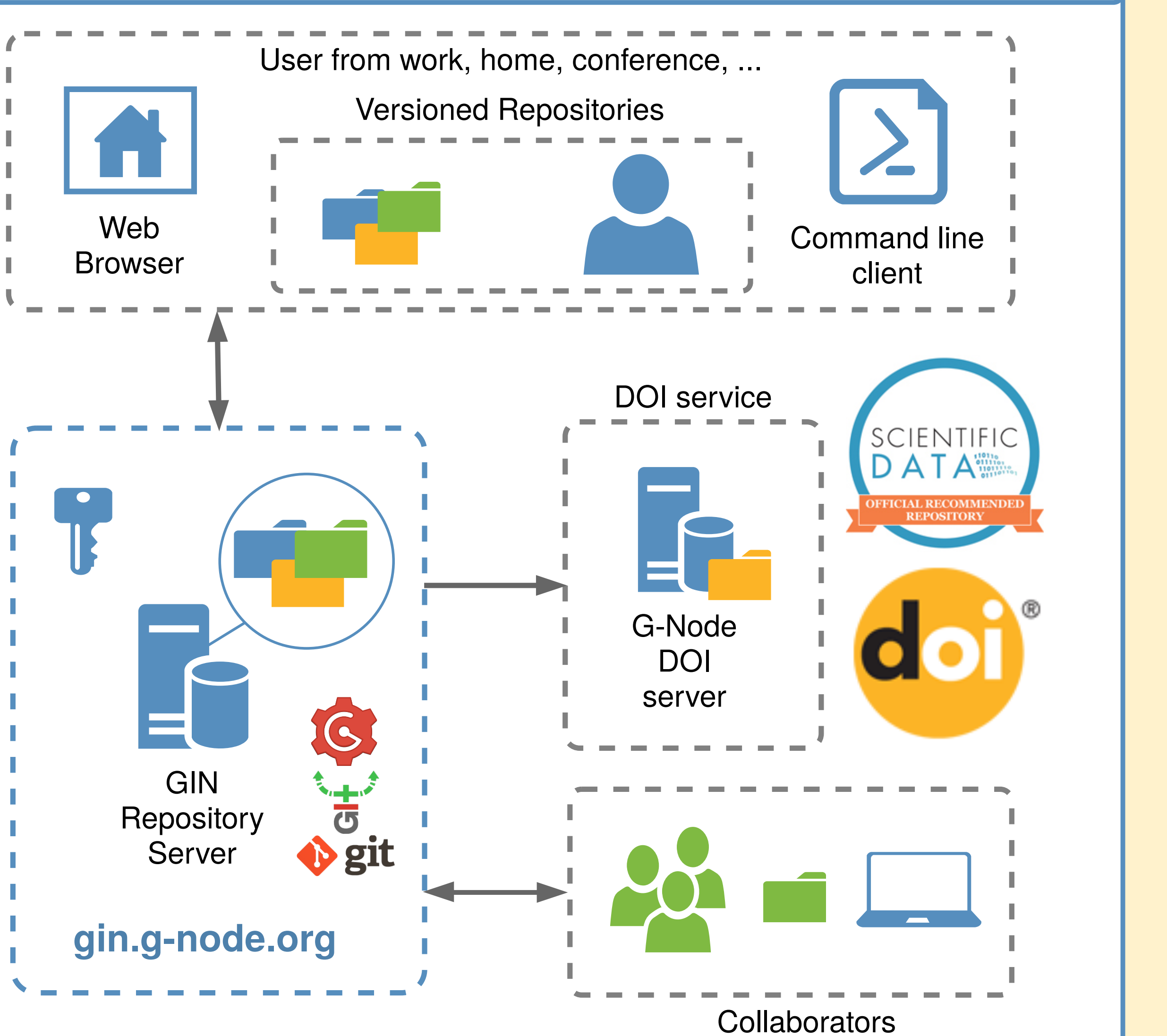
Collaboration

- User management
- User access levels
- On and offsite collaboration



Upcoming features

- Format validation
- BIDS, odML, NIX, custom formats
- CI for scientific data: automated tests for scripts and data integrity
- automated export of odML to RDF
- WinGIN: Windows GUI client



GIN Services

Resources



Contact:
dev@g-node.org

Grewe et al (2011), doi:10.3389/fninf.2011.00016
<https://github.com/G-Node/python-odml>
<https://github.com/G-Node/odml-ui>
<https://github.com/INM-6/python-odmltables>
<https://github.com/G-Node/nix>
<https://github.com/G-Node/nixpy>
<https://github.com/G-Node/nix-mx>

<https://gin.g-node.org>
<https://github.com/G-Node/gin-cli>
<https://github.com/G-Node/gogs>
<https://github.com/relacs/relacs>
<http://neuralensemble.org/neo>
<http://neuralensemble.org/elephant>
<http://bendalab.github.io/NixView>

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