

# GPLBrowse: Infrastructure for interactive browsing of microarray data

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## GPLBrowse: A desktop-like web interface to microarray samples

Zoom to show more detailed view.

Show the samples that have 'rma' listed in their value metadata [Points are highlighted in red].

Add or subtract highlighted points from current selection. [Current selection appears in magenta and in the Selection panel]

Show available visualizations in different ways.

Explore details of the selected items. [Actual data sets for the selected points can be downloaded.]

Display selected visualization points and right click to export.

Select highlighted points and right click to export.

Use keyword search to identify items corresponding to legend.

View details of selected (magenta) items in the Selection panel.

Move the cursor over a point to display corresponding sample or series metadata as a tooltip.

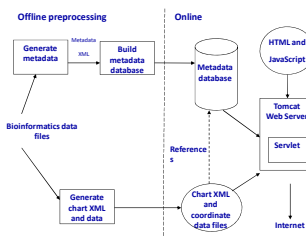
## Project goals

- Develop web-based methods for browsing microarray data based on data properties, rather than using local identifiers such as accession numbers.
- Provide rich exploration of metadata in a visual context.
- Allow users to access and download large datasets based on properties.
- Show large contextual relationships.
- Use split client-server architecture to assure interactive performance.
- Provide an infrastructure that can be adapted to other types of data and problems.

## Examples of GPLBrowse infrastructure

- <http://visual-charts.cs.utsa.edu/GPLBrowse>
- <http://visual-test.cs.utsa.edu/GSE2109Browse>
- <http://visual-test.cs.utsa.edu/GSE3526Browse>

## GPLBrowse architecture



GPLBrowse uses the AJAX-enabled YUI (Yahoo User Interface) Toolkit for its widgets and Apache Lucene for search.

All menus and plot information are generated from XML files to allow additional visualizations to be added without programmatic change to GPLBrowse.

The server side is implemented using Java servlets. All code is standards-based and runs on the latest versions of Internet Explorer and Mozilla Firefox. Data from NCBI GEO is downloaded and quarterly for updates.

## Acknowledgements

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## References

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