

genSpace: Community-Driven Knowledge Sharing in geWorkbench

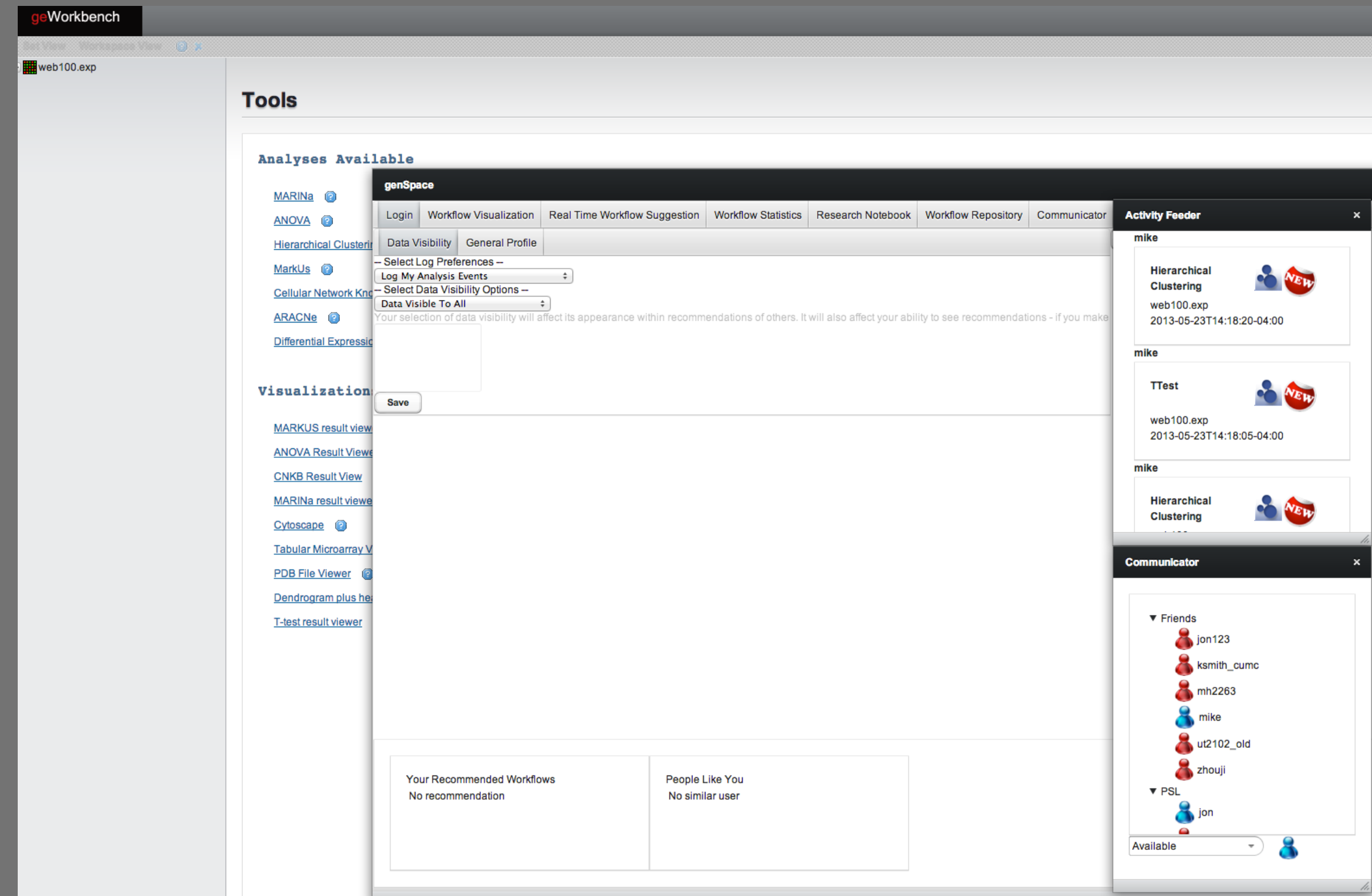
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- Prior work on collaboratories for computational scientists
 - Tool and Data sharing (e.g., caBIG, caGrid from NCI)
 - Terminology sharing (e.g., BiomedGT from NCICB et al.)
- ✓ We seek to introduce **knowledge sharing**
 - What tools should I use?
 - Which tools work together?
 - Where does this tool fit in the workflow?
 - How can I get help?
 - How to make my colleagues know what I am working on?
 - How to annotate my results with flexible privacy?
- Social Networking facilitates Collaborative Filtering
 - What movies would I like?
 - Who also likes this book?
 - Where does this song fit in the playlist?
 - Which songs my friends are listening to?
 - When was this restaurant last reviewed?
 - How can I get help?
- Investigate Social Networking Models as an approach to Scientific Knowledge Sharing
 - Implemented prototype for geWorkbench
 - Logging Module released in geWorkbench v.1.6.3 (8 January 2009)
 - Recommendations Module released in geWorkbench v.1.7.0 (17 July 2009)
 - Chat and workflow repository released in geWorkbench v2.2 (19 May 2011)
 - “People Like You” with options for divers recommendations (to avoid the filter bubble effect) released in geWorkbench v2.3 (16 March 2012)
 - Web-based genSpace with activity feeder and private notes will be released in webinized geWorkbench(June 2013)

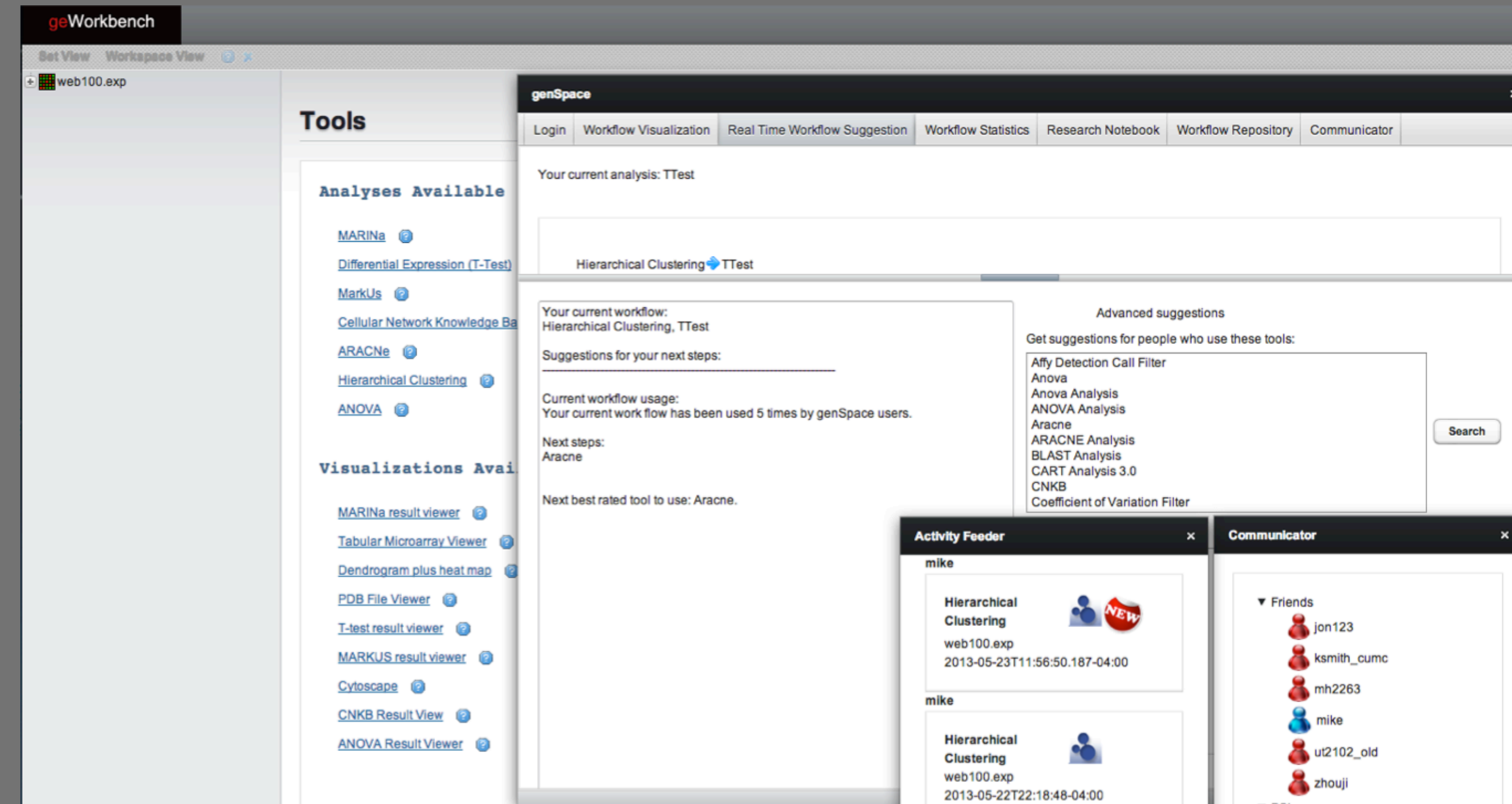
genSpace: Technical Approach

- genSpace is a geWorkbench plugin
- Instrument geWorkbench to record tool usage
- Aggregate event logs for communities of users
- Data mine usage patterns
- Visualize workflows that include or start with a particular tool
- Recommend popular workflows and most common tools
- Suggest next best tools based on tools just used
- Provide direct access to communicate with other scientists
- Create a permanent research log with flexible privacy setting
- Broadcast current tool usage to colleagues with no extra effort

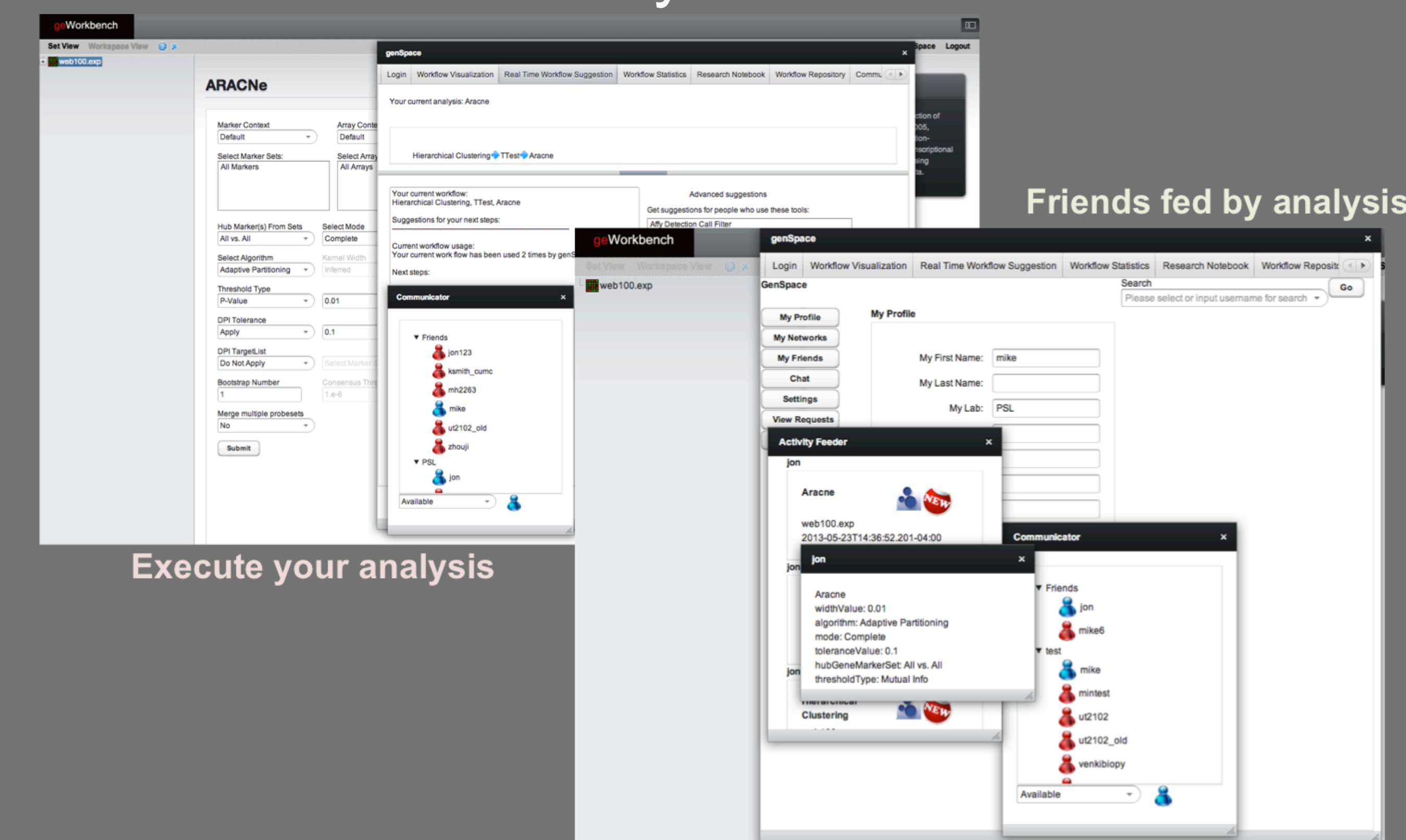
Web Interface



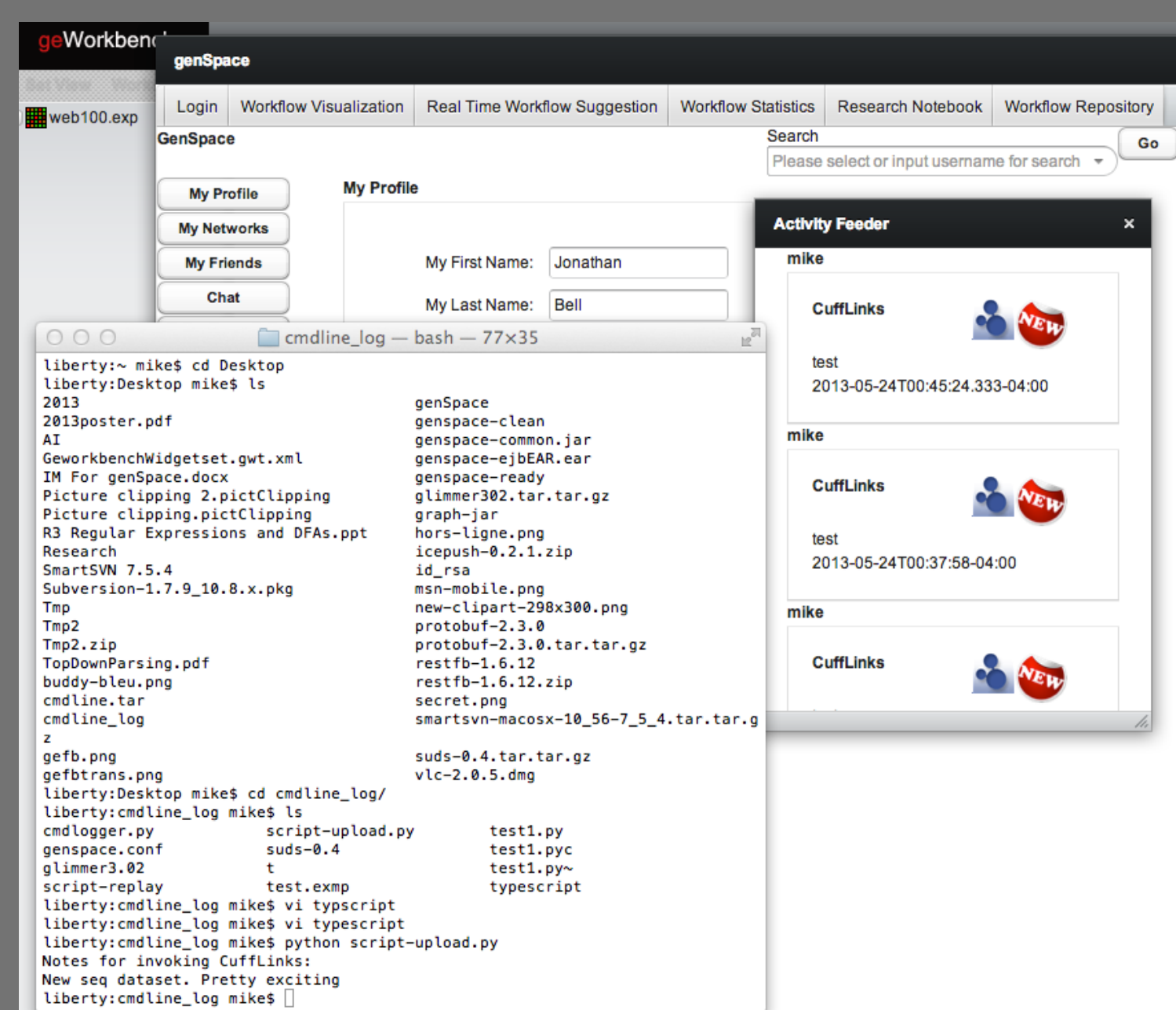
Real-time Recommendation



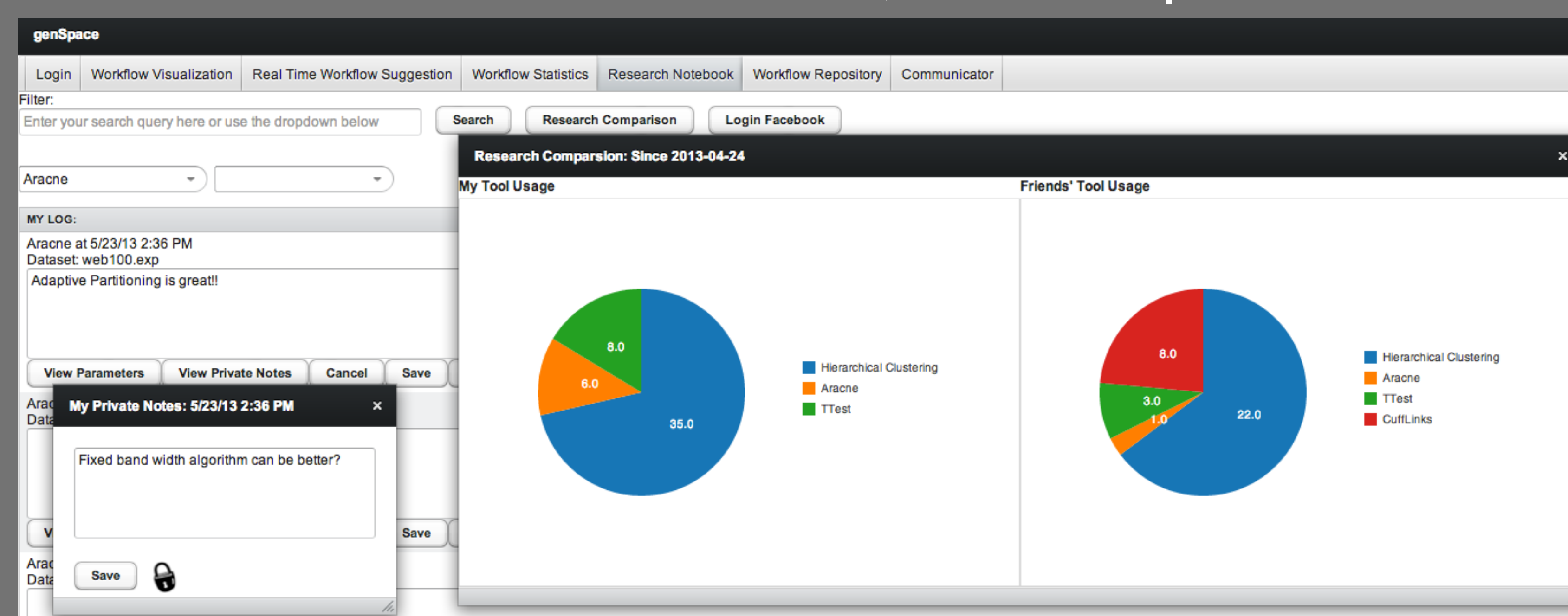
Activity Feeder



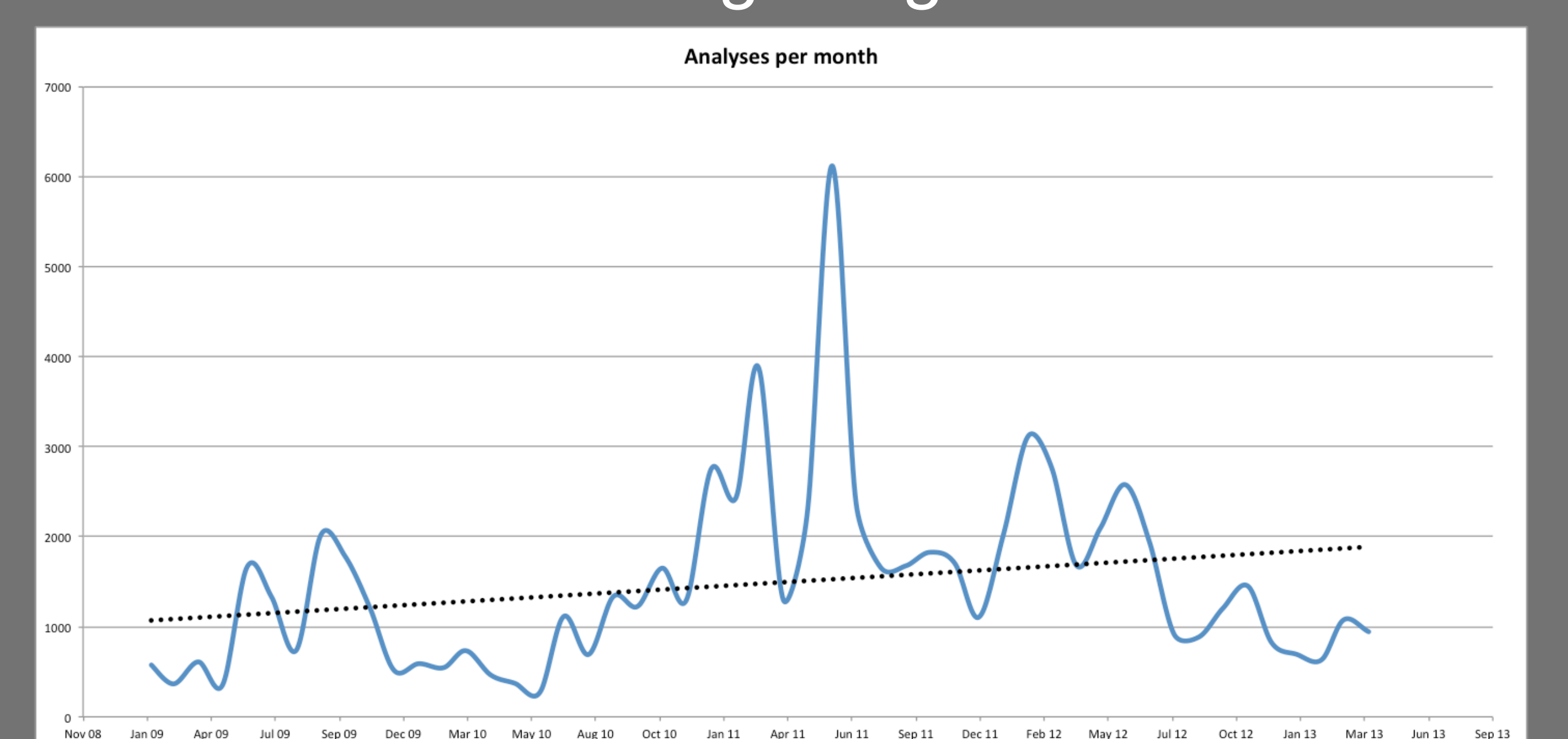
Command Line Logger



Notebook+: Private Note, Tool Comparison



Usage Logs



Find out more at <http://www.psl.cs.columbia.edu/genSpace>