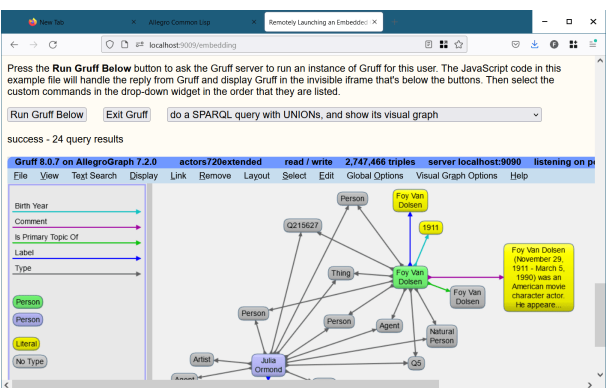


Embedding Gruff In a Web Page

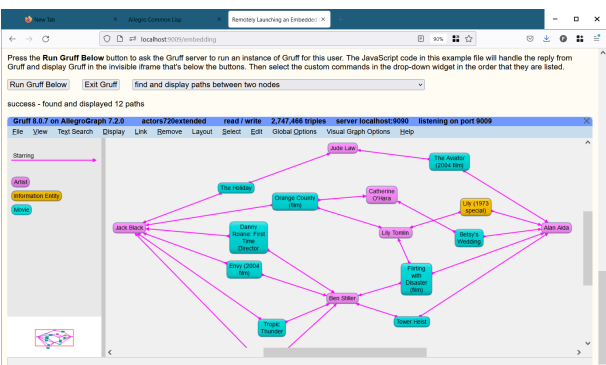
Gruff can be embedded in any web page to use Gruff inside your own web site or web application. The file `embedding.html` in the Gruff installation folder provides a complete example of this. Display that file in a web browser to see the complete instructions for setting everything up. That same file serves as an example web page, with buttons at the bottom for embedding Gruff into that web page after doing the setup.



A Gruff feature allows a single launcher instance of Gruff to be running as a server and listening for requests from web browsers. It will launch a separate instance of Gruff for each web page that requests one, up to a specified limit. It can

optionally use the launcher instance itself for one client, to minimize the number of Gruff executables that are running. Running Gruff as a server uses various command line options that are described under Running Gruff in a Web Browser.

Your web page needs to include an HTML iframe where Gruff will be placed, plus a link or button that asks a remote Gruff server to launch an instance of Gruff for the reader to use in that iframe. You will need to adapt the JavaScript code that's in `embedding.html` to make your link or button handle the reply from the Gruff server.



Simply embedding Gruff in an HTML iframe allows a reader to use Gruff by itself as usual inside your web page. A more advanced feature is that your web application can also send custom commands to Gruff. For

example, your application could derive a set of triples that it wants Gruff to display, and then send those triples to Gruff. The code in `embedding.html` also demonstrates this ability. The complete documentation for sending commands to Gruff is at [The HTTP Interface to Gruff](#).

Advanced Knowledge Graph Visualization with New Gruff v8

High Performance Data Visualizations Accelerate Graph Search and Query Building – Driving Data Discoveries for Banks, Healthcare Providers and Enterprises Globally

OAKLAND, Calif., May 12, 2020 – Franz Inc., an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology for Knowledge Graph Solutions, today announced Gruff 8, a browser-based graph visualization software tool for exploring and discovering connections within enterprise Knowledge Graphs. Gruff 8, which has been integrated into AllegroGraph 7, enables users to visually build queries and visualize connections between data without writing code, which speeds discoveries and enhances the ability to uncover hidden connections within data.

“By augmenting Knowledge Graphs with visualizations, users can determine insights that would otherwise elude them,” said Jans Aasman, CEO of Franz Inc. “Gruff’s dynamic data visualizations increase users’ understanding of data by instantly illustrating relevant relationships, hidden patterns and data’s significance to outcomes. Gruff also helps make data actionable by displaying it in a way that decision-makers can

see the significance of data relative to a business problem or solution.”

“Few tools exist that can quickly turn arbitrary RDF graph pattern matches into clear visualizable results,” said Michael Pool, Global Head of Semantic Modeling and Engineering, Senior Director at BNY Mellon Bank. “Gruff is invaluable in turning our knowledge graph data into useful and actionable analytic insights.”

Gruff enables users to create visual Knowledge Graphs that display data relationships in views that are driven by the user. Ad hoc and exploratory analysis can be performed by simply clicking on different graph nodes to answer questions. Gruff’s unique ‘Time Machine’ feature provides the capability to explore temporal context and connections within data. The visual query builder within Gruff empowers both novice and expert users to create simple to highly complex queries without writing any code.

Browser-based Graph Visualization – Gruff 8 is a browser-based application that does not require an additional download or application installation once AllegroGraph is installed. All AllegroGraph users need is a web browser and internet connection to login. This approach gives users the convenience to access Gruff from anywhere on any type of system, while also simplifying deployment and streamlining updates within enterprise environments.

Louis Rumanes at UnitedHealth Group Research and Development recognizes the value of using Gruff as a browser-based app and commented, “Nice job on Gruff in a browser and I think this will be a gamechanger.”

Accelerated Visual Graph Rendering – Visual renderings within Gruff are now up to 3X faster. Users can dynamically lay out cyclical graphs, display tables of properties and build SPARQL or Prolog queries as visual diagrams.

Dynamic Graph Visualizations within AllegroGraph – Gruff is fully integrated with AllegroGraph 7, Franz's leading semantic knowledge graph solution, which seamlessly leverages Gruff's advanced graph visualizations and graphical query builder to reveal hidden connections in knowledge graph data. AllegroGraph 7, with FedShard™, is a breakthrough Knowledge Graph solution that allows infinite data integration through a patented approach that unifies all data and knowledge base silos into an Entity-Event Knowledge Graph solution that can support massive big data analytics. AllegroGraph 7 utilizes unique federated sharding capabilities that drive 360-degree insights and enable complex reasoning across distributed Knowledge Graphs.

To support ubiquitous AI, a Knowledge Graph system needs to fuse and integrate data, not just in representation, but in context (ontologies, metadata, domain knowledge, terminology systems), and time (temporal relationships between components of data). The rich functional and contextual integration of multi-modal, predictive modeling, artificial intelligence suitable for large scale analytics is what distinguishes AllegroGraph 7 as a modern, scalable enterprise analytic platform.

AllegroGraph 7 is the first big temporal Knowledge Graph technology that encapsulates a novel entity-event model natively integrated with domain ontologies and metadata with dynamic ways of setting the analytics lens on all entities in the system (patient, person, devices, transactions, events, and operations) as prime objects that can be the focus of an analytic (AI, ML, DL) process.

"AllegroGraph 7's support of Entity-Event Data Modeling is the most welcome innovation and addition to our arsenal in reimagining healthcare and implementing Precision Medicine," said Dr. Parsa Mirhaji, Director of Center for Health Data Innovations at the Albert Einstein College of Medicine and Montefiore Health System, NY. "Precision Medicine is about

moving away from statistical averages and broad-based patterns. It is about connecting many dots, from different contexts and throughout time, to support precision diagnosis and to recommend the precision care that can take into account all the subtle differences and nuisances of individuals and their personal experiences throughout their life. This technology is about saving lives, by leveraging data, context and analytics and is what Franz's Entity-Event Data Modeling brings to the table."

Gruff 8 Availability and Pricing

Guff 8 is immediately available as a free download from AllegroGraph.com and is integrated as part of AllegroGraph's cloud offering on the Amazon Marketplace.

Gruff Webinar

Join Franz's webcast discussing Gruff 8 entitled "Visualizing and Exploring Knowledge Graphs with the New Browser based Gruff" – by registering for the May 14th Webinar.

About Franz Inc.

Franz Inc. is an early innovator in Artificial Intelligence (AI) and leading supplier of Semantic Graph Database technology with expert knowledge in developing and deploying Knowledge Graph solutions. The foundation for Knowledge Graphs and AI lies in the facets of semantic technology provided by AllegroGraph and Allegro CL. AllegroGraph is a database technology that enables businesses to extract sophisticated decision insights and predictive analytics from highly complex, distributed data that cannot be uncovered with conventional databases. Unlike traditional relational databases or other NoSQL databases, AllegroGraph employs semantic graph technologies that process data with contextual and conceptual intelligence. AllegroGraph is able run queries of unprecedented complexity to support predictive analytics that help organizations make more informed, real-time

decisions. AllegroGraph is utilized by dozens of the top F500 companies worldwide. To learn more about Franz and AllegroGraph, go to www.franz.com.

New Gruff v7.4 – Now Available!

DOWNLOAD – Gruff

Gruff is the Knowledge Graph industry's leading Graph Visualization software for exploring and discovering connections within data. Gruff provides novice users and graph experts the ability to visually build queries and explore connections as they developed over time.

Gruff produces dynamic data visualizations that organize connections between data in views that are driven by the user. This visual flexibility can instantly unveil new discoveries and knowledge that turn complex data into actionable business insights. Gruff was developed by Franz to address Graph Search in large data sets and empower users to intelligently explore graphs in multiple views including:

- **Graphical View with “Time Machine” feature** – See the shape and density of graph data evolve over time
- **Tabular view** – Understand objects as a whole
- **Outline view** – Explore the often hierarchical nature of graphs
- **Query view** – Write Prolog or SPARQL queries
- **Graphical Query Builder** – Create queries visually via drag and drop

Gruff's ‘Time Machine’ feature provides users an important

capability to explore temporal connections in your data. Users can see how relationships are created over time and are able to replay the evolving graph for new temporal based insights.



Key New Features and Updates in Gruff v7.4 – To see the full list – Release Notes.

- The new command “File | Connect to Gruff Demo Server” lets you try out Gruff on the “extended actors” database at a public AllegroGraph server that’s provided by Franz, when you don’t have an AllegroGraph server yourself. See the Example button in the query view and in the graphical query view for a few example queries. “Help | Animated Demo” also works there.
- The graphical query view has new grouper boxes for graph group graph patterns, either for a particular graph or for a graph variable.
- The graphical query view now has node filters for the SPARQL operators IN and NOT IN (for limiting a node variable to a particular set of values), for langMatches (for selecting only literals of a particular language), and for CONTAINS, STRSTARTS, and STRENDS (for finding literals that contain specified text). Also, the “bound” and “not bound” filters were broken, and the LIMIT and OFFSET values will now be included when saving a graphical query.
- Gruff can now connect to AllegroGraph servers through an HTTP proxy (as was possible with SPARQL endpoints already). See Global Options | Communications | HTTP Proxy.
- Additional triple file formats can now be loaded with the new commands “File | Load Triples | Load JSON-LD”, “Load TriG”, and “Load N-Quads Extended”. Corresponding

new commands are also on the “File | Export Displayed Data As” child menu. Also, the new command “Global Options | Miscellaneous | Commit Frequency When Loading Triples” lets you control whether and how often commits will happen during loading.

- The query view’s “Create Visual Graph” button will now create link lines for additional SPARQL property path operators, namely `InversePath (^)` and `AlternativePath (|)`. And it will draw the correct character for `ZeroOrOnePath (?)`. (See “Query Options | Show Links for Property Paths in Visual Graphs” for turning this off.)
- If the triple store defines label properties for predicates, then Gruff will now display those labels for the predicate objects as it has always done for nodes, as long as “Global Options | Node Label Predicates | Use Label Predicates for Node Labels” is on.
- When “Visual Graph Options | Node Labels | Show Full URIs on Nodes” is on, full URIs will be also displayed for the predicates in link labels. And full URIs will be shown in the legend as well.

Gruff Documentation



Gruff Time Machine Tutorial



Here is an example for trying out the new time slider in Gruff’s graph view. It uses triples from crunchbase.com that contain a history of corporate acquisitions and funding events over several years. Gruff’s time bar allows you to examine

those events chronologically, and also to display only the nodes that have events within a specified date range.

- Download the Crunchbase triples from the bottom of the Gruff download page at <https://allegrograph.com/products/gruff/>
- Create a new triple-store and used “File | Load Triples | Load N-Triples” to load that triples file into the new triple-store. Use “File | Commit” to ensure that the loaded triples get saved.
- Select “Visual Graph Options | Time Bar | Momentary Time Predicates” and paste the following five predicate IRIs into the dialog that appears. The time bar will then work with the date properties that are provided by these predicates, whenever you are browsing this particular triple-store.

http://www.franz.com/hasfunded_at

http://www.franz.com/hasfirst_funding_at

http://www.franz.com/hasfounded_at

http://www.franz.com/haslast_funding_at

http://www.franz.com/hasacquired_at

- Select “View | Optional Graph View Panes | Show Time Bar” to reveal the time bar at the bottom of the graph view. The keyboard shortcut

for this command is Shift+A to allow quickly toggling the time bar on and off.

- Select “Display | Display Some Sample Triples” to do just that. The time bar will now display a vertical line for each of the requested date properties of the displayed nodes. Moving the mouse cursor over these “date property markers” will display more information about those events.
- Click down on the yellow-orange rectangle at the right end of the time bar and drag it to the left. This will make the “time filter range” smaller, and nodes that have date properties that are no longer in this range will temporarily disappear from the display. They will reappear if you drag the slider back to the right or toggle the time bar back off.

For more information, the full time bar introduction is in the Gruff documentation under the command “View | Optional Graph View Panes | Show Time Bar”.

Check out the “Chart Widget” for showing date properties of the visible nodes.

