

Graphalyzer

A Graph Visualization and Analysis Tool

workiva

Andrew Bowler - Webmaster
Alberto Gomez - Comms Lead

Michael Sgroi - Key Concept Holder
Taylor Welter - Team Leader
Richard White - Key Concept Holder

Dr. Simanta Mitra - Advisor
Ross Hendrickson - Client

Problem

As data gets larger, it becomes harder to understand and work with.

How can we present and analyze Big Data such that it is easy to work with?

Solution

Graphalyzer visualizes Big Data graphically so that it is easy to see:

- Structural behavior
- Important relationships
- Key properties or members of high importance

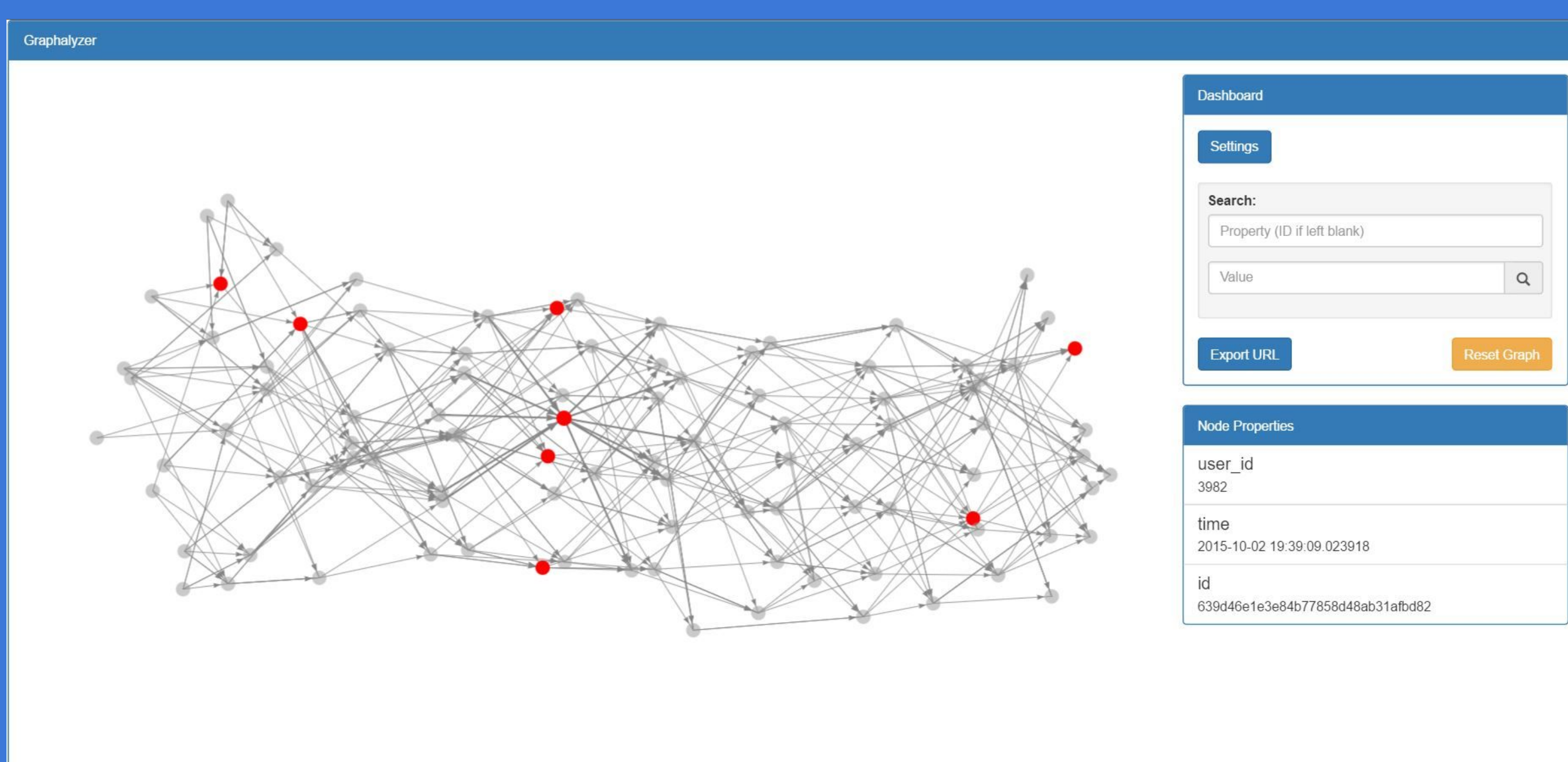


Figure 1. Filtering Nodes

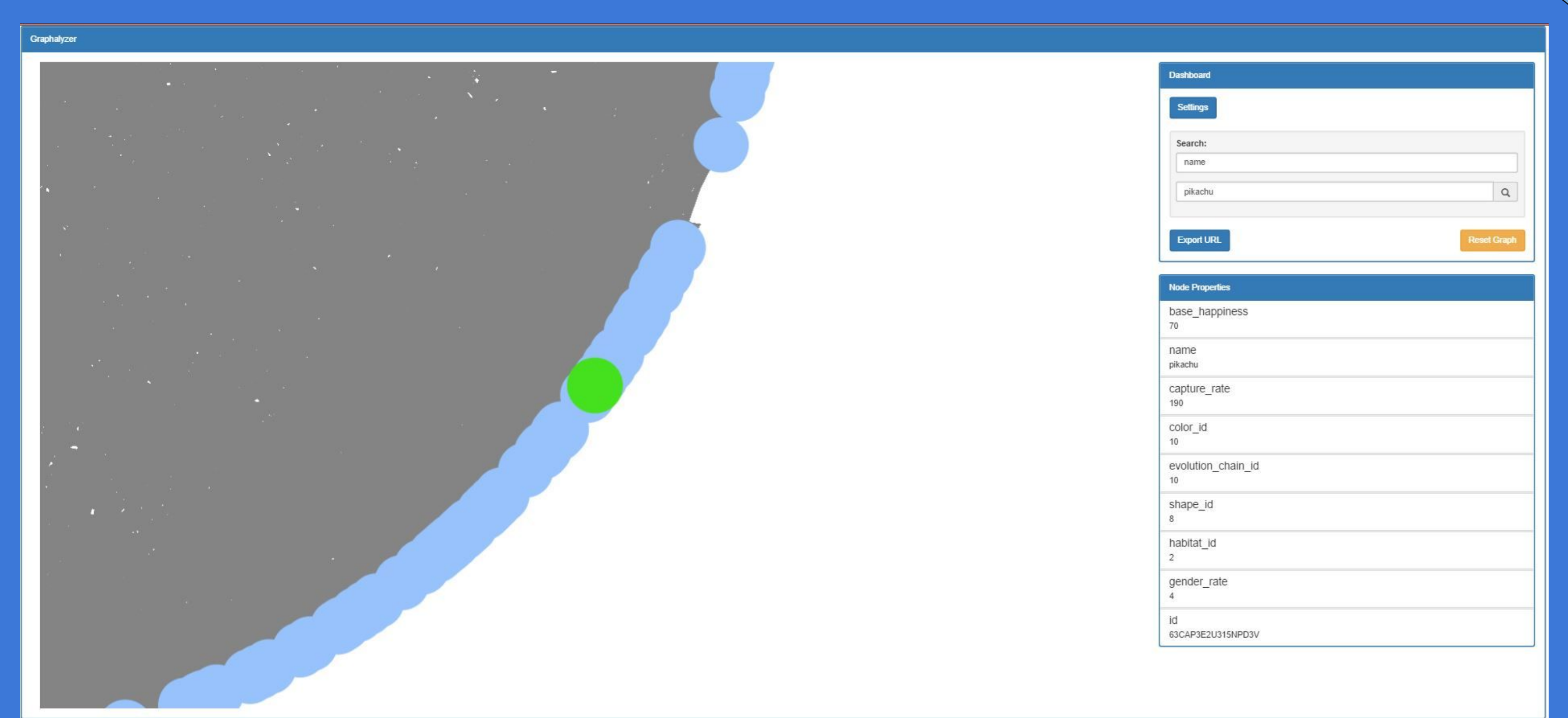


Figure 2. Searching for a Node

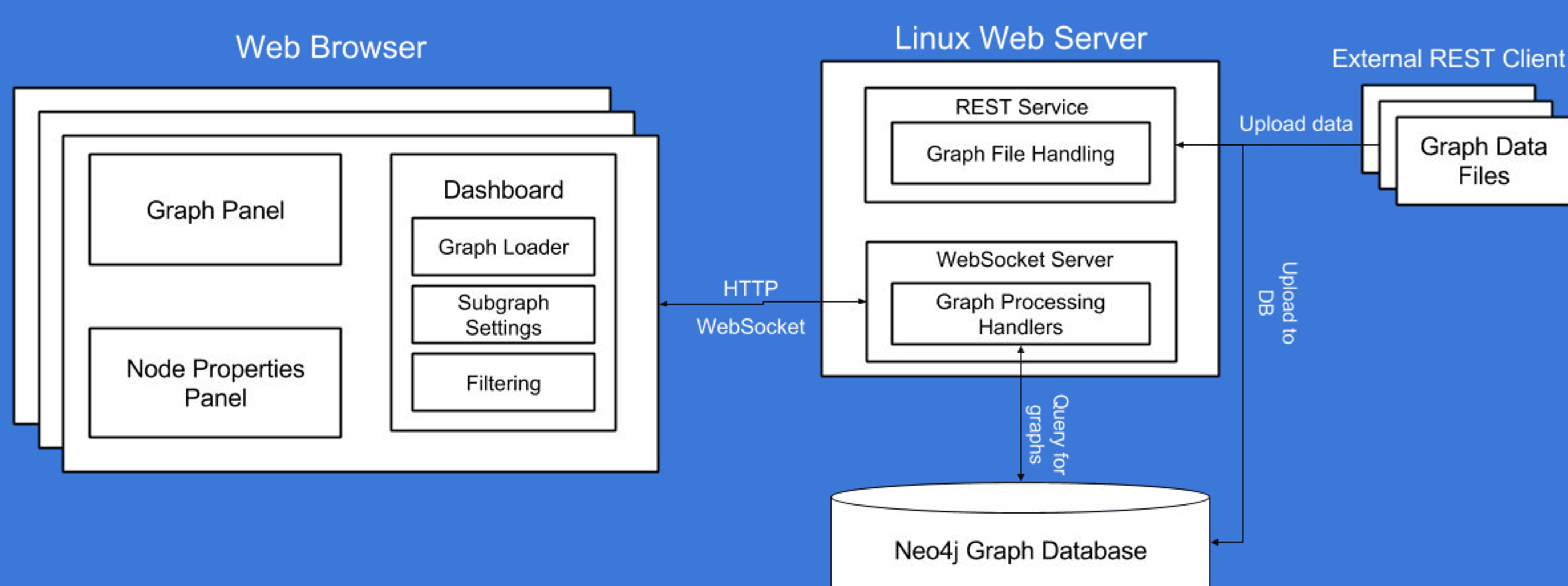
Requirements

- Visualize an interactive graph in browser with data uploaded via REST
- Display graphical analysis based on user settings
- Handle data up to ~40GB in size

Technical Details

- React.js
- Vis.js
- Python
- Neo4j
- Linux Web Server

Project Design



- Web Browser for using the app
- Linux Web Server for graph processing and uploading
- Neo4j Graph Database
- Used Jest to write unit tests for the code.
- Used PyUnit to write separate tests for the server.