**Problem**

G* and G* Studio currently support two query methods:

**PGQL: Procedural Graph Query Language**
- Hard to use
- Unfamiliar but
- Very Flexible

**Console Commands**
- Easy to use
- Familiar but
- Very Limited

**Solution**

Develop a familiar and easy-to-use (SQL-like) query language that compiles to PGQL: DQGL (Declarative Graph Query Language)

**Cross Compiler Requirements**

- No additional strain on worker machines
- Integrate with existing G* Studio
- Be flexible and easy to use, while still leveraging all the power of our graph database

**Tooling**

- Generates a JavaScript-based parser
- Allows for tight control of token and AST generation
- Simple grammar syntax
- Allows for inline JavaScript in grammar

PEG.js Grammar for DQGL

**AST**

- Generated AST as nested JavaScript array
- Tokenized every valid term
- Optimized

**Code Gen**

- Accomplished via templating PGQL operators
- First prototyped as standalone application

**Integration**

- Compiler added to G* Studio
- Allows for editing of generated PGQL for quick alterations
- Provides simple and powerful interface to query graph data