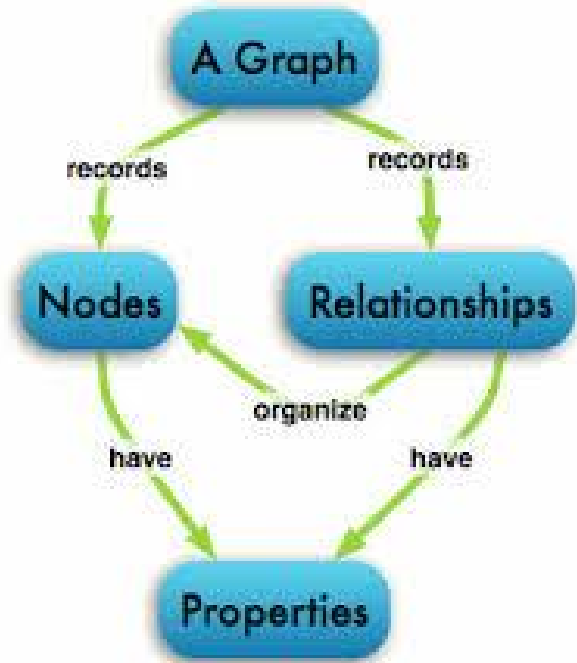

Neo4j + RoR

— Regina Imhoff —
@StabbyMcDuck

What is Neo4j

- Graph database
 - NoSQL
 - Schema free - you can make it up and change it as you go!
 - Index-free adjacency == short read time
 - Collection of nodes, edges, and properties to represent and store data
- Written in Java but available in most languages
- Most popular graph database
- Scalable and agile
- Free, open source community version and paid support version
- Uses Cypher for querying language
 - Neo4j offers a Cypher cheat sheet - use it!
 - <http://neo4j.com/docs/pdf/neo4j-cypher-refcard-stable.pdf>

What does the database look like?



- Node
 - AKA vertex
- Relationship
 - AKA edge
- Property
 - AKA attribute

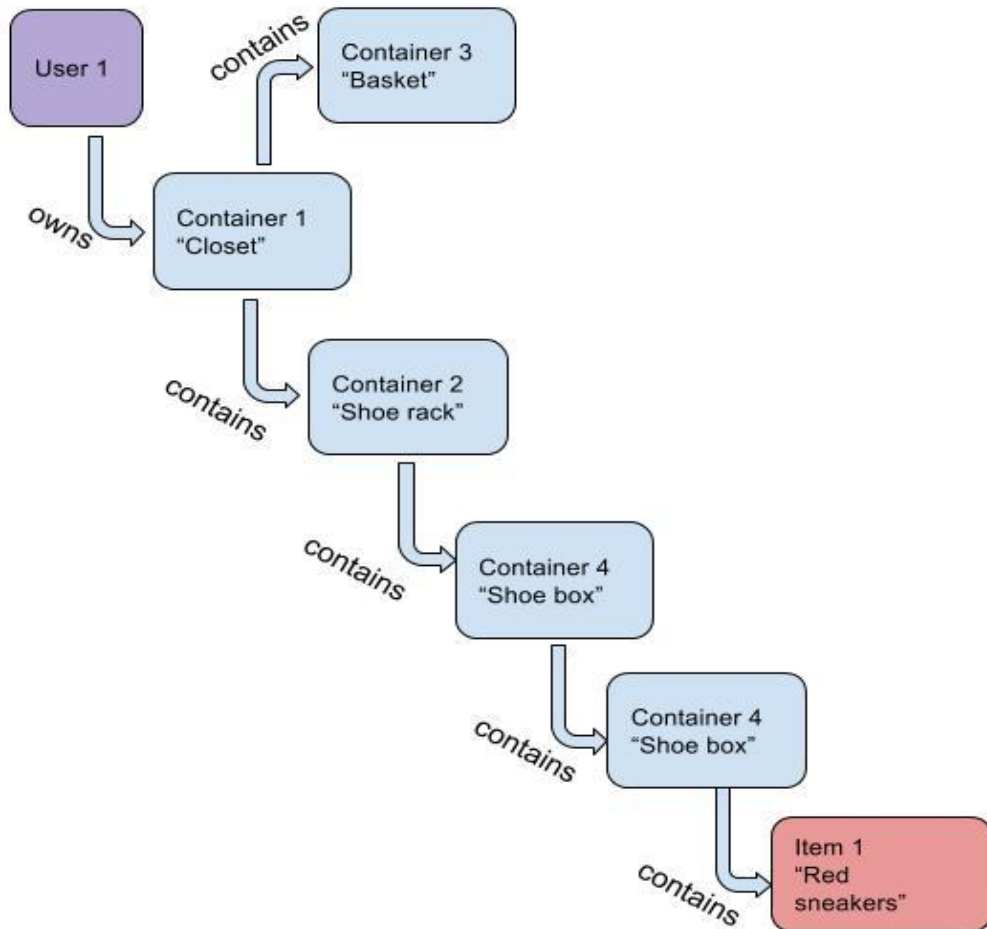
Social networks are a natural fit



Stolen from <https://www.infoq.com/articles/graph-nosql-neo4j>

In my app:

- Users own containers and containers contain items
- Multiple users can have the same container (roommates/SOs/etc)
 - A social network of users keeping track of their stuff!
- Can have infinite number of containers & items
 - Awesome Nested Set gem can do this too without a graph database!



How does it work with Rails?

- `gem 'neo4j'`
 - Active Model wrapper for Neo4j
- Other gems may not work with it or need different versions
 - `gem 'carrierwave-neo4j'` for image uploads
- Can use free community edition of Neo4j
- Works on Heroku, AWS, etc.
- Models look a little different

Container model

```
class Container
```

```
  include Neo4j::ActiveNode
```

```
  # Attributes
```

```
  property :created_at, type: DateTime
```

```
  property :name, type: String
```

```
  property :description, type: String
```

```
  property :updated_at, type: DateTime
```

```
  # Containers
```

```
  has_one :in, :parent, type: :CONTAINS, model_class: :Container
```

```
  has_many :out, :items, type: :CONTAINS
```

```
  has_many :out, :containers, type: :CONTAINS
```