

Neo4j Deep Dive

Tom Geudens

Neo4j Field Team

Agenda

- **Who Am I** - getting the awkward stuff out of the way
- **20 minute introduction** - find the fraudster
- **Climbing up** - getting on top of mount improbable
- **Deep Dive** - jumping off
- **Another Viewpoint** - Bart takes over

Tom Geudens



(Tom) -[:LIVES_NEAR]->(Brussels)

(Brussels) -[:HAS_ALIAS]-> (`Hellhole of Europe`)

(Tom) -[:USED_TO_BE]-> (`IDMS DBA`)

(Tom) -[:IS_AUTHOR_OF]-> (`O'Reilly NetKernel Book`)

(Tom) -[:LOVES]-> (DevOps)

(Tom) -[:LOVES]-> (Neo4j)

Tagline : Tom regularly gets told to **get a life** but has so far been unable to find a link to download one.

20 Minute Introduction

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Who is the Fraudster ?

Blue Eyes



Not Sinatra



Blue Eyes



Terminology



Node - Entity, Object, Thing

Label - Class(ification) of a Node

Relationship - Physical link between two Nodes

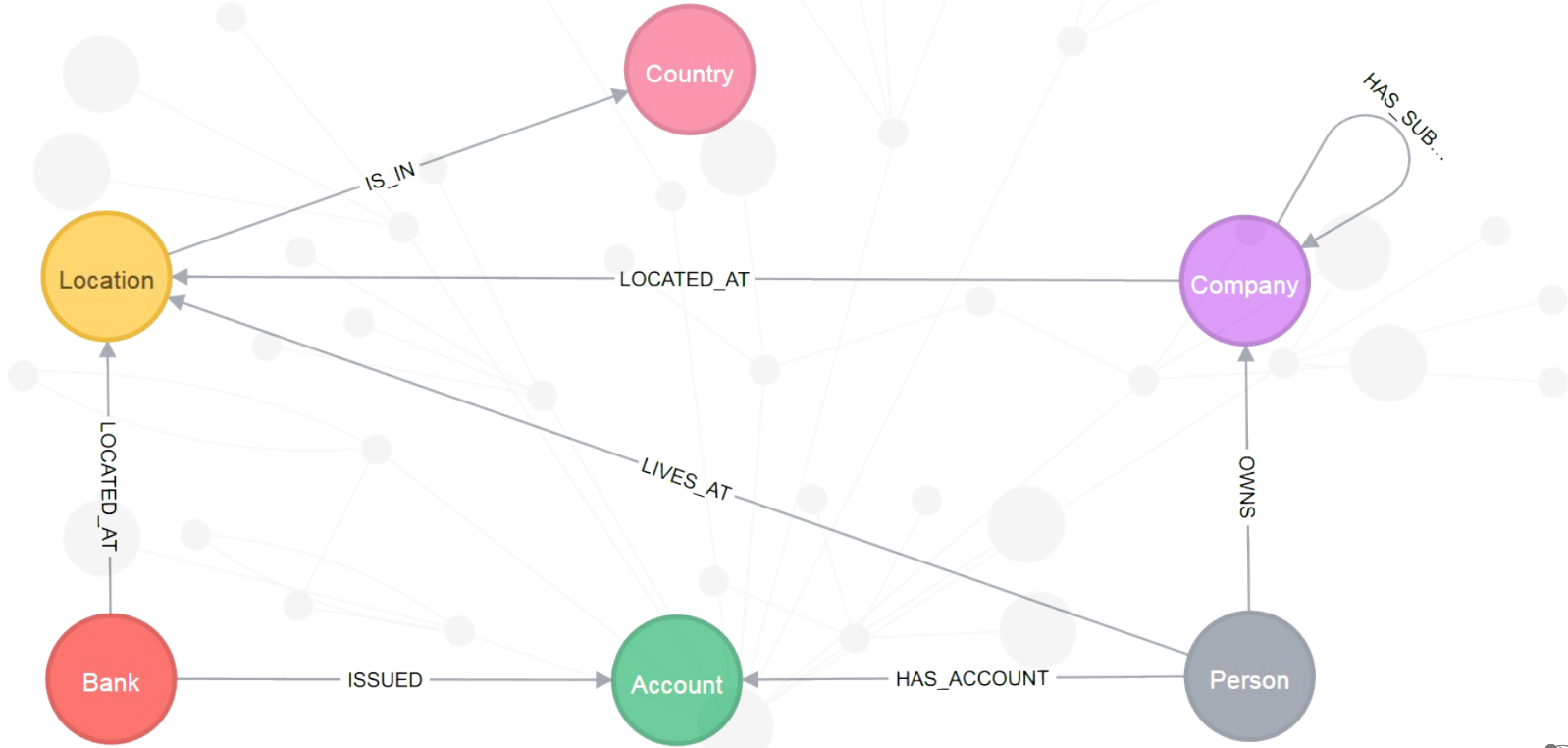
Type - Class(ification) of a Relationship

Property - Key Value Pair

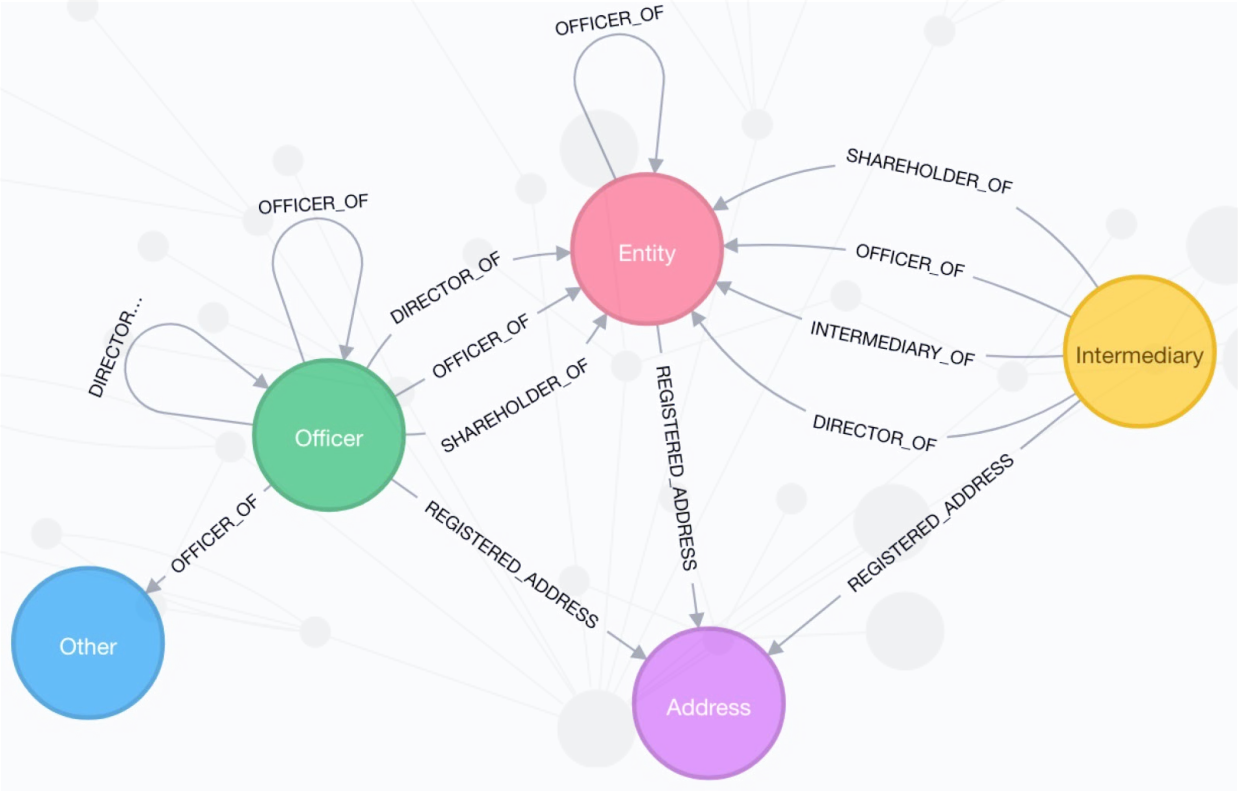
Demo(n)



Model Demo



Model Panama/Paradise Papers



Takeaways

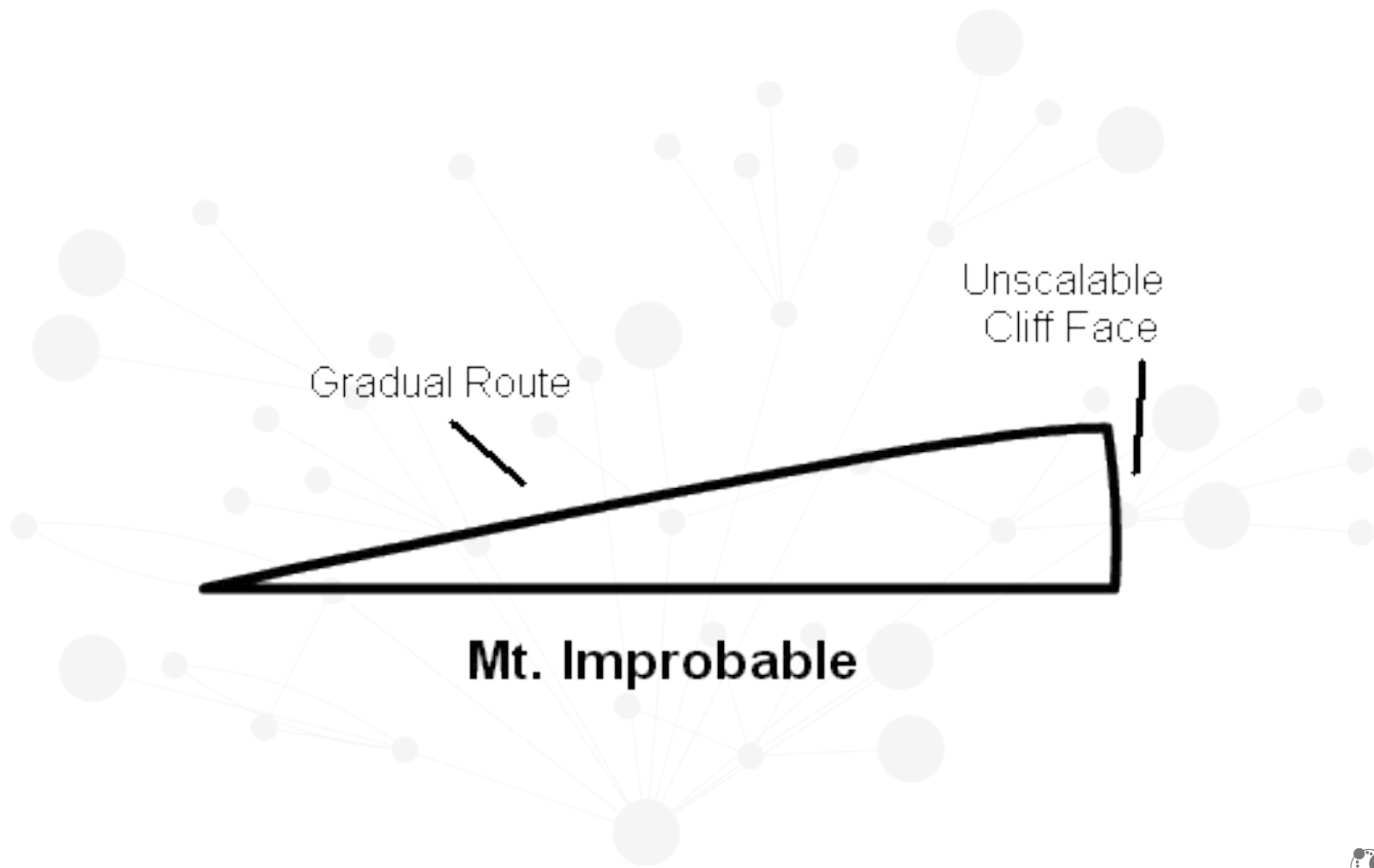
- Connected data is a **differentiator** and a **disruptor** (Google, Facebook, LinkedIn, ...)
- A graph database helps you make sense of connected data
- It is **not** about the complexity of the model, it is about the **complexity of the query**

Questions



Climbing up

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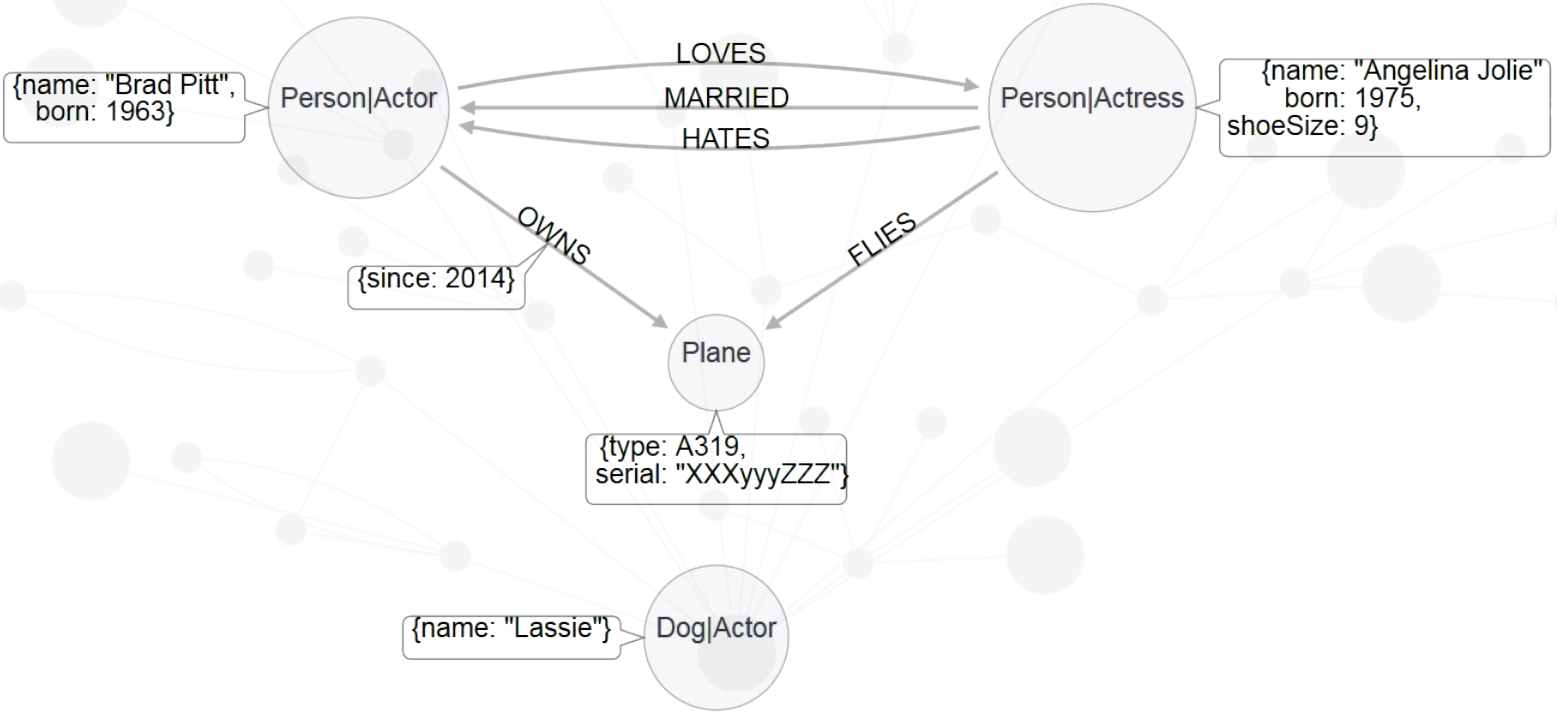


Use cases - Big words

- Enterprise Knowledge Graph
- Master Data Management
- GDPR
- ...

Big Words primarily require Big Buy-in !
(and then a graph database is a great tool to solve them)

Label Property Graph



LPG versus CODASYL

- **My Credentials** : 5 years as an IDMS database administrator at Belgium's largest retailer
- This is not so much a case of **versus** as a case of **evolution**, described in **1969**, many traces of the original **network database** can be found in native graph databases (such as Neo4j) today
- **Downsides** :
 - a. No query language
 - b. Very rigid structure made changes costly

LPG versus RDF

- **My Credentials** : multiple projects for multiple governments to publish linked open (rdf) data, owner of KBOData site
- With the Resource Description Framework you describe data as facts (aka triples) that form a graph and with SPARQL there is a query language to query such graphs
- **Downsides** :
 - a. RDF forms a very dense graph
 - b. None of the major triplestores are graph native

Questions

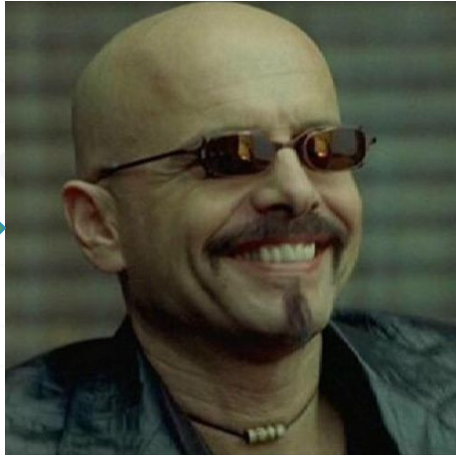


Deep Dive

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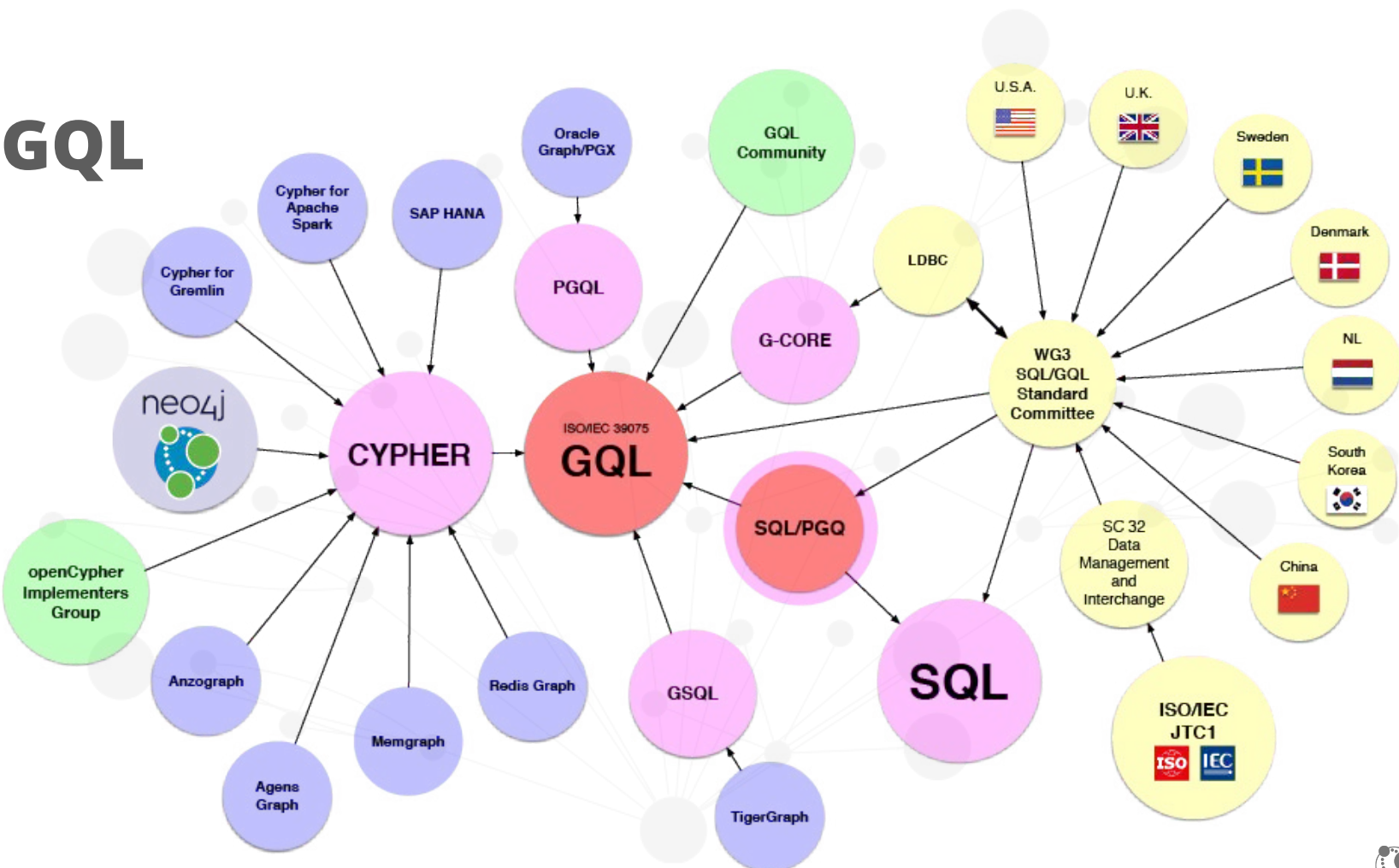
Quick Cypher overview ...

This is
Cypher



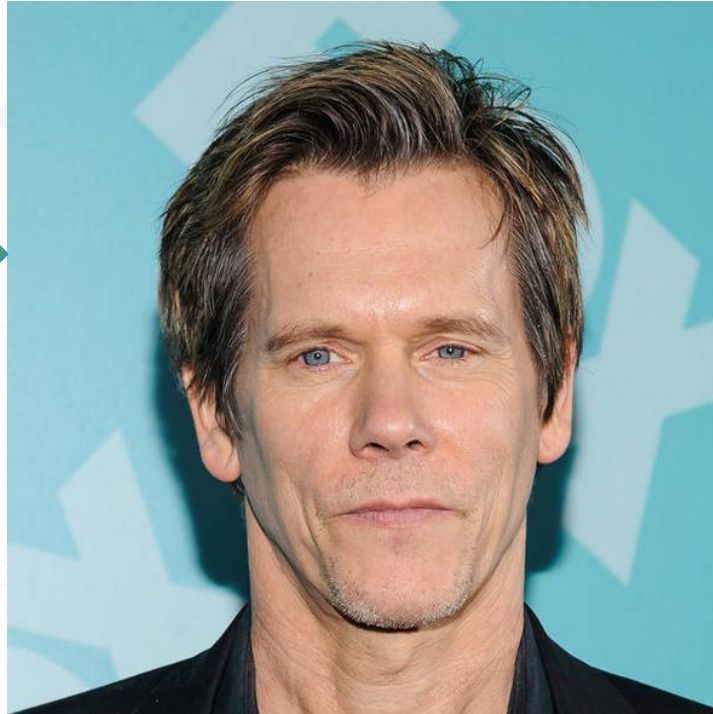
This is
Le Chiffre

GQL



Everybody knows my face ...

**My NAME
however is
Kevin Bacon**



So what, everybody knows my face too !

Nothing
funny to say
about this
guy ...



The Justin Bieber Problem

Actually the **Genre** nodes are examples of **dense** nodes, nodes with a very high *degree* that often indicate a *type* of some sort. So lets rethink again and give each of the movies the Genre(s) it belongs to as an extra label(s).

Questions



Another Viewpoint

Bart Maertens

know·bi