

The Slow Pace of Big Change
Disrupting the Real Estate Sector
From the Inside Out



Garry Golden
Forward Elements

pwc 
EMEA Real Estate Conference 2018 - Paris

The Slow Pace of Big Change

Why Software is Eating the World...

THE WALL STREET JOURNAL.

By MARC ANDREESSEN

August 20, 2011

2007



2017



Four Futures Thinking



**Continued
Growth**

**Disciplined
Constrained**



Transformed



**Decline
Collapse**

Foresight: The Ability to Describe Our Four Futures



**Continued
Growth**



**Disciplined
Constrained**

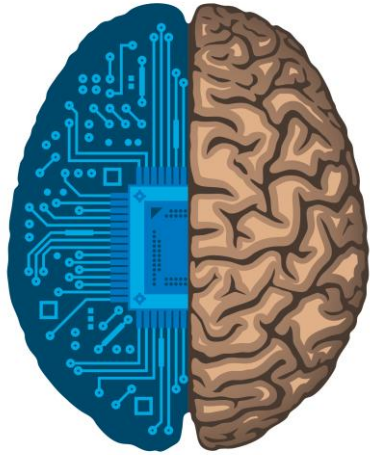


Transformed



**Decline
Collapse**

Drivers of Change 2020 – 2030



Data Disruption
Nature of Our Work



Blockchain
Trusted Transactions &
Programmable Assets



In the News

Stanford Business School is piloting a program with **Experience.ai** to capture experience data from learning, project performance and decision processes within case study groups. Stanford's vision is for every student to retain rights to experience data and build a critical personal digital asset for the future.

True

False



Context of the *Creepy Line*

Google

Inevitability of Dealing with the *Creepy vs Compelling Line* in..

Data-Driven Future of Work

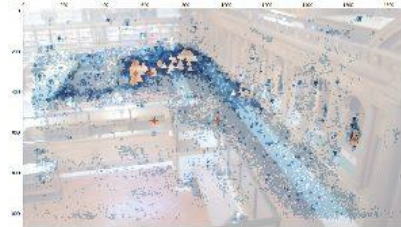
Data as an Asset Class for Individuals, Society & Enterprise



**Social
Data**



**Health
Data**



**MEASURE
the
FUTURE**

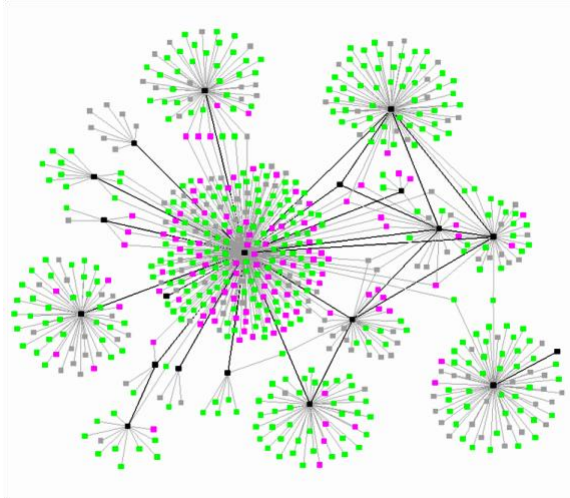
**Device
+ Place Data**

**EXPERIENCE
API**

“I did this...”

**Learning & Work
Experience Data**

The Big Idea...



**'Graph' Era of
Connected Data**



**Era of
Social Graphs**



**Era of
Experience Graphs**

2020s: Experience Data Appears Inside Workplace



Course



“I did this...”

Statements

Seamless Integration
into Enterprise Software



Real World

Scenario: People Build Out Assets of Experience Analytics

- Sarah **read** an article on blockchain for automating compliance
- Sarah **opened** an Evernote folder on blockchain solutions
- Sarah **watched** a Youtube video introducing the Ethereum blockchain
- Sarah **searched** for Ethereum Meetups in NYC
- Sarah **attended** the Crypto Compliance conference in NYC
- Sarah **mentored** with *Joe Lubin co-Founder of startup Consensys*
- Sarah **interviewed** the *Head of Blockchain Solutions at JPMorgan*
- Sarah **took** a course on developing on Ethereum using Solidity programming language
- Sarah **demonstrated** her pilot Ethereum application at a NYC Meetup
- Sarah **taught** a Coursera MOOC on Ethereum for KYC / AML
- Sarah **was hired** as Lead Developer of Blockchain Compliance Solutions at Fidelity



"I did this..."
Statements

Enterprise L&D: Early Adopters Socializing Experience Data

How did we do it?: Where are we now?

April 2018:

Over 3 million statements so far

Over **110,000** learners who are sending xAPI statements

We are using **1** LRS system which is segmented by data for each country

Last three months increased our total by 1 million statements

Summer 2019:

We will have **250,000+** learners using it and sending xAPI

We will have a global learning analytics community of around 100 people whose role (full/part) is to look at learning data and help transform our learning

xAPI xAPRIL Spotlight:
Volume & Privacy



Sarah Lindsell
Global Chief Learning Strategist at PwC



Steve Tomlinson
Global Senior Learning Architect at PwC

Start small and grow...this is a long journey

Scenario for 2020s: Lead Performers Embrace Experience Analytics



EXPERIENCE
API

Assumption to Explore

**By 2025, Experience Data
Will Become Our Most Valuable
Internal & Client Asset
for AI-Driven Innovations**

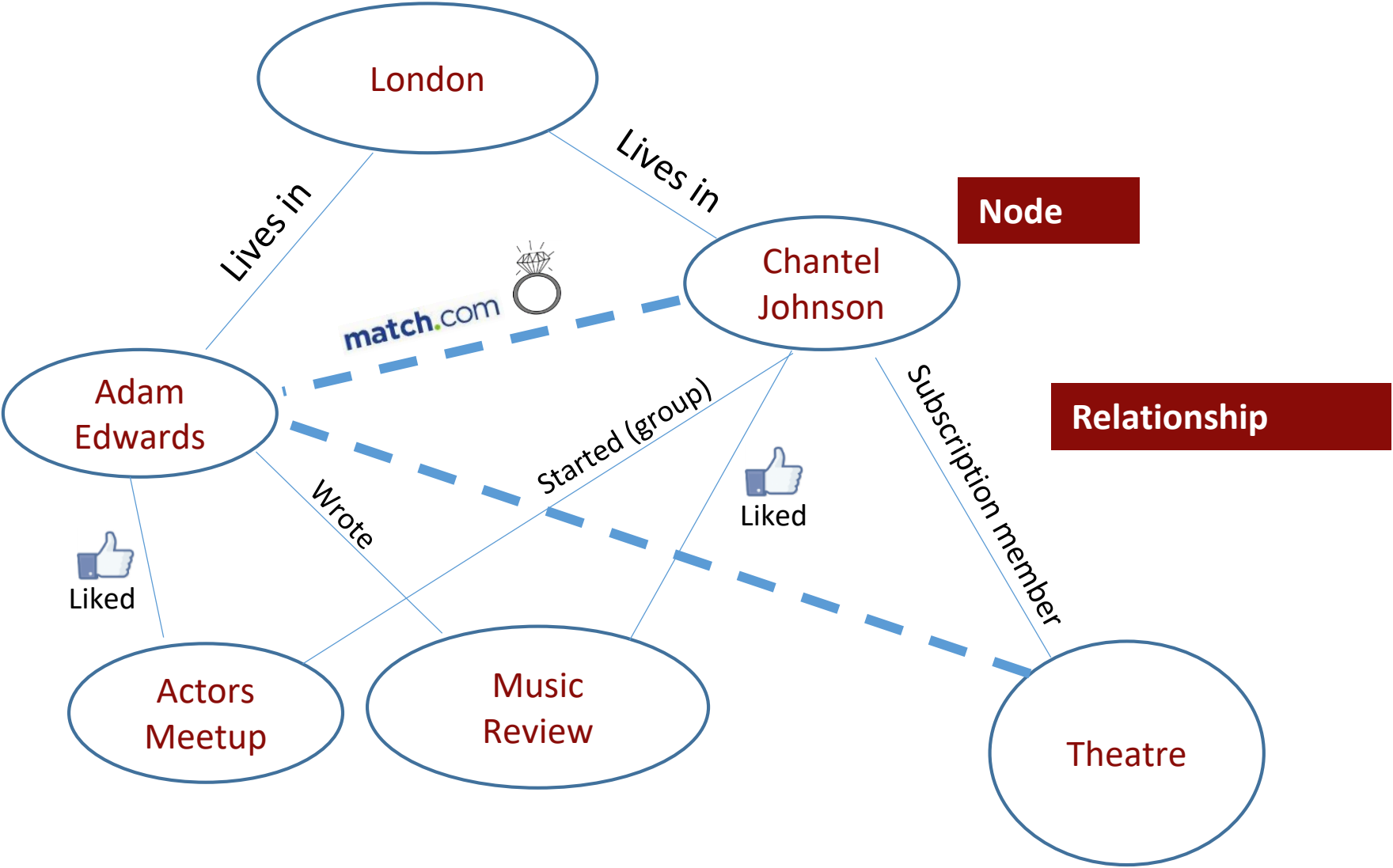
and Controversial

EXPERIENCE
API

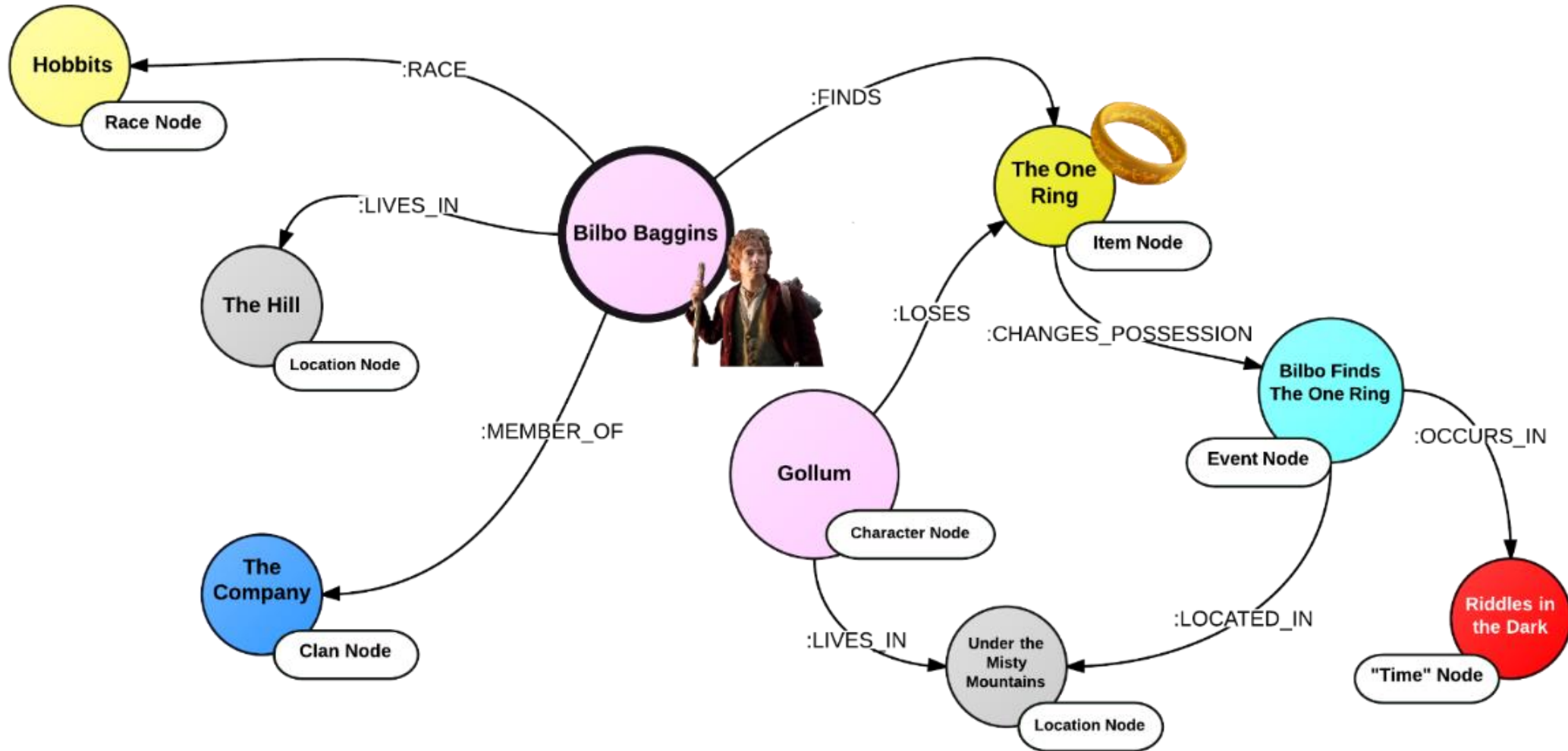
“I did this...”
Statements

**How do we approach regulatory?
How do we avoid the creepy line?
How do we make sense of it?**

Graph Analytics = Actions based on Relationships + Connections



Graph Analytics Transform Work & Project Performance



Mirrors the *Real World* to Reveal
Influencer Profiles, Decision Pathways and Recommendations

Could Experience Graphs Help us Understand More.. Improve Outcomes?

Imagining value to create and capture in understanding:

- Procedural Tasks
- Cognitive Tasks
(Complex decision; Problem Solving)
- Interaction with Tools
- Interactions Across Teams,
Partners & Clients



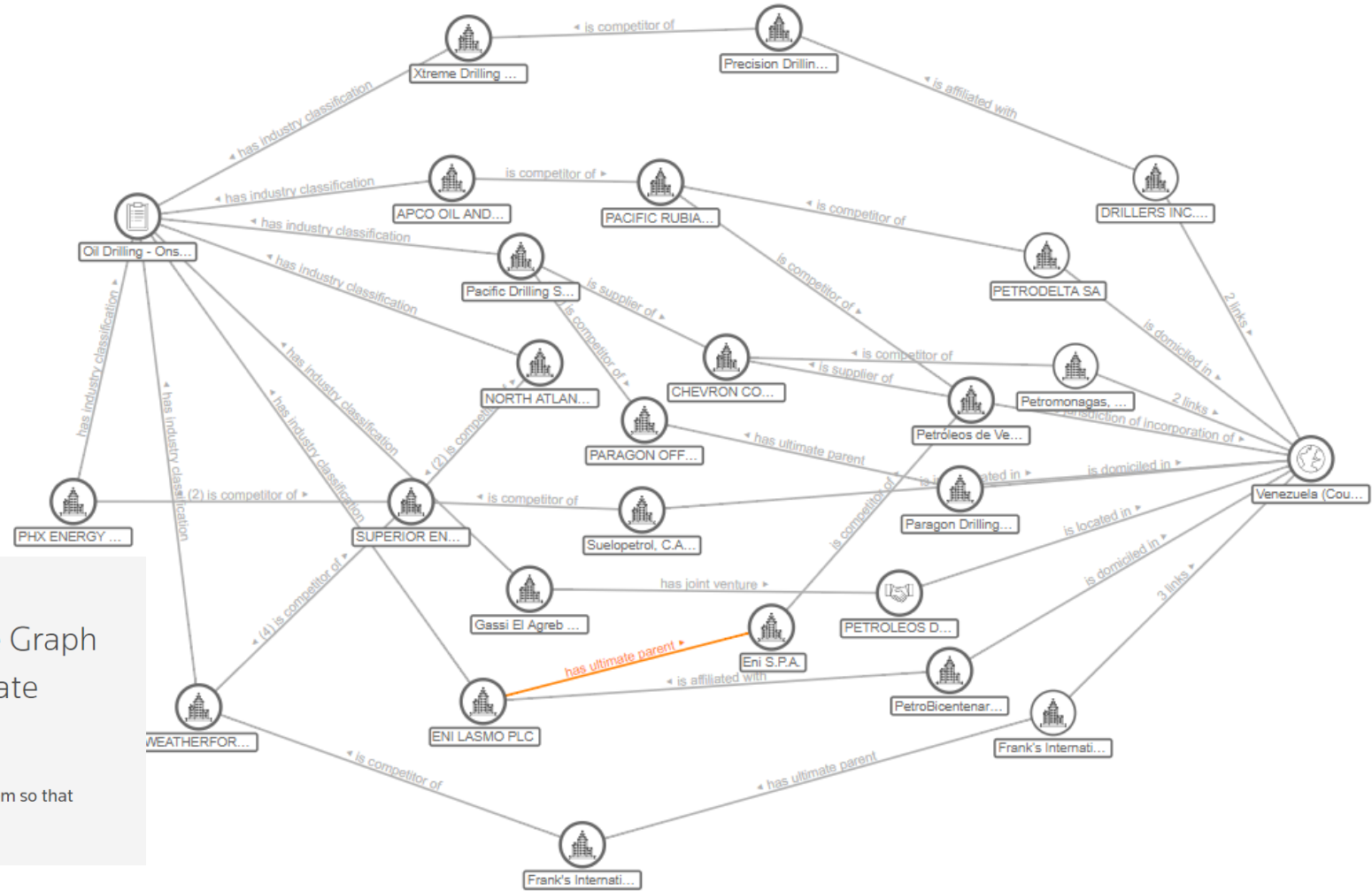
Real World Product = Enterprise Knowledge Graphs



OCTOBER 23, 2017

Thomson Reuters Launches first of its kind Knowledge Graph Feed allowing Financial Services customers to accelerate their AI and Digital Strategies

Graph network of 2 billion relationships brings to life a comprehensive view of the financial ecosystem so that users can uncover new, unexpected or difficult to find insights from connected data.



Real World Product = The Economic Graph

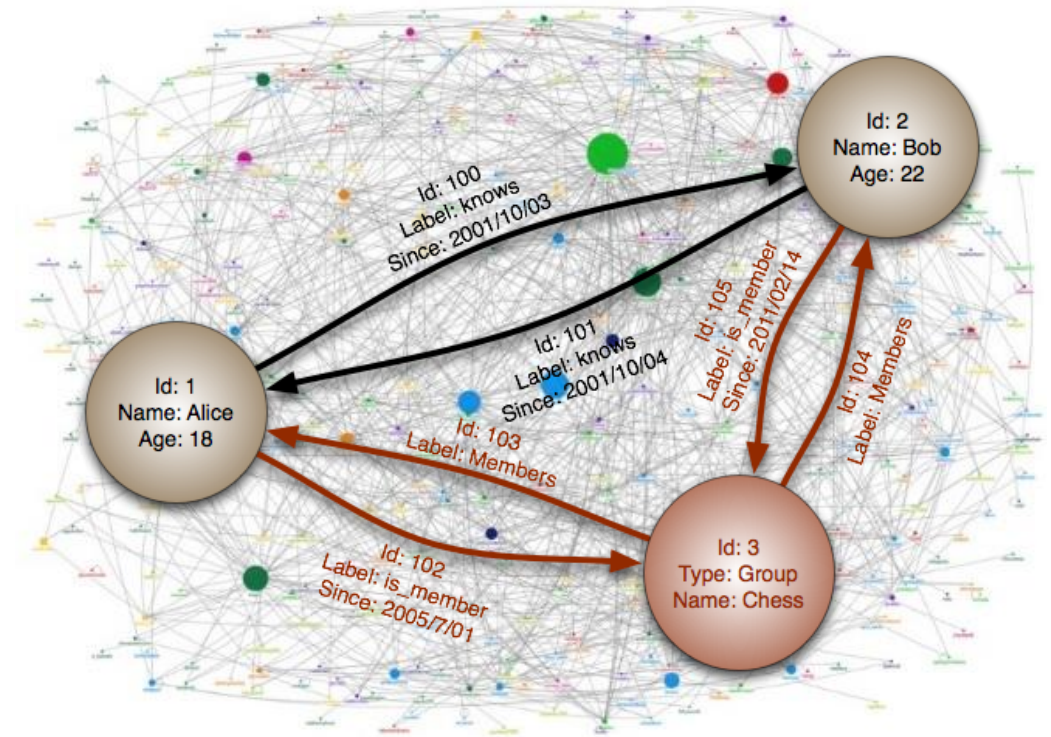


Members – Companies – Jobs – Skills – Schools – Knowledge

Scenario: Real Estate Graphs Transform the Sector

Roadmap to 2020s Capabilities:

- ❑ **Macro Economic Data**
Connected to Human Decision-Making
- ❑ **Operational Execution**
Connected to Workforce Experience Data



**Connected Data, Graph Analytics
& 'Experience Graph' Scenario**

Resources to Learn More

 Yet Analytics

Watershed^{LRS}

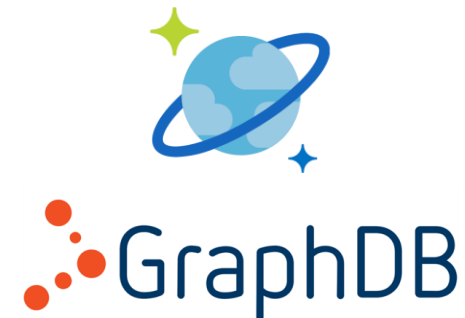
HT2Labs

 xapiapps

Experience Analytics
Learning Record Stores

 neo4j

 JanusGraph

 GraphDB

 OrientDB[®]

Graph Analytics
& Algorithms

Rethinking Assets via Trusted Records and Programmable Transactions



Evolution of the Web



*Internet of
Files*



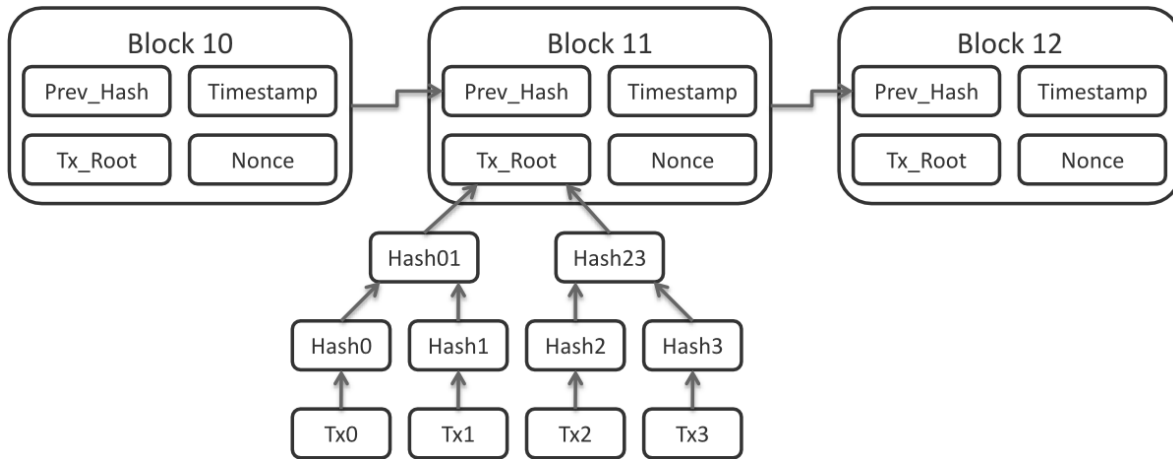
*Internet of
Social Networks*



*Internet of
Trusted Transactions*

In Records We Trust

Network Consensus on who did what...



**Ledger of Keys &
Asset Transactions**

A sample of EtherScript

```
note: ***An Ethereum smart contract to sell website for "5000 by March"  
note: First, store buyer's ethereum address:  
put: 6af267736363738ghgs7726337373737 in storage slot BUYER  
note: Then, store seller's ethereum address:  
put: 6af267736363738ghgs7726337373737 in storage slot SELLER  
note: April 1, 2014 is 13929839948 in "computer time"  
put: 16365437465 in storage slot DEADLINE  
note: If the agreed amount is received on time...  
When: transaction value ≥ 50000 ether  
and block timestamp ≤ storage slot DEADLINE  
then  
note: ... then designate the buyer as the new website admin and pay the seller  
put storage slot BUYER in storage slot WEBSITE_ADMIN  
Spend contract balance to storage slot SELLER
```

**Smart Contracts for
Business Process Automation**

T = 0

Property Performance, AEC & Facilities Management



UBITQUITY
One Block At A Time™.

TRANSPARENTLY RECORDING, TRACKING
TITLE, AND OTHER PROPERTY RECORDS.

Private Beta (v1.1.1) > API Now Available

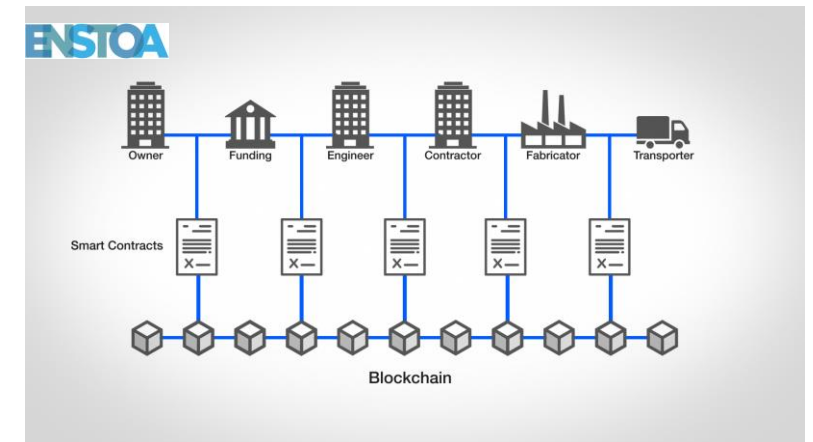


OSCRE International

Transforming the way digital information drives your real estate business



BRICKSCHAIN



Early Stage Partnerships in Adjacent Services



HILTON
WORLDWIDE

Early Days of Crypto Real Estate - Asset Tokenization



PRIME REAL ESTATE THAT IS ACCESSIBLE AND LIQUID



Say goodbye to multi-year lockdown periods and say hello to the future of real estate investing.



Slice lets everyone win. Private investors gain access to wealth building opportunities, while real estate owners and operators gain access to a large pool of untapped capital.



- + Get access to prime commercial RE with high returns and low fees.
- + Enjoy full transparency and know exactly what you're investing in.
- + Take advantage of unprecedented liquidity and cash out whenever you want.



Tokenizing property will allow real estate assets to be uniquely identified via a digital record that contains information regarding occupancy, physical characteristics, legal status, historical performance, and financial position.

Platform Uncertainties



Best Tokens Win



Best Platform Wins

Big Ideas: Liquidity & Asset-backed Financing Ecosystems



A blockchain-based protocol stack for global commerce and supply chains

Bridgecoin

- 1 A stable currency
- 2 Pegged to fiat currency
- 3 Your key to using the Sweetbridge Fund liquidity application



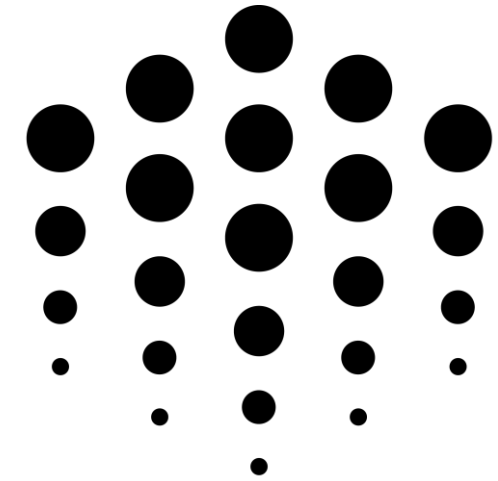
Sweetcoin

- 1 Enables interest-free borrowing
- 2 A limited-supply currency
- 3 Your key to exchanging Bridgecoin for fiat & using the Settlement application at no fee

Big Ideas: Decentralized Data Marketplaces

Offering tenants ability to anonymize, protect and leverage data:

- Property Performance Data
- Business Data (Retail / Fulfillment Centers)
- Energy Data & Environmental Credits



Ocean

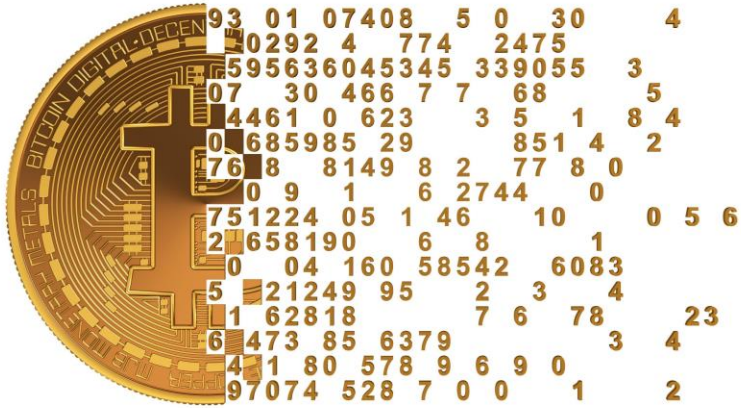


intertrust®

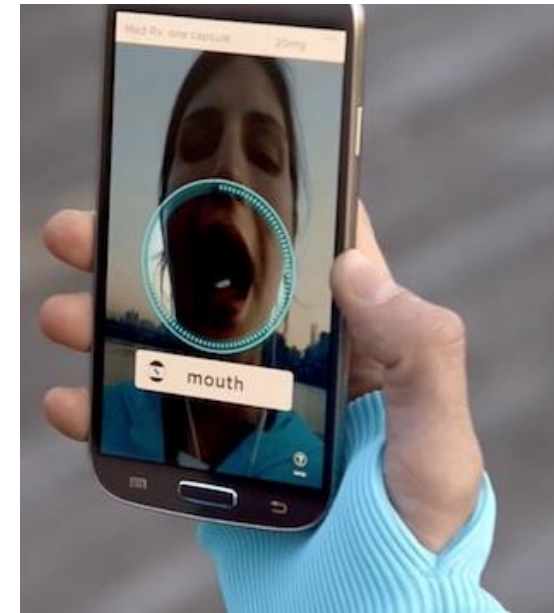


Big Ideas: Crypto Currencies Tied to Behavior Change

Incentivized Patients...



**Crypto Currencies + Smart Contracts
Automate Incentives for Adherence**



Scenario: Funds require crypto-economic incentives tied to property usage and performance outcomes

What is the biggest risk we might take over the next five years?

What element of the real estate market is ripe for disruption?



Thank you!

Garry Golden

garrygolden@gmail.com (Two Rs)

PDF & Resources

garrygolden.com/November8