Rethinking Crappy Legal Identities to Reduce Fraud

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What’s Covered?

• Introduction
• Fraud costs from a crappy legal identity
• Rethinking identity from the ground up
• Legal self-sovereign identity (LSSI)
• Corporate SSI to offer to your customers while governments slowly move towards an LSSI
Who Am I?

• My wife calls me an old fart
• I’ve led many large complex identity projects including Boeing, Capital One and Government of Alberta’s Digital Citizen Identity & Authentication project
• I’m a combination of a visionary, and an implementor, who likes to leave behind a sustainable framework system, long after I’m over the horizon
• I get my teams to view the framework from the governance, business process and technical perspectives, looking for attack vectors
Costs of a Crappy Legal Identity

1. **Ad fraud** – Estimated $42 billion a year
2. **Synthetic identity theft** – Estimated annual US costs of $6 billion with 1 million child identities stolen and used
3. **Identity theft** – Estimated US costs of $16.9 billion a year
4. **Medical identity theft** – Estimated US medical identity theft in 2019 of 382 breaches, costing over $2.45 billion

In ”Costs of a Crappy Legal Identity” (https://www.linkedin.com/pulse/costs-crappy-legal-identity-guy-huntington?trk=portfolio_article-card_title) I provide links to references for the above
Our Legal Identity System is Broke

• My premise:
  • It’s based on an ancient civil registration vital statistics (CRVS) system
  • Which uses old technology, i.e. paper
  • That doesn’t tie the person holding the piece of paper to the person
  • With no data standards
  • And no ability to query all CRVS systems around the planet to confirm an identity

• This has resulted in creation of unique identification numbers like SSN/SIN’s et al, which the previous slide shows are easy to maliciously obtain and use

• Then there’s the future rushing at us...
How Fast Will Disruption Happen?

Technology Change =
Moore’s Law * Metcalfe’s Law (network effects) *
Nathan’s Laws (software evolutions) * Bell’s Law
(computer architectures) * ‘Fuller’s Law’ (the knowledge
doubling curve)

Cognitive change
Social change
Business change
Political change

Past
Today

Political change
Business change
Social change
Cognitive change
Technology change

Human-driven ecosystems
Cognitively Sustaining innovations

Technology-driven ecosystems
Cognitively Disruptive innovations

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The Future is Now

• Emerging virtual selves requiring legal identities

• AI Systems
  • As these systems emerge, they're now able to legally run a company, write like us, patents are being applied on their behalf, running conversations with 650 million people, misinformation caused by bots, etc. How is their legal identity going to be determined?
  • https://hvl.net/pdf/ArtificialIntelligenceLegalIdentificationMarch2020.pdf

• Death & Digital Identities
  • How are banks et al going to be notified when a physical person dies, and their digital entities keep existing, thinking and acting?
  • https://www.linkedin.com/pulse/death-digital-identities-guy-huntington?trk=portfolio_article-card_title
  • https://www.linkedin.com/pulse/im-dying-know-guy-huntington?trk=portfolio_article-card_title
YIKES!!!!!!

• It requires a fundamental rethink in both human and AI System/Bot legal identities
Rethink Legal Identity

I’m working on two fronts:

• Governments rethinking legal human and AI system/Bot legal identity
• Corporations, i.e. banks/credit card companies, creating their own identity system for their customers to use
  • i.e. Pat Scannell’s curve shows the rate of political change is slow
Governments

- Together with Michael Kleeman, we co-wrote two proposals:
  - Rethinking Human Legal Identity
    - [https://hvl.net/pdf/ProposalsPaperDec42019Final.pdf](https://hvl.net/pdf/ProposalsPaperDec42019Final.pdf)
  - AI System/Bot Legal Identities
    - [https://hvl.net/pdf/BotsVerificationandIdentificationJan222020Final.pdf](https://hvl.net/pdf/BotsVerificationandIdentificationJan222020Final.pdf)

- Note: Read the appendix slide on biometrics, since biometrics weren’t included in the human proposal
100,000 Foot View

• At birth, obtain a person’s fingerprints and iris scan, and write these to a new CRVS system which is to global standards
• Write an anonymous entry into a TODA like system, with a hash being written to a NFC enabled physical identity card, to global standards
• Write legal identity information to the physical card and sync it with a legal digital NFC enabled app, to global standards
• Write an anonymous attestation to the same, indicating the person is a human, and either above or below age of consent
• Obtain a face image and write this to the physical/digital device
• Create a legal self-sovereign identity (LSSI) the person now controls
Enable CRVS’s to be Globally Queried

• The proposal establishes global standards for CRVS’s both in terms of data as well as queries

• This enables a person presenting themselves to a CRVS for a CRVS event, like name/gender change, marriage, divorce and death, to have their biometrics securely obtained, and then queried globally to confirm their identity

• From birth on, a person would have the highest level of identity assurance
LSSI Can Be Used in Many Different Ways

• Read this proposal I sent to the Canadian government showing them how to leverage a LSSI for Covid, et al
  • https://hvl.net/pdf/CdnLSSIcovidBusinessGovernmentPresentationMay282020GH.pdf

• Read this post “Do You Know Your Customers?” to see how it envisions leveraging LSSI to change the ad fraud game

• Read this post “Digital Health Records & Legal Identity” to see how LSSI can change health fraud

• Read this post “Covid, Sex & Identities” to see how it protects children
  • https://www.linkedin.com/pulse/covid-sex-identities-guy-huntington?trk=portfolio_article-card_title
Tie Digital Legal Identities To Physical LSSI

• Premise:
  • Where the risk warrants it, create legal digital identities which are tied in the new age CRVS to the underlying physical identity

• Read “Digital and Physical Identities - All That Glitters Is Not Gold” where I discuss Fraud 4.0, digital identities, et al

• Note:
  • Digital entities are rapidly becoming “smarter” than us, and will increasingly be able to “think” and “act” on our behalf
  • They also live on long after we’re dead
Create a Corporate SSI For Bank/Credit Card Customers

• Create a similar system we’ve proposed for governments, which banks/credit card companies can offer to their customers, reducing fraud risk, and increasing revenues

• Which, for this presentation, I’ll call it a CCSSI (i.e. a corporate customer self-sovereign identity)
100,000 Foot Level

• Offer a new service to your customers
• Register them and their children, by obtaining their fingerprints and iris scan
• Write an anonymous entry into a TODA like system, obtain the hash, and write it to the NFC enabled credit card/digital app (all to global standards)
• Write identity information to the physical card and digital app
• Take their face image and write this to the physical/digital devices
• Now the customer has their own corporate issued personal identity card they can choose how to release portions of their identity to
It Depends on Risk Using Their CCSSI

• Jane Doe can anonymously click on an ad, using her CCSSI
  • For which the advertiser would pay the bank/credit card company a very small fee

• She can choose to release increasing portions of her identity
  • The more she releases, the more the bank/credit card company is paid

• For low to medium risk the CCSSI card/app will likely suffice
  • i.e. Jane has in her possession the card/app, plus she authenticates to them using a 4 digit pin (or see the appendix slide using a biometric), her face and a liveliness test must match, plus the hash must be verified

• For high risk
  • Jane will be required to go to a bank, present her biometrics in a secure manner, which will be checked globally, to verify it’s Jane
  • The bank/credit card company will then be paid more to attest it’s Jane Doe
Leverage The CCSSI For Digital Entity Identities

If Jane Doe wants to create a virtual self, and use it to interact commercially with retailers, etc. she would do so by:

• Going to a bank

• Presenting her biometrics to have her identity verified

• Have the system write a unique identifier to a piece of code within the digital self (using new global standards to be created)

• Her legal digital virtual self identity is then tied to her CCSSI
Mesh the CCSSI with the LSSI When It Emerges

• Design the CCSSI such that it can rely upon both the LSSI and its own underlying biometric database, if and when the LSSI emerges

• One potential hypothetical advantage of a new LSSI is the ability for the bank/credit card company to be automatically notified when a person physically dies
Become More Central to Your Customers’ Lives

- The emergence of e-currencies, et al means the traditional relationship between a bank/credit card company with your customers is changing

- Creating a CCSSI, it places the bank/credit card company in a central position in their physical/digital lives, since they use it almost everywhere to prove their identity

- At the same time, it reduces fraud risk, increases revenue, and creates a relationship with the customer from their birth on
Price CCSSI Services Based on Risk

• The bank/credit card company can be potentially liable when attesting Jane Doe is Jane Doe
• Therefore, price the model based on risk
• High risk requires larger pricing to offset risk of liability
Summary

• In a recent post I used Bob Dylan's song "The times they are a changin’" to close

• As technology price points drop, and sophistication leveraging AI increases, the world changes

• Businesses can’t look backwards to judge what's coming at them

• Increasingly, this no longer works

• We live on a small planet, which requires the ability for a person to legally identify themselves physically and digitally

• Opportunity knocks for those who can see the waves of change coming
Contact Information

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• I live in West Vancouver, BC, Canada

• I do consulting with C-suites and Boards on LSSI
Appendix Slides
Keeping CCSSI Up With the Curve

• Suggest that credit card/banks expand their existing security services, by creating a continuous threat assessment centre for identity assurance for the CCSSI

• It would monitor everything from the governance, business process and technological infrastructure, producing threat assessments

• Banks and customers would be required to change their cards, apps, services et al, based on the threat risk

• This addresses Pat Scannell’s technology change curve, by always ensuring the entire identity ecosystem is secure
Identity Architecture for a Corporation

• I created this deck “Rethinking Corporate Human & AI/Bot Identities” which I suggest you folks read
  • [https://hvl.net/pdf/RethinkingCorporateHumanAIBotIdentities.pdf](https://hvl.net/pdf/RethinkingCorporateHumanAIBotIdentities.pdf)

• It lays out a new age identity architecture for companies

• Within the deck, you’ll see me saying the age of LDAP is over, as well as the diminishing requirement for traditional GUIDS within an enterprise
Creating a Personal IAM

• In my papers and posts, I call out for development of a personal IAM system
  • Read page 12 on of this paper

• I know of at least one company that’s coding for this

• I have thought that banks/credit card companies, telcos and the giants like Google et al, would be the entities who’d want to create this, to establish themselves closest to their customers
Anonymous Biometric Identifiers

• Rud Bolle’s innovative paper “Anonymous Biometric Identifiers – Revisited”
  • Written in 2015, he proposes creating anonymous, revocable biometrics used for authentication
  • https://hvl.net/pdf/BolleAnonymousBiometricIdentifiersRevisited2015.pdf

• I can see companies adopting this as a form of authentication for their customers
Biometrics for a CRVS/CCSSI

• In the incremental legal identity paper I cowrote with Michael Kleeman, we didn’t propose use of biometrics, writing a note in the appendix suggesting this would be a good idea.

• In these two papers I did recommend use of biometrics pointing out some of the problems associated with biometrics and secure storage of them:

• “Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet
  • [https://hvl.net/pdf/Where%20Shit%20Happens%20March%202019.pdf](https://hvl.net/pdf/Where%20Shit%20Happens%20March%202019.pdf)

• Human Migration, Physical & Digital Legal Identity
Human Cloning

We’ve come a long ways from Dolly the Sheep in 1996:

• In China, Boyalife, currently clones 100,000 cows a year working towards 1 million
• In 2015, their CEO publicly stated they could clone humans but weren’t
• In effect, the cloning genie is out of the bottle
• Governments and businesses will have to address how they’re going to legally differentiate Jane Doe 1,2,3, 4, etc.
Rapid Rate of Change

• I recently wrote “You Can’t Hide” letting people know the rapid pace of change is going to affect their lives
  • https://www.linkedin.com/pulse/you-cant-hide-guy-huntington?trk=portfolio_article-card_title
Schools and Change

• I’m a passionate person about learning

• If you read this post “Bots in the Classroom” you’ll see my vision on how to rethink schools leveraging LSSI, digital learning twin, bots in the classroom, et al

• Read this post to see my recommendations on how to start out creating a digital learning twin: