

Covid, Business, Canadian Government & LSSI



Guy Huntington, President, Huntington Ventures Ltd., May 28, 2020

The Challenges We're Addressing

- How to enable people to anonymously, legally, prove they've been Covid vaccinated, physically or digitally, which works not only in Canada but globally
- \$42 billion dollar annual advertising fraud (of which approximately \$113 million occurs to Canadian businesses)
- Tens of millions of identity fraud cases, globally, annually (about 27,000 Canadians)
- Proving you're a human, not a bot, and above or below age of consent, physically and digitally, anonymously. This is critical in the age of political, social and media mis-information

Premise

- The underlying legal physical and digital identity framework is broken
- We're using technology from the middle ages, paper, to document human births, deaths etc.
- There's no ability to cross-search civil registration vital statistics (CRVS) systems, no data standards, resulting in large scale identity fraud both physically and digitally
- Even if this exists, it still won't solve the problem. Why? There's no ability to tie the person holding the piece of paper/digital document to the actual human identity
- AI system/bots are now able to masquerade as humans, resulting in large scale misinformation, business fraud, etc.
- Thus, it requires a complete rethink of human and AI system bot legal identities

The Solution Framework - LSSI

- Create a legal self-sovereign identity (LSSI) for each person, from birth on both physically and digitally, biometrically tied to the CRVS entry
- Enable the LSSI to prove you're a human and either above or below age of consent
- **What's an LSSI?**
- It's a combination of a new physical legal identity card, plus a digital version of it
- Contains your legal identity which you control, i.e. the gov't issues it to you, and then gets out of your way
- You determine where and how you want to use it
- It works globally, regardless of where you are on the planet, physically or digitally

Allow CRVS & Legal Identity Systems to Write to the New LSSI Cards/Digital App

- The CRVS/legal identity system writes to the new LSSI physical cards and digital legal identity app
- For each transaction, it writes an anonymous entry into a blockchain like system, creates a hash, encrypts it and writes to the physical/digital LSSI
- The person now controls their legal identity information
- A face image is also obtained, not stored on government systems, and written to the LSSI card/digital app

The Solution Framework - Covid

- Use a similar approach for Covid vaccinations
- After vaccination, the Health authority would write a anonymous transaction to a Blockchain like system, create a hash, encrypt it and write to the person's physical/digital LSSI
- The person can now legally, anonymously prove they've been Covid vaccinated

The Result:

- All of the above creates a new legal tool the person controls, allowing them physically and digitally to:
 - Prove they're a human, not a bot, and if they're above or below age of consent
 - Anonymously prove they've been Covid vaccinated
 - Use the LSSI to release portions of their legal identity, with their consent, to enterprises, governments, etc.
 - Manage the legal identities of their children and people for whom they're Power of Attorney for, etc.
 - Interact with businesses and people, digitally and physically, as they walk down a street
 - Examples are the best way to explain this using Jane Doe...

Prove She's Been Covid Vaccinated

- Jane approaches a physical barrier like an entrance to a subway station
- She's preconfigured both her physical and digital LSSI to broadcast out her Covid vaccination anonymously
- She taps her physical LSSI, or phone with her legal digital app against the NFC sensor
- It takes the information, checks the hashed entry against the blockchain entry, see's it's valid, then compares Jane Doe's face against the image sent from the LSSI, and instantly shows a green check mark, letting her in

Jane Goes Shopping

- Read this recent LinkedIn post to see an example of Jane Doe walking down a shopping mall:
 - https://www.linkedin.com/pulse/advertising-fraud-identity-future-guy-huntington?trk=portfolio_article-card_title
- It shows Jane in control of her legal identity both physically and digitally as she walks down the mall
- It also shows how the world of advertising and marketing will change, significantly reducing the \$42 billion dollar ad fraud enterprises are currently paying for
- Advertisers will pay variable amounts for Jane's identity, e.g.
 - Pay less for her proving she's a human and not a bot anonymously
 - Pay more for her consenting to release increasing amounts of her legal information

Jane Takes Her Child to it's First Day of School

- Jane supplies her physical/digital LSSI proving it's her
- She supplies her child's LSSI proving it's the child, and she's her parent/legal guardian
- She provides her consent for the child's Covid vaccination to be proved via her child's LSSI
- She provides her consent to the school to only use her child's anonymous legal identity if they're using AI/AR/VR environments on a time limited basis, e.g. expires the end of the school year
- Any exceptions where the school wants to use her child's legal identity will have to be obtained from Jane on a case by case basis

Jane Wants Her Parents to Look After Her Child For a Month

- Jane provides her legal consent to her parents to legally administer Jane Doe's physical and digital LSSI for a month
- Her parents can now, with limitations, prove their grandchild's identity to others. e.g. hospitals, friends the child is playing with using AI/AR/VR technology, etc.

Jane Applies for A Job

- Jane gives her consent during the recruiting process, either physically or digitally, by providing her LSSI
- The employer now knows who Jane Doe is, and takes her full legal identity plus contact information , entering it into their data systems

Jane Moves to a Different Jurisdiction

- With her consent, Jane provides her fingerprints and iris to be used to confirm her identity with the CRVS
- The jurisdiction now has a high confidence it's Jane, issuing her with new jurisdiction LSSI both physically and digitally, automatically enrolling her in jurisdiction government programs etc.
- The jurisdiction's identity theft rates plummet since it's very hard for a criminal or a bot to masquerade as Jane

Jane Creates A Legal Digital Self

- Jane wants to create a legal digital self to interact with businesses, governments, etc.
- She logs on to the CRVS system in her jurisdiction and proves her legal identity by providing, with her consent, her digital LSSI
- She then registers a new digital self
- This involves the CRVS writing a unique digital identifier/certificate securely into the digital self code, to global standards
- **Businesses, governments et al now can know who the digital entity they're dealing with is registered and tied to a physical legal identity**
- **All legal human digital identities MUST tie to the singular human legal identity**

Jane Loses Her LSSI Card/Digital Legal App

- Jane notifies the government authorities she's lost it
- They ask her to provide her consent to release her biometrics
 - She agrees
- They securely obtain her iris scan and fingerprints and send it to the CRVS to legally confirm it's Jane
- They revoke her old LSSI card and digital legal app
- Reissue her with another

Jane Votes Using Her LSSI

- Jane can vote either physically or electronically, using her physical or digital LSSI
- If she's voting physically, she provides her physical LSSI with her consent to provide her legal identity. The voting registrar's system verifies Jane's identity, then compares the face image stored on her card to Jane's face. It checks, so Jane can now vote
- If she's voting digitally, she provides her digital LSSI with her consent to provide her legal identity. The voting system verifies Jane's identity, then asks Jane to prove a live photo with a liveness check, comparing this to the one stored on her digital LSSI. It checks, so Jane can now vote

Rapid Rate of Change

- This diagram shows a logarithmic rate of technological change, outstripping our cognitive abilities to keep up
 - <https://hvl.net/pdf/PatScannellHockeyStickShapedCurve.pdf>
- In practical terms, it means today's best legal identity verification system can quickly become tomorrow's turd
- To address this, we're proposing creation of a global, independent, legal identity test centre, continuously doing threat assessments
- All jurisdictions will respond in the same manner, e.g.
 - A very low threat might take months or longer to address
 - A very high threat will be responded to in hours
- Thus, we're bringing industry best practices to the world of legal identity

What's Required to Make All of This Work?

- Rethinking CRVS systems to new global standards
- Rethinking existing forms of legal identification such as driver's licenses, identity cards et al both physically and digitally to new global standards
- Enabling the CRVS to act as a certificate authority
- Writing CRVS events, anonymously, to a blockchain like system, creating a hash, encrypting it and writing it to the person's physical and digital LSSI
- Rethinking laws/regulations by leveraging LSSI

Canada and its Trade Partners

- The rapid rate of change means it's becoming increasingly difficult for businesses to profitably offer products, services and work with human and AI systems/bots across multiple borders, since each has their own way of human and bot identification systems
- In this briefing document it discusses how business will become a major driver to update existing trade partnerships allowing them a level playing ground
 - <https://hvl.net/pdf/BackgroundInformationJan172020.pdf>
- The Canadian Government and Canadian business should take the lead in innovating LSSI to offer new ways of doing business across different jurisdictions

Funding This

- In a time of a pandemic, most provinces aren't going to have the budgets to rethink their CRVS, driver's license, identity card systems
- Thus, it makes sense for the federal government to fund this, rapidly implementing LSSI

Leveraging Canada Around the Planet

- The same cost to redesign the Canadian provincial CRVS systems, can be leveraged to license, or give away the system, as part of a foreign aid package to other countries, thus boosting Canada's political and economic leverage
- Canada already plays a leading role in CRVS systems by its funding of IRDC's Centre of Excellence for Civil Registration and Vital Statistics Systems
- Leverage it by rethinking CRVS systems
- It also makes sense for Canada to fund the hub of the global independent legal verification test institute in Canada
- This helps cement Canada's leadership globally

Summary – LSSI's Time Has Come

- The Pandemic is an opportunity to rethink how we live, work and play, not only in Canada but around the planet
- LSSI enables a way to prove one's been Covid vaccinated, legally, anonymously
- LSSI offers very significant benefits to each Canadian citizen, business, municipal, provincial and federal governments
- LSSI enables legal registration of digital twins, virtual selves, AI systems and bots , both locally within Canada and globally around the planet
- **Canada should be playing a leadership role in this space, because the potential political and economic benefits are very significant**

Appendices

- Who am I?
- Co-authored two legal identity proposals
- Covid and rethinking human legal identity
- Child sex slaves
- A bit of a deeper dive into LSSI
- Docs you might want to peruse
- Human cloning
- My contact information

Who Am I?

- I'm Guy Huntington, an old, very experienced identity architect whose past clients include Boeing, Capital One and the Government of Alberta's Digital Citizen Identity & Authentication project, who lives in West Vancouver, BC
- I've written over 30 papers on why we need to rethink human and AI/Bot legal identities
 - <https://hvl.net/pdf/Who%20am%20I%20identity%20verification%20papers%20summary%20Mar%202019.pdf>

Co-authored Two Legal Identity Proposals

- I've also co-written two proposals with Michael Kleeman, cofounder of many different telcos around the planet, and ex-Boston Consulting Group:
 - Incremental Approach to Implementing New Age Legal Identity
 - <https://hvl.net/pdf/ProposalsPaperDec42019Final.pdf>
 - “Proposals for Identification of Bots (Physical and Virtual Robots)”
 - <https://hvl.net/pdf/BotsIdentificationJan22020Final.pdf>
- Both of us are a combination of visionaries who like to deploy sustainable solution frameworks long after we're over the horizon (including governance, admin, business processes and technological infrastructure)

Covid and Rethinking Human Legal Identity

- Michael's currently working with the Red Cross in 3 African countries, designing use of an iris scan to uniquely identify people, since the current state of CRVS's in many parts of Africa is very weak
 - <http://devinit.org/wp-content/uploads/2019/10/measuring-the-state-of-civil-registration-and-legal-identity.pdf>
- Both of us agreed it was an opportunity to rethink human legal identity using the vaccination process to legally register people
- This led to me assembling a small group of identity experts from around the planet to begin working through use cases
- You can find a list of the use cases we're working on here
 - <https://hvl.net/pdf/CovidLSSIUseCasesMay282020GH.pdf>

Legally Identifying Children - Migrants and Sex Slaves

- The LSSI solution described above can assist governments in determining the real legal identity of a child, via their fingerprints and iris scan and comparing this to CRVS systems around the planet
- In this thought paper “Human Migrants, Physical & Digital Legal Identity”, it dives deeper into explaining how this would work
 - <https://hvl.net/pdf/HumanMigrationPhysicalDigitalLegalIdentityMar2020.pdf>
- It can also assist authorities in identifying children used in sex rings
 - When the child comes to authorities attention, their real legal identity can be determined
 - However, it won't solve this if the criminals keep the children off the legal grid

The Solution Framework – Rethinking CRVS Systems:

- Create data standards for CRVS systems as well as a global common protocol where, with the citizen's consent, their identity can be searched at all CRVS systems to confirm it
- Obtain iris and fingerprints at birth, enter this into the CRVS system, tying the physical identity to the CRVS event
- Design the underlying CRVS biometric database on the assumption it will be breached at some point in the future, designing mitigation risks of illegal write and/or exports. **THE BIOMETRICS MUST NEVER LEAVE THE CRVS DATABASE**
- Create the ability for CRVS systems to become certificate authorities

The Solution Framework – Rethinking Driver’s Licenses, Identity Cards et al

- Convert existing legal identification devices, e.g. driver’s licenses, identity cards, national ID cards, et al to NFC devices to global standards
 - NFC is Near Field Communication Cards just like your credit card
- Create global standards for these:
 - Physically
 - Digitally
- For each CRVS event or Legal Identification event (e.g. new driver’s license, etc.) occurring to a person, have the CRVS/Gov’t Legal Identity System write an anonymous transaction to a Blockchain like system, take a hash of it, encrypt it and write this to the person’s NFC enabled physical/digital LSSI
- Have the CRVS/Gov’t Legal Identity System take a facial image of the person and write this to their NFC LSSI both physically and digitally. The face image isn’t stored in the CRVS/Gov’t Legal Identity System

The Solution Framework – It Has to Work For Infants/Children, Power of Attorney, etc.

- Design the physical/digital LSSI such that parents, legal guardians, people having power of attorney, etc. can legally manage other peoples legal identities
- This is complicated
- That's why in the incremental human proposal, you'll see it's a separate project, likely involving lots of lawyers, privacy folks, government people etc.

The Solution Framework – Tie Human Legal Digital Identities to the Physical Person

- Not all human digital identities require legal identification
- However, when they do, the digital identities would be registered in the CRVS and tied to the singular human legal identity
- **All legal human digital identities MUST tie to the singular human legal identity**
- **Thus, legal digital identities would have a digital LSSI tied to the physical LSSI**
- When the human identity dies, develop laws/regulations on what happens to the legal digital identities

Other Docs You Might Want to Peruse

- Digital Twins, Virtual Selves, Identity, Security & Death
 - <https://hvl.net/pdf/DigitalTwinsVirtualSelvesIdentitySecurityDeathFeb142020.pdf>
- Artificial Intelligence & Legal Identification
 - <https://hvl.net/pdf/ArtificialIntelligenceLegalIdentificationMarch2020.pdf>
- Human Migration, Physical & Digital Legal Identity
 - <https://hvl.net/pdf/HumanMigrationPhysicalDigitalLegalIdentityMar2020.pdf>
- Young Children's Data Privacy Challenges in the Tsunami Age
 - <https://hvl.net/pdf/YoungChildrenDataPrivacyChallengesTsunamiAgeJuly2019.pdf>
- When Our Legal Identity Trust Goes Poof!
 - <https://hvl.net/pdf/When%20our%20legal%20identity%20trust%20goes%20poof%20Jan%202019.pdf>

Human Cloning and Legal Identification

- We've come a long way from Dolly the Sheep, the first cloned mammal in 1996
- Today in China, Boyalife currently clones 100,000 cows a year working towards 1 million
 - <https://www.boyalifegroup.com/our-business/genomics/>
- In 2015, their CEO publicly stated they could clone humans but weren't
 - <https://www.businessinsider.com/afp-china-clone-factory-scientist-eyes-human-replication-2015-12>
- In effect, the cloning genie is out of the bottle. It's only a matter of time until someone announces they've cloned humans
- Then, all the countries around the planet will have to wrestle with how they're going to legally identify Jane Doe 1,2,3,4 etc.
- The proposed LSSI solution addresses this, e.g. fingerprints and iris are likely enough to differentiate genetic clones

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