The Business of Identity Management

Harnessing Technological Tsunami Wave of Change

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Note to Reader:

I have been writing about rethinking civil registration systems since 2006

- ▪ "The Challenges with Identity Verification"

Over the last year and a bit, I have written 32 papers, including two proposals, on the impacts from the technological tsunami. Here's a listing of them, by subject area, with links to each one:

- Thought Papers
  - o Artificial Intelligence & Legal Identification – A Thought Paper
    - ▪ Artificial Intelligence & Legal Identification
  - o Human Migration, Physical and Digital Legal Identity – A Thought Paper
    - ▪ Human Migration, Physical and Digital Legal Identity
  - o Digital Twins/Virtual Selves, Identity, Security and Death – A Thought Paper
    - ▪ Digital Twins/Virtual Selves, Identity, Security and Death
- Proposals and Discussion Paper:
  - o Bot Legal Identity Proposal
    - ▪ Proposals for Identification of Bots (Physical and Virtual Robots)
  - o Human Legal Identity Proposal
    - ▪ Proposals Paper – Incremental Approach to Implementing New Age Legal Identity
  - o Background Information on Legal Identity, Data, Consent and Federation
    - ▪ Background Information on Legal Identity, Data, Consent and Federation
- Example story of an identity's lifecycle
  - o The Identity Lifecycle of Jane Doe
- Technological Tsunami Wave of Change
  - o Harnessing the Technological Tsunami Wave of Change
- Legal Privacy Framework for the Tsunami Age
  - o Legal Privacy Framework for the Tsunami Age
- One-page summary
  - o One Pager - The Age of AI, AR, VR, Robotics and Human Cloning
- Technological Tsunami and IAM
  - o Technological Tsunami & Future of IAM

- New age identity, data, and consent
  - Privacy Gone – AI, AR, VR, Robotics and Personal Data
  - I Know Who You Are & What You're Feeling - Achieving Privacy in a Non-Private World
  - Consent Principles in the New Age – Including Sex
  - Policy Principles for AI, AR, VR, Robotics and Cloning – A Thought Paper
  - Legal Person: Humans, Clones, Virtual and Physical AI Robotics – New Identity Principles
- Kids and Parents Privacy
  - Young Children Data Privacy Challenges in the Tsunami Age
  - Kids Privacy in Non-Private World - Why Even Super Hero's Won't Work
  - Children & Parent Privacy in the Tsunami Age
- Robotics, Clones, and Identity
  - Legally Identifying Robots?
  - Rapidly Scaling Robot Identification?
  - Virtual Sex, Identity, Data & Consent
  - I'm Not a Robot
- New age civil registration legal identity framework
  - "Why the New Age Requires Rethinking Civil Registration Systems"
  - "What New Age Civil Registration Won't Do."
- New Age Assurance
  - "New Age Assurance – Rethinking Identity, Data, Consent & Credential"
- Deploying AI, AR, VR, robotics, identity, data and consent in challenging locations
  - "Where Shit Happens"
- Protecting the civil registration/vital stats infrastructure
  - "When Our Legal Identity System Goes, "Poof!"
- New age architecture principles summary
  - "New Age Architecture Principles Summary"
- Leveraging Blockchain and Sovrin
  - "A Modern Identity Solution: New Age Vital Stats/Civil Registries, Self-Sovereign Identity, Blockchain, Kantara User-Managed Access & EMP Resistant Data Centres"
- Creating Estonia Version 2.0
  - "Creating Estonia Version 2.0 – Adjusting for Changes From 1999 to 2018"
- New age civil registration/vital stats design, implementation & Maintenance Vision
  - "Guy's New Age Civil Registration/Vital Stats Design, Implementation & Maintenance Vision"

All papers are available off my website at https://www.hvl.net/papers.htm.

Executive Summary:

The paper begins by briefly discussing the technological tsunami approaching our planetary shores:

- Artificial Intelligence (AI)
- Augmented Reality (AR)
- Virtual Reality (VR)
- Robotics (both virtual and physical)
- Genetic engineering
- Nanotechnology
- Wireless

It then goes on to examine the great impact of these technologies by examining the following:

- Current State
    - Good and Bad
    - Ethics Principles
    - Ethics Principles are Only Useful If They Result in Sustained Changes
    - Ethics Can be Used as a Front Screen
    - The Pace of Change Affects Ethics Too
    - It's Confusing Because of the Convergence
    - Ethics Require Laws and Regulations to Implement Their Principles
    - Old Nation States Laws Don't Work
    - Now Consider the Incoming Tsunami Waves Rapidly Creating a "Non-Private World"
- Given All the Above, How Can We Harness the Incoming Waves and Not Be Decimated?
    - Robots
    - Privacy in a Non-Private World – First Focusing on Kids
    - Retail, Healthcare and Education
    - Entertainment/Pornography Industry
    - Finance
    - A Series of Small Steps

The paper then ends with a summary – "Talk is Cheap and Actions Worth a Thousand Words". It states:

"We have a collective choice on planet. We can continue to muddle along. It will likely result in what Eisenhower was referring to as "… abandoned for the certain agony of the battlefield" e.g. like the slaughter bots depicted at the beginning of the paper.

Or, we can choose to take steps in a new direction of global collaboration at the legal implementation level. If we chose the latter, as depicted in the picture at the start of the paper, we can create a path for citizens to walk between the incoming technological tsunami waves. The path leads to a sunny, secure, safe new shore."

Harnessing Technological Tsunami Wave of Change

Introduction
The planet's shores are facing a technological tsunami caused by the convergence of:
- Artificial Intelligence (AI)
- Augmented Reality (AR)
- Virtual Reality (VR)
- Robotics (both virtual and physical)
- Genetic engineering
- Nanotechnology
- Wireless

In 21 other papers, I've written about the impact on us, resulting in what I call a "non-private world". However, the effects of the tsunami wave are greater than the problems I've laid out. The paper begins with a short examination of them and then discusses a practical strategy to address it.

Current State

Good and Bad
For each of the technologies mentioned above, there are significant benefits as well as potential threats. For example:
- Human cloning
  - In the late 1990's and early 2000's, human cloning was of great concern. Many people were concerned about it even occurring leading to calls to stop it.
- AI/Nanotechnology
  - There is focus on good AI can do including this example
  - The last few years have seen a cyclone of activity regarding AI and fears of it. It ranges from loss of work to ending of life as we know it. An example of this is documented by the Future of Life's Institute 2017 video "Slaughterbots".

Ethics Principles

Concern for addressing these threats, results in ethics principles being created. Recently, a cyclone of AI Ethics activity has resulted in a variety of "AI Ethics" including but not limited to:

- [Future of Life Institute – Asilomar Principles](#)

- [The Future World of Work – Top 10 Principles for Ethical Artificial Intelligence](#)

- [Smart Dubai -Artificial Intelligence Principles & Ethics](#)

- [The Institute for Ethical AI & Machine Learning - The Responsible Machine Learning Principles](#)

Ethics Principles are Only Useful If They Result in Sustained Changes

Ethics principles on their own don't drive sustained change. Regarding AI Ethics, recent articles and research, [including this example](#), show the need to do something practical with ethics.

Ethics Can be Used as a Front Screen

Many enterprises including government and large companies, use what I call the 4 D's of a bureaucracy; delay, deflect, delegate and deny. If enterprises want to continue on with their activities, yet there's resistant to it, they will use the 4 D's to occupy people. [That's what this article suggests is happening with respect to AI ethics](#).

The Pace of Change Affects Ethics Too

At Davos this year, [Justin Trudeau stated](#), "Think about it: The pace of change has never been this fast, yet it will never be this slow again." As technology changes, people's ideas about the ethics might also change too. [This article](#) illustrates how some people's perceptions of human cloning is changing as the technology develops.

It's Confusing Because of the Convergence

There's convergence occurring with AI, AR, VR, robotics, genetic engineering, nanotechnology and wireless. They are what's creating the gigantic technological tsunami wave approaching our shores. Yet, most people are unaware of the combined effects, focussing on one of them like AI.

It results in confusion. Different people associate different things with the wording used. Thus, their perception of the problems is different than others.

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Ethics Require Laws and Regulations to Implement Their Principles

As the incoming technological tsunami wave approaches, down in the legal weeds is where the ethics need to be translated into practical application and enforcement. Yet, history has shown it's extremely hard to do.

For example, look at what's happening today regarding cybercrime. According to the World Economic Forum's "[Fighting cybercrime – what happens to the law when the law cannot be enforced?](#)" in the US only 5% of cybercrimes are successfully prosecuted! Why so low?

Old Nation States Laws Don't Work

The prime reason is jurisdictions. As the CSO article "[Why it's so hard to prosecute cyber criminals](#)" states, "It's hard enough to successfully prosecute a cyber criminal if they originate in the same jurisdiction as the victim, but close to impossible when both reside in different locations."

Now Consider the Incoming Tsunami Waves Rapidly Creating a "Non-Private World"

The 21 papers I've written, show the loss of privacy and control over a citizen's identity and data. It requires a complete rethink of the legal framework for identity, data and consent. It also requires common identity, data and consent laws in each jurisdiction AND the ability to enforce them across jurisdictions. Using the cybercrime example, this seems like a daydream.

Given All the Above, How Can We Harness the Incoming Waves?

It requires global collaboration.

In the early 1960's US President Eisenhower, was leaving office. He had just witnessed the devastating effects of two world wars. He also could see the future with the rise of technology. In his farewell address he stated the following:

"Down the long lane of the history yet to be written America knows that this world of ours, ever growing smaller, must avoid becoming a community of dreadful fear and hate, and be, instead, a proud confederation of mutual trust and respect.

Such a confederation must be one of equals. The weakest must come to the conference table with the same confidence as do we, protected as we are by our moral, economic, and military strength. That table, though scarred by many past frustrations, cannot be abandoned for the certain agony of the battlefield."

What Can Drive Nation States Together to Collaborate?

Small baby steps. They must feel the need to address pressing economic problems limiting their ability to sell goods and services across borders. Thus, their economic self-interest is what will drive them into new ways of doing things. Like what?

Robots

It's not just physical robots that are a revolution. It also includes virtual robots, called Artificial Intelligence Assistants. They can:

- Be relatively easily created
- Will soon be much "smarter" than us
- Will in the not so distant future perform different tasks we do today including shopping, finance, etc.
- May or may not look like us, be a different gender, etc.
- A person could create 1 or 100 of them
- Instantly cross borders at the speed of an electron

[Note: Readers wanting to learn more about this should read "I'm Not a Robot"].

The new age robotic world requires legal identification of them. In the papers "Legally Identifying Robots (Robot Identification)" and "Rapidly Scaling Robot Identification?", it describes a new age civil registration system, which can instantly check with all other jurisdictions new age civil registration systems to see if the robot's identity already exists or not.

Thus, to create a global robotic registration system requires jurisdictional laws, similar to each other, with the ability to connect with the other systems. It's a first baby step in getting nation states to work collaborative together to create a new age civil registration system.

What else can be done?

Privacy in a Non-Private World – First Focusing on Kids

In my discussions with people about the incoming technological tsunami wave, I've found what works is using the story of Jane Doe to illustrate what happens to her when she walks down a street a few years from now in a non-private world. If I use Jane Doe as a child, describing when she goes to the park or tries to enter a VR virtual sex environment, I have their complete attention. They can understand the technology and the impact to a young person. They care.

The tsunami revolution affects all areas of the planet and kids everywhere. The paper "Kids' Privacy in a Non-Private World" – Why Even Super Hero's Won't Work" describes the high-level requirements to protect kids in a non-private world. It requires a legal digital identity for the child at birth, along with another legal anonymous identity, identifying them as a human and of being under age of consent.

It also requires new age data laws where we own the data about ourselves, creating "zones of trust". Thus, as Jane Doe walks down a street or in a park, other people who are wearing AR glasses/contact lenses and/or miniature 360-degree cameras on the street, can't identify and use Jane's data unless she gives her consent [Note: Readers wanting to understand the technology and how it works should read the papers "I Know Who You Are & What You're Feeling – Achieving Privacy in a Non-Private World" and "Privacy Gone – AI, AR, VR, Robotics and Personal Data"].

To protect the kids and adults also requires a new age centrally managed consent law.

Finally, the papers all note it also requires not only common laws regarding identity, data and consent BUT they must be enforceable. Thus, if Jane Doe has something "bad" happen to her from an AR/VR partners in another part of the planet, she should be able to successfully present civil and/or criminal charges, regardless of the other jurisdictions the people and/or their robots live in.

Thus, by beginning the education process with people all over the planet about what a non-private world is and what's required to protect them in this world, is another logical step towards forcing governments to begin to collaborate globally.

Are there other areas where collaboration can begin to occur?

Retail, Healthcare and Education

Industry providers of goods and services in these sectors want to have a level legal playing field to operate in. It's in their own self-interests to mitigate potential civil lawsuits and criminal charges as they begin to offer new age AI/AR/VR/Robotic global services to the public.

Thus, it's yet another area where both privacy and industry groups can come together to create education about the need to have a new age legal framework in identity, data and consent.

Is there anymore?

Entertainment/Pornography Industry

The paper "Virtual Sex, Identity, Data & Consent" points out one of the largest consumers of VR today is the pornography industry. AR is now beginning to make an impact in the entertainment industry. Both these industries want to do what's been illustrated above for retail et al, i.e. mitigate their risks and liabilities while growing their markets.

Thus, it's yet another area where privacy and industry groups can work together to educate the public about why they need a new age legal framework.

Any others?

Financial

The financial industry will likely adopt the use of AI robots to offer service to their clients as well as accepting virtual and physical robots to act on their clients' behalf. To make this happen requires a new age identity, data and consent legal framework.

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A Series of Small Steps

Will all of the above immediately reduce the threats illustrated at the beginning of this paper? No.

However, each one is a small step in the direction of getting nation states to come to the table to work together, creating new laws and regulations, enabling their economies to grow, while protecting their citizens. Simply getting nation states to begin thinking about rethinking their existing civil service systems is a small but important step.

Each step is a brick in the new legal dike. By taking a series of steps, each chosen to lead to the next one, results in beginning to channel the incoming technological tsunami wave waters into safer shores. It results in trust being built by citizens, industry and governments a new way of securely living in a non-private world is possible.

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Summary - Talk is Cheap and Actions Worth a Thousand Words

Eisenhower was right. It requires first of all bringing all the countries to the table, willing to collaborate.

The papers "I Know Who You Are & What You're Feeling – Achieving Privacy in a Non-Private World" and "Privacy Gone – AI, AR, VR, Robotics and Personal Data" show we have only a few years to effectively get our collective planetary legal act together, before the main technological tsunami waves land on our shores.

Talk is cheap and actions worth a thousand words. Therefore, the planet needs to build a new legal trust framework, from which sustainable actions result. From each small step, it leads to greater trust amongst the major economic and military powers.

We have a collective choice on planet. We can continue to muddle along. It will likely result in what Eisenhower was referring to as "… abandoned for the certain agony of the battlefield" e.g. like the the slaughter bots depicted at the beginning of the paper.

Or, we can choose to take steps in a new direction of global collaboration at the legal implementation level. If we chose the latter, as depicted in the picture at the start of the paper, we can create a path for citizens to walk between the incoming technological tsunami waves. The path leads to a sunny, secure, safe new shore.

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About the Author

Guy Huntington is a veteran identity architect, program and project manager who's lead as well as rescued many large identity projects with many of them involving identity federation. His past clients include Boeing, Capital One, Kaiser Permanente, WestJet, Government of Alberta's Digital Citizen Identity and Authentication Program and Alberta Blue Cross. As one of his past clients said "He is a great find, because he is able to do high quality strategic work, but is also well-versed in project management and technical details, so he can traverse easily from wide to deep. With Guy, you get skills that would typically be encompassed in a small team of people."

Guy consults globally on the incoming technological tsunami wave of change.