The Information Trust Exchange –
in four "slides"

Core benefits for publishers

- Source of deep user profile information
- Standardized, shareable, with user permission
- Take back control of customer information (from platforms)
- Use it to build 'network effect' of sharing with fellow publishers

Why now?

- One to many doesn't work any more except at huge scale (Google, FB)
- Even tech platforms don't show the same thing to everyone
- We have moved "From Paper to Persona" – a one-to-one world
- Without user profile and interest data ("personas"), you are out of the money
- We need to start a migration to paying for content

What the end-user benefit?

- Personalization that travels across a network of trusted content
- A "one pass" for information; one account, one bill, one ID
- Control over how personal info is used
- Choice of service providers ("presenters")

What's needed now?

- Federated authentication (single signon) for news
- Personalization technology for content / lifestyle interests
- A "viral growth" strategy (share "personas")
- An "everybody wins" structure (a nonprofit oversees)
- Member / donor grants for the nonprofit; capital for development of for-profit services

AN INVITATION
RJI seeks collaborators to shape new digital-content business model: A marketplace addressing personalization, privacy and payment

Networks make commerce easy for consumers.

Your electric bill aggregates billing for electricity generated at thousands of power stations. Your phone bill aggregates calls made across dozens of telecommunications networks. If you have a toll transponder on your car, it can accumulate charges from tunnels, bridges and turnpike systems across multiple states. Your bank credit-card bill often aggregates purchases from dozens of stores.

But today, there is no way to conveniently network to purchase digital content from thousands of sources on a single bill. No way for publishers to make money referring their users to each other's content. And few standards for using, sharing -- or protecting -- user profiles.

We need a "fast pass" for information.

Without that, all content is going to end up on a couple of proprietary Silicon Valley platforms -- and publishers will have little relationship to leverage with the users. Media, and the control of voices, will be more concentrated than ever.

The Reynolds Journalism Institute is laying groundwork for a solution that will create a competitive market – a network -- for digital information. It will make possible:

- Standardized, open, permissioned, privacy-respecting sharing of user interest data
- Aggregated accounting of small payments by a trusted network
- A consumer "one pass" for digital information viewing and purchase
- The syndication or sharing of content via wholesale-retail pricing.

WHAT THE ITE DOES

Without encroaching on individual franchises, the Information Trust Exchange (ITE) serves as an information-industry collaborative connecting news enterprises and news consumers. It defines and governs a layer of network protocols for sharing user authentication, profile sharing, copyright payments and billing. Similar to the bank / credit-card system, the network is overseen by a non-governmental authority on behalf of private -- and competing -- parties. The ITE makes rules for the competitive exchange of both content and users' identity information.

A consumer user should be able to have one account, one ID and one bill with which to acquire a wide variety of content from multiple, otherwise independent sources. A content provider should be able to establish and vary pricing for discrete information objects in real time based on the the user's identity, relationships and use. A service provider should be able to make money by purchasing content at lower wholesale prices and reselling it at higher retailer prices to its users, managing the spread as a business exercise. An advertiser should be able to precisely reach relevant consumers with a personal message, and should be able to reward the user's service provider – and even the user directly – for the privilege of delivering the message.

The solution starts with a nonprofit association that would oversee an "exchange" for information help publishers deepen services and relationships with existing subscribers and users, while adding new ones (b) lessen dependence on "tech platforms" and (c) make more money sharing content – both editorial and sponsored.

This Information Trust Exchange (ITE) will be *governed* by a non-profit consortium -- and *operated* by for-profit enterprises in the areas of single-sign-on authentication, identity, privacy, subscriptions, payments, personalization and rights/access management.   The consortium will make business rules about the sharing of user profiles, and the exchange of value for advertisements and content. Then it will offer contracts to private entities to run networks and services. These services will be able to share users using standard protocols -- like members in a stock exchange.

It's like building a combination of free and toll roads for the information superhighway -- entrepreneurs will then be able to build better services – just like vehicles that run on the roads and developments near exits -- to make more money than if only local roads existed.

A.   THREE-ELEMENT CORE STRUCTURE

The ITE service has three top-level components:

1.   GOVERNING AUTHORITY – The Information Trust Exchange Service Association -- A non-stock, public-benefit, member organization which licenses operators of the ITSA Network and develops and maintains ITSA Protocols.

2.   ITSA PROTOCOLS -- A set of technical protocols and business rules which govern the transfer of specific information across the public TCP/IP network (Internet) among and between (a) diverse point-of-service (POS) devices, such as laptops, smartphones and tablets and (b) network members, including content providers (CP) and end-user service providers (USP).

3.   ITSA NETWORK -- A special-purpose network that securely transfers information among and between network members, including content providers, end-user service providers, network operators and network service providers. Operating commercially by contractors to the ITE Governing Authority.

Making a common market for digital information: The case for the Information Trust Exchange

By Bill Densmore / densmorew@rjionline.org/ 617-448-6600

- **PROBLEM – No viable way to sell NETWORKED content on the web**

  - Services are proprietary, inconvenient, expensive
  - Solution requires collaboration on federated authentication
  - Also requires ability to aggregate charges among multiple sites
  - Google, Facebook, Amazon, Apple could "make rules"
  - But their leadership would be opposed by others

- **SOLUTION – Public/industry collaborative establishes framework**

  - Make/create a free, open market for digital info exchange
  - Like Visa, ICANN, 60-cycle power, railroad gauge, FAA, N.Y. Stock Exchange
  - Non-stock, membership, possibly PRIs
  - Can start, invest in or contract with for-profits
  - Self-sustaining through transaction fees

- **INITIAL CONVENOR – Reynolds Journalism Institute at Univ. of Missouri**

  - Ground work laid ("Blueprinting the InfoValet Economy")
  - Rational in two RJI reports, 2011, 2015
  - Could be coordinated from "neutral turf" – the Midwest
  - Mizzou has "chops" in journalism, could partner for tech (Mozilla?)
  - RJI has facilities and staff to host operation if compensated
  - Seeks broad collaboration with foundations, academia, industry

- **TASKS – A safe haven for collaboration / standard-setting**

  - Careful avoidance of antitrust problems
  - Enable dynamic pricing competition, mixing "atomized" content
  - Extend SAML2 / Shibboleth / OpenID to include transfer of "persona," commerce
  - Specify transfer protocols; "box car"
  - Specify base terms of service for public users
  - Establish info exchange rules (like stock exchange)
  - Certify compliance (like Underwriters Laboratories)
  - Managing cross-licensing (like BlueTooth Association)

- **CONSUMER – Unique selling propositions enabled by the ITE**

  - Manage your persona
  - Help you find the information that matters to you
  - Privacy protection
  - Make money from offers
  - One ID, one account, one bill
  - Reliability
  - Choice of service providers
  - An "easy pass" for information commerce

BACKGROUND: The challenge

Digital networks and technology platforms are now the dominant venues for advertising. Many users are "blocking" ads. Existing methods for the public to pay for information are generally uncoordinated ("siloed") or serve niches (such as music). As a result, revenues of publishing and broadcasting businesses, which supported -- and profited -- from newsgathering are shrinking. There is a general call for new business models for news. There's agreement that there is promise in approaches that offer a high degree of personalization -- matching content with user interests and preferences. As well, many experiments incorporate some form of payment from users to augment the limited potential of advertising. Any models that incorporate personalization or payments across services require ways of managing identity while maintaining privacy -- a difficult balancing act. Trust, identity, privacy and information commerce were not on the agenda when academia and the defense industry created the Internet. But managing them today is vital to the commercial growth of the public network. Existing options are systems created either by (1) government entities or (2) large, private, profit-driven companies ("platforms"). **We propose here to foster (3) a "third way" to manage trust, identity, privacy and payments.**

The 'third-way' proposal

The Donald W. Reynolds Journalism Institute (RJI) invites collaboration on a non-profit Information Trust Exchange (ITE) – a neutral clearinghouse for user accounts and content payments that respects user privacy while enabling

FIVE PROBLEMS, FIVE DESPERATE SOLUTIONS FOR THE NEWSPAPER INDUSTRY?
(source: http://newshare.com/ohare/dire-straits-winter-wurzer.pdf

PROBLEMS

1. Lack of scale - no single newspaper company, no single newspaper, can compete on its own
2. Lack of money - fear of risk led to a policy of managing decline and low investment
3. Low competitive value - news is a commodity, local is a weak differentiator
4. No digital culture - products reflect low digital sensibility and are failing in the marketplace
5. Diminishing leverage – transaction throw-weight is declining every day

SOLUTIONS

1. Need a single voice and platform
2. Must be willing to put current traffic at risk
3. Must hire different people to build new digital products unencumbered by parent newspaper company interest
4. Must build shareable databases of local-registered users for our own product development, marketing and ad sales use
5. Must put in place our own sales force.

content personalization. It can be governed by a non-stock, public-benefit collaborative of news, academic, entertainment, financial and technology companies. It can specify protocols and enforceable business rules on data-sharing, user authentication and payment services. Members might include foundations, universities, banks, telecoms, publishers, tech and entertainment companies – and public representatives. It will foster new forms of content, new types of user

collaboration and new business models. To get there, we propose to lead specifications for the ITE and encourage entrepreneurial experiments and prototyping coordinated to operate with the ITE as it forms.

Publishers and technologists can help by:

- Reviewing and commenting on specifications for content and user sharing
- Suggesting existing and new consumer services that may drive ITE adoption.
- Selecting and offering content that can be part of trials.
- Introducing users to one or more trials
- Offering to conduct ITE-supported technical experiments or trials

To have the best chance at achieving operational scale, ITE organizers are tightly focused. Our aim is to foster consensus on the *minimum necessary* technical protocols and associated business rules to establish an open and low friction marketplace for digital information. This marketplace will respect and empower user privacy and enable a growing class of personalized services. It will aggregate and distribute content payments (or other exchanges of value). The ITE will be a public-benefit "third way" to establish and maintain these operating rules and protocols -- because it will be neither government regulation nor the fiat of one or two for-profit companies. The ITE will create a neutral marketplace – a public bazaar -- for information exchange.

Four objectives

RJI believes Information Trust Exchange collaboration should have four objectives:

- Foster network standards and collaboration among existing consumer-facing services, and enable new ones.

- Provide the public convenient access to trustworthy, valuable **personalized** content packages and services from a privacy-respecting account.

- Create a platform that will support at least two **business models** for publishers:
    - Wholesale-retail pricing and aggregated payments for digital content sharing.
    - Sharing of standard-format end user interest profiles for optimum personalization and user-permissioned marketing.

- Offer a balanced alternative (between government regulation and investor-owned "closed" platforms) for online identity and **privacy** management that:
    - Reduces by market forces the proliferation of opaque, proprietary, unaccountable cookie-based tracking
    - Enables a range of privacy/identity trust alternatives for the public

Two reports from RJI

The Reynolds Journalism Institute has underwritten conferences, prototyping research, helped form and owns one third of a development-stage company. The enterprise, CircLabs Inc., has experimented with news-customization and discovery services that might operate across a shared-user network. RJI has underwritten two reports by RJI Fellow Bill Densmore:
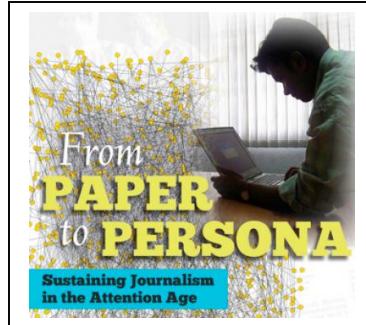
An Aug. 2011 report, *From Paper to Persona: Sustaining Journalism in the Attention Age,* which may be found at this link, and which is summarized briefly below:
http://rjionline.org/news/paper-persona
NEWS: http://wp.me/phs3d-c2

A March 2015 report, *From Persona to Payment: A Status Report on the News Ecosystem*, and a Challenge to Create the Next One." Including a short executive summary, it's available at:
http://newshare.com/ite/report.pdf

Concerns and opportunities

CONCERN: Many of the players in a trust and information commerce ecosystem would have interests that might compete with the network approach.

Protecting, extending the silos

An important design criteria for the protocols would be that nothing stops a participant from continuing to operate within their silo. A good analogy might be to a department store that accepts Visa or Mastercard, but also continues to offer its own store revolving credit card. To be blunt about it, Apple is not going to play in a new ITE ecosystem if that ecosystem requires them to shut down the iTunes tore or alter how it operates. Ditto with Amazon and with Facebook Credits and Connect. The ITE protocols have to additive to their business, a way for them to expend from their three-party services into a true four-party trust network.

Worth noting here is Google executive chairman Eric Schmidt's comments in 2012 when interviewed by Kara Swisher and Walt Mossberg. He said that the generally Internet infrastructures are open and that multiple players can participates. In that context he sees it as not a good thing that the identity space is practically being managed at this point by Facebook Connect. And he observes that it would be a good idea if that was done in an open networked, collaborative way with a bunch of companies doing it.

So here you have one of the biggest web players understanding the need for a collaborative approach to identity.

Why legacy news collaboration has failed

The key reason why legacy news organizations have failed to agree on many protocols and platforms is because those platforms have always been dominated or controlled by a for-profit, investor-owned entity, which engenders mistrust from the very start among parties who aren't sure who's interests are paramount. That's not what the ITE would be, or do. The notion of non-equity ownership, shared governance and collaboration in getting the ITE going is core to the idea and the idea of having one-on-one meetings with key potential players to explain this paradigm shift is very sound and should proceed ahead of a convening meeting.

Ironically, the enabling of a common platform for the sharing of digital information and value by a non-stock, non-investory-owned entity like the ITE can be the catalyst for a robust commercial market in information dominated by for-profit entities. The New York Stock Exchange began as an association, but fostered a spectacular financial exchange for more than a century among private brokers and enterprises because it, as an association not dominated by a single owner, was trusted by its members.

The network effect

It's useful to think about the phone industry, the electric industry, the credit-card and cell phone industries as reasons why collaboration around network protocols ends up being a win-win for consumers and operating participants. This concept was well-explained by Tom Evslin, ex-Microsoft executive and creator/CEO of AT&T WorldNet, (via Skype) to our "Blueprinting the Information Valet Economy," summit Dec. 3-4, 2008, at Rji-Mizzou at the beginning of my fellowship.

A phone that only calls in the neighbor hood is not of much value. A phone that calls around the United States and even globally has much more utility. A cell phone which connects to one cell tower is useless. If power grids had different cycles and some were AC and some DC so they couldn't interconnect; you wouldn't be able to move electricity easily around the grid and send it to where it is needed. It's important to have those collaborations.

Think of information the same way. If it can't be sold across a grid – a network – then it is locked in a silo and its commercial potential is limited.

A bank debit card that only works at the ATM machines of your bank isn't nearly as useful as one that works across a regional network or even across the country. Even though you may be annoyed that a "foreign" ATM gets a $2 commission when you draw out money far from home, the value of convenient cash outweights the financial pain. A BankAmeriCard that only worked at BofA branches or merchants with BofA accounts was of some use, but it didn't scale very fast – that's was before the BankAmeriCard morphed into the non-stock association – the Visa International Services Association – and the Visa card – the world's largest collaborative network for the exchange of value.

About identity management – 'personas'

The notion of a network with millions of personas is precisely what could be enabled by an Information Trust Exchange which establishes opt-in rules and protocols so that millions of Information Valets can operate as competing, trusted brokers, agents, advisor, curators to consumers. These are places where you as a consumer can lodge your persona – or one of your multiple personas. You might have one persona with your health insurance, another with the social-security administration, another with your news purveyor, you might have another with a particular retailer and one with your bank or financial-service provider.

The only thing the network protocols have to specify is a common set of rules for exchange of persona attributes -- rules within the control and purview of the consumer and enforceable by the Information Trust Exchange. The ITE holds an ultimate sanction of kicking an InfoValet identity service provider, or a relying party – the content provider – off the network if they are not meeting the requirements of the system. This is the purpose and important of the 600 pages of exchange rules developed by the Visa International Service Association and other card networks. These force merchants to toe the line or get thrown off the network. If access to the network is vital to business, then the ability to cut somebody off the network is a strong governance stick.

Creating the The Information Trust Exchange is not an expensive infrastructure development project. It is an effort to create a common language and governance around which commercial entities can make their own business decisions about how much to spend to enable and connect to the network. The reason they can't do that now is because there is no certainty about an interconnect, or a private, yet public-benefit

system of unified policy, governance and sanctions which transcends any single government or enterprise, as does the Internet itself.

Less certain is the appeal to consumers of services that give them the ability to carefully define their information interests. It remains to be seen if this will work best if it is expressed by the consumer directly or inferred by the consumer's behavior and then fed back to the consumer. A good example of inferred personalization is Amazon recommending books, or Netflix recommending movies. Good examples of combined expressed and inferred preferencing is the Pandora music service. You can "thumbs up" a song to help Pandora's algorithms more frequently present songs with similar voice, instrumentation, period, mood, or genre that might interest you.

Personalization is likely to involve a great deal of mixing and matching between inferred and expressed preferencing. And the point is not to come up with the perfect solutions. These will vary for different applications – and different consumers have a greater of lesser appetite for being "programmed" by inference as opposed to self-selecting and expressing their interests. An ITE framework or architecture would allow the transfer of that personalization information across multiple services and uses, so your persona is not siloed in one place and is able to be shared across the web as you choose.

The outsourcing of trust

The idea of trust being outsourced is intriguing and worthy of further discussion. For example, we largely outsource trust to Facebook when we use Facebook. We outsource trust to Google. And we are in effect building personas, but those personas are fragmented and spread like breadcrumbs across hundreds of websites. They are not in any coordinated place, yet. There is some indication that both Facebook and Google are attempting to respond to both regulatory pressure and potential consumer interest in having a sort of persona dashboard. This is a promising development, but only if those persona silos are able, one day, to be shared under the consumer's purview and control.

Most trust involves third party

Inherent in the word trust is usually the need for an intermediary. In human communities, I trust somebody else in the community either because I have direct personal interactions with them (which I judge to be favorable), or because they're vouched for by some third party, like a bank or social-service entity, an affinity group, school or mutual friend. Because the web is virtual, and face-to-face interactions impossible, trust has to be built either through those third-party references or through some method of direct though virtual interaction such as friends in Facebook.

In an increasingly virtual and global society trust is almost always outsource. It is very rare that trust is based upon direct, face-to-face, one-to-one relationships. The Visa network is really more a trust network than a financial network if you think about it. It allows me to walk into a bank in Prague and withdraw or borrow money by presenting my Visa card. The Prague bank has no basis to trust me personally, it's just that I have an account with a bank that is a member of the Visa network, and that means they know they will be paid back – if they give me some cash. They are trusting a third party – Visa – and therefore me.

The point of a shared-user network for trust, privacy, identity and information commerce is to create that kind of third-party trust infrastructure for information commerce. It is not to overcome or supplant the investment in sharing and persona management that existing institutions already have. What's necessary is to create a framework that allows the existing institutions to leverage the trust relationships they've already built with their users – to enable additional commerce across additional platforms and in other areas – and to share that trust and those relationships with other parties.

Four questions -- answered

1. What do you mean by a 'more efficient marketplace'?

The Internet has unleashed an exciting and unprecedented torrent of news and information from all kinds of sources. Where once the public relied upon a few publishers or broadcasters to mind the gates to information, now the public can range freely. The marketplace is open; it is also confusing. There is no simple mechanism for a public user to have a single account for multiple information purchases, or a single place to manage their identity and privacy. Publishers cannot easily be compensated when they share stories among their users and services. It is like a power grid running on different cycles, railroads on competing gauges of track, a phone system with no way to bill minutes -- or physical stores with varying and independent credit cards that don't interoperate.

2. What difference does it make?

Because users can now go anywhere for information, they also would like to be able to assemble personalized, custom packages of that news and information, much as they might assemble their groceries in a shopping card. On the web, there is no single store that carries small bits of information – articles – for purchase. Digital goods are spread asunder, and there is no common "checkout" method to pay for them if you want a personalized bundle. As a result, the only bundles available from aggregators are either free or have limited content choices.

3. What does the current work entail?

We're reviewing the history and current state of news-industry collaboration regarding digital users, payments, advertising and content. We're interviewing and consulting individuals and organizations to assess the timeliness and feasibility of creating a non-profit, public-benefit, member association. We've asked: Who might develop protocols, write business rules, foster technology or govern a shared-user network for trust, identity, privacy and information payments? RJI has stepped into this void to seed action and welcomes collaborators.

RJI is starting to identify legal, technical, management and philanthropic advisors with potential experience appropriate to creating an Information Trust Exchange. We'll consider how it could be governed, and connect with potential for-profit operating partners. We'll assemble a team to develop a mission, rationale and objectives for such an initiative consistent with the level and nature of support identified.

4. Ideas like this always raise questions about competition, monopoly and antitrust. Have you thought about that?

Certainly we have at a conceptual level and in discussions with antitrust experts. Legal collaboration is possible around technology standards. Antitrust jurisprudence and precedents provide ample guidance for avoiding any collaboration that would permit price-fixing or other types of collusion injurious to the public.

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