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The Information Trust Exchange Governing Association ¹

*Making the market for digital information:
Identity . . . privacy . . . payment*

EXECUTIVE SUMMARY / LAUNCH PLAN

**“It’s the biggest crisis facing our democracy, the
failing business model of real journalism.”**

■ U.S. Sen. Claire McCaskill, D-Mo.,
quoted in the New York Times, Nov. 7, 2016

¹ -- An independent, nonprofit, public-benefit corporation formed Jan. 30, 2017 in the State of California.
See the [Articles of Incorporation](#).



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EXECUTIVE SUMMARY

A non-profit, member-guided Information Trust Exchange Governing Association (ITEGA) seeks \$950,000 over two years to help design, prototype and then govern -- in the public interest -- competing shared-user networks for trust, identity, privacy and information commerce.

PROBLEM

Our society faces an epidemic loss of trust:

- Trust in the ability of government to work for everyone.
- Trust in the sustainability of communities
- Trust that the future will be better than the past
- Trust in the veracity of facts in science, and media

RESPONSE

ITEGA's mission addresses specific aspects of trust in the digital-information world by:

- Helping members of the public to safely manage their privacy and identity
- Sanctioning technology and business frameworks for thriving journalism and civic information
- Fostering open and public access to digital information, both free and paid

By helping restore trust in information exchange, ITEGA creates a media climate for restoring trust in participatory democracy. It addresses two seemingly unrelated challenges that have disrupted the business of publishing in a digital age – identity, privacy and payment.

- **PRIVACY / IDENTITY** -- Our identities are spread across the web in bits and pieces, compromising our privacy. Increasingly, identity is controlled by private companies like Google or Facebook. Digital networks and technology platforms – rather than publishers -- are now the dominant venue for advertising. Publishers have less and less understanding of their customers interests and preferences, making it harder for them to sell advertising. Many users are “blocking” ads. What’s needed is a service that puts our privacy and identity under our own control with the help of a public-benefit entity.

² -- An independent, nonprofit, public-benefit corporation formed Jan. 30, 2017 in the State of California. See the [Articles of Incorporation](#).

- **PAYMENT** -- There's no way to network and sell content in small bits on the web. That means there's no way for people to assemble a subscription package of information specific to their interests -- and be able to conveniently pay for it. Existing methods for the public to pay for information are generally uncoordinated ("siloes") or serve niches (such as music). Consumers need a "fast pass" for information.

Without these two, all content is going to end up on a couple of platforms -- like Facebook's Instant Articles, Goggle AMP or Apple News -- and publishers will have little relationship with their users. What's needed is a coordinated service that simultaneously provides for the sharing of user identity when needed, keeps privacy under the control of the user, yet allows for networked payments. A service where Big Brother is both blind and benign.

It's time for an audacious, collaborative, "NetGain" initiative to put such a service in place -- governed by a nonprofit, public benefit organization that enables choice, innovation and competition. The collaborative requires the support of foundations, publishers, technologists -- and the public's trust. As a "third way", it can pre-empt stifling regulation -- or a privately owned platform duopoly.

THE THIRD WAY OPPORTUNITY

ITEGA was incorporated Jan. 30, 2017, to address this third-way opportunity -- to guide creation of a shared-user network for trust, identity, privacy and information commerce. ITEGA is a nonprofit consortium for citizens and publishers and other members. It helps Internet users to manage their privacy and identity and publishers to offer more personalized services that can sustain quality, trustworthy journalism.

The ITEGA defines, guides and governs a layer of Internet business rules and network protocols for sharing user authentication, profiles, advertising, copyright payments and billing. It does not own or run any of the business operations involved in the creation or distribution of news or advertising. Rather it creates open, standard rules of the road for those operators -- an "open market" for digital-information exchange.

ITEGA meets needs of the public and publishers -- especially news publishers -- for trustworthy information, transparent, user-centric privacy and identity management, and financial support for the values, principles and purposes of journalism in current or future forms.

PROOF-OF-CONCEPT PROTOTYPING

Proof-of-concept prototyping of key operating features of an ITEGA-sanctioned ecosystem -- networked subscriptions and payment, anonymized user identities and news personalization, is getting underway during April.

ITEGA seeks \$950,000 in foundation support over two years to:

- Refine and codify exchange rules and protocols for ITEGA members.
- Engage with private entities to compete in offering key ecosystem functions like authentication, user-data management and anonymization, payment aggregation and settlement.
- Guide launch of commercial ITEGA-compliant services in identity management, network subscription and per-click payment services, and trustworthy advertising.
- Bring ITEGA to cash-flow positive in order to start supporting civic journalism and free "library-pass" access to civic information for underserved communities.

A three-year operating budget and operation plan are available by contacting Bill Densmore, ITEGA founding executive director, at wpdensmore@gmail.com or 617-448-6600.



LAUNCH PLAN

The Information Trust Exchange Governing Association
MAKING A MARKET FOR DIGITAL INFORMATION

Managing trust, identity, privacy and commerce: A framework for fostering Information Trust Exchange networks

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2. Challenge and opportunity
3. Solution: ITEGA fosters private commerce
4. Operating components
5. Business/governance
6. Operating technology
7. POC implementation 2017-2018
8. Resources required

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- B. Implementation considerations
- C. Wholesale-retail pricing
- D. Technical appendix

*There are ongoing calls for new business models for news. Experiments, prototypes and early-stage ventures separately address key features of a new news ecosystem. But they are generally un-coordinated. Other than “sponsored content,” little has emerged. **It’s time for an audacious, collaborative initiative.** There’s an opportunity to coordinate (rather than re-invent) services to improve user experiences addressing personalization, identity, privacy and payment.*



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OVERVIEW: The Information Trust Exchange Governing Association ³

THE LARGE PROBLEM

Journalism that supports democracy and communities is under financial pressure as the advertising that supported it migrates from print to digital and, on digital, to mobile and web platforms managed primarily by Facebook and Google. Publishers are looking for ways to re-assert a close relationship with users/viewers/readers – supporting trustworthy advertising and subscriptions -- and to help users manage their digital identity and privacy.

In a larger sense, our society faces an epidemic loss of trust:

- Trust in the ability of government to work for everyone.
- Trust in the sustainability of communities
- Trust that the future will be better than the past
- Trust in the veracity of facts in science, and media

THE SPECIFIC CHALLENGE

Two seemingly unrelated challenges have disrupted the business of publishing in a digital age.

- Our identities are spread across the web in bits and pieces, compromising our privacy. Increasingly, identity is controlled by private companies like Goggle or Facebook.

RESULT: Publishers have less and less understanding of their users' interests and preferences, making it harder for them to sell advertising.

Digital networks and technology platforms – rather than publishers -- are now the dominant venue for advertising. Rather than have the government control identity, or giant private tech platforms, we need a “third way.” Many users are “blocking” ads. We need a competitive identity and privacy marketplace governed by a public-benefit nonprofit.

- There's no way to sell networked content in small bits on the web. That means there's no way for people to assemble a subscription package of information specific to their interests -- and be able to conveniently pay for it.

³ -- An independent, nonprofit, public-benefit corporation formed Jan. 30, 2017 in the State of California. See the [Articles of Incorporation](#).

RESULT: Publishers cannot share users or content in a way that allows for convenient charging.

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 news gathering are shrinking. Users need a "fast pass" for information. Without that, all content is going to end up on a couple of platforms -- like Facebook's Instant Articles, Goggle AMP or Apple News -- and publishers will have little relationship with their users.

THE SOLUTION

The Information Trust Exchange Governing Association (ITEGA) is a nonprofit consortium for citizens and publishers. It helps Internet users to manage their privacy and identity and publishers to offer more personalized services that can sustain quality, trustworthy journalism.

ITEGA'S mission addresses specific aspects of trust in the digital-information world by:

- Helping members of the public to safely manage their privacy and identity
- Sanctioning technology and business frameworks where quality content can thrive
- Fostering open and public access to digital information, both free and paid

By helping restore trust in information, ITEGA creates a media climate for restoring trust in participatory democracy.

The ITEGA defines, guides and governs a layer of Internet business rules and network protocols for sharing user authentication, profiles, advertising, copyright payments and billing. It does not own or run any of the business operations involved in the creation or distribution of news or advertising. It creates the rules of the road for those operators. It will help establish the marketplace but leave the use and conduct of it to competing private entities. The ITEGA can make rules for the competitive exchange of both content and users' identity information. It will encourage innovation in user collaboration and new business models around sharing users and content.

AN ICANN FOR IDENTITY

ITEGA's board will strive to govern like ICANN⁴ for identity -- or a Visa for information commerce. It will make rules about privacy and the sharing of user profiles, and the exchange of value for advertisements and content. Then it will grant contracts to business entities to run networks and services. These services will be able to share user data using standard protocols, kind of like members in a stock exchange. The ITEGA will receive funding through grants or member service prepayments, to cover proof-of-concept testing and operations.

⁴ -- The Internet Corporation for Assigned Names and Numbers is a California-based nonprofit which governs domain names, and operates the Internet's root domain-name server, charging competitive private registrars to use it.

At the highest level, ITEGA is designed to promote the stability and openness of the Internet. Its members create, foster, and follow -- in the public interest -- standards and protocols for identity, privacy and information commerce.⁵

BENEFITS TO THE PUBLIC

ITEGA is in particular is an information-industry and public collaborative for connecting news enterprises and news consumers. ITEGA 's approach puts management of user data back under the control of users, with the help of publishers, rather than ad-tech and the technology platforms. It's designed to move away from multiple "cookies" and code on browsers which slow down the user experience and driving ad-blocker adoption. It helps guide, create and govern -- but not own or run clearinghouses for digital identity, content sharing and sale. It will certify network elements, standards, protocols and business rules that place a high priority on privacy, choice and the public interest in a transparent, accessible web.

Specific user benefits intended include:

- Safe single signon
- Access to atomized content, free and purchased, subscription or per click
- A fast-pass to information, like Visa
- Support for the permissioned sharing of user data to improve advertising
- Support for content personalization, sharing and conversation

Thus ITEGA's initial solution is a share-user network for trust, identity, privacy and information commerce for the Internet. It is a "third-way" approach not controlled by government or a single private enterprise. It will:

- Give users primary, transparent control of their privacy and identity
- Give publishers trustworthy user data so they can make better personalization decisions
- Give a fast-pass to users to get information without dependence on any one commercial platform
- Develop technical and information-service protocols and business rules
- Allow end users to own, protect — and optionally benefit by sharing — their demographic and usage data, with the help of their competitively chosen information broker or agent ("information valet") — such as their local newspaper.

⁵ -- ITEGA's Articles of Incorporation, filed Jan. 30, 2017 with the California Secretary of state gives its purpose as promoting "the operational stability of the Internet by (i) researching, developing, testing, adopting and promoting technology and business standards for governing the exchange of information about Internet users, their activities and purchases, (ii) owning, managing, performing, licensing, certifying, assigning, or overseeing functions related to the coordination and value of user-data exchange, (iii) helping members of the public to safely manage their privacy, identity and information payments on the Internet, (iv) helping to teach, promote and sustain the values, principles and purposes of independent, fact-based journalism particularly in the service of democracies and open societies, (v) facilitating open and public access to digital information; and (vi) engaging in any other related lawful activity in furtherance of items (i) through (v)."

- Provide a platform for customizing and personalizing the end-user web experience – a “news social network.”
- Update the role, effectiveness of, and compensation for online advertising and marketing services beyond the mass market, while putting greater control of user privacy in the hands of users and their most-trusted publisher or identity service provider.
- Allow digital users to easily share, sell and buy content through multiple websites with one ID, password, account and bill.

WHO IS ITEGA?

ITEGA is a non-profit corporation chartered under California’s public-benefit statute, and the culmination of years of [research](#) supported by the Donald W. Reynolds Journalism Institute (RJI), at the Missouri School of Journalism. Key research components included:

- Meetings and work of [four task groups](#) totaling 40 members during 2015 and 2016.
- Ongoing discussions with key collaborators at Mozilla, the Reuters Institute, Hearst Corp., Digital Content Next and elsewhere.
- Prototyping by several technology companies

As the seeding organization, RJI over several years:

- Surveyed of news- and information-industry leadership
- Convened five meetings of [four task groups](#)
- Adopted a [mission](#)
- Drafted [proposed exchange rules](#) and [functional roles](#)
- Incorporated the ITEGA to encourage private entrepreneurship and for-profit industry collaboration on new products and services operating across ITEGA-member networks.

ITEGA’s founding principles include:

- **PRIVACY** -- The end user maintains control of the use of personal data she shares. Publishers collaborate transparently with users on a “privacy-by-design” basis.
- **IDENTITY** – Network rules and protocols allow the sharing of users and content, but do not in any way interfere with the closed, proprietary relationships publishers may wish to maintain with users. It allows a user to choose, without lock-in, who will help maintain their online identity.
- **OPEN COMMERCE** -- Enable a free market for digital information, by subscription or per item, with pricing and service decisions made independently and competitively by participants. ITE only facilitates the rules and “plumbing” of the marketplace.

Goals of the ITEGA:

- Bring publishers and other civil-society organizations into a public-benefit, nonprofit collaborative for governing user identity and privacy on the web -- much as ICANN manages domain names.

- Foster and govern privacy-by-design technical and business rules that standardize how users control and apply their “identities” in advertising and content personalization.
- Help publishers to improve the relevance and value of advertising and customization through deeper knowledge of their users’ interests and needs.
- Sanction competitive services for the exchange of value for content which include methods for expanding free access by underserved communities to civic information needed to foster self government.

More about the ITEGA mission, participants and planning are on its interim blog site:

MISSION:	https://informationtrust.wordpress.com/mission/
HISTORY:	https://informationtrust.wordpress.com/mission/history
WHO:	https://informationtrust.wordpress.com/who/
PLANNING:	https://informationtrust.wordpress.com/work/
NEWS:	https://informationtrust.wordpress.com/news/
TASK GROUPS:	http://newshare.com/ohare/ite-task-group-assignments.pdf

WHAT’S NEEDED NOW

ITEGA has begun proof-of-concept prototyping in collaboration with private partners coordinated to operate within an evolving Information Trust Exchange *ecosystem*. ITEGA estimates it will require \$950,000 in support over about two years to test and confirm feasible operation of sanctioned, commercial services that operate in compliance with ITEGA member rules governing identity, privacy and information commerce.

ITEGA is mid point in a four-year transition to operations, in three phases:

Phase 1 -- (2015-2016) -- completed

- Track 1 – Task groups establish system goals and functional requirements
- Track 2 – Facilitate prototyping of platforms for content, advertising and user data.
- Track 3 – Establish initial business structure

Phase 2 – (2017-2018)

- Track 1 – Facilitate commercial launch of some services
- Track 2 – Begin transition to mature governance structure

Phase 3 – (2019-beyond)

- Track 1 – Entrepreneurial for-profit activity sanctioned by ITEGA
- Track 2 – Broad en global diversity and inclusiveness of governance structure
- Track 3 – Expand scope and membership beyond news / ad / tech industries

FUNDING REQUEST

ITEGA incorporators estimate it will require \$950,000 over two years to test and confirm feasible operation of sanctioned, commercial services that operate in compliance with ITEGA member rules governing identity, privacy and information commerce. ITEGA will then be sustained by member dues and licensing fees which support ongoing research, governance, certification, compliance and rulemaking.

ITEGA now request \$388,000 over the next six months to:

- Refine and deploy governance and membership dues/support structure
- Stand up available tracking protection analytics and tools for publisher sites
- Prototype a privacy-by-design user data exchange that supports ad serving by anonymous interest cohorts (eliminating the need for “third-party” cookies).
- ITEGA user identity management
- Demonstrate news customization that allows users to manage profiles and identify trustworthy content.

A three-year concept budget projects the need for \$950,000 in grants over two years to reach permanent, cash-flow positive operation of the ITEGA.

CONTACT

For additional information, including the three-year-budget and launch plan, please contact:

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PART ONE

Challenge and opportunity

The Information Trust Exchange Governing Association (ITEGA) is a public-benefit, non-profit consortium for managing trust, identity, privacy and information commerce on the Internet. It is the product of years of research, meetings and scholarship seeded by the Donald W. Reynolds Journalism Institute at the Missouri School of Journalism.

ITEGA meets needs of the public and publishers -- especially news publishers -- for trustworthy information, transparent, user-centric privacy and identity management, and financial support for the values, principles and purposes of journalism in current or future forms.

When it comes to the future of the news business and, maybe, journalism writ large, there are few folks who would argue that the interplay between and focus on three mega-issues, all sharing a common first letter and perhaps more than that — personalization, privacy and payment — will determine a great number of things with sustainability at the top of the list.

THE CHALLENGES

Two seemingly unrelated challenges have disrupted the business of publishing in a digital age.

- Our identities are spread across the web in bits and pieces, compromising our privacy. Increasingly, identity is controlled by private companies like Goggle or Facebook.

RESULT: Publishers have less and less understanding of their customers interests and preferences, making it harder for them to sell advertising.

Digital networks and technology platforms – rather than publishers -- are now the dominant venue for advertising. Rather than have the government control identity, or giant private tech platforms, we need a “third way.” Many users are “blocking” ads. We need a competitive identity and privacy marketplace governed by a public-benefit nonprofit.

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Existing methods for the public to pay for information are generally uncoordinated (“siloes”) or serve niches (such as music). As a result, revenues of publishing and broadcasting businesses which supported -- and profited -- from news gathering are shrinking. Consumers need a "fast pass" for information. Without that, all content is going to end up on a couple of platforms -- like Facebook's Instant Articles, Goggle AMP or Apple News -- and publishers will have little relationship with their users.

There are ongoing calls for new business models for news. Experiments, prototypes and early-stage ventures separately address key features of a new news ecosystem. But they are generally uncoordinated. Other than “sponsored content,” little has emerged. **It’s time for an audacious, collaborative initiative.** There’s an opportunity to coordinate (rather than re-invent) services to improve user experiences addressing personalization, identity, privacy and payment.

An important reason why legacy news organizations may have failed to embrace some protocols and platforms may be because those platforms were dominated or controlled by a for-profit, investor-owned entity. Either this engendered mistrust from the very start among parties who aren’t sure whose interests were paramount (such as Microsoft Passport), or the equity owners reached irreconcilable differences (as with New Century Network and NewsRight). That’s not what the ITEGA will do. The coordination of global identity, privacy and payments should ideally not be done by governments -- a first way -- nor by a single, private, exclusively profit-driven entity -- a second way.

THE THIRD WAY OPPORTUNITY

The Information Trust Exchange Governing Association (ITEGA), was incorporated Jan. 30, 2017, to address a third-way opportunity -- to guide creation of a shared-user network for trust, identity, privacy and information commerce.

Without encroaching on individual franchises, the Information Trust Exchange Governing Association (ITEGA) is an information-industry collaborative for 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 may be overseen by a non-governmental authority on behalf of private -- and competing -- parties. The ITEGA can make rules for the competitive exchange of both content and users’ identity information.**

Broad elements of the U.S. news industry, including newspapers, other publishers, broadcasters and pure-play digital services, should collaborate with technology, advertising and financial-service interests to support development of a shared-user network addressing trust, identity, privacy and information commerce. See: [A Call to Action from 2011.](#)

It should be a universal, privacy-respecting identity network – allowing a simple, one-account, one-bill way to pay the producers of valuable, personalized information.

The notion of non-equity ownership, shared governance and collaboration in getting the ITGA going is the core insight of this launch plan. It is designed in clear contrast to the emergence of a small number of proprietary Internet “platform” companies – Google, Facebook, Apple and others -- that are dominating advertising and commerce, and an alternative to failed U.S. news-industry collaborations, which have been – fatally – about making the owners exclusive profit, rather than about creating a marketplace where all can profit – including the public.

The ITEGA results from years of research supported by the Donald W. Reynolds Journalism Institute at the Missouri School of Journalism, and a two-year planning effort involve more than 50 collaborators who participated in five task-group meetings and countless phone calls. The ITEGA will help guide, create and govern -- but not own or run -- a non-profit, non-stock, neutral clearinghouse for digital

The ITEGA sanctions but will not directly operate the network elements. It will establish the marketplace but leave the conduct of it to competing private entities. Members should include foundations, universities, banks, telecoms, publishers, tech and entertainment companies, and the public.

identity and content sharing -- and sale. It will certify but not directly operate any network elements. It will help establish the marketplace but leave the conduct of it to competing private entities. ITEGA will establish, sanction or embrace standards, protocols and business rules for user identity, accounts and payments that place a high priority on privacy, choice and the public interest in a transparent, accessible web. It will encourage innovation in user collaboration and new business models around sharing users and content. ITEGA is undertaking proof-of-concept prototyping in collaboration with private partners coordinated to operate within an evolving Information Trust Exchange *ecosystem*.

To have the best chance at achieving operational scale, the ITEGA will tightly focus in a proof-of-concept phase on fostering consensus on the minimum necessary protocols and associated business rules to establish an open and low friction marketplace for digital information. The ITEGA will be a public-benefit "third way" to establish and maintain these operating rules and protocols because it will be neither government regulation or the fiat of one or two for-profit companies. Thus the ITEGA will create and certify an trusted marketplace – a public bazaar -- for information exchange.

ITEGA estimates it will require \$950,000 in support over about two years to test and confirm feasible operation of sanctioned, commercial services that operate in compliance with ITEGA member rules governing identity, privacy and information commerce.

We can project the ITEGA will then be sustained by member dues and licensing fees which support ongoing research, governance, certification, compliance and rulemaking. Operations will be undertaken on a business basis through commercially reasonable arrangements between private network service providers and their customers. ITEGA will be

TWO STAKEHOLDER GROUPS

There are two sets of stakeholders in the ITEGA: Those who operate the marketplace functions, and those who conduct business across the marketplace by managing users or creating and vending content.

1. NETWORK FACILITATORS, OPERATORS, CONTRACTORS

Technology and business service providers who operate ITE-sanction services under contract with the ITE, for which they pay some relative diminimus transaction- or volume-based license fee. These might include operators of the authentication and logging services, and providers of ancillary services that must interoperate with all auth and logging services. These might include financial-service firms which do settlement on records providing by the auth/logging service, as well as entities who act as authorized agents of either publishers or end-user service providers to perform business-case services on network data. These network operators will require sanctioning by the Information Trust Exchange.

2. CONTENT PROVIDERS / USER SERVICE PROVIDERS

Publishers/information service providers, and billing/subscription end-user service providers who wish to be authenticated across the entire ITEGA service network. Most of their cost would be payments to the tech and business-service providers of their choice (above) at free-market prices. But they would also be asked to pay an "interchange fee" based on transaction volume to the ITE, again solely sufficient to fund the ITE's governance and any necessary R&D. What they get for the interchange fee is a unique, ITE-wide identifier and the assurance they and their users will be "authenticated" globally so long as they respect the ITEGA clearing-house rules.

empowered to set terms for issuance or withholding of a unique global publishing member or service member network ID required to do business within the ITEGA ecosystem.

Achieving this simplicity will require the coordination of publishers, content licensors, aggregators and usage trackers, a range of stakeholders currently unfocused on this collective activity. More broadly, the Internet needs a user-focused system for sharing trust and identity, arbitrating privacy, and for exchanging and settling value (including payments), for digital information. The system should allow multiple trust and identity brokers to compete for and serve users. To make a new market for digital information -- and attention -- calls for convening of a unique ownership and governance framework, assembling the required technology, and assessing the impact on law, regulation, advertising and privacy.

Without encroaching on individual franchises, the Information Trust Exchange Governing Association (ITEGA) is 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 may be overseen by a non-governmental authority on behalf of private -- and competing -- parties. The ITEGA can make rules for the competitive exchange of both content and users' identity information.**

ITEGA can help multiply the time spent with content shared among and from participating publishers, enabling revenue streams via data-driven, membership-oriented business models around news. Going beyond news and print, these streams can provide products, entertainment and services, including affinity group "clubs," special events, purchase discounts, special member access to services, contests, and referral fees for transactions.

ITEGA's goal is to involve major technology, telecommunications, banking, publishing, advertising, consumer and philanthropic organizations. It seeks to guide the creation of new standards and a platform for exchange of user authentication and transaction records that enable a competitive market for information -- one that respects and enables consumer privacy and choice.⁶

As they move to the digital world, news organizations would like to once again be the best-possible way to receive a daily diet of information that matters. Publishers and other "content producers" also need a way to share value -- to be compensated -- with dynamic, variable pricing of "atomized" bits of content, remixed into services we can't today imagine. (See *Exhibit O*). Now, people on the go want to efficiently access the broadest range of multimedia content customized to their needs -- in a few, simple actions. Achieving this simplicity will require the coordination of publishers, content licensors, aggregators and usage trackers, a range of stakeholders currently unfocused on this collective activity.

ITEGA a glance:

Convenience for users

- Choice of providers
- Trustworthy sources
- Deep personalization
- One ID, multiple services
- Manage 'personas'
- Persona/privacy control
- One account, one bill
- Subscriptions, per click

PROTOCOL CONSENSUS BUILDING

ITEGA can establish consensus on minimum necessary open protocols to transfer information about usage and charges across a network (either the public Internet or some controlled subset). An ITEGA could facilitate emergence of an open user-sharing and payment protocol -- either by developing the standard, or endorsing an open standard developed by an incumbent willing to share it. It could foster continuous

⁶ -- See: "[LINK: Soros' Open Society paper asserts privacy is the dominant issue for online media industry](#)" (Nov. 2011 report found [HERE](#)).

innovation leading to collaboration around open standards. It should focus on developing the minimum necessary protocols for enabling information commerce -- protocols which do not leave a single player in a blocking position.

To bring benefits of the ITEGA to consumers, the exchange will need to support personalization, user authentication and payment services for this public marketplace -- essentially, a shared-user network for privacy, trust, identity and information commerce. ITEGA can foster a transparent, competitive marketplace for digital information, not subject to direct control by governments. It would rigorously respect and support anti-monopoly and anti-trust law and avoid making policy or rules respecting pricing or service offerings to the public.

The ITEGA WILL sanction but not directly operate the network elements. It would establish the marketplace but leave the conduct of it to competing private entities. Members might include foundations, universities, banks, telecoms, publishers, tech and entertainment companies, and the public. A federated-authentication network would allow end-users to have an account at one web service with which they can authenticate to a plurality of other services, optionally sharing persona information and accruing debits or credits for information services that are periodically settled. This creates opportunities for delivering personalized, trustworthy news, and relevant, targeted advertising, commercial messages and offers.

PART TWO

The solution: ITEGA fosters private commerce

In a nutshell, the ITEGA will define and sanction a digital network for news organizations and other publishers that allows them to network together and exchange digital identities, content and advertising among each other and the public in a way not dependent on a few private technical platforms. It's a shared-user network for identity, privacy, personalization and information commerce. Publishers can make money not only from their own users but by selling to each other's users – link revenue sharing -- opening up a wider field for commerce.

ITEGA's board will strive to govern like ICANN⁷ for identity -- or a Visa for information commerce. It will make rules about the sharing of user profiles, and the exchange of value for advertisements and content. Then it will grant contracts to private entities to run networks and services. These services will be able to share user data using standard protocols, kind of like members in a stock exchange. The ITEGA will receive funding through grants or member service prepayments, to cover proof-of-concept testing and operations.

With the ITEGA established, entrepreneurs can be funded to run services across the ITEGA ecosystem. A good analogy might be that we are building a combination of free and toll roads for the information superhighway -- entrepreneurs will then be able to build better services -- vehicles that run on the roads and developments near exits -- to make more money than if only local roads existed.

BRIEF BACKGROUND

In the last decade, technology-based companies such as Google and Facebook have invented and grown the digital-advertising business, leaving traditional publishers far behind. And Apple has credit-card-based accounts of over 800 million iTunes users. Many experts have concluded the news industry cannot compete for the attention of the public without dramatic new approaches.

We may now be at an inflection point where legacy news organizations realize they simply cannot continue to exist in silos, they must adopt common technologies, business rules and standards for managing user identity, privacy, trust and information commerce if they want to have the scale of the platform companies such as Google, Facebook, Apple and Amazon. The challenge for news and other publishers is not one of technology, but of coordination.

The groundwork for this proposal is set forth in two RJI research reports in 2011 and 2015, “[From Paper to Persona](#)” (2011) and the more recent sequel “[From Persona to Payment](#)” (2015).⁸ Key points of the 2011 and 2015 papers:

- Mass-market advertising won't sustain traditional journalism

⁷ -- The Internet Corporation for Assigned Names and Numbers is a California-based nonprofit which governs domain names, and operates the Internet's root domain-name server, charging competitive private registrars to use it.

⁸ -- Available from <http://newshare.com/report.pdf>

- New revenue streams are needed
- A promising opportunity is for news organizations to become stewards and curators of individual user's 'persona' and information needs; earning subscription and transaction fees by doing so.
- A network is needed to maximize the value to consumers and revenue to the news industry. The network needs to be trusted by competitors.
- The best way to assure such a neutral network is for it to be created by a non-stock, public-benefit organization.

Both papers call for the creation of a public-benefit organization help create and govern – but not own or operate – a shared-user network for trust, identity and information commerce layered atop and supporting the existing World Wide Web – a functional extension of the domain-name service, ICANN. The network, or exchange, would:

- Develop technical and information-service protocols and business rules
- Allow end users to own, protect – and optionally benefit by sharing – their demographic and usage data, with the help of their competitively chosen information broker or agent (“information valet”) – such as their local newspaper.
- Provide a platform for customizing and personalizing the end-user web experience – a “news social network.”
- Update the role, effectiveness of, and compensation for online advertising and marketing services beyond the mass market, while putting greater control of user privacy in the hands of users and their most-trusted publisher or identity service provider.
- Allow digital users to easily share, sell and buy content through multiple websites with one ID, password, account and bill.

INFLECTION POINT: SILOS NO LONGER VIABLE?

We may now be at an inflection point where legacy news organizations realize they simply cannot continue to exist in silos, they must adopt common technologies, business rules and standards for managing user identity, privacy, trust and information commerce if they want to have the scale of the

EDITOR & PUBLISHER, April, 2015
<http://newshare.com/ite-key/future-personalized-news-E&P-densmore.pdf>

shoptalk / commentary

Imagining the 21st-Century Personal News Experience

By Bill Densmore

Last year we interviewed more than 85 journalists, educators, technologists, researchers, activists and citizens to gather a picture of how the news “ecosystem” must change to sustain journalism. The resulting report for the Donald W. Reynolds Journalism Institute is called “From Persona to Payment.” (tinyurl.com/qj-report) In it, experts describe the need for news organizations to rethink advertising to make it more personalized and 1-to-1, to collaborate, and to help their users manage their personal information and privacy.

Here’s what we envision as the best 21st-century news service based on coordinated integration of 2015-era technology.

A NEWS CONSUMER SCENARIO, 2015

Jane Doe is up at 6 a.m. on a weekday. She wants a current update on the news that matters in her life. That’s information that could affect her family, her work, and the ideas and things she’s passionate about.

News to Jane is not just what would be on the front page of the newspaper she no longer subscribes to in print. To Jane, news is what her friends and colleagues think is important. Jane subscribes to a service that finds news for her. The newsroom of the her local newspaper is an affiliate and helps curate the stories and comment threads that comprise the Daily Update that arrived in her email box just after 6 a.m. It’s similar to hundreds of daily updates put out by news purveyors using email list technologies, except no other person besides Jane has received the exact package of 24 items that she is about to swipe through on her mobile device.

Even though the 24 information items in her Daily Update are from 24 different publishers, Jane gets all this information with a single, monthly subscription to her local “InfoVale” affiliate. Because of a microaccounting system used by the service, some of the money Jane pays her local affiliated news organization is parceled out to other publishers based on usage. Jane doesn’t have to do anything for this to occur; it’s a result of networked subscription revenue sharing among the publishers.

Not all of the items reached Jane because of her expressed or inferred preferences. A few items—Jane can specify how many she wants—are provided by her local news organization—the affiliate to which she pays a digital subscription fee monthly.

For Jane, this service is a by-request, on-demand, continuously updating and customizable view of the information landscape that matters to her. It’s her personal information companion.

Everything described in the Jane Doe scenario is possible with technology available today, and maybe even recognizable as applied in other contexts. For them to be integrated in a simple user experience here’s some of what’s needed:

Personalization: More systems need to emerge that can cleanly match the words and ideas in millions of news and information resources to the expressed or inferred interests of news-organization users like Jane. This process, often called “semantic analysis” is an active field of computer science.

Atomization: Users want information from everywhere in a custom, personal package. Publishers must collaborate on a common method for tagging the price of their content for “atomic” (single item) sale across a network. The network needs to aggregate payments from users and distribute them to the publishers. Publishers need to be willing to experiment with pricing in various contexts.

Privacy: Brands and “InfoVale” operators need to agree to respect user privacy preferences for the use of extensive online behavioral tracking data collected on individuals so that users will trust and value their services.

Identity: News organizations need to acquire the technology expertise necessary to assemble and manage the “personas” of their users, giving users control over how that persona is used. They might do this independently, or in collaboration with Internet platform companies. But the format and type of data stored and shared must be standardized. ■

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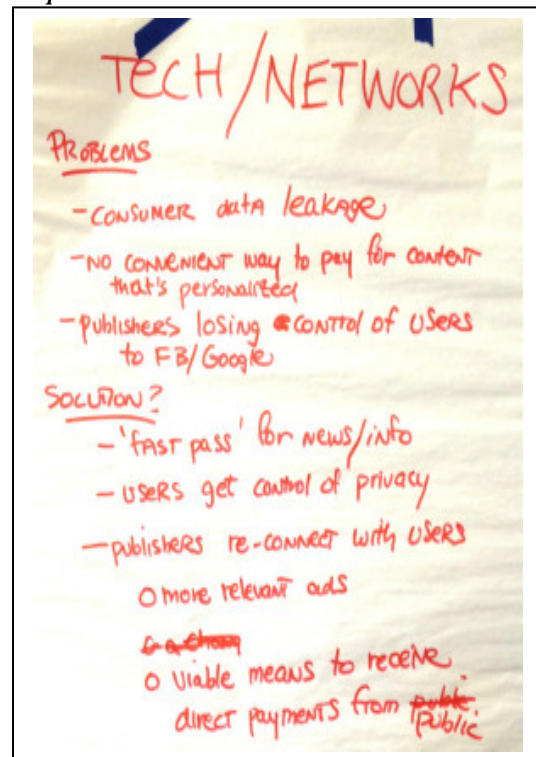
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platform companies such as Google, Facebook, Apple and Amazon. The challenge for news and other publishers is not one of technology, but of coordination.

In a report, [“From Persona to Payment: A Status Report on the News Ecosystem, and a Challenge to Create the Next One.”](#) RJI fellow Bill Densmore reaches two conclusions:

- *The news industry lacks a system for variable pricing and exchange of individual items of news content in real time. Yet in the last 10 years, the advertising industry has innovated sophisticated “programmable” technologies that allow in milliseconds the variable pricing, bidding, selection, tracking and billing of advertisements to targeted, unique consumers.*
- *The news industry also lacks a common system for single-signon or user authentication across multiple news websites. Yet in the last 10 years, Tier 1 U.S. universities running on the Internet 2 network have used open-source Shibboleth and SAML trust technology to achieve single login across 100 independent campuses and institutions.*

The original architecture of the Internet identified connected machines by something called an IP number. But it provided no method for exchanging the identity of individual users. User names and passwords provided an initial solution. Then Netscape Communications Corp. invented “cookies” – the idea that a tiny file on your computer could associate your computer with previous activity. Banks and new financial-service companies introduced ways for using credit cards to purchase online. User names, cookies and credit-card numbers have enabled remarkable services and features. They have turned the Internet from an academic and military experiment into a vital information superhighway of commerce and convenience. But they have also created challenges to user privacy. And payment services don’t yet economically work for aggregating small bits of information from many sources into a personalized service.



COMPARISON TO ICANN

The Internet Corporation for Assigned Names and Numbers met the challenge of providing a global addressing system for the Internet. The Information Trust Exchange Governing Association meets the new challenge of global standards for managing identity, privacy and --- ultimately -- information payments. As a nonprofit, non-stock entity, it develops standards, protocols and business rules, and licenses operation of authentication and logging services – data exchanges – by one or more commercial operators that are certified compliant with those standards, rules and protocols. It has no direct relationships with public users of the Internet. It facilitates but does not itself engage in news or advertising services. Its role will include these functions:

- Establish governance structure
- Facilitate board formation, membership
- Charge licensing, certification and member fees
- Fund protocol and standards development
- Research, test, commission key technologies

- Create voluntary privacy, trust, identity standards
- Protect privacy: Anonymous, yet trusted users
- Sanction protocols for sharing users/content and license their use
- Sanction multi-sITEGA user authentication services
- Facilitate web-wide microaccounting/subscriptions
- Support “atomized” content, wholesale/retailing pricing
- Broaden “deep web” access; not on web today
- Support ad serving by anonymized user cohorts
- Enable consumer choice for commerce, privacy
 - One account, one bill, one ID, purchase anywhere.
 - But no single owner of all users

STAKEHOLDER EXPERIENCES

Prototype versions of ITEGA-sanctioned network services are to be designed for both industry and public stakeholders:

They will be designed so that news and other publishers can:

- Grow audiences
- Increase revenue (monetize off-sITEGA content, higher CPMs from non-subscribers)
- Deepen user relationships (greater impact; ROI goes up)

They will be designed so that public users:

- Efficiently find helpful and relevant information personalized to their interests/needs
- Find such relevant information faster and easier
- Have new and better control over their data and identity
- Increase their connection with geographic and topical communities
- Find the service valuable enough to pay something by subscription or per-click

In the process, news organizations will:

- Learn what it takes to aggregate content automatically and efficiently
- Collect and share user data/behavior on a “permissioned” basis
- Receive data about their users who leave their sITEGA or service
- Receive anonymous data about other’s users who come to their site/service from elsewhere

Proof-of-concept testing will:

- Track user data and collect analytics (not use cookies except for state management)
- Test advertising delivery by anonymous cohorts
- Test networked subscriptions
- Personalize content

Evaluate and analyze results

PART THREE

Operating components

The design process for ITEGA's operations was informed by the meetings of the four ITEGA task groups in 2015, and the research and white papers commissioned by the Donald W. Reynolds Journalism Institute (RJI). The process began by identifying four key *objectives*, making key *assumptions* about the marketplace, then arriving at a seven-point set of *design principles*., seven *operating requirements* and nine *operating features*.

FOUR OBJECTIVES

The Information Trust Exchange Governing Association has four objectives:

- Foster network standards and collaboration among existing consumer-facing services, and enable new ones.
- Help enable for the public convenient access to trustworthy, valuable **personalized** content packages and services from one, 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 and advertising.
- 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

MARKET ASSUMPTIONS

The ITEGA accepts six strategic market assumptions:

- **COLLABORATION** -- While the number and independence of original news producers is an important element of a diverse press, the lack of collaboration on digital-media standards for sharing users and content value is impairing support for journalism. Collaboration on network sharing protocols and business rules is therefore essential to sustain competitive, independent journalism.
- **SCALE** -- Nearly all individual elements of the U.S. news industry are too small and lack present network capabilities sufficient to provide a compelling, personalized, broad-spectrum information service to their publics -- except through either: (1) Alignment with the goals and businesses of giant technology platforms or (2) Collaboration with other news and information organizations -- legacy or pure-play digital.

- **BEYOND ADVERTISING** -- The decline of independent local retailing, the “nichification” and “digification” of verticals (autos, employment, food-entertainment, soon preprints) and the rise of tech platforms for contextual and social advertising have undermined advertising as a feasible core strategy for local news providers (print, radio and eventually TV).
- **NETWORK SUBSCRIPTION** -- Single-sITEGA subscription services have plateaued as a revenue source. They are a gateway to local news that lacks sufficient appeal to an increasing percentage of available audiences -- unless personalized, delivered to mobile devices and augmented with a variety of other types of information and services. Subscription bundles must reach across services and publications.
- **CONTENT ATOMIZATION** -- Publishers need a way to make money when they distribute their content outside their own “publication.” This requires a common standard for tracking access at the story or “digital object” level (“atomized content”) so that value can be attributed (whether credit for ad views or content reading) and exchanged.
- **ENFORCEABILITY** – Transparent exchange rules, rather than government regulation or private fiats, assure network trust, the public interest in privacy and identity management. “Bad actors” are sanctioned or removed. The ITE’s role is trusted because it does not compete with participants. Hence, the need for a non-governmental and non-investor-owned entity with a mission to efficiently oversee and operate a service and not profit from it. Profit is for the publishers and service providers who use and run services under exchange rules.

OPERATING ASSUMPTIONS

The ITEGA adopts these four strategic assumptions about Exchange operating capabilities:

- Content originators will be able to set their selling price at wholesale in a free market for digital information, and subscription bundlers and aggregators will take business risk (and opportunity) at retail. A royalty-pool model similar to ASCAP or BMI in music is not sufficient for an exchange where object value varies widely as to purpose and characteristics. (Magazine vs. news, long vs. short, investigative vs. spot news, video vs. text)
- The exchange will support at least three forms of value exchange: (1) subscription bundles of content from multiple wholesale sources (2) Per-click purchase of individual objects where buyer’s credit is verified (3) Rewards to end users, directly or indirectly, for their attention to commercial messages.
- To facilitate marketer/advertiser participation, the exchange will support mechanisms for monetizing personal data, so that “freemium” is an included business-model type. However, the Exchange will enforce transparency and choice and control for end users in managing their personal data, which will be clearly defined.
- There will be no central repository of personally identifiable information. Records of exchange-facilitated activity will be aggregated, reported to content providers and service providers, as permitted and required for business purposes, including value exchange, and not retained by the Exchange. As a design goal, the Exchange will not have access to unencrypted personal information about users. Users can choose among competitive service providers based on a level-playing field negotiation of their respective privacy-management offers.

- Similar to the early days of the bank / credit-card system, the network must be overseen by a non-governmental authority on behalf of the public and private -- and competing -- parties. The ITEGA will define rules for the competitive exchange of both content and users' identity information.

DESIGN PRINCIPLES

These seven design principles will be common to all ITEGA-sanctioned services:

1. PUBLISHER / USER INDEPENDENCE – (“Allow silos to continue”)

- **CONSIDERATIONS:** The same way that a merchant's decision to accept Visa or MasterCard does not preclude accepting other forms of payment, including the merchant's own in-house credit card, the ITEGA should not in any way prevent a publisher from continuing to use any other technology or service of the publisher's choice.

REQUIREMENTS: The ITEGA design must not prohibit or prevent publishers or users from using their own information exchange or value exchange mechanisms outside the ITE. Nothing will restrict or inhibit a participating affiliate or publisher from continuing to operate within their own or other's user-management or value-exchange sharing services. A good analogy might be to a department or big-box store that accepts Visa or Mastercard from casual customers, but also continues to offer its own store revolving credit card to its own high-affinity customers.

2. USER DATA SHARING AND FREEMIUM PRICING

- **CONSIDERATIONS:** In today's Web environment, “free” services have become the *defacto* standard because users are paying for these services with their data. In this sense personal data has become a very real “currency” whose worth represents a significant portion of the \$60B digital advertising market. However the current market for “adtech” and “trading” in this information has enormous issues with regard to privacy, transparency, and lack of user permission, participation, or control.
- **REQUIREMENTS:** The ITEGA design must provide an opt-in mechanism for users to be able to share selected aspects of their user profile and/or usage statistics with either: a) ITEGA publishers directly, or b) ITEGA usage aggregators. This mechanism must also provide an explicit means of value exchange to reward users for sharing this information.

3. USER-CENTRIC IDENTITY

- **CONSIDERATIONS:** The burden of online login and account management is currently unmanageable for all but the most dedicated of users. The alternative—social login services such as those provided by Facebook, Google, Twitter, and others—has too many privacy and intermediation problems to be a sustainable solution for the ITGA membership.
- **REQUIREMENTS:** The ITEGA design must enable users to employ unique identifiers that that are universally recognized across the ITEGA ecosystem, but do not require centralized registry services. The ITEGA architecture must enable the user to authenticate the user's choice of unique, standard-format identifier to ITEGA publisher sites. This authentication must be able to meet system-wide identity levels of assurance (LOA) that also meet the LOA requirements of a specific ITEGA publisher. The ITEGA identifier architecture must enable users to control the levels privacy afforded by these identifiers in ITEGA interactions.

4. USER ANONYMITY / PROFILE SHARING

- **CONSIDERATIONS:** To gain marketer/advertiser participation, the Information Trust Exchange must support mechanisms for aggregating and sharing demographic, interest and preference data about individual users upon transparent terms acceptable to the individual. This calculus inherently raises issues of personal privacy for end users. Also, in the same way the non-digital economy supports cash purchases in which a buyer does not reveal any information to a seller, the ITEGA should enable purchases by users who choose not to reveal identity or profile information to a publisher. At the same time, ITEGA service providers who establish accounts and manage the persona and privacy of their users should be willing to share some demographic and interest information about their users to third-party publishers as a condition of those publishers being willing to provide services to those users – in both cases to enhance the user experience.
- **REQUIREMENTS:** The ITEGA sanctioned services should provide a standard mechanism for anonymous yet accountable purchases of content objects by ITEGA users. They should enable the serving of advertisements to individual users with specific interests within a cohort of other users – without advertisers or marketers having access to unique, personal identifying data about an individual user.

5. USER CHOICE OF ACCOUNT HOSTING

- **CONSIDERATIONS:** Users will not adopt an ITEGA network that locks them into a single account host provider any more than they would adopt a banking network that locks them into a single bank. Having a choice from a competitive marketplace of ITEGA account host providers is as important as having a choice today of from a competitive marketplace of email account providers.
- **REQUIREMENTS:** The ITEGA design must allow users to choose how their ITEGA account will be hosted. Choices must include self-hosting and service provider hosting. For service provider hosting, the ITEGA design must provide options for both self-asserted assessment of compliance with ITEGA policies and reputation-based assessment. A user must be able to move (port) their ITEGA account and account data from one account host to another.

6. PRICING CONTROLLED BY CONTENT OWNER

- **CONSIDERATIONS:** The value of news objects (stories, video, multimedia) vary widely based upon their timeliness, topic, type (long, short, investigative, narrative, spot, trade, MST) and application. News objects increasingly are disengaged from publisher packages by aggregation and “atomization.” Therefore, royalty-owning publishers need a way to assign and transfer value (pricing) of individual objects across a sharing network. Royalty-pool models have largely failed because they remove the original publisher from value assignment.
- **REQUIREMENTS:** ITEGA-compliant services must respect the pricing set by originating publishers (at wholesale), while allowing the free assignment of pricing at the consumer (retail) level. design must enable content objects to be sold on a bundled, subscription or a la carte basis. Content objects should be able to be made available on a bundled, subscription or a la carte basis, charge or free, as the owner wishes. It follows that publishers using ITEGA services be willing to sell information resources to anonymized incoming casual or “drive-by” users (a la “newsstand customers”) at a reasonable price they establish, without having to know the identity or detailed information about these “guest” users.

7. USAGE BILLING AND SETTLEMENT

- **CONSIDERATIONS:** The overhead and friction of maintaining multiple payment options across multiple sites is currently prohibitive to all but the very largest publishers and payment service providers. Therefore it is paramount that the ITEGA offer a network-wide alternative that reduces the costs and friction of all ITEGA payment options to an absolute minimum.
- **REQUIREMENTS:** The ITEGA design must provide a standard mechanism for billing users for the content objects a user has consumed during an accounting period, and for settlement of a user account at the end of an accounting period. This billing and settlement mechanism must be as lightweight and low-friction as possible for both users and publishers.

OPERATING REQUIREMENTS

These operating requirements are proposed and sought as consistent with the strategic assumptions and design principles and should be part of ITEGA-sanctioned operations and specifications:

- **EVENT LOGGING** -- Every HTTP action across the network that involves an exchange of value (a payment for an article or a reward for viewing or doing something) is logged to an authentication and logging service, which is seen by the system participants as a "central shared service" -- although in network practice it may be distributed and hierarchical as with Domain Name Service.
- **USER NETWORK OPACITY** -- An ITEGA-sanctioned logging service knows the user only by a unique alphanumeric identifier supplied by the user's "home base" registry service at the start of that particular session. They operate as agents, auditors and fiduciaries of publishers and user-registry services. As a matter of policy, ITEGA-sanctioned logging services shall not sell or provide clickstream data to ANYONE and provides it only to the user's home service provider for their purposes (and for audit purposes to the publishing content provider if requested). The identifier -- to anyone other than the home base itself -- reveals nothing more than the identity of the user's home base.
- **SERVICE-PROVIDER CHOICE** -- There should evolve a plurality of home-base account managers in the service (as there are thousands of home bases in Shibolet/Internet2), providing end users a high degree of choice regarding business terms, especially as to identity and privacy.
- **VALUE AGGREGATION/SETTLEMENT** -- At settlement time, the settlement service bundles event records -- sorted by home-base of the users on the one hand and by the vending publisher on the other hand -- and determines an aggregate debit or credit to charge the home base and an aggregated credit or debit to charge the publishers (note that a "publisher" could be a brand which is paying for a user to view a commercial message). This all is done periodically -- daily, weekly, monthly -- probably weekly in prototype -- in reference implementation across the bank ACH network.
- **DISTRIBUTED DATA CONTROL** -- The home base gets these bundled log reports and is free to sort them or use them as they wish (subject to their terms of service with the end user as to usage and privacy protection or not); in some cases there may be a discrete charge or payment to the end user for a particular access; in the vast majority of cases, one supposes, the home base will use the click-stream reports for demographic, marketing and business-model analysis but the end

user will merely be paying a monthly subscription for some class of service.

- **AUDIT CAPABILITY** -- The publisher (or information service provider), also gets bundled log reports of total usage so they can audit their payment or receipts, and the only sorting they are capable of doing is by the source of the end-user (i.e., their service-provider ID). Conceivably they might have methods to associate these anonymized usage reports to specific users, but the ITEGA would be in the business of making business rules governing this practice and the rules would be enforceable by anything up to the ultimate sanction -- cutting the offending information service provider off the system.
- **ENFORCEABILITY** -- The provision for non-regulatory sanctions is one of the reasons why the governance and ownership of the service is so critical. The sanction of a network cutoff decision has to be the result of well-documented interchange rules (consider Visa as a model in this regard), and the entity making the decision has to have no competitive business interest one way or the other but rather on an interest in the fair administration of the service and due regard for evolving identity and privacy rights of end users. Hence, the need for a non-governmental and non-investor-owned entity with a mission to efficiently oversee and operate a service and not profit from it. Profit is for the publishers and service providers who use the service.

OPERATING FEATURES

Here are nine expected operating features of ITEGA-compliant services which should be enabled and supported by the operating requirements:

- **NETWORK SUBSCRIPTIONS** – The service should allow publishers to be paid for providing digital content across an ITEGA network without having to have one-off relationship with each reader/user.
- **DYNAMIC SERVICING** – Publishers offering their content should have real-time personal, demographic, preference or interest attributes of a user/reader at the time the user makes an online/mobile request for information, so they can respond with targeted, customized messages or services.
- **MICROACCOUNTING** -- Publishers should not be required to participate in operations which “pool” royalties. Rather, a feature of the service should be census-type (vs. polling, pooling or sampling) logging and aggregation of billable content requests, with clearing-house settlement of payments and credits among publishers and user-account managers.
- **WHOLESALE-RETAIL PRICING** – Publishers shall be able to use one or more methods to establish the price they wish to receive (and be assured of payment) for a discrete digital object (or bundle), and be able to vary that price dynamically in real time based upon the attributes of the user requesting the object.
- **ONE BILL/ACCOUNT** –The service will enable a user/reader to have one bill/one account/single sign-on access to information from (virtually) anywhere, by subscription or by click/action?

- **UNIVERSAL TRACKING** – In order to gain the participation of publishers and advertisers, the system will enable a user’s activity to be tracked across the ITEGA network and that activity aggregated – only -- to the user’s home-base service provider for billing and analysis – contingent upon explicit permission of the user.
- **CONTENT PACKAGING** – In order to gain the participation of end users, publisher and billing-service users of the system should be able to facilitate custom assembly by the end user of information services from a variety of topical and geographic-oriented sources into personalized subscription packages.
- **FREEMIUM vs. FREE** – In order to gain participant of both privacy advocates and the advertising industry, the system should allow the public user to chose among a range of options from (1) no advertising and no disclosure or use of their tracked activity in a subscription-based approach to (2) receipt of highly customized commercial messages and the wide, background marketing of their information preferences in a rewards-based program approach.
- **SUBSCRIPTION OR PER-CLICK** – In order to satisfy the requirements of a plurality of publishers and service providers, the service should offer end users both sale or receipt of digital items within a pre-paid subscription package -- as well as being able to dynamically query the user if they want to purchase a particular resource on a one-time, one-item basis.

PART FOUR

Business / governance

ITEGA should be supported by major technology, publishing, advertising, consumer and philanthropic organizations. It should guide the creation of new standards and a platform for exchange of user authentication and transaction records which enables a competitive market for information, respecting and enabling consumer privacy and choice. Some of the same entities – especially those whose businesses will benefit – might also capitalize an [ITEGA Operating Corp.](#), with the possibility of an investment return.

It should establish consensus on minimum necessary open protocols to transfer information about usage and charges across a network (either the public Internet or some controlled subset). An ITEGA can facilitate emergence of an open user-sharing and payment protocol – either by developing the standard, or endorsing an open standard developed by an incumbent willing to share it. It could foster continuous innovation leading to collaboration around open standards. It might focus on developing the minimum necessary protocols for enabling information commerce -- protocols which do not leave a single player in a blocking position.

An independent, non-stock organization could lead creation of this free (as in “open”) market for digital information. It should:

- Initiate and build on standards for trust, identity and information commerce
- Ensure consumer choice and trust
- Enable price and service competition at all levels
- Guide the marketplace with a global perspective
- Benefit journalism, democracy and freedom ahead of private interests

Making a new marketplace for digital information -- and attention – suggests creating a unique ownership and governance framework, specifying the required technology to be built by for-profit licensees, and assessing the impacts on law, regulation, advertising and privacy.

It might be a non-stock association, owned by its membership, whose interests may not be divided or sold except pursuant to the bylaws and whose assets, upon dissolution shall be contributed to charitable or education institutions in furtherance of journalism in conformance with the laws of its state or incorporation. It could raise money through grants, gifts, memberships and loans, and then contract with or acquire entities providing information-commerce operating services, realizing program-related income. The entity must be agile and unencumbered in negotiating and implementing relationships and its fiduciary obligations must be solely to advance the interests of its members, and the public.

Any individual could apply to join the Information Trust Exchange upon payment of annual dues established by the Board of Directors and approval of their membership application by the Board of

ITEGA at a glance: Platform for publishers

- Single-signon facility
- Data exchange for user-identity information
- Payment exchange for advertising and content value
- Rules exchange for privacy standards
- Ensures market competition on price, service, terms
- Exchange itself is a marketplace, not a competitor.

Directors. Members shall be entitled to attend and vote at any Annual or Special meeting called by the Board of Directors or by petition of at least one-third of the membership.

Corporate or institutional members might be divided into classes, with varying voting rights in order to assure governance of the ITEGA shall not be dominated by a single class. Classes might include publishing members, contributing members, technology members, participating members and supporting members. The board will be composed of members from various membership classes.

At the discretion of its board, the Information Trust Exchange might form or acquire one or more operating companies to operate services related to the ITE's mission.

The Information Trust Exchange can solve problems -- has value propositions -- for publishers, advertisers and the information-consuming public.

- For the public, it creates the opportunity for access to lots of information resources with a single ID, password and account. But unlike proprietary services such as iTunes or Facebook Connect, the customer will be able to choose among a plurality of service providers who can compete over financial and privacy terms.
- It also creates a platform for affiliates to respond in a customized, personalized way to information requests, because it makes it possible for the user to offer their preference information when making an information request.
- For advertisers, it solves the problem of multiple identities for the same person, without them having to maintain any personally identifiable information or be beholden to one or two huge platform operators who hold master user accounts.
- For publishers, it creates the possibility of subscription networks through background "microaccounting" for cross-sITEGA exchanges of value and payment.

Thus the Information Trust Exchange may have the potential to be a largely self-funded effort with the potential to facilitate revenues and profits for operators. Commercial entities can make their own business decisions about how much to spend to enable and connect to the network. They can't do that now is because there is no interconnect -- a private, yet public-benefit, system of unified policy, governance and sanctions. There is no non-profit exchange facilitator which, like the Internet itself, transcends any single government or enterprise.

Each of these brings a large constituency of potential support and interest; each are possible in an integrated approach to the sharing of data about users and transactions. A system to do any three, strategically designed, can do the other one as a byproduct.

PRIVATE VENDORS TO BUILD

The ITEGA premise is to define an architecture, create protocols and interfaces, and accompanying business rules -- then contractually partner with technology companies prepared to build ITE-compliant networks that share user data, content and payments. As the profit from the system is designed to go to the operators and affiliates rather than the ITE, we believe operators could feasibly finance their technology and infrastructure investment and pay network fees to the exchange.

The Information Trust Exchange, whether chartered as a non-profit association or a co-operative, would not compete with its members in news or advertising, because it is proposed not to be a direct operator of

anything – rather, it will develop standards, protocols and business rules, and license operation of authentication and logging services – data exchanges – by one or more private, for-profit operators. The roles for ITEGA are set forth in Part 2, on Page 15. The will deliver for the public:

- PRIVACY: Protect, share demographic and usage data
- PERSONAL: “Persona” yields custom information
- CHOICE: Many “info-valets,” price/service competition
- RELEVANCE: Ads more effective, direct compensation
- CONVENIENCE: Easy sharing, selling, purchasing of online content; one ID, one account, one bill

Result . . . TRUST.

BOARD, STAFF AND SUBCOMMITTEES

The ITEGA Board of Directors, staff and steering committees will work with the public to identify legal, technical, management and philanthropic advisors with potential experience appropriate to enable exchange services. They will consider how it will be governed, and connect with potential for-profit operating partners and licensees. Board-designated task groups will refine the initial mission, rationale, objectives and value propositions.

In doing its work, directors and their designees will study and perhaps connect with initiatives that may offer opportunities to endorse or learn from services that will help define ITEGA or build ITEGA services. Some examples discussed in this report include:

- SECURITY -- The use of SAML/Shibboleth by the Internet2 consortium to achieve single-sign-on convenience across 100 universities and research services.
- CONTENT – The experience of The Associated Press and the Public Media Platform by NPR/PBS and others to standardize the tagging, discovery and use of multimedia content.
- COMMERCE -- The non-profit TrustX and DigitTrust initiatives to create a single digital identity for users and reduce the use of so-called “third-party cookies.”
- IDENTITY -- The Knight-Mozilla Open News collaboration with *The New York Times* and *Washington Post* to develop an alternative to Facebook Connect.
- PAYMENT -- The business models of formative content payment networks such as TinyPass, Piano Media/Press+, MediaID, Blendle, Clickshare – and potentially ApplePay.

Through RJI’s research, ITEGA can identified legal, technical, management and philanthropic advisors who might have the experience and knowledge required to create the ITE, establish its governance, and connect it with critical for-profit operating partners. It is anticipated that the cost of building operating infrastructure would be born by for-profit partners and licensees . All that’s needed is founding-member capital, and a hosting institution, such as RJI, to provide logistical support. A first-year funding goal of \$310,000 is proposed, (A go-no-go milestone is at approximately \$50,000) with the intention that the ITEGA be self-sustaining thereafter through dues and licensing fees, assuming a governance (rather than development) role over the web’s new trust, privacy, identity and information commerce infrastructure.

COMMERCIAL RELATIONSHIPS

During Phase 2, ITEGA would begin to seek to license for-profit affiliate members who will provide these services at a Tier 1 level of authentication, to seed the network in the publishing space:

- Enable web users to access, share, sell or buy paid content from multiple sources by means of a secure account with a single ID, password, account and bill.
- Provide web users with absolute control over a digital identity with respect to accessing, sharing and purchasing news and information content, and other uses.
- Find, spotlight, aggregate and share content.
- Create a news social network that operates through news and information content web sites at all levels from local to international.
- Create a means to deliver contextually-relevant content recommendations to network members
- Provide easy, low-cost, copyright-respecting access to “Deep Web” and other content stored behind pay, registration, membership and once-proprietary barriers.
- Enable the delivery of precisely-targeted advertising and other commercial content relevant to a reader’s expressly shared demographic profile, social networking connections, ad content preferences and browsing history.
- Enable a system allowing ITEGA users to earn cash or rewards for engaging in a variety of potential interactions with commercial entities.

PART FIVE

Operating technology

Technology comprising an Trust Sharing Exchange Architecture (ITESA) is now described. It draws significantly upon the proposals of both Buzz Wurzer and Bill Anderson⁹ in 2012 and 2013. In some ways, it is conceptually similar to Clickshare Authentication and Logging Service, described in two United States patents.¹⁰ It begins with a set of value propositions continues with functional specifications, and ends with build-out steps.

What do we mean by a “shared-user network”? In Dec., 2008, a group of 45 news-industry experts met at the Donald W. Reynolds Journalism Institute and [collaborated on this definition](#):

A computerized, community-based ecosystem that enables consumers to opt-in to convenient, secure and private information exchange with trusted providers of online content, products and services where the relationship value of the consumer is captured and married to optimized positioning of seller offerings.

Components:

- Enrollment/registration processes that screen (and protect) users
- Creation of secure credential with user-set privacy levels
- Downloadable(?) single sign-on capability for participating sites
- User-created and updatable profiles of preferences, interests and demographics
- Certification of trusted providers and participants
- Ability to match dynamically-specified buyer interests with customized seller offerings
- Transparent payment capability with user-specified ways to pay
- User-defined rewards that can be collected among user-specified provider participants
- Visa-like payment engine/network/capability to slice-and-dice payments, establish and enforce rules, handle problems, service customers, provide reports, administer licenses/IP, etc.

The ITESA creates the opportunity for a new kind of entity which would help consumers manage their personas across a variety of information services – some paid and some that pay, or reward.

TWO OPERATING COMPONENTS

Technically, ITEGA supports two broad initiatives:

- ITEGA 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)

⁹ -- [Buzz Wurzer](#) is a retired Hearst Corp. executive; [Bill Anderson](#) is a retired Seattle SeaFirst bank CTO.

¹⁰ -- <http://tinyurl.com/2wtlpu> / <http://tinyurl.com/2ukwj4> / <http://tinyurl.com/csc-patent-2013> / <http://tinyurl.com/csc-patent-news> / <http://newshare.com/disclosure>

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).

- ITEGA NETWORKS -- Special-purpose networks that securely transfers information among and between network members, including content providers, end-user service providers, network operators and network service providers.

ITEGA-sanctioned systems should also facilitate:

- Technical protocols for sharing users, content and payments
- Control for users over their demographic, financial and personal data
- Other features proposed at [“Blueprinting the Information Valet Economy.”](#)

System attributes

- A. Visa/telco analogy
- B. Some specific system elements
- C. Two stakeholder groups

Nothing will restrict or inhibit a participating affiliate or publisher from continuing to operate within their own or other’s user-management or value-exchange sharing services.

Networks tend to develop as silos and then interconnect because of the resulting efficiencies for their users. Railroads developed a standard gauge and connected their tracks so freight and passengers could move in an uninterrupted fashion. Continental power grids use the rate of phase change of their alternating current (60 cycles) so they can share electricity back and forth.

Banks who once had independent ATM networks now allow their users to withdraw funds globally (OK, for a fee, but the technology is standardized) because getting at your dollars in Massachusetts converted to Euros when you are in Prague is a real convenience, even if it costs \$3.00 to do so.

These are “shared-user” networks – railroads, power grids, bank ATM networks – because they allow the sharing of goods and services without technical barriers – and in the case of the ATM networks, the sharing of users. But right now, when you log into a websITEGA to transact, it’s a one-off relationship; each sITEGA with a different account. That’s not so bad for commerce, but when it comes to buying information of small value, it’s a terrible impediment. We have a separate log-in for each news or timely information source we visit, if they require a subscription. That’s just not user friendly.

So on the web, a shared-user network will allow users to have one account, one ID, one password (or set of authorizing identity credentials) and one bill, and have access to multiple resources from different sites or applications. The network will have rules which govern:

- Trust – So you know the service you’re using is reliable and credible.
- Identity – So the information providers you access know enough about you to be able to provide you the right information at the right time for the right price.
- Privacy – So you can be in control of how information about you and your interests is stored, shared and used, and by whom and for what purpose.

Information Commerce – So that participating information providers can establish their own pricing for their services, and can sell those services on the network without having to establish a one-to-one relationship with you as user. Your credentials will be vouched for by the network and the network will assure payment.

If a publisher chooses to become a service provider, then they get access to all of the activity of their OWN users across the network, giving them, in effect, "First Party" data vastly broader than they have access to today -- but only for those people they have account relationships with. This provides a hook for accountability as to use of personal data, and a hook that can be audited by the ITEGA administration if necessary.

- 1) System tracks all clicks (that involve value exchange) in background, aggregating them, settling aggregated value exchange.
- 2) Each user service provider gets clickstream data about their users which it can use subject to Terms of Service with the end user. Their TOS is auditable and enforceable by the ITEGA as a condition of system membership.
- 3) Publishers (content providers) do NOT get identifiable information about any user (at least not from this system); they just get assurance that the person is authorized to view the resource requested and that, if money is involved, the money is going to be handled and they will get or give what they expect.
- 4) This does not stop publishers from setting their own cookies or doing other things to identify users, unless or until the Information Trust Exchange prohibits such behavior as a condition of membership.

STRATEGIC ASSUMPTIONS

An important design criteria for the protocols – nothing should stop a participating affiliate or publisher from continuing to operate within their silo. A good analogy might be to a department or big-box store that accepts Visa or Mastercard, but also continues to offer its own store revolving credit card.

Apple seems unlikely to join the ITEGA ecosystem if that ecosystem requires Apple to shut down the iTunes store or alter fundamentally how it operates. Ditto with Amazon and with Facebook Credits and Connect. The ITEGA protocols have to be additive to these businesses -- a way for them to expand from their three-party services into a true four-party trust network.

Worth noting again here is Google executive Chairman Eric Schmidt's comments in May, 2011, when interviewed by Kara Swisher and Walt Mossberg. Generally Internet infrastructures are open and multiple players can participate, Schmidt said. In that context he saw 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. (See: <http://tinyurl.com/43g3xyo>) In effect, Schmidt was endorsing the ITEGA concept.

OPERATING PRINCIPLES

A key operating principal of ITEGA:

If your enterprise want to "own" and get data about a user, you have to maintain an account relationship with them which makes you accountable both to them and to the ITEGA's rules. Otherwise, they are anonymized to you as a content-vending publisher. You know only their service class, their home-base service provider and perhaps some other attributes shared on a "permissioned" basis.

Other operating principles:

- **STANDARDS** -- While the number and independence of original news producers is an important element of a diverse press, the lack of collaboration on digital-media standards for sharing users and content value is impairing support for journalism. Collaboration on network sharing protocols and business rules is therefore essential to sustain competitive, independent journalism.
- **PRICING** -- The value of news objects vary widely based upon their timeliness, topic, type (long, short, investigative, narrative, spot, trade, MST) and application. News objects (stories, video, multimedia) increasingly are disengaged from publisher packages by aggregation and "atomization." Therefore, royalty-owning publishers need a way to assign and transfer value (pricing) of individual objects across a sharing network. A royalty-pool model fails because it removes value assignment from the original publisher. Consequently, a system must respect the pricing set by originating publishers (at wholesale), while allow the free assignment of pricing at the consumer (retail) level. Content objects must be available for sale on a bundled, subscription or *a la carte* basis.
- **PRESERVE SILOS** -- Nothing will restrict or inhibit a participating affiliate or publisher from continuing to operate within their own or other's user-management or value-exchange sharing services. A good analogy might be to a department or big-box store that accepts Visa or Mastercard, but also continues to offer its own store revolving credit card.
- **PRIVACY** -- To gain marketer/advertiser participation, the Information Trust Exchange must support mechanisms for aggregating and sharing demographic, interest and preference data about individual users upon transparent terms acceptable to the individual. This calculus inherently raises issues of personal privacy for end users.
- **REMOTE USER SERVICE** -- Publishers using the ITEGA system will be willing to sell information resources to anonymized incoming casual or "drive-by" users (a la "newsstand customers") at a reasonable price they establish, without knowing the identity or detailed information about these "guest" users.
- **PROFILE DATA SHARING** -- ITEGA service providers who establish accounts and manage the persona and privacy of their users will be willing to share some demographic and interest information about their users to third-party publishers as a condition of those publishers being willing to provide services to those users.

OPERATING FEATURES

- 1) Every click across the network that involves an exchange of value (a payment for an article or a reward for viewing or doing something) is logged to an authentication and logging service, which is seen by the system participants as a "central shared service" although in network practice it may be distributed and hierarchical as with DNS.
- 2) The logging service knows the user only by a unique alphanumeric identifier supplied by the user's "home base" at the start of that particular session. As a matter of policy, the logging service

shall not sell or provide clickstream data to ANYONE and provides it only to the user's home service provider for their purposes (and for audit purposes to the publishing content provider if requested). The identifier -- to anyone other than the home base itself -- reveals nothing more than the identity of the user's home base.

- 3) There may be a plurality of home-base account managers in the service (as there are thousands of home bases in Shibolet/Internet2), providing end users a high degree of choice regarding business terms, especially as to identity and privacy.
- 4) At settlement time, the settlement service bundles all the clicks -- sorted by home-base of the users on the one hand and by the vending publisher on the other hand -- and determines an aggregate debit or credit to charge the home base and an aggregated credit or debit to charge the publishers (note that a "publisher" could be a brand which is paying for a user to view a commercial message). This all is done periodically -- daily, weekly, monthly -- probably weekly in prototype -- across the bank ACH network.
- 5) The home base gets these bundled log reports and is free to sort them or use them as they wish (subject to their terms of service with the end user as to usage and privacy protection or not); in some cases there may be a discrete charge or payment to the end user for a particular access; in the vast majority of cases, one supposes, the home base will use the click-stream reports for demographic, marketing and business-model analysis but the end user will merely be paying a monthly subscription for some class of service.
- 6) The publisher (or information service provider), also gets bundled log reports of total usage so they can audit their payment or receipts, and the only sorting they are capable of doing is by the source of the end-user (i.e., their service-provider ID). Conceivably they might have methods to associate these anonymized usage reports to specific users, but the ITEGA would be in the business of making business rules governing this practice and the rules would be enforceable by anything up to the ultimate sanction -- cutting the offending information service provider off the system.
- 7) The provision for non-regulatory sanctions is one of the reasons why the governance and ownership of the service is so critical. The cutoff decision has to be the result of well-documented interchange rules (consider Visa as a model in this regard), and the entity making the decision has to have no competitive business interest one way or the other but rather only an interest in the fair administration of the service and due regard for evolving identity and privacy rights of end users. Hence, the need for a non-governmental and non-investor-owned entity with a mission to efficiently oversee and operate a service and not profit from it. Profit is for the publishers and service providers who use the service.

So in this system, Big Brother is blind for other than session authentication and billing purposes . . . If your enterprise wants to "own" and get data about a user, you have to maintain an account relationship with her which makes you accountable both to her and to the ITE's rules.

LIKE VISA, PHONES, BUT BIG BROTHER IS BLIND

What is intended is similar in some respects to the Visa/MC model, but in one key way it is more like the way the phone companies settle

their calling traffic -- they settle aggregated debits/credits among each other based on numbers of calls exchanged -- but their consumer customers may be paying for minutes in bulk. The system tracks every call because that is necessary even to provide unlimited calling packages to the public. This system as described permits a plurality of subscription packages with pricing as in a free market for digital information -- set by the service provider who holds the end-user's account, and also set by the publisher who wants pricing control over their content.

Where those two come together -- content sold at wholesale and subscriptions sold at retail -- is where the business opportunity lies -- arbitraging the cost of content against the subscription charge. Actually that's the same thing newspapers did -- arbitraging the cost of syndicated content, wire service and original reporting and advertising production costs against what was charged advertisers and subscribers. It seems simple and obvious today because it settled out over a 100 years or more. It's what every business figures out -- how to mark up your ingredients to make a profit at retail. We simple have to work out the arbitrage in this new world. This system provide the mechanics; the arbitrage is up to the market.

So in this system, Big Brother is blind for other than session authentication and billing purposes.

OPERATIONAL REQUIREMENTS

- NETWORK SUBSCRIPTIONS – The service should allow publishers to be paid for providing digital content across an ITEGA network without having to have one-off relationship with each reader/user.
- DYNAMIC SERVICING – Publishers offering their content should have real-time personal, demographic, preference or interest attributes of a user/reader at the time the user makes an online/mobile request for information, so they can respond with targeted, customized messages or services.
- MICROACCOUNTING -- Publishers should not be required to participate in operations which “pool” royalties. Rather, a feature of the service should be census-type (vs. polling, pooling or sampling) logging and aggregation of billable content requests, with clearing-house settlement of payments and credits among publishers and user-account managers.
- WHOLESALE-RETAIL PRICING – Publishers shall be able to use one or more methods to establish the price they wish to receive (and be assured of payment) for a discrete digital object (or bundle), and be able to vary that price dynamically in real time based upon the attributes of the user requesting the object.
- ONE BILL/ACCOUNT –The service will enable a user/reader to have one bill/one account/single sign-on access to information from (virtually) anywhere, by subscription or by click/action?
- UNIVERSAL TRACKING – In order to gain the participation of publishers and advertisers, the system will enable a user's activity to be tracked across the ITEGA network and that activity aggregated – only -- to the user's home-base service provider for billing and analysis – contingent upon explicit permission of the user.

- **CONTENT PACKAGING** – In order to gain the participation of end users, publisher and billing-service users of the system should be able to facilitate custom assembly by the end user of information services from a variety of topical and geographic-oriented sources into personalized subscription packages.
- **FREEMIUM vs. FREE** – In order to gain participant of both privacy advocates and the advertising industry, the system should allow the public user to chose among a range of options from (1) no advertising and no disclosure or use of their tracked activity in a subscription-based approach to (2) receipt of highly customized commercial messages and the wide, background marketing of their information preferences in a rewards-based program approach.
- **SUBSCRIPTION OR PER-CLICK** – In order to satisfy the requirements of a plurality of publishers and service providers, the service should offer end users both sale or receipt of digital items within a pre-paid subscription package -- as well as being able to dynamically query the user if they want to purchase a particular resource on a one-time, one-item basis.

NINE OPERATING MODULES

Nine modules comprise the essential operations of the Information Trust Exchange Sharing Architecture (ITESA) ecosystem:

- Three are shared services run for the ITEGA under contact by third parties.
- The rest are provided to ITEGA member publishers and service providers or by one or more technology vendors who are certified ITEGA technology members.

They may be prototyped by one or multiple partners, vendors or members. The eight are listed below, with preliminary information about perceived options as of January, 2017. A preliminary selection of best and alternative options for key operating technologies may be found at this link:

<https://www.dropbox.com/s/yoja7s1o9xe0zj7/ite-poc-testing-options-elements-v2-09-22-16.xls?dl=0>

THREE SHARED SERVICES RUN FOR ITEGA UNDER CONTRACT

1. **Network user authentication services** – This is a core feature of the ITEGA ecosystem – a method for “federated authentication” that allows an end user to be recognized and provided variable view, listening, access or payment rights and multiple independent web services. Over two decades, several well-understood, open-standard services have evolved for this purpose; ITEGA simply needs to select and enhance one with the ability to pass encrypted user data in standard formats.
2. **Event/access logging service** -- When an information resource is accessed by an end user – viewing an ad, reading an article, watching a video, listening to a podcast, an HTTP “event” is logged not only at the websITEGA providing the service, but also to a shared network service operated by one or more ITEGA-licensed vendors. This service is the second core component of the ITEGA shared-user network.
3. **Aggregation and settlement services** – The accumulated logging by the shared service of network events are sorted and aggregated by user service provider, by publisher or by data user (such as an advertiser or ad network) for settlement of debits/credits among the network members. Settlement is “notational” – it is not a banking or currency function. The results are both detailed and summary reports to publishers for royalty payments, and to service providers for purchase of content, for advertising charges and advertising revenue and to network

participants who may be accruing transactional fees. Multiple examples of such aggregation and settlement services exist in banking, telecommunications, ad-tech, music and affiliate marketing and may be adapted to the ITEGA ecosystem.

SIX THIRD-PARTY SERVICES CERTIFIED BY ITEGA

4. **Advertising exchange service** – The just-announced TrustX service of the Digital Content Next trade association appears well positioned to disrupt the ad-technology stack with a non-profit service-bureau approach.
5. **A profile-exchange service** -- Enables access to and network sharing of user attributes for the purpose of determining types of services and their value to be provided to a user; and which is capable of varying services based upon such parameters as subscription-authorization levels and credit thresholds.
6. **Billing services** – Upon receiving notation of aggregation and settlement, publishers or service providers may direct bill or contract with agents to do billing. Multiple examples of such billing services exist in banking, retailing, travel and technology and one or more will be selected for the ITEGA ecosystem.
7. **Publisher content access control** – Offered by multiple vendors, or home-brewed by publishers, but dynamic pricing is rare and access options tend to be relatively inflexible. The challenge here is to build standards for cross-publisher interoperability and event reporting. Examples in news publishing include Clickshare, Piano Media and MediaSpan.
8. **End-user content personalization services** – With a few exceptions, such as Cxense and LifeStream/Taxonometrics personalization tends to be a direct-to-consumer service from tech platforms rather than a white-label provision for publishers.
9. **User identity data and privacy management** – This is new, emerging category that can be provisioned by publishers who wish to manage data and privacy for their users, or by specialty providers of this service such as RespectNetwork. The ITEGA ecosystem requires that use end user have one or more designated “home bases” that either manage profile and usage for them or allow them to do it themselves. The network then exchanges user-permissioned data.

Key requirements of the protocol and the network may be found in Appendix D.

PART SIX

POC implementation steps / 2017-2018

Goal

Complete the design and testing of proof-of-concept service prototypes and the creation and deployment of a sustainable ITEGA marketplace by July 2018.¹¹ Each of the phases of this implementation concludes with a go/no go decision on moving forward.

Technical work planning

While considering the POC Implementation Components noted in PART TWO on Page 18, above, the POC technical design/build team should select features, benefits and technology for Proof of Concept testing that will enable or be compatible with the “Elements of the ITE” as outlined in this grid document:

https://docs.google.com/spreadsheets/d/1QJhrQZHduO5vGzXEg1ZPYS1mxxaK9XikZPCaVR_BGck/pubhtml

And particularly those designated as “high priority” (coded as “5”)

Non-technical work planning

Non-technical work proceeds in the areas of outreach/marketing, governance, membership and funding. A near-term Project Management Grid, showing tasks in these areas as well as technical areas -- updated as of Sept. 24, 2016 -- may be accessed here:

<https://docs.google.com/spreadsheets/d/1R8WxwjxedVfdcjG2zS-zvDCigBoe1UONTQDneLvdA/pubhtml>

A list of non-technical development tasks, ordered for the first eight months following funding, may be viewed here:

<https://www.dropbox.com/s/wqtgkia8ggnovcn/schedule-non-technical-09-26-16.doc?dl=0>

Implementation overview

What follows is a projection of phased-development of the ITEGA ecosystem, considering all facets and focused on a proof-of-concept implementation.

Phase One (Funding, incorporate, governance, testing) [*May-July 2017*]

- WriTEGA “whITEGA paper” for HO to publishers and on web site
- Identify “tools” needed for Phase One build
- Make arrangements with tool makers (consulting? / revenue promise?)

¹¹ -- RJI’s Roger Gafke has provided helpful guidance on the [elements of proof-of-concept/prototype testing](#), both elements to confirm new capabilities, adopt existing capabilities, and identify challenges to publisher participation. He has also provided [suggestions for success metrics](#).

- [Jahia](#) / Apache Group ([PROPOSAL](#))
 - Mozilla / Don Marti / Aloodo
 - RespectNetwork ([PROPOSAL](#))
 - Clickshare? ([PROPOSAL](#))
 - Taxonometrics/LifeStream? ([PROPOSAL](#))
- Develop a step-by-step description of 'how things will work.' The elements include:
 - Enrollment/registration processes that identify (and protect) users
 - Secure credentialing process with user-set privacy levels
 - Single sign-on capability across participating sites and services
 - Discovery service focused on quality, trusted content, uniformly tagged/identified.
 - User-managed and updatable profiles of preferences, interests and demographics
 - Certification of trusted providers and participants
 - Match dynamically-specified buyer interests with customized seller offerings
 - Transparent payment capability with user-specified ways to pay
 - User-defined rewards that can be collected among user-specified provider participants
 - Visa-like payment engine/network/capability to slice-and-dice payments, establish and enforce rules, handle problems, service customers, provide reports, administer licenses/IP
 - Secure funding for proof-of-concept testing of critical system components [*October-November 2016*]

Phase Two (Acquire, deploy development resources) [*July 2017-May 2018*])

- Hire small technical team or retain consultants to coordinate technology build and integration (*July 2017*)
- Issue Request for Proposals (*August-September 2017*)
- Designate prototype builders and operators of the (a) ITE-compliant authentication and logging service (b) advertising user-data exchange and (c) content personalization consumer service and (d) Privacy/tracking research platform (*November 2017*).
- Confirm publishers (legacy and digital born) who will participate in a six-month proof-of-concept test of this system/network. (*December, 2017*)
- Build and deploy POC demonstration(s) (*Jan.-April 2018*)
- Identify existing technology systems, services and organizations that could be part of the ITEGA network collaborating with its development and/or providing its services under contract with it for those services (*Feb.-March 2018*)
- Assess operation and utility of POC (*March-April 2018*)

Phase Three (Prototype design, implementation) [*May 2018 – November 2018*]

ITGA will identify and facilitate prototyping by third parties in one or more of the following areas, which may have standalone value and can also contribute to and operate within a larger Information Trust Exchange.

Recruit publishers and run prototype services integrated with ITEGA authentication, logging and settlement [*May-June 2018*]

- Prototyping / experimentation projects [*Aug. 2017 – May 2018*]
 - User-data exchange network supporting delivery of advertising by anonymous user cohorts
 - Single sign-on among a group of independent publishers unaffiliated technically except for the sign-on function.
 - Sharing and promotion of premium online content among a small group of news entities to learn what personalization and service features appeal to the users.
 - Personalization and presentation of content acquired from multiple sources.
 - Management and sharing of user identity and preference data in a standardized, open format that facilitates end-user control of its use. Ideally within the same technical framework as Items 1, 2 and 3 above.
 - Allow content owners (publishers) to track and control access to their work
 - Exploration and testing of approaches to “tagging” content objects with price and use information in standard, open formats.
 - Methods for users to choose among competing “home bases” that offer to coordinate identity and privacy across multiple services.
 - Pricing – Facilitate individual publisher control of pricing and services, including wholesale-retail content marketing, pricing by use, time and access rights.
 - Personalization – Work with existing advertising exchanges to coordinate a unified view of users’ interest profile for delivering relevant, customized messages – for commerce, news and other interests.
 - Payments – Identify partners to build and operate payment aggregation and settlement networks for news and other industries that will promise the public one-bill, one-account simplicity for many information services.
 - Privacy – Choose from emerging identity-management services a method for giving the public primary control over the creation and use of their identity and demographic information.

- Compliance review and testing by ITEGA of prototypes for certification (*October-December 2018*)

Phase Four (Public operation of production services integrated with ITE.) [*January – Dec. 2019*]

- Launch a year-long operational deployment of ITEGA services
- Monitor the rest and develop recommendations for revisions in the system
- Revise the system where feasible during the live testMan
- If the results of the year-long test suggest this system can be sustainable, proceed to Phase Five

POC IMPLEMENTATION COMPONENTS

To review the evolution of the Proof of Concept featureset, view this LINK:

<https://docs.google.com/document/d/1Hh4QBRcVDLXgIFIMrK8MBVPBsWII5470Xa3r67ujU-s/pub>

Working minimum-viable proof-of-concept demonstrations may include the following:

1. Functions generally possible with client-side tracking-protection tools installed (*Examples: Privacy Badger, Disconnect*);
2. The ability to exchange profiles in some fashion among and between publishers, "profile aggregators" and other publishers or advertisers/agencies (sharing a prototype extensible user-attribute schema);
3. Demonstrate access control for networked subscriptions through authentication of a unique but anonymous user to information resources on multiple sites -- "EasyPass" for information;
4. Testing of advertising delivery by anonymous cohorts;
5. Logging of user event activity across a network of generally unaffiliated sites;
6. Hooks that demonstrate how payment and variable pricing (including subscription and per click) are enabled (but not necessarily demonstrated in minimum-viable demo).
7. ITEGA intends to manage an open-source project such as those managed by the Apache Software Foundation.

Model publisher implementation -- Tracking Data Collection

In one experiment, ITEGA will encourage publishers to place a line of code to put on a few key pages on their websITEGA (not all), which will cause data to be reported on how many of a service's users have ad blockers or tracking protection. Publishers will be asked to provide an initial benchmark for current monetization rates -- direct vs. programmatic -- so that changes

can be noted. Then run a campaign to drive tracking protection in your corner of the market. Run the experiment for a awhile. Let's keep track of monetization rates over time to see if there is a correlation.

- Tracking protection (“Surveillance protection?”) /browser agnostic could be Disconnect, PrivacyBadger, others.
- Show user data exchange controlled by user (*Mozilla has built this*)

The testing regime will rely upon the use of [Standard User Profile Attributes](#) as well as ITEGA [“Functional Specification for User Data Sharing”](#)

Objectives of POC testing

- Users in control of information about them
- There is a reasonable workflow
- Ads that follow individual users are gradually deprecated
- Ads served in quality topic/geographic publishing environments are encouraged
- Ads that are more valuable and more sellable

Phase One explores/modifies [Essential Elements of the ITEGA](#)

A model POC user experience

1. User establishes an account with a news site, such as The Washington Post and shares identity attributes with it.
2. User logs off
3. User surfs to an ITE-participating sITEGA unrelated to the Washington Post.
4. SITEGA doesn't know them but through Shiboleth application is presented with authentication pop up
5. User uses pull-down to select her "home base" (in this case, Washington Post)
6. System, opaquely to user, contacts Washington Post and presents users login credentials
7. Washington Post verifies credentials and sends ITEGA authentication service a token saying "this is a good user"
8. User is then given appropriate access to resources at the new site.
9. A logging client runs on all ITEGA member sites, logging access to protected resources to ITEGA Logging Service for ITE-sanctioned billing or analysis.
10. Use is supplied a personalized stream of news from thousands of sources.

ITEGA task-group member Scott Bradner believes newspaper websites would appreciate the option of being able to tighten up their cookie-controlled paywalls to eliminate free looks. His theory is that they should give users a choice of adopting the ITEGA surveillance-protection and user-attribute management service in exchange for being let behind the paywall at no subscription charge. This would start to control user attribute data-leakage by moving away from ad networks that rely on third-party cookie matching, and also cut down on the free-riders who dump their cookie caches to continue to look at paywalled news sites for free.

User interface POC aspirations -- (assuming application of Apache Unomi and Apache Streams)

- Provide a publisher's subscriber/user/visitor a dashboard to managing their user profile -- the ability to add or delete attributes
- Integration of that user profile with all of the data sources a publisher has -- circulation, subscription, demographic, online event tracking
- A method for sharing, on a basis permissioned by the user, profile information in real time through the publisher, as part of an ITEGA-sanctioned advertising exchange
- The exchange will dynamically store for temporary use user attributes linked to a unique user ID that only the "owning" publisher can match to a real user

POC STAKEHOLDER EXPERIENCES

Prototype versions of ITEGA-sanctioned network services are to be designed for both industry and public stakeholders:

They will be designed so that news and other publishers can:

- Grow audiences
- Increase revenue (monetize off-sITEGA content, higher CPMs from non-subscribers)
- Deepen user relationships (greater impact; ROI goes up)

They will be designed so that public users:

- Efficiently find helpful and relevant information personalized to their interests/needs
- Find such relevant information faster and easier
- Have new and better control over their data and identity
- Increase their connection with geographic and topical communities
- Find the service valuable enough to pay something by subscription or per-click

In the process, news organizations will:

- Learn what it takes to aggregate content automatically and efficiently
- Collect and share user data/behavior on a "permissioned" basis
- Receive data about their users who leave their sITEGA or service
- Receive anonymous data about other's users who come to their site/service from elsewhere

Proof-of-concept testing will:

- Track user data and collect analytics (not use cookies except for state management)
- Test advertising delivery by anonymous cohorts
- Test networked subscriptions
- Personalize content
- Evaluate and analyze results

PART SEVEN

Resources required

PROPOSED FIRST-YEAR BUDGET

Non editable web version:

<https://docs.google.com/spreadsheets/d/1o6b5kr9RkTeD7Tc30oLYSa9zfj5lOE737aqFimT-g88/pubhtml>

HUMAN-RESOURCE REQUIREMENTS

1. Project Manager (3/4 time/contractor)
2. Technology Lead ([see posting](#)) (full time/contracted)
3. Two developers (project-based contracted)

APPENDIX A



Project FAQ

1. **What are we trying to accomplish?** Make a marketplace for digital content -- convenient for the public, that allows personalization and respects privacy. A platform for content collaboration.
2. **Who are the customers?** B-to-B: Primary: News and digital content originators; Secondary: Advertisers, telcos, cable companies, retailers, associations. Goal: Help them deliver an incredible user experience through greater personalization and trusted privacy and identity management.
3. **Who are our partners?** Technology and publishing companies who will join the ITEGA and provide ITE-complaint services.
4. **What do we do for our partners?** Foster creation of a platform that enables a marketplace for them to make money through advertising, digital content sales and transaction fees.
5. **What is the role for RJI?** Provides ideas and contracted support services as requested by the ITEGA board.
6. **What is the solution?** Based on 2011 and 2015 research reports, and O'Hare gathering proposed solution is a non-profit consortium which develops business rules and technical/design specifications for a "shared-user network for trust, identity, privacy and information commerce." Elements include:
 - a. One-ID, one-bill account
 - b. Choice of service providers
 - c. Control of use of personal information
 - d. Personalization options for content and ads enabled by vendors
 - e. *A la carte* and bundled content purchasing; competition in pricing.
7. **What will sustain the ITEGA governing organization?** Initially grants, then membership dues, then license fees from operators of network services (authentication, logging services).

Q. Why does this have to be nonprofit?

The shared-user network is not intended to be nonprofit. In fact, the idea is to enable a vast new digital marketplace for information sharing and sale. But this author came to the conclusion several years ago that there wouldn't be any one stock public-stock company that would be able to mount a credible management of this solution in the environment -- because everybody would want to compete with it. Nobody wants to go through a gatekeeper who has the ability to destroy their business. And so it makes it clear that what's needed is a system that allows multiple user owners and multiple and facilitates multiple subscription and payment schemes.

Q. How would you sustain the project after the funding expires?

A broadly-used shared-user network which enables a commercial exchange of value for advertising, news and other content could institute interchange fees similar to the Visa or MasterCard model which would readily sustain the oversight role of the Information Trust Exchange. Commercial operators of the network infrastructure, authorized by ITE, would be free to establish in the free market appropriate charges for their services. At no time would the ITEGA be involved in pricing or service offerings of the users of the system. It would only require income sufficient to maintain its business-rules and operating-protocols oversight role.

Q: What is required to build a shared-user network for the web?

Building the shared user network will require three activities, running in parallel, taking perhaps a year. This work could be coordinated by a contractor to the Information Trust Exchange.

Establish business rules and technical protocols governing the exchange of information among four parties to the network – (1) information seekers and their agents, (2) information providers, (3) marketers or advertisers and their agents; and, (4) The network operator or operators. The convenor of Information Trust Exchange could be funded to do this work.

Build and deploy an authentication and logging service that will allow parties to (1) exchange credentials about information seekers (2) Exchange transaction offers and acceptances (3) record and aggregation transactions for periodic settlement. Vendors could be asked by the convenor of the Information Trust Exchange to bid on this work, in exchange for a multi-year system operating contract.

Build and market software to operate on the servers of information providers as well as the agents of information seekers that is compliant with the business rules and technical protocols of the network as defined by the ITE. Vendors would do this work on a business basis.

Q: How will this shared-user network meet the needs of key stakeholders?

There are three distinct customers of the shared-user network (“network”):

1. Information seekers (and their agents) – The network gives information seekers the ability, in a trustworthy environment, to acquire information, or be paid for their attention, conveniently and without having to manage multiple accounts, passwords and interfaces. It gives them the choice, however, to affiliate with as many information agents (“InfoValets”)

as they like, just as we may have more than one credit card.

2. **Information providers** – The network gives information providers the ability to make money by selling their content to a universe of users beyond their own, without the expense and time of enrolling each of them. It’s like a store that accepts a Visa or MasterCard instead of having to establish their own siloed charge-card system. In addition, they can have a uniform means to acquire demographic and preference information about users in real time as a part of a digital-information sale (assuming this is authorized by the information seeker).
3. **Advertisers and marketers** – The network provides an efficient, common gateway to serve native-format advertising to anonymous yet demographically targeted users, where these users are known across a plurality of websites and the targeting of them is permissioned, transparent and governed by industry rules rather than the government regulation feared by many, including former Grateful Dead lyricist and [Electronic Frontier Foundation](#) co-founder John Perry Barlow in his [“Declaration of the Independence of Cyberspace.”](#)¹²

¹² -- In Nov., 2014, Perry recorded a [video reading](#) of his 1996 “declaration” at Davos.

APPENDIX B**Implementation considerations**

Here are seven considerations for the proof-of-concept development stage of the Information Trust Exchange components. They involve outreach/marketing, governance, membership, funding, user interface, identity management, data exchange, cohort management, content management, service management and payment management.

1. Legal/corporate form/governance

- Draft mission, key objectives
- Select corporate form(s); single or dual entity approach – profit/non-profit
- What is the governance? How are decisions made about who gets admitted?
- Participation rules?
- Described practices required to respect antitrust laws globally
- Assess/explain vs. comparables: Bluetooth, Cable Labs, NCN, NewsRight, etc.
- Determine how to handle an intellectual-property rights issues
 - Are there any patent issues?
 - Who owns any unique intellectual property created?
- Payment guarantees and liabilities -- who bears
- Should this be trade association to mitigate all the legal/liability issues?
- What is role of traditional journalism entities?
- Collaborate with privacy/demographics/identity task group

2. Technology

- Work with other task groups on mission, objectives
- Assemble list of operating requirements including:
 - Single-sign-on and network authentication
 - Dynamic, real-time, competitive object pricing
 - Exchange of user data regarding query threshold, markup, usage rights, PII, preferences
 - Off-Internet aggregation, billing, settlement
- Develop draft RFP for network operators
- Payments exchange – methods, timing, operational funding
- Credit/risk issues / especially physical vs. intangible goods

3. Revenue Streams – Consumer direct

- Subscription, per-use, single site, affiliate networks
- How does the economic status of user affect access?
 - Study/propose “library pass” feature to address digital-divide issues

4. Revenue Streams -- Advertising / “advisortising”

- Investigate relationships with programmatic exchanges, brokers
- Understand “two-way” nature of service – facilitate pay users to view ads?
- Describe ITEGA role in advertising by moving money around ecosystem
- Articulate all feasible revenue streams – advertising, “native”, commissions, etc.
- Is “advertising” too limiting term in niche-market future? “Advisortising”?

5. Marketing strategy / B-to-B and B-to-C

- Figure out staging of ITEGA launch / what is “minimum viable service?”
- Is this marketed B-to-B or B-to-C or both? In what sequence?
- Affiliate vs. direct marketing challenge / market-requirements document
- Dual go-to-market strategy? Big network vs. incremental testing
- Define the rewards system is for consumer users
- Invent/define terms/brands -- name of agent (news organization) vs. name of the operating service.
- How to position the news organization as a information repository handler (trust/privacy)
- How to co-operatively market value of “atomized” content

6. Privacy/demographics/identity

- Stress transparency, end-user focus in all respects
- Define, use/ownership/custodianship of personally-identifiable information (PII)
- Use, ownership, exchange/repurposing, use of aggregated, non-PII
- Describe framework for valuing exchange of PI I
- Propose a framework for rules (example: [OECD Privacy Principles](#))
- Rules about use of information collected in service; what if companies go out of business; is information asset of company.
- Literature review on ownership of identify; opportunities and liabilities of being “custodians” of peoples’ personal information. Is there a core of information that can’t – or shouldn’t -- be traded/sold?
- Collaborate with legal/corporate form/governance task group

7. Content support

- Identify and engage early adopters
- Who does the “trust” filtering? Is the ITEGA a filter, or a neutral pipe?
- Describe system for distributed, independent, competitive content pricing
- Pricing by article, subject, domain, phrase, concept?

- Support variable pricing based on time, market, user metrics?
- Recognize that advertising is content too because it attracts readers -- e.g., Craigslist and so-called “native” advertising.
- How to get money in hands of people who create “atomized” content (non-subscription) such as free-lance writers
- Determine what types of content are going to be involved:
Examples: News, academic, medical, legal, other trade/niche, music, audio, video/movies, self-help, games, databases, other multimedia?
- What standard metadata protocols are required?
- Who is going to provide content? Traditional media? Individuals? Both
- Is this processing of content (service) rather than owning content (product)?
- How are IP rights in content affected, assured, controlled?

APPENDIX C

PRICING – WHOLESALE-RETAIL

A frequent question posted by interviewees in the 2015 report, [From Personal to Payment](#), involved pricing. If news organizations are going to share users, and share content, who is going to be in control of pricing? (See Exhibit O) The answer: No one person or entity. Some examples:

- Airlines benefit from a common air-traffic control system and they share airports. They fly similar aircraft made by the same companies. But they compete on pricing, many routes, and most aspects of service.
- Thousands of companies float their stock on major exchanges. The price of their stock is subject to near absolute competition for investors' dollars. Yet they also use common bidding, trading and settlement systems.
- Online advertising exchanges work in milliseconds with demand-side and sell-side platforms to match willing advertisers with willing publishers and aggregators to deliver "impressions" to interested consumers. Prices range dramatically, as do the content and form of the advertisements.

As the profit from the system is designed to go to the operators and affiliates rather than the ITE, we believe operators could feasibly finance their technology and infra-structure investment and pay network fees to the exchange. Thus our premise is that infrastructure and other startup costs born by the ITEGA manager will be less than \$2 million. "The thing is if you get this up and going one could actually turn to venture capital firms to expand the market once the idea is well put together," says Robert Picard, of the Reuters Institute. "That is not an impossible idea. The infrastructure that goes behind it could be completely commercial. It could be newspaper and news organizations or media investors."

But what if you added to the mix the idea of wholesale-retail pricing, just like in the real world? If General Electric Co. makes a toaster oven and sells it to Wal-Mart Stores Inc., Wal-Mart then decides how to price the toaster. Think of the Internet market for information as like a Wal-Mart store. The retailer – your preferred publisher or service provider – is responsible for billing you and paying for what you buy from his or her store. Then, they go pay the originating publisher – the wholesaler – for the items you

When you click on that article as a *New York Times* user, the exchange should record a payment to *Le Figaro* of five cents and record a charge to *The New York Times* of five cents. But whether you as a consumer ever pay anything other than that extra \$1 - ought to be up to *The New York Times*.

purchased -- to make up your personalized information bundle. And imagine, as with the advertising exchanges, that this happens instantly. The originating publisher, if it knows something about you, might vary the offer (price and terms). Your home-based publisher, the retailer, might chose to give you some of the items as part of a package, and ask you to pay for other pieces a la carte. Unlike Wal-Mart, the inventory of a digital information retail store doesn't need to be shipped or stored in bricks-and-mortar fashion. It can be sought, priced, sold and consumed in milliseconds.

All that's needed to make such a system work is a standardized method – a set of protocols – for

exchanging information about users and logging -- to a common place -- the cost of what is purchased. A useful feature might be the ability to aggregate many small purchases that are charged periodically -- making efficient use of financial-transaction networks like the bank [Automated Clearing House](#) (ACH) networks and avoiding relatively steeper credit-card interchange fees.

Imagine this scenario: *The New York Times* might send you an email and say for an extra \$1 a month, you get 10-15 clicks per month from a set of French language publications. It's just \$1 a month and you'll have that Francophile bonus. What would happen when you click to an article at *Le Figaro*? They would have some price they had set on that article -- maybe it is five cents (converted from Euros). When you click on that article as a *New York Times* user, the exchange should record a payment to *Le Figaro* of five cents and record a charge to *The New York Times* of five cents. But whether you as a consumer ever pay anything other than that extra \$1 -- ought to be up to *The New York Times*.

If you have a system where the parties on a business-to-business basis agree to pay the cost of people surfing within the system, then all it becomes is a strategic business exercise how much *The New York Times* should charge you per month. *The Times* might do this for awhile and find they are losing money by just charging you \$1 a month, so they might come back to you and raise the package to \$2 a month. Or maybe it has a cap on it of 30 clicks per month -- then you have to pay more.

One can't presume to guess how all those things will work out. What we need to create is a system that enables all of that and then allows the free market to operate as it does so well -- which is to have pricing and packages find their equilibrium. What is described is a free market for digital information -- a [economic libertarian's](#) delight! But don't we need to start by enabling those kinds of capabilities?

Apple is not going to play in a new ITEGA ecosystem if that ecosystem requires the company to shut down the iTunes store or alter how it operates. Ditto with Amazon and with Facebook Credits and Connect. The ITEGA protocols have to be additive to these business -- a way for them to expand from their three-party services into a true, four-party trust network.

APPENDIX D

Technical Appendix: Protocol requirements Reference links

PROTOCOL REQUIREMENTS

The ITEGA protocols must support:

- Standardized transfer of a unique, non-repudiable user identifier, assigned by a USP, in real time, when a user makes an HTTP request to a CP across a TCP/IP public network, for a unique resource.
- Standardized transfer of a set of end-user attributes, along with the above request, sufficient to permit decisions to authorize or deny access to resources based on a variety of parameters, such as a subscription, ability or willingness to pay, age, membership or the like.
- Real-time query and reply to confirm desire of the end user to acquire the resource based upon its cost, value or other attributes.

In summary: The end user becomes a subscriber to an individual exchange member's news service and from then on the consumer can access any content in the exchange's repository or on the servers of other exchange-member content providers.

ITEGA-compliant networks should support:

- Real-time authentication back to their USP of a user's credentials and rights upon making a resource request of a CP and prior to serving the request, whether the request is to the CP's servers or to any Network Content Repository (see below).
- Logging of services provided by unique user, resource provided, and any negotiated and confirmed value of the event. The event could involve serving news content, or sponsored content ("advertising") with the value exchange recorded in either direction.
- A provision (internal or outsourced) for storing and indexing news content uploaded by members in any Network Content Repository.
- The ITSA network services includes programs that:
 - a) Store and index news content
 - b) Distribute messages about the content to the members
 - c) Control access to the content, allowing for news search, accounting for each individual access, accounting for the due-from and due-to payments cycle and act as the intermediary to an all-new internet payments system.

Information about end-user identities are known only to the end-user's service provider (USP). The network system only knows users by a standardized unique alphanumeric identifier.

In summary: The end user becomes a subscriber to an individual exchange member's news service and from then on the consumer can access any content in the exchange's repository or on the servers of other exchange-member content providers.

The ITEGA infrastructure takes care of all the accounting needed to get the payment from or credit to the consumer's home-base service provider to the appropriate content provider (publisher or advertiser) through a process of periodic aggregation and settlement of transactions. the original content owner (or the payment from the advertiser to the end-user's service.

Building a user "persona" and content attributes

The network protocols and business rules specify attributes and three areas:

- A. User identity and profile attributes
- B. Tagging of digital content for pricing and royalty management
- C. Tracking and settlement of value exchange (payments, credits)

Higher tiers of authentication would involve collaborations within the health-care industry, banking industry and government, among others.

KEY FIELD ATTRIBUTIONS

A. User identity and profile attributes

ITEGA networks facilities the transfer of the following identifiers for each request made by a user for resources across the network:

1. Network-level attributes (accompany all requests)

- a. UserID – A globally unique attribute which includes the user's home-base host ID. This is the minimum attribute necessary to log access records for payment or credit and is analogous to a credit-card number.
- b. One or more customer-group codes to identify user assignment to specific groups for publisher- or service-provider proprietary purposes.
- c. A service-class to define eligibility of the user for specific levels of pricing, content or services
- d. The content server ID of the publisher supplying content and optionally requesting a royalty payment ("PubMbrID")

2. Preference-level attributes (accompany and constraint all requests)

- a. Other flags regarding preferences for: (a) privacy (b) parental control (c) advertising viewing preference (d) do-not-track

3. Identity attributes (optionally shared with request)

- a. Identity attributes available for sharing (or not) depending upon privacy preference (above), include user-supplied nickname, email, fullname, date of birth, genderl, postal code, country, language and timezone

4. Business attributes (optionally supplied with end-user permission)

- a. A vending publisher may request other business attributes of the person and the person's home base may or may not supply the attributes based upon the user's expressed privacy preferences. The attributes may be stored and supplied in formats developed by Schema.org (<http://schema.org/Person>)

5. EduPerson attributes (optionally supplied with end-user permission)

- a. A vending publisher may request other Internet2 "eduPerson" attributes of the person and the person's home base may or may not supply the attributes based upon the user's expressed privacy preferences. The attributes may be stored and supplied in [formats developed](http://www.internet2.edu/media/medialibrary/2013/09/04/internet2-mace-dir-eduperson-201203.html) by Internet2:
<http://www.internet2.edu/media/medialibrary/2013/09/04/internet2-mace-dir-eduperson-201203.html>

6. Interest identities and topics

- a. A vending publisher/marketer may request from the user's home-base service provider attributes related to any topical "interests" and "identities" stored in the form of key words or phrases depending upon the user's privacy preference.

B. Digital content tags for pricing or royalty management

The ITSA also will provide a schema for vending publishers to XML-tag royalty- or price-identified content which will be recognized and respected by user service providers, and logged as necessary for financial settlement. **Thus content can reside anywhere on the network and the rights owner will be paid for use.** Among basic content attributes are:

1. The creation date/time in YYYYMMDDHHMMSS format.
2. An expiration date supplied by the original content producer in the same format.
3. The PubMbrID of the creator or publisher entitled to royalty or payment.
4. A optional Digital Object Identifier (<http://doi.org>)

C. Tracking/settlement of value exchange

Finally, the ITSA provides a schema enabling the negotiation and computation of value exchange. The table invoked will depend upon whether the resource is chargeable content, or sponsored content (including advertising).

5. A variable table of royalty payments (or a key to a master royalty-payment schedule) used to compute the charge to the user's service provider upon the digital vending of the resource depending upon use, service class and other custom factors.
6. A variable table of credits paid to user's service provider upon the end user's viewing of a digital resource, depending on level of use or interaction.
7. A retail "Markup Ratio" in use by the User Service Provider which is provided to the content-serving publisher in real-time so that if the end-user is to be shown the object's price before purchase, the price show will be "retail" not "wholesale." (*See Appendix A*)

TECHNICAL REFERENCES:

1. Description of profile and content-sharing network

The ITEGA working document, “Technical description of a privacy-by-design customer profile and content sharing network” is a high-level narrative describing both system operation and proof-of-concept implementation and a diagram. A current version may be accessed from the following URL:

<https://docs.google.com/document/d/1cJ51LaL4aq0NZ77Jnkc4lXVqfihxvvi2VsEkzrHXZOs/pub>

2. Services features and design specifications (Nov. 2015)

Following five task-group meetings during 2015, key members in November developed the document: “Information Trust Exchange Framework: Service Features and Design Specifications.” The advisory document assembled a series of service goals – and resulting design requirements broad enough in scope to encompass further refinement around specific technologies or services not envisioned at that time. The completed document may be access from the following URL:

<http://newshare.com/ite-next/ite-service-design-specs-v3-11-05-15.pdf>

3. Functional specifications for user data sharing

The ITEGA working document, “Functional Specifications for User Data Sharing,” proposes functional specifications for exchange of permissioned user data to support customized service of digital content – advertisements, stories or other services. A current version may be accessed from the following URL:

https://docs.google.com/document/d/1_n6swNv2bE7lIM8F1uGaanyNOuAJohB88dwABF0Ab4w/pub

4. Working proposal for user profile attributes

The ITEGA working document, “User Profile Attributes” proposes an initial limited set of fields for exchanging use attributes across the ITEGA ecosystem. These consist of (1) Required user-supplied attributes (2) system-assigned network attributes (3) optional user-supplied demographic attributes (4) User expressed interest identities (5) Service preference-level attributes and (6) Active-inactive buyer tags. A current version of these profile attributes may be accessed from the following URL:

https://docs.google.com/spreadsheets/d/1i-7tEBGwqa7IUyFoworLEl4xIq1QeK_ryfVELS7NCbE/pubhtml

5. Proof-of-concept prototype elements

The ITEGA working document, “Proof-of-concept prototype elements provide a proposed phasing of elements of the ITEGA shared-user ecosystem. A current version may be accessed from the following URL:

https://docs.google.com/document/d/1UIuWk7c_opQHh15L8G9NhHCR7ADnyNN4NWUPZARmGiM/pub

The grid “Proof-of-concept test elements ranked, provides a list of 30 proof-of-concept test elements and ranks their priority for development. A version as of Sept. 25, 2016 may be found at this link:

https://docs.google.com/spreadsheets/d/1QJhrQZHduO5vGzXEg1ZPYS1mxxaK9XikZPCaVR_BGck/pubhtml