Web 2.0, Identity, and Payments

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Agenda

• Get everyone to be a Web 2.0 Expert!
• Give you food for thought about Web 2.0 & financial transactions
• Introduce some Intel research work
• Get you to read my blog 😊
What is Web 2.0?

• There’s no official Web 2.0 project
• Coined by Tim O’Reilly to describe new wave of web technologies
• It’s in the eye of the beholder
User generated Content

YouTube

Featured Videos

Conor's Web Log of Esoterica

flickr

The best way to store, search, sort and share your photos.
Collaborative Knowledge Base

WIKIPEDIA

English
The Free Encyclopedia
1,642,000+ articles

Deutsch
Die freie Enzyklopädie
543,000+ Artikel

Français
L'encyclopédie libre
445,000+ articles

Polski
Wolna encyklopedia
349,000+ haset

日本語
フリー百科事典
328,000+ 記事

Nederlands
De vrije encyclopedie
273,000+ artikelen

Italiano
L'enciclopedia libera
260,000+ voce

Português
A enciclopédia livre
239,000+ artigos

Svenska
Den fria encyklopedin
210,000+ artiklar

Español
La enciclopedia libre
262,000+ artículos
“people” of the year
User Content & Payments

• Most are free or moving that way
• Advertising supported
• Those that do cost $$ are typical subscription model
Simulated Worlds

- Second Life
  - Join now, membership is free
- World of Warcraft
  - Arena Tournament
  - Under Development: The Black Temple
  - WoW Comic Contest: Honorable Mentions
Simulated Worlds & Cash Flow

• Currency & valuable objects exchanged in real world
• Many believe ecommerce of the future
  – Try on your clothes in a simulated world
  – Manufacture customized clothing
• All of the existing real-world paradigms for financials flow through there as well
• At some point, financial institutions will need to play in this virtual world
Active Clients & Cash Flow

- Identity of user
- Transaction Authorization
Mashups

- Tie data together from independent sources
- Usually at the client (AJAX)
- Can also be done at server
Google Earth + Fboweb

- Google’s 3D mapping/imaging App + data
- fboweb.com’s flight tracking information
- 3D representation of flights at an airport
How is this accomplished?

1. GE obtains mapping data from Google’s map DB
2. GE obtains FAA flight information from fboweb.
Why does this work?

• No resource protections on the data
  – Data is free
  – no authentication/identity
What if Auth was required?

1. Ask user for credential for Google Data (and perhaps store them)
2. GE authenticates to Google and obtains mapping data from Google’s map DB
3. Ask user for credential for Fboweb (and perhaps store them)
4. GE authenticates to Fboweb and obtains FAA flight information.
Liberty ID-WSF

• Liberty Alliance work (http://www.projectliberty.org)
• IDentity based Web Services Framework
  – Invoking a service in the context of a user
  – Highly secure
  – Privacy aware
  – non-monolithc
Simplification through ID-WSF

1. Ask user for credential for their IDP (and perhaps store them)
2. Submit Credentials (or proof) to IdP and obtain tokens for Map DB and Fboweb.
3. GE uses token to obtain mapping data from Google’s map DB
4. GE uses token to obtain FAA flight information from fboweb.
To authenticate to fboweb, user would need to provide credentials to the Google Earth Web App. (and either store them or provide them every time)
Google Earth as a Web App w/Federation

1. User browses to GE Web App
2. GE asks IdP “Who is this?” (redirect)
3. IdP responds with token for user at GE
4. GE asks IdP for tokens for Fboweb & Map Data server
5. GE uses token for access to Map Data
6. GE uses token for access to Fboweb
Spousal tracking w/Google Earth

1. User browses to GE Web App
2. GE asks IdP “Who is this?” (redirect)
3. IdP responds with token for user at GE
4. GE requests identity token for Conor from Angie’s People Service
5. GE discovers Conor’s Calendar service
6. GE requests trip info from Conor’s calendar
7. GE asks IdP for tokens for Fboweb & Map Data server
8. GE uses token for access to Map Data
9. GE uses token for access to Fboweb
What about consent?

1. GE requests trip info from Conor’s Cal
2. CC requests Conor’s IS from Conor’s DS
3. DS returns EPR for Conor’s IS
4. CC asks Conor’s IS to ask Conor if Angie can access his trip info
5. Conor’s IS sends SMS to conor’s mobile with consent request
6. Conor says “sure”
7. Conor’s IS responds with consent decision
8. CC provides trip data to GE
Layered Web Apps

Web App

Web App 2

Web data

Web App 3

Web App 4
The Identity Capable Platform

Device/Computer

Operating System

Browser+

App(s)

Secure Partition

Identity Capable Platform

Identity Manager

iMID

iMID

iMID

MyBank.com

Wireless AP

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Provisioning an Identity in the ICP

1. The Identity Provider registers the Identity to be provisioned at the Provisioning Service.
2. The Identity Provider sends a reference to the identity to the browser with instructions to send the reference to the Identity Manager.
3. The browser submits the identity reference to the Identity manager.
4. The Identity manager dereferences the identity at the Provisioning service and gets back the Identity.
5. The Identity Manager instantiates the Identity within the ICP.
More Information

- **Liberty:** [http://www.projectliberty.org](http://www.projectliberty.org)
- **My blog:** [http://conorcahill.blogspot.com](http://conorcahill.blogspot.com)
- **Email:** Conor.P.Cahill – at - intel.com