



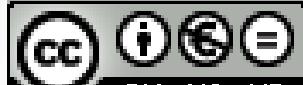
Current Trends in Web Engineering

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Fakultät für Informatik

Verteilte und selbstorganisierende Rechnersysteme



Social Web & Web Science



TECHNISCHE UNIVERSITÄT CHEMNITZ

SECTION://3

■ OAuth



OAuth - Introduction

■ Problem:

- ▶ How can one allow private resource access without disclosing one's username/password?
- ▶ How can fine-grained access be controlled?
- ▶ How can access time be limited?

■ OAuth:

- ▶ Open standard
- ▶ Goal is an authorization delegation protocol: Client accesses private data on behalf of the owner
- ▶ Authorization of APIs for applications based on special tokens being issued



OAuth – History

Development since 2006/2007

April 2010 - OAuth 1.0 ([RFC 5849](#))

October 2012 - OAuth 2.0 ([RFC 6749](#))

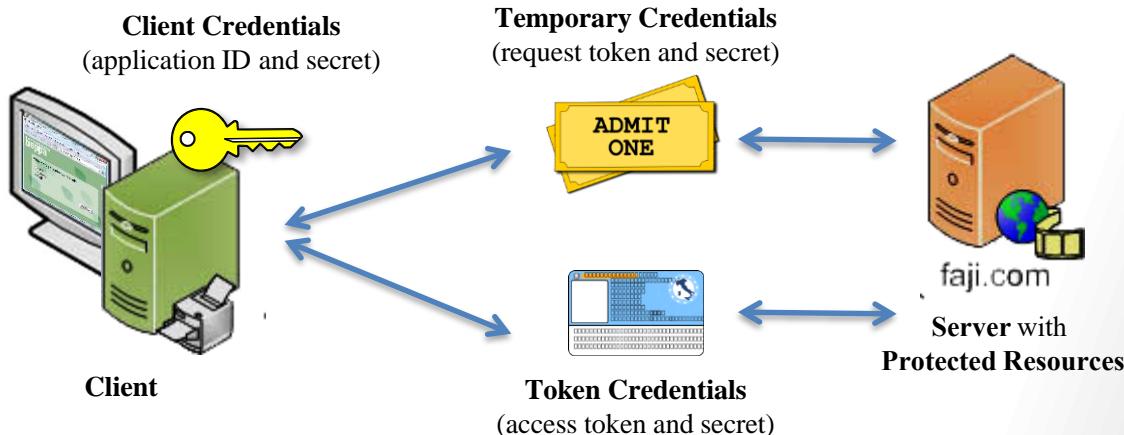
- ▶ Not backward compatible
- ▶ Simpler than OAuth 1.0 (less cryptography)
- ▶ SSL required!



OAuth 1.0 Terminology



Resource owner



OAuth 2.0 – Roles I

■ Resource owner

- ▶ An entity capable of granting access to a protected resource.
- ▶ When the resource owner is a person, it is referred to as an end-user.

■ Resource server

- ▶ Hosts the protected resources

OAuth 2.0 – Roles II

■ Client

- ▶ Application, that requests behalf of the **resource owners** and with its authorization

■ Authorization server

- ▶ Issues access token, if
 - Client is authenticated
 - resource owner grants access
- ▶ One server can issue multiple Tokens for different **Resource servers**

OAuth Scenario (three-legged): Part 1

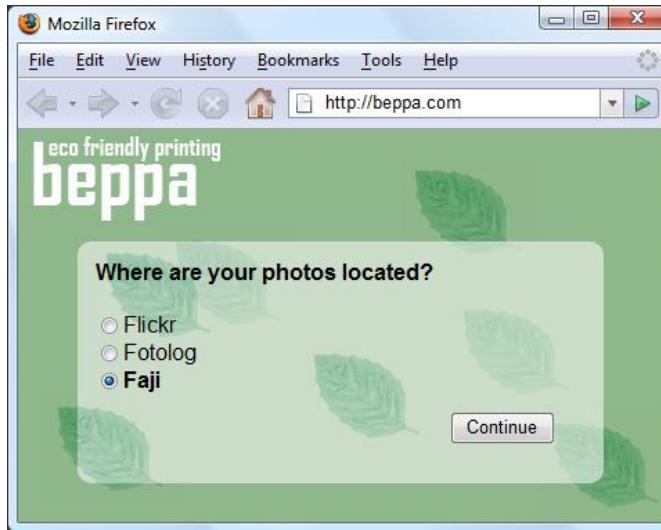
- Janes uses <http://faji.com> to upload her photos



→ Jane is a **Resource Owner** and Faji.com is a **Server with Protected Resources**

OAuth Scenario: Part 2

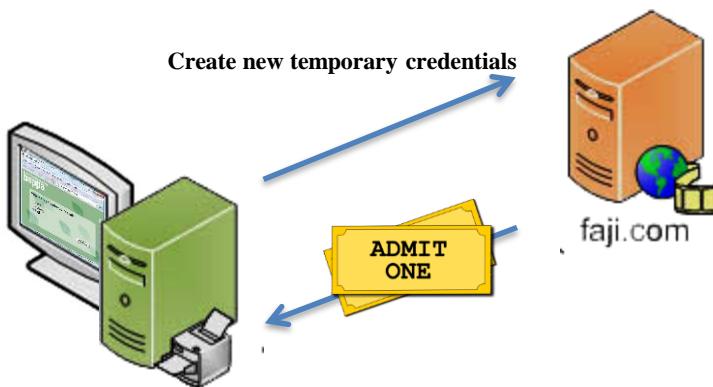
- Jane visits beppa.com to order prints



→ Beppa.com is a **Client** and has unique **Client Credentials** assigned by Faji

OAuth Scenario: Part 3

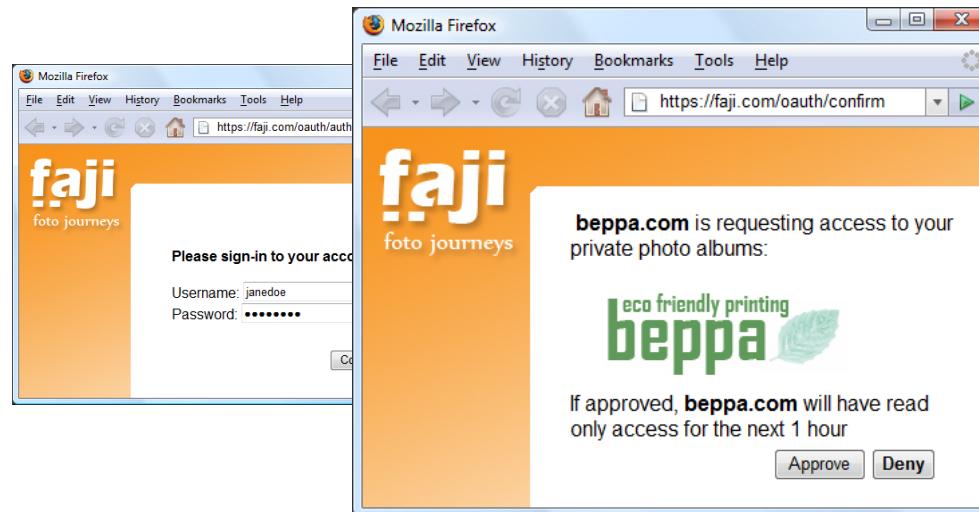
- Beppa.com asks faji.com for **temporary credentials**



- Beppa.com redirects Jane to faji.com, so she can approve the temporary credentials

OAuth Scenario: Part 4

- Jane signs in to faji.com and **approves the temporary credentials** (grants access to beppa.com)



OAuth Scenario: Part 5

- Temporary credentials of beppa.com become **authorized**
- faji.com redirects Jane back to beppa.com



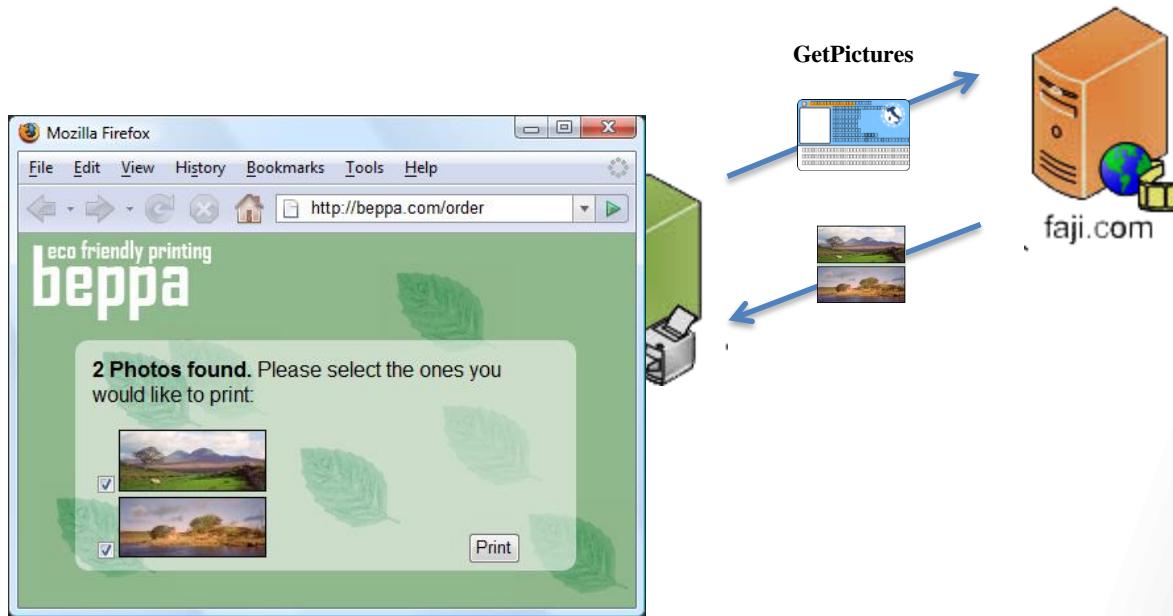
OAuth Scenario: Part 6

- Beppa.com exchanges temporary credentials for **token credentials**



OAuth Scenario: Part 6

- Beppa.com uses token credentials to fetch Janes photos



Demo

■ Google Playground:

► <https://developers.google.com/oauthplayground/>

OAuth 2.0 Playground X

▼ Step 1 Select & authorize APIs

Select the scope for the APIs you would like to access or input your own OAuth scopes below. Then click the "Authorize APIs" button.

- ▶ Google+ API v1
- ▶ Google+ Domains API v1
- ▶ Groups Settings API v1
- ▶ Orkut API v2
- ▶ Picasa Web v2
- ▶ Prediction API v1.6

Authorize APIs

▶ Step 2 Exchange authorization code for tokens

▶ Step 3 Configure request to API

Request / Response

No request.

SECTION://4

■ WebID and WAC



WebID – Introduction

- Open standard for identity and authentication
 - ▶ W3C initiative
 - ▶ Currently in development
 - ▶ <http://www.w3.org/2005/Incubator/webid/spec/>
- Ownership-based authentication
 - ▶ Enables users to authenticate via certificates
 - ▶ No username/password required
- Two specifications
 - ▶ WebID – Web Identity and Discovery
 - ▶ WebID-TLS – WebID Authentication over TLS

WebID – Web Identity and Discovery

WebID is a universal identification mechanism

- ▶ Is distributed,
- ▶ Is openly extensible,
- ▶ Enables persons to control their identity
- ▶ Allows creating a Web of Trust (WoT)

WebID makes use of *three artifacts* to establish basis for

- ▶ Identification
- ▶ Discovery
- ▶ Management of user profile data
- ▶ Exploitation of user profile data



WebID – Artifacts

- WebID URI
- WebID Certificate
- WebID Profile



WebID URI

- WebID URI refers to an agent
 - ▶ In most cases, agent is a user
 - ▶ Agent can also be robot or group
 - ▶ Any entity to be identified
- WebID URI is an identifier
 - ▶ Cf. username, e-mail address in other identity systems
- WebID URI links to a resource containing further data about the identity owner
 - ▶ Resource is called WebID Profile

WebID Certificate

- WebID Certificate is typical X509.v3 client certificate with
 - ▶ Subject name
 - ▶ Issuer name
 - ▶ Public key
 - ▶ Signature
 - ▶ Validity
 - ▶ Subject Alternative Name property stores WebID URI
- Private key is stored on client
- Users allowed to self-sign certificate (recommended)
- Signing by certificate authority (CA) is also possible



WebID Certificate



WebID Profile

- Repository of identity owner's personal information
- Personal information described using Linked Data
 - ▶ Flexible
 - ▶ Extensible
 - ▶ Machine-readable
- WebID profile is also used to store public keys



WebID Profile (2)

- Various representation of a WebID profile
 - ▶ Turtle (has to be supported)
 - ▶ N3, RDF/XML, RDFa etc.
- Use of FOAF as a vocabulary for personal data
 - ▶ Allows creating decentralized social network
 - ▶ <http://xmlns.com/foaf/spec/>
- Cert ontology for describing cryptographic information
- Use of any other RDF vocabulary, e.g., PIM ontology for describing extended contact data

WebID Profile

WebID Profile

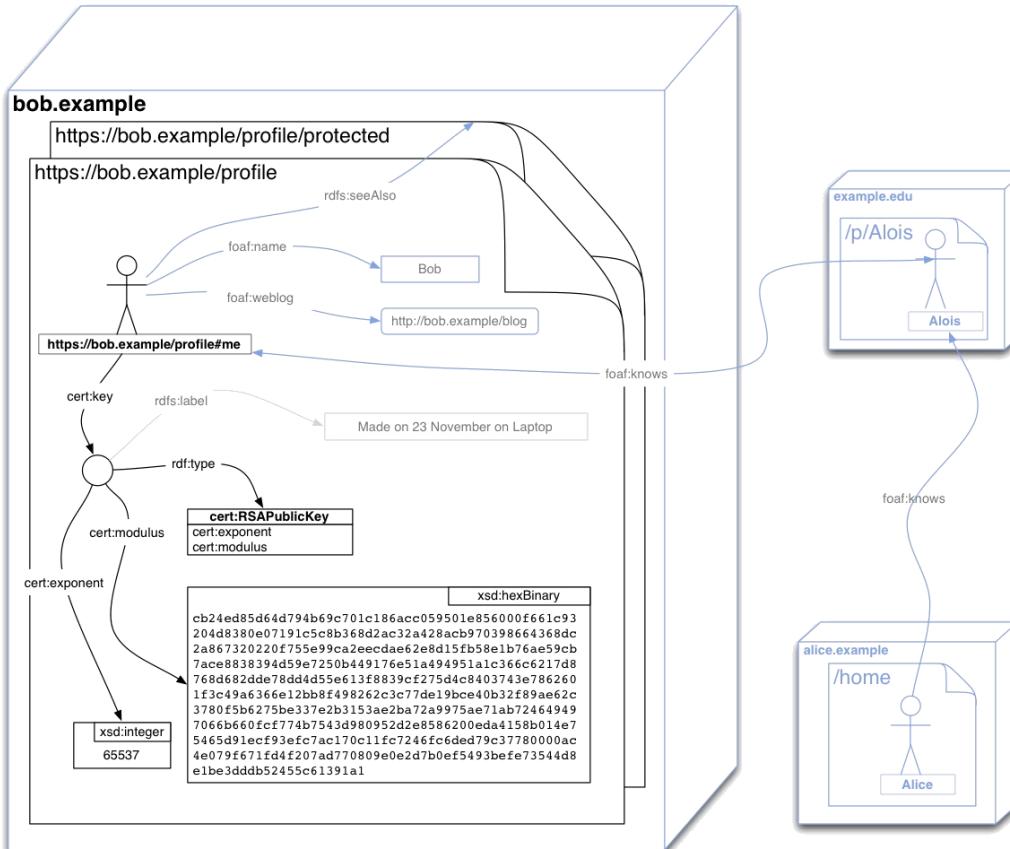
available at WebID URI <https://example.org/alice#aa> 

```
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .  
@prefix rdfs: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix foaf: <http://xmlns.com/foaf/0.1/> .  
@prefix cert: <http://www.w3.org/ns/auth/cert#> .  
@prefix profile: <https://example.org/alice#> .  
  
profile:aa a foaf:Person;  
    foaf:name „Alice Anderson“;  
    foaf:knows <https://example.com/bob#me>;  
    cert:key [  
        a cert:RSAPublicKey;  
        rdfs:label „Made on Monday, July 8, 2013 3:16  
        cert:modulus „00cb25ed...“^^xsd:hexBinary;  
        cert:exponent 65537 ;   
    ] .
```

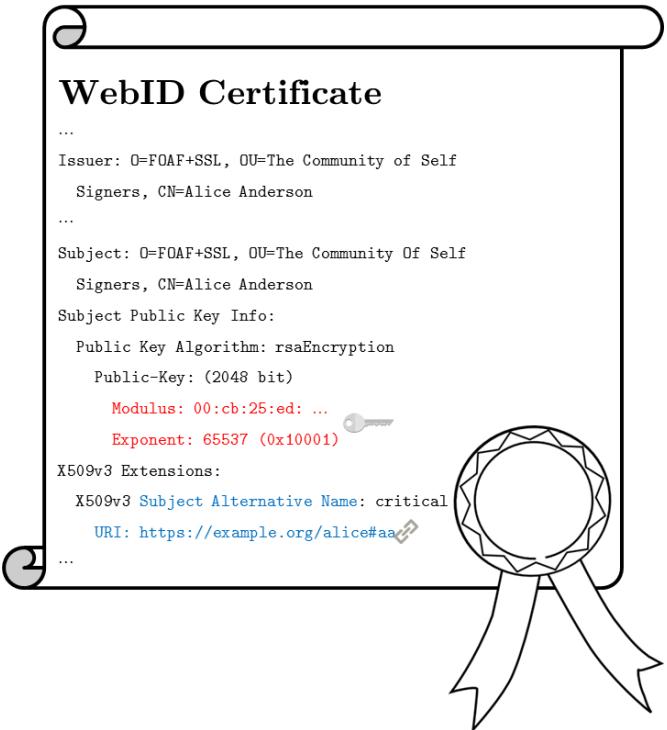


CTWE: Part II – Social Web ► Chapter 5: Complex Problems

WebID Profile - Graph



WebID – Artifacts



WebID Profile

available at WebID URI <https://example.org/alice#aa>

```
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .  
@prefix rdfs: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix foaf: <http://xmlns.com/foaf/0.1/> .  
@prefix cert: <http://www.w3.org/ns/auth/cert#> .  
@prefix profile: <https://example.org/alice#> .  
  
profile:aa a foaf:Person;  
foaf:name „Alice Anderson“;  
foaf:knows <https://example.com/bob#me>;  
cert:key [  
a cert:RSAPublicKey;  
rdfs:label „Made on Monday, July 8, 2013 3:16  
cert:modulus „00cb25ed...“^^xsd:hexBinary;  
cert:exponent 65537 ;  
]
```



WebID – Use of Profile Data

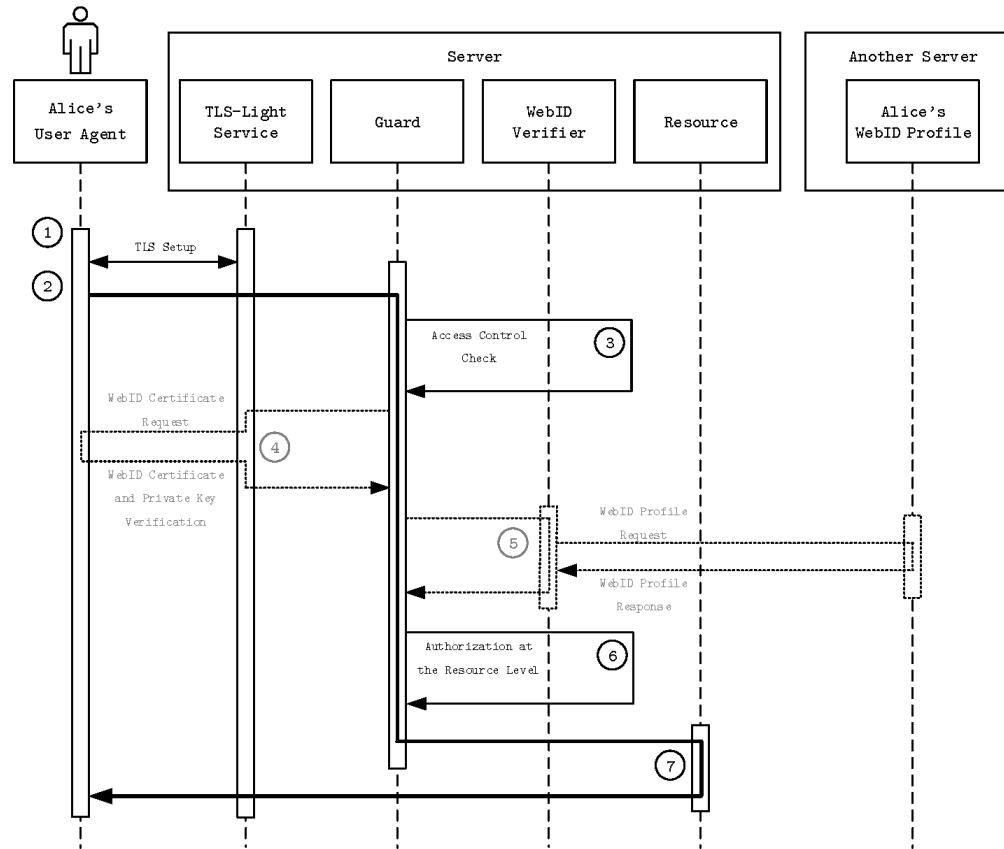
- Discovery as all personal data available as RDF triples
- SPARQL to query for information
- Linking to other concepts and related data instead of creating duplicates
 - ▶ Establishing social connections via foaf:knows entries
- WebID profile to store individual preferences
 - ▶ Can be used for tailored customizations and, thus, user experience improvements

WebID-TLS – WebID Authentication over TLS

- Protocol enables secure and user-friendly authentication
 - ▶ Public key cryptography
 - ▶ No need to remember complex passwords or choose redundant, insecure ones → client certificate
- Makes use of
 - ▶ HTTPS/TLS
 - ▶ Client Certificate (WebID Certificate)
 - ▶ SPARQL



WebID-TLS – Authentication Sequence



CTWE: Part II – Social Web ► Chapter 5: Complex Problems

Research: Views on WebID Profiles

The screenshot shows a Firefox browser window displaying a Sociddea profile for a user named Alice. The profile page includes fields for basic information (Firstname: Alice, Lastname: Anderson, Nickname: Ali) and a homepage link (http://en.wikipedia.org/wiki/Alice_and_Bob). Below this, there's a section for 'Home Contact Data' with an address entry (Country: Wonderland). Under the 'Friends' section, two users are listed: Bob Builder and Charlie Creator.

A dropdown menu is open, showing filtering options: Anonym, Authenticated Users, Friends, Bob Builder, and Charlie Creator. A large grey arrow points from this menu to a detailed view of the SPARQL query code.

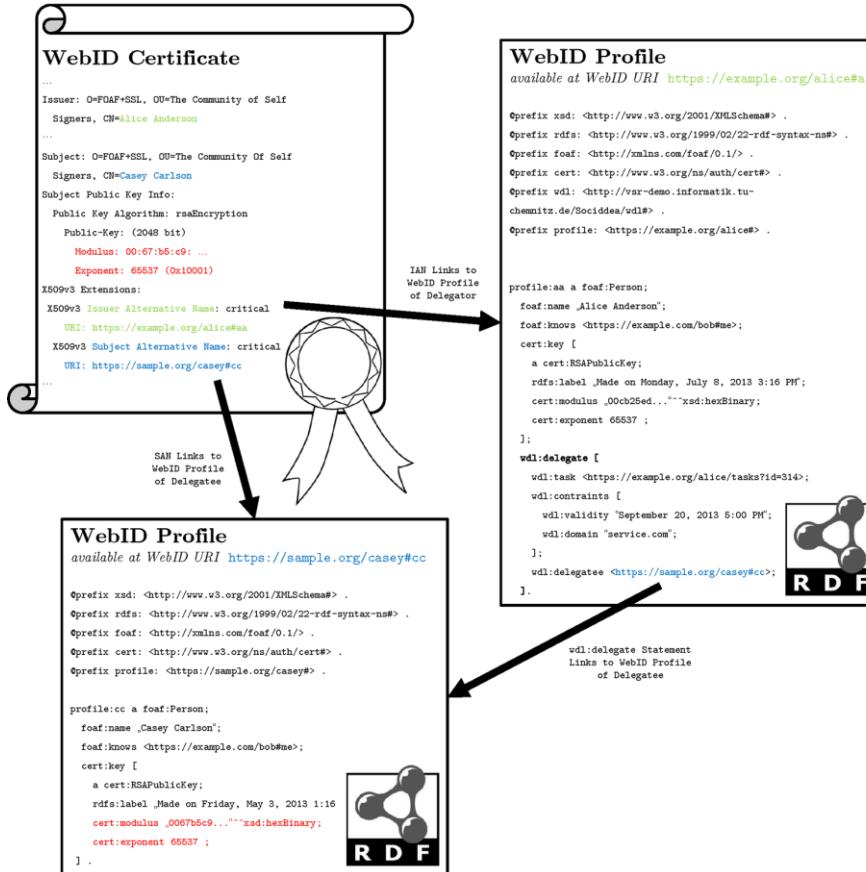
Creation of Filter Specification

```
<rdf:RDF [...]>
  <foaf:Person rdf:about="https://vsr-demo.informatik.tu-chemnitz.de/sociddea/profiles/alice#aa">
    <filter:specification>
      <filter:entity>anonym</filter:entity>
      <filter:command>CONSTRUCT [...]</filter:command>
    </filter:specification>
  [...]
</foaf:Person>
</rdf:RDF>
```

Detailed View on Value of filter:command

```
CONSTRUCT { ?s ?p ?o }
FROM <https://vsr-demo.informatik.tu-chemnitz.de/sociddea/profiles/alice#aa>
WHERE {
  ?s ?p ?o
  FILTER(?p in (
    foaf:name,
    foaf:img,
    foaf:homepage,
    [...]
  ))
}
```

Research: Access Delegation with WebID



CHAPTER://2

■ Social Web Protocols

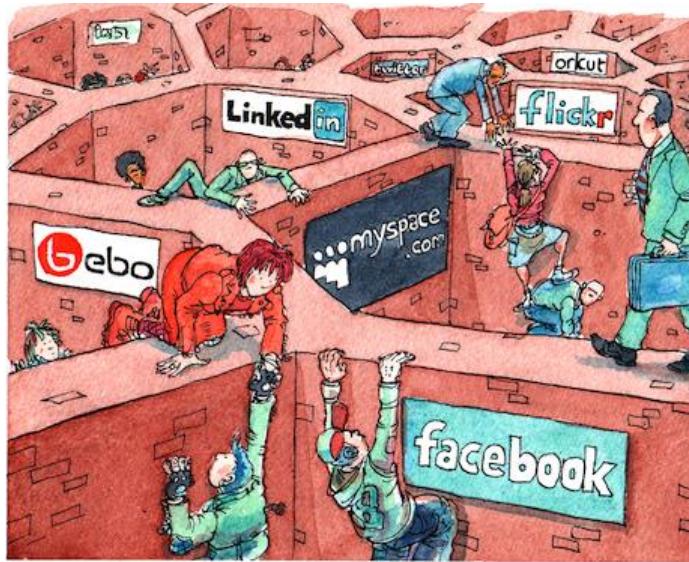
Social Web Protocols



Challenges

- How to represent actors in the Social Web?
- How to share data between applications?
- How to avoid identity theft?
- How to keep data up-to-date?
- How to guarantee privacy?
- ...

The Problem of Walled Gardens



Source: Social Networking Sites as Walled Gardens by David Simonds

Social Web Protocols

The Problem of Walled Gardens

■ Portability:

- ▶ The user's data still remain in the control of the user
- ▶ Let users share their information stored in social networks with other useful applications

■ Identity

- ▶ Problem of reusing passwords
- ▶ Using new sites requires the users to re-find their friends



The Problem of Walled Gardens

Linkability

- ▶ Inform users about content they are tagged in without being a member of the social network where the content is shared

Privacy

- ▶ Control how the users' information is viewed by others in different contexts
- ▶ Preventing or undoing of data disclosures by others about oneself



Terminology



User



Identity

(1 representation of User)



Profile Attribute



Social Connection



Social Group



Social Interaction



Social Platforms



Distributed Social Graph



Social Applications

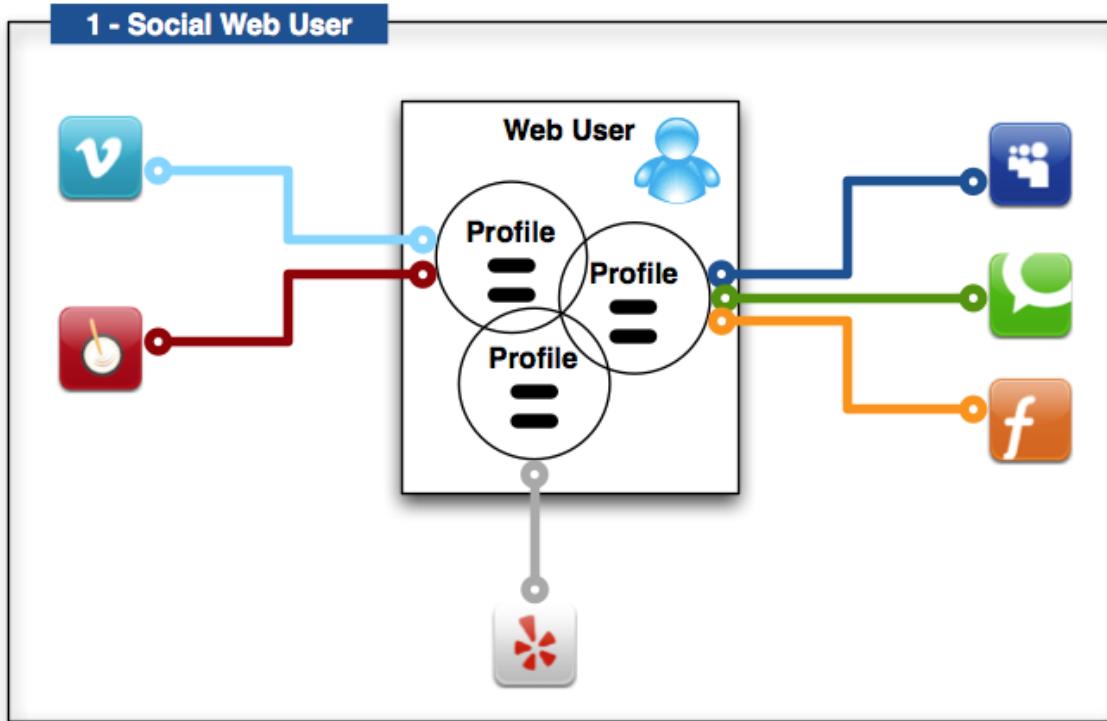


Profile Association

Social Web Protocols

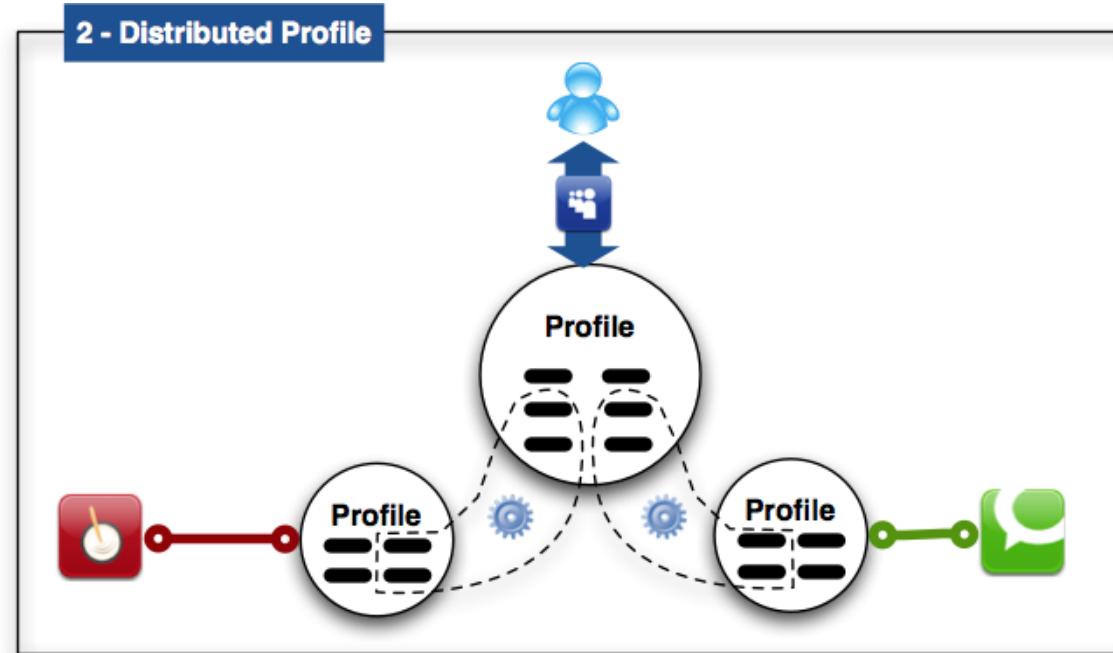


Social Web User and Profiles



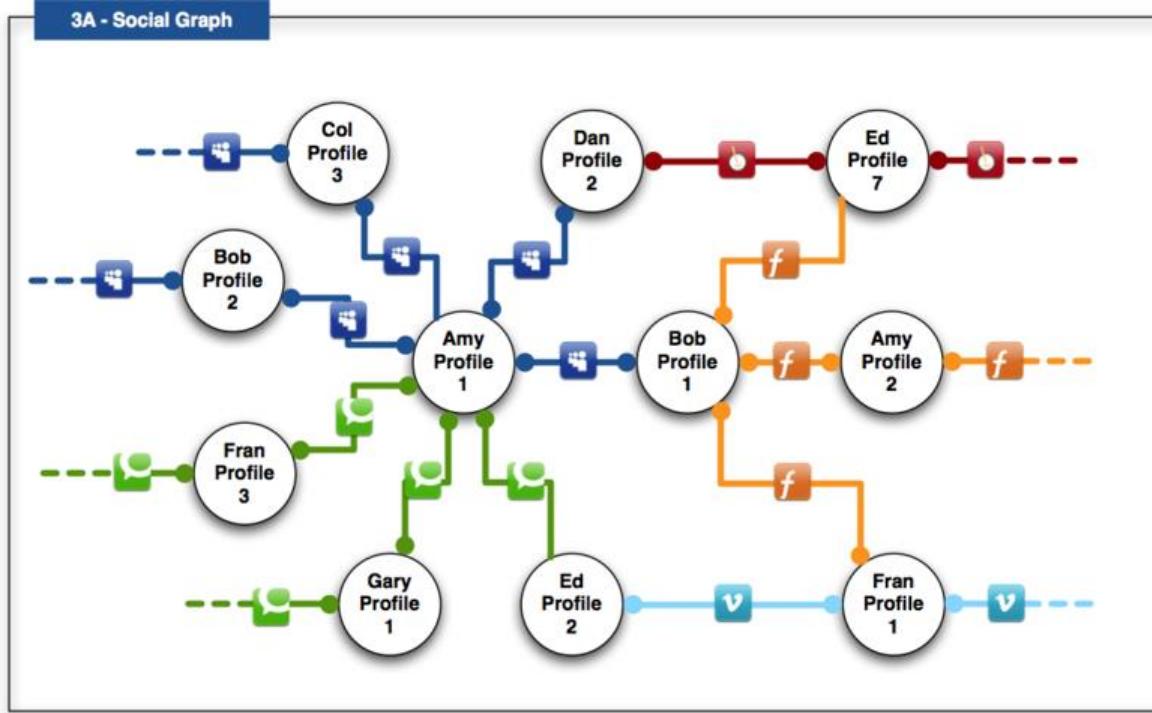
Source: <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReport>

Single Distributed Social Graph



Source: <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReport>

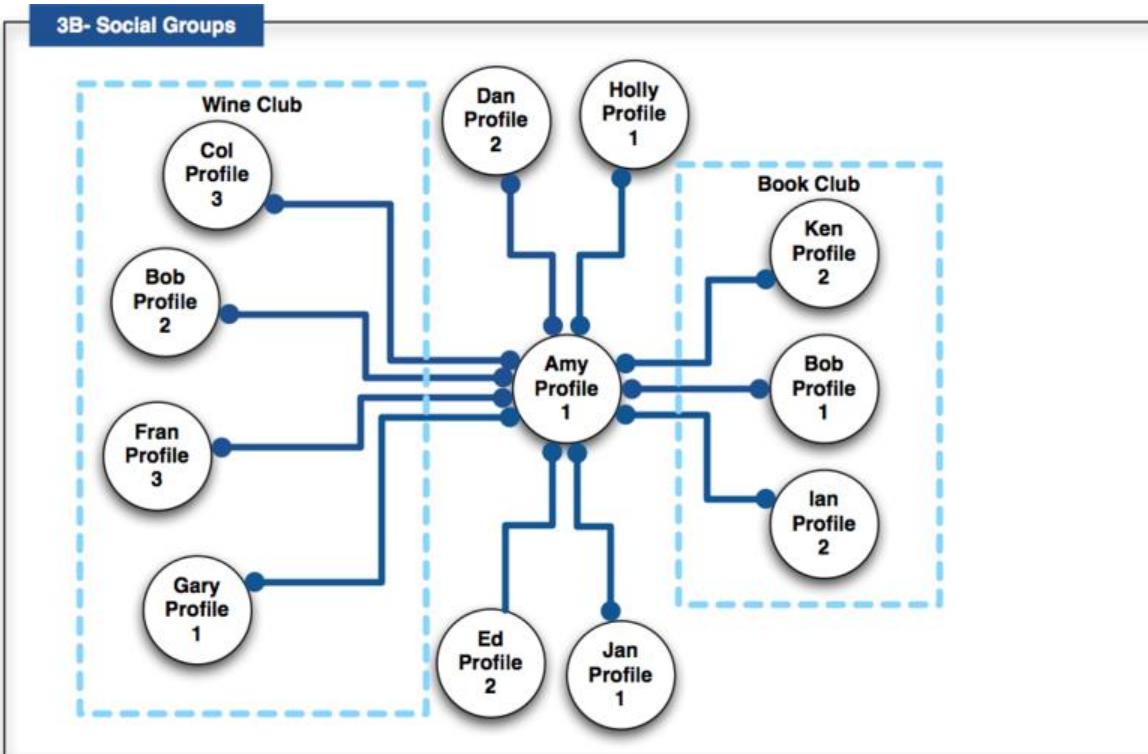
Multiple Distributed Social Graphs



Source: <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReportHenryArt>

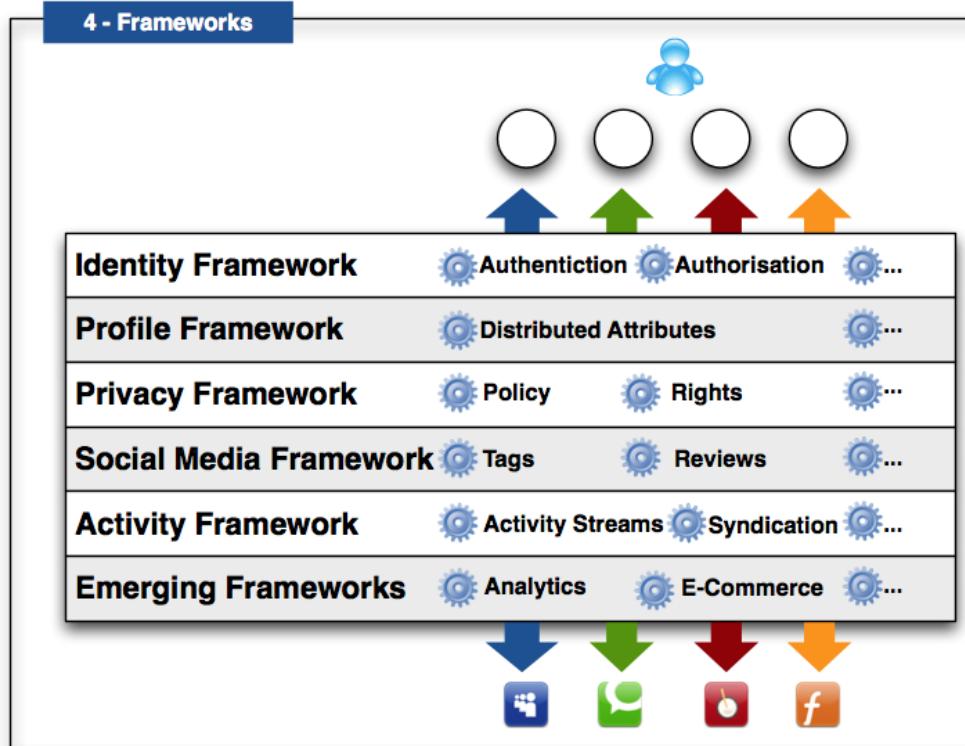
Social Web Protocols

Multiple Distributed Social Graphs



Source: <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReport>

Multiple Distributed Social Graphs



Source: <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReport>

Identity

- Problem: Usernames and Passwords are Insecure
- Use-case: No more passwords (or only one)
- Discussed earlier in this lecture:
 - ▶ Cf. OpenID, Oauth, WebID, etc.

Social Web Protocols



Profiles

- Problem: Can Not Describe Yourself
 - ▶ User profiles often constrained how to describe users
 - ▶ Manually re-find friends
 - ▶ Different names on different sites and anonymity on other sites
- Use-case: Keep Your Profile and Friends Across Networks
 - ▶ Authentication using Single-Sign-On at a new site
 - ▶ Re-using an existing profile by adding a few new fields in the profile
 - ▶ Automatic discovery of friends
 - ▶ Complete download of the profile for further use



Profile Standards

XRD (Extensible Resource Descriptor)

- The XRD format provides this for arbitrary resources via the use of types and typed links describing URIs (URI templates) given in the XML format that can then be queried by a user-agent.

VCard (cf. XML-Lecture)

FOAF (cf. prev. session)

Social Web Protocols



Profile Standards

■ PortableContacts

- ▶ It provides a common access pattern and contact scheme as well as authentication and authorization requirements for access to private contact information.

■ OpenSocial

- ▶ collection of Javascript APIs, controlled by the OpenSocial Foundation, that allow Google Gadgets (a proprietary portable Javascript application) to access profile data, as well as other necessary tasks such as persistence and data exchange



Social Media

Problem: Fined for Consuming Social Media

- ▶ How to (re-)use social media without breaking the content's copyright
- ▶ User want to be well-informed about the social media they consume

Use-case: Safely Drag-and-Drop Social Media Across Multiple Platforms

- ▶ Easily adding Creative Commons license to social media (e.g. Micropayments for commercial used pictures)
- ▶ Removing content from the original sites as well as the sites which are resharing the content

Social Media Standards

- Tagging
- Microformats (cf. XML-Lecture)
- Open Graph Protocol
 - ▶ is a metadata vocabulary for describing documents and (indirectly) their topics
- Payswarm
 - ▶ Micropayment for social media

Social Web Protocols

Social Media Standards

■ OExchange

- ▶ is a OWF-licensed specification for users sharing rich content over the Web using URIs between social sites

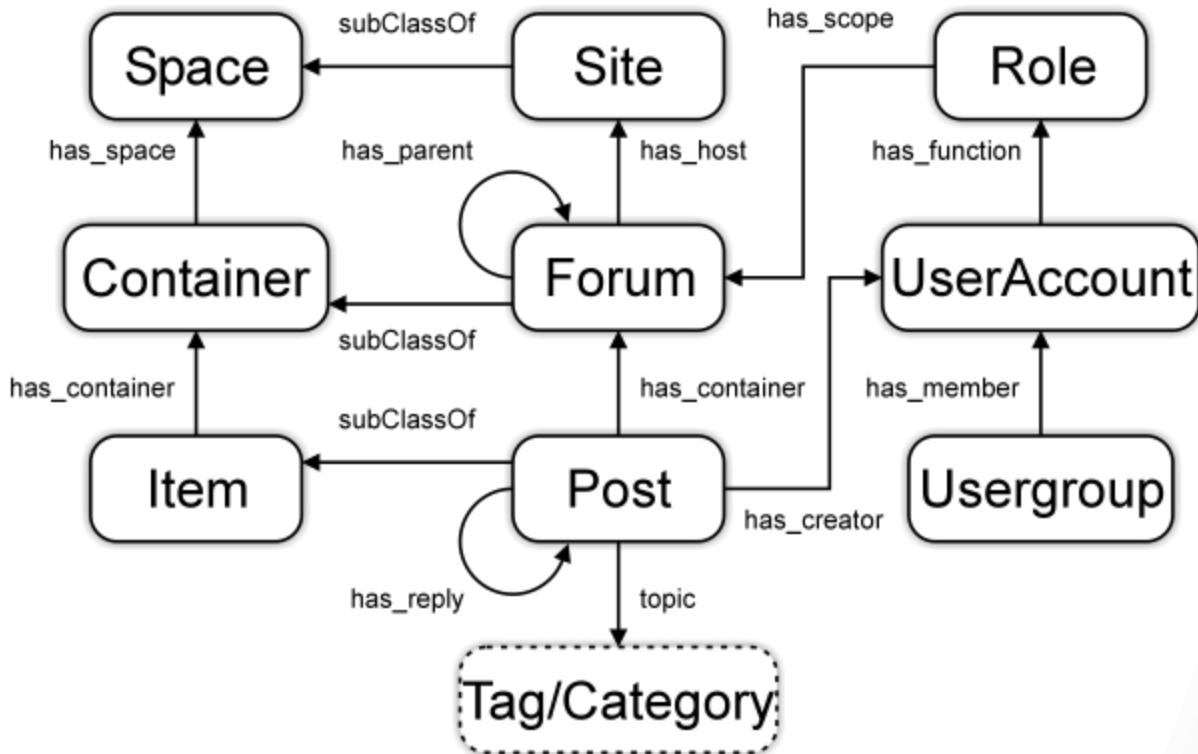
■ The Semantic Web (cf. XML-Lecture)

■ SIOC

- ▶ aims at developing a standard vocabulary for representing user-generated content on the Web, using Semantic Web technologies



SIOC



Source: <http://sioc-project.org/ontology>

Social Web Protocols

SIOC

- Example at <http://sioc-project.org/ontology#sec-example>

Social Web Protocols



Privacy

Problem: Violation of Privacy

- ▶ Social media are spread across multiple social networking sites and accessed by all sorts of people

Use-case: Your Own Terms of Service

- ▶ Defining what to share with whom
- ▶ Alert conflicts between own defined sharing propertys and these which are defined by the service (e.g. Alice share a photo under Creative Commons with attribution, but sharing something on some service means it becomes property of this service)



Privacy Standards

■ P3P

- ▶ Platform for Privacy Preferences
- ▶ allows website operators to express their data collection, use, sharing, and retention practices in a machine-readable format

■ POWDER

- ▶ Protocol for Web Description Resources

■ AIR

- ▶ AMORD in RDF
- ▶ a policy language and features a basic proof-level to define policies in a machine-readable manner



Privacy Standards

XACML

- ▶ eXtensible Access Control Markup Language
- ▶ Declarative policy language for access control

Rule Interchange Format (RIF)

- ▶ The W3C RIF Recommendation is a format to exchange rules between rule engines that operates over both XML and RDF data

Mozilla Privacy Icons

- ▶ takes a simple icon-based approach inspired by Creative Commons



Mozilla Privacy Icons

■ Retention period

- ▶ User's data will be deleted before X months



■ Third-party use

- ▶ Intended Use Only
- ▶ Limited Re-use



Mozilla Privacy Icons

■ Ad networks

- ▶ No ad-share
- ▶ Ad-share with opt-out



■ Law enforcement

- ▶ Statutory process
- ▶ Transparent process



Activity

■ Problem: Can not Integrate Conversations

- ▶ Social media can circulated across multiple social networking sites
- ▶ No standard way to update and integrate back distributed comments back to their original source

■ Use-Case: Real-time Collaboration

- ▶ Update of friends' activities across multiple socioal networking sotes



Activity Standards

■ XMPP

- ▶ Extensible Messaging and Presence Protocol
- ▶ is an IETF RFC for the near real-time transfer of XML data

■ Atom and Pubsubhubbub

- ▶ Pubsubhubbub provides a „push“ architecture for the HTTP-based Web
- ▶ Atom addresses syndication of Web content using XML



Activity Standards

ActivityStreams

- ▶ Atom and JSON serialization for activity streams such as status updates in popular social networking sites
- ▶ Defines a vocabulary for activities

Salmon Protocol

- ▶ While Pubsubhubbub deals with publishing content to multiple subscribers, Salmon defines a protocol how to provide interactions „upstream“ to the original content

OStatus

- ▶ is a "meta-specification" for sending status updates to people in a federated Social Web



ActivityStreams

- Actor *verb* Object [Target]
- Activity Base Schema
 - ▶ Defines vocabulary for Activity Streams
- JSON Activity Streams
 - ▶ Defines serialization of Activity Streams in JSON
- Atom Activity Streams
 - ▶ Defines serialization of Activity Streams in Atom



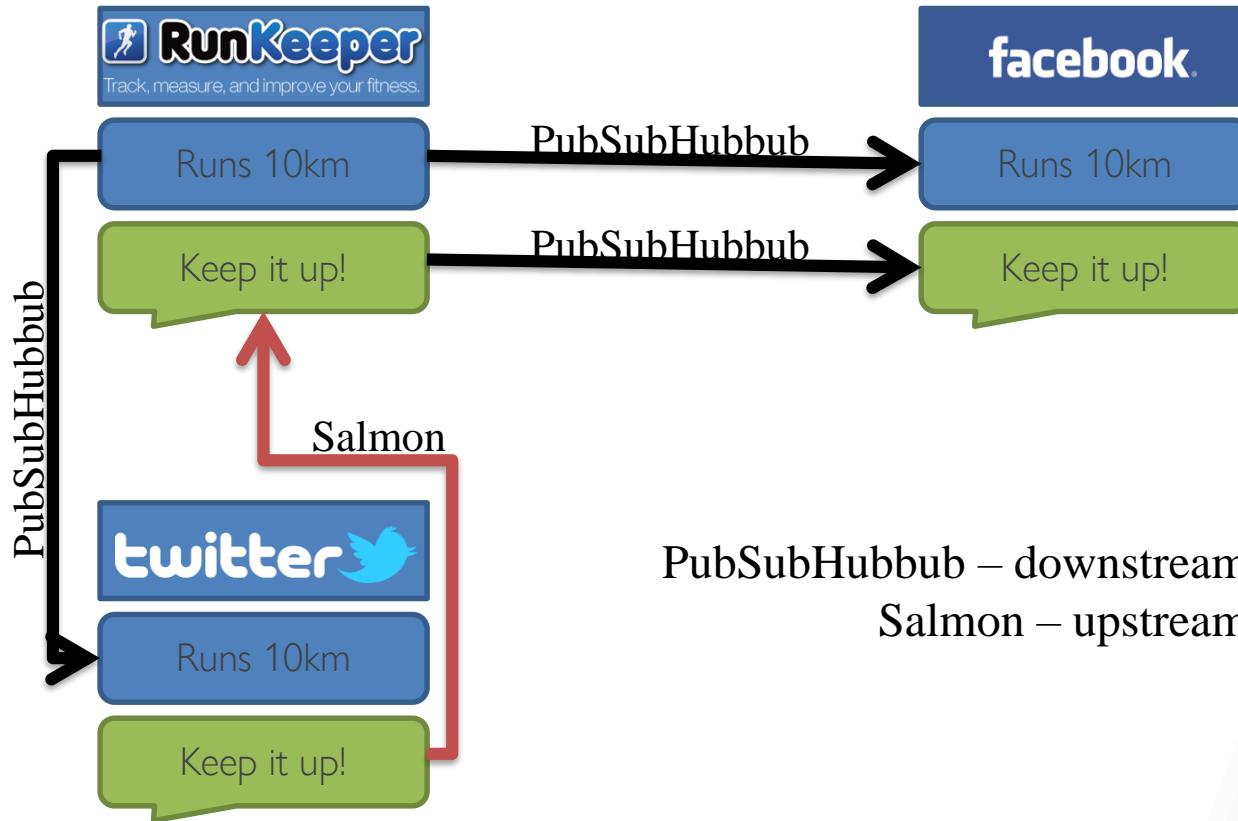
ActivityStreams

```
{  
  "published": "2011-02-10T15:04:55Z",  
  "actor": {  
    "objectType" : "person",  
    "id": "tag:example.org,2011:jane"  
  },  
  "verb": "share",  
  "object" : {  
    "objectType": "activity",  
    "title": "John posted a photo",  
    "id": "tag:example.org,2011:abc123",  
    "verb": "post",  
    "actor": {  
      "objectType": "person",  
      "id": "tag:example.org,2011:john"  
    },  
    "object": {  
      "objectType": "photo",  
      "url": "http://example.org/album/my_fluffy_cat.jpg"  
    }  
  }  
}
```

Social Web Protocols



Salmon Protocol



Social Web Protocols



Homework

■ Understand:

► <http://www.w3.org/2005/Incubator/socialweb/wiki/FinalReport>





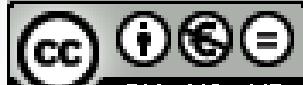
Current Trends in Web Engineering

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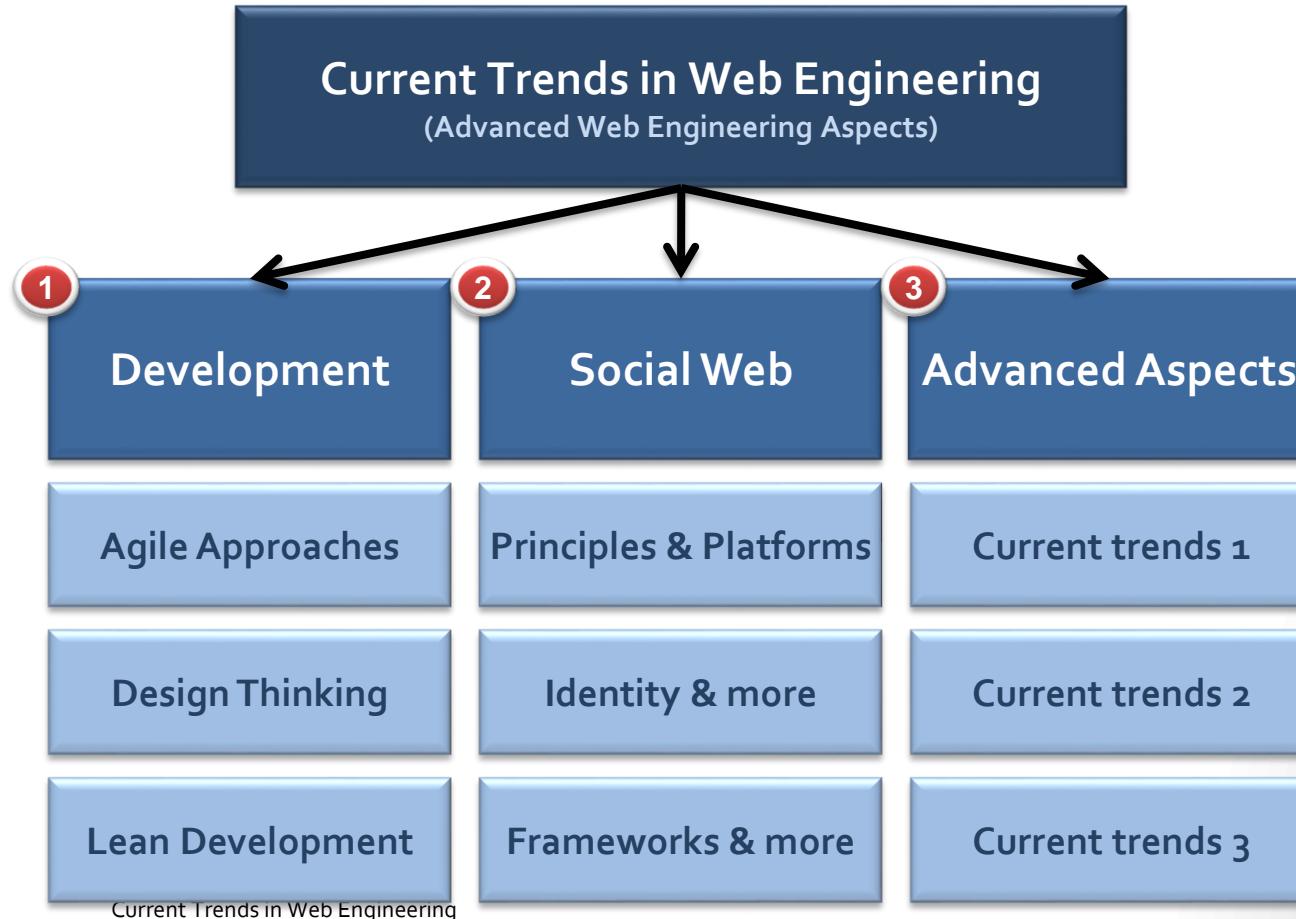


Current Trends in Web Engineering



TECHNISCHE UNIVERSITÄT CHEMNITZ

Lecture Outline



PART III

■ What's next?

CTWE: Part III – Advanced Aspects

Technology Drivers

- Computing power
 - ▶ Still doubling every 18 months
 - ▶ PC-based data centers
- Connectivity
 - ▶ Low cost, broad reach Internet
 - ▶ Wireless, broadband access
- Device proliferation (THE Clients and Servers of the distributed System)
 - ▶ PDAs, cell phones, gas pumps
 - ▶ Towards a digital devices decade
- Internet standards
 - ▶ XML-based integration
- User Interface
 - ▶ Many (!) possibilities
 - ▶ Cf. recent presentations of gadgets at CES2015
- Human Aspects
 - ▶ Relationships
 - ▶ Friends and Likes

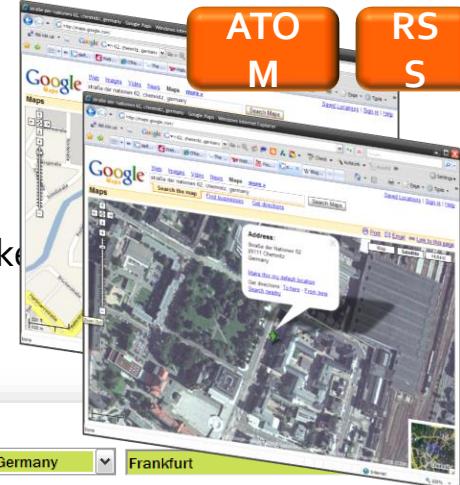


CTWE: Part III – Advanced Aspects



*-Experience

- Trends are a major driver for change
 - ▶ Example user interface experience, e.g. Netscape's <blink> and today's **Web2.0** developments, e.g. desktop experience
 - ▶ Example content, integration & sharing, like napster, mashups



A composite screenshot of a web browser window. On the left, there is a Google Docs & Spreadsheets document titled "Hallo Chemnitz". In the center, there is a search results page for "findbyclick coffee" which lists brands like Tim Hortons and Starbucks, along with a link to "Cookie Crumbs". On the right, there is a map of Frankfurt, Germany, showing various streets and landmarks. The map has a green zoom slider at the top and buttons for "Street", "Satellite", and "Hybrid" views.

CTWE: Part III – Advanced Aspects

Mass Collaboration & Web 2.0

Mass collaboration changes the ways in thinking about creating solutions

A key result of the Web 2.0 era:

► ***Users add value***

(Users are key – not content any more)



Social Networks

Social networking and providing **content** change the ways in thinking about connecting people

- ▶ ...and creating solutions

Consumers are Producers, too

- ▶ Also called "**Prosumer**", "wikipedia - how mass collaboration changes everything" by Dan Tapscott

Customers Who Bought This Item Also Bought

The screenshot shows a sidebar titled "Customers Who Bought This Item Also Bought". It lists two items:

- POWER AND LOVE: A Theory and Practice of Social Change** by Adam Kahane
★★★★★ (28)
\$15.60
- Thinking in Systems: A Primer** by Donella H. Meadows
★★★★★ (44)
\$17.18

environment



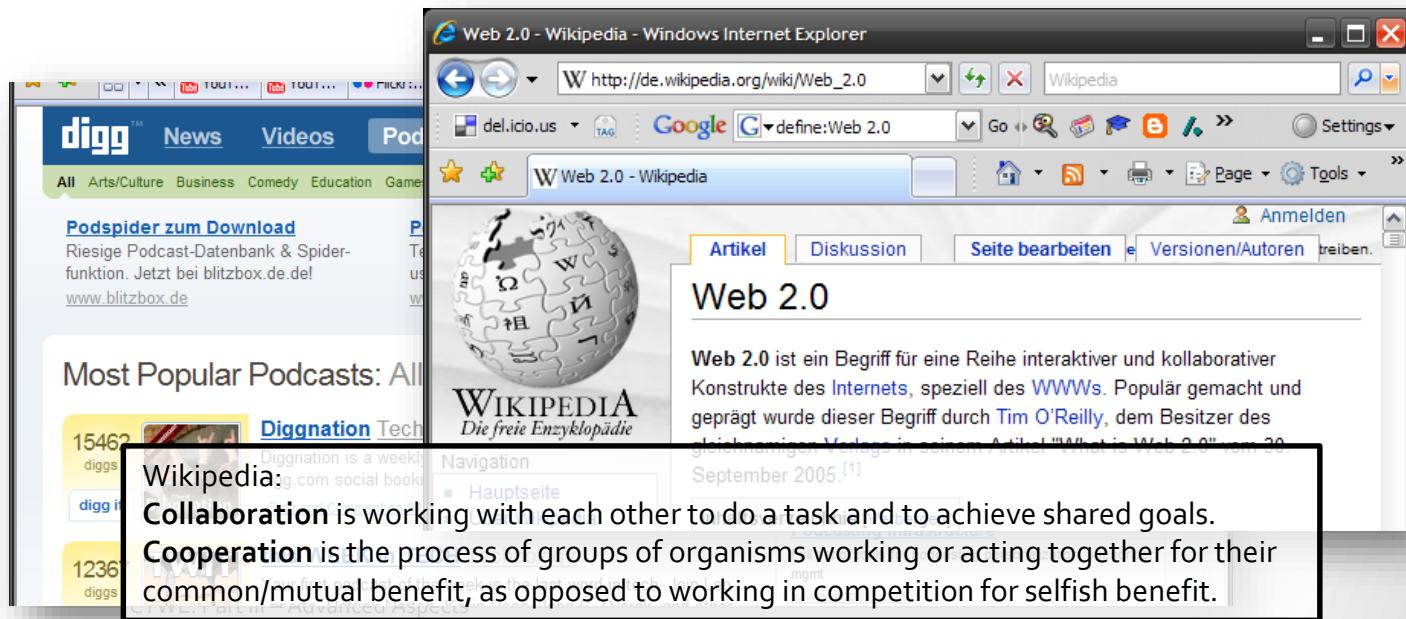
Mass Collaboration & Web 2.0

Mass collaboration changes the ways in thinking about creating solutions

■ A key result of the Web 2.0 era:

▶ ***Users add value***

(Users are key – not content any more)



The key questions

Rephrase: **Collaboration**:

- ▶ **Collaboration is executing tasks with others to achieve shared goals.**

Challenges

- ▶ How to make everyone in the masses of users aware of the shared goal?
- ▶ How to motivate everyone to work on tasks?

We know some answers

- ▶ Concept of Working and Money
- ▶ Concepts of Learning and Grades/Titles

Assumption/Question: What could we achieve if we had Fun?

- ▶ Executing in the sense of playing
- ▶ Motivating by Emotion-oriented incentives



CH

G

Fun? Games.



Games and Collaboration

■ What do we need?

- ▶ Players
- ▶ Social infrastructure
- ▶ Tools and rules

■ Everything we need is already there: Social Web

- ▶ Masses of players (friends, groups, followers, interests, tags etc.)
- ▶ Tools provided by social web platform
- ▶ Fun is in the game



What is a Game?

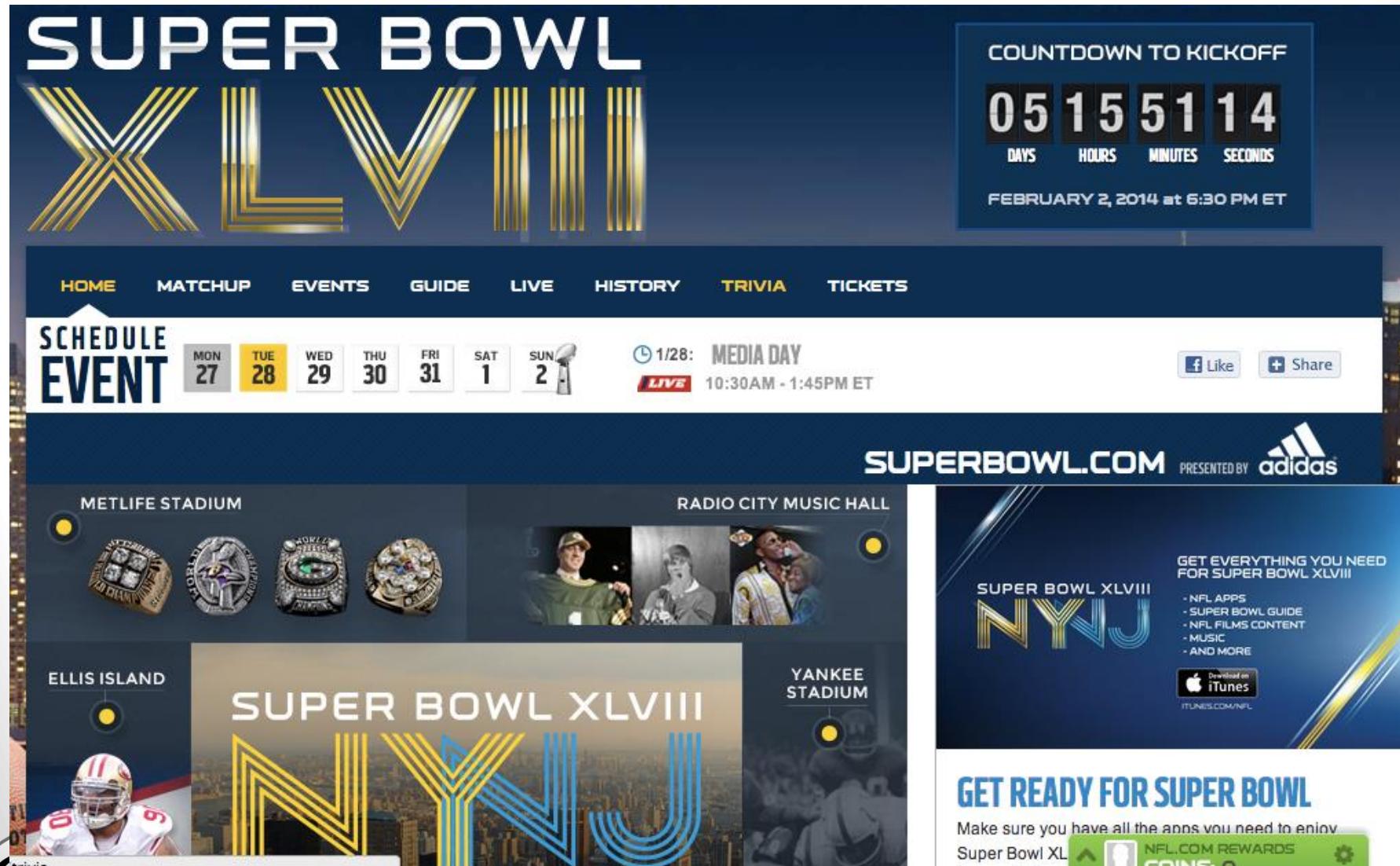
- A Game [wikipedia]
 - ▶ is structured playing ... Key components are goals, rules, challenges, and interaction.
- A Game [Katie Salen and Eric Zimmerman]
 - ▶ is a **system** in which players engage in an **artificial conflict**, defined by **rules**, that results in a **quantifiable outcome**.

Salen and Zimmerman: **Rules of Play: Game Design Fundamentals**. MIT Press. ISBN 0-262-24045-9

CTWE: Part III – Advanced Aspects ► Chapter 1: Gamification



Artificial Conflict



The image shows the official website for Super Bowl XLVIII. At the top left, the text "SUPER BOWL" is written in large white letters above "XLVIII" in a stylized gold font. To the right, a "COUNTDOWN TO KICKOFF" timer shows "05 15 51 14" with "DAYS", "HOURS", "MINUTES", and "SECONDS" below it. The date "FEBRUARY 2, 2014 at 6:30 PM ET" is also displayed. Below the main title, there's a navigation bar with links for "HOME", "MATCHUP", "EVENTS", "GUIDE", "LIVE", "HISTORY", "TRIVIA", and "TICKETS".

On the left side, there's a "SCHEDULE EVENT" section with a grid of days from Monday 27 to Sunday 2. The days from Tuesday 28 to Saturday 1 are highlighted in yellow, while Monday 27 and Sunday 2 are in white. A "LIVE" button next to the schedule indicates "1/28: MEDIA DAY" from "10:30AM - 1:45PM ET". Social sharing buttons for Facebook and Twitter are also present.

The main content area features several sections:

- METLIFE STADIUM:** Shows four championship rings.
- RADIO CITY MUSIC HALL:** Shows three people holding up a large green jersey.
- ELLIS ISLAND:** Shows a football player in a helmet.
- YANKEE STADIUM:** Shows a person in a stadium.

On the right side, the "SUPERBOWL.COM" logo is displayed, presented by adidas. Below it, a section titled "GET EVERYTHING YOU NEED FOR SUPER BOWL XLVIII" lists "NFL APPS", "SUPER BOWL GUIDE", "NFL FILMS CONTENT", "MUSIC", and "AND MORE". An "iTunes" download button is shown. At the bottom, a "GET READY FOR SUPER BOWL" call-to-action encourages users to download apps, with a "NFL.COM REWARDS COINS: 0" badge.

Artificial Conflict

- **Conflict** refers to some form of friction, disagreement, or discord arising within a group when the beliefs or actions of one or more members of the group are either resisted by or unacceptable to one or more members of another group.
- **Artificial Conflict** for games focuses primarily on
 - ▶ Friction – e.g. challenging the emotions of other group, e.g. by officially being better than others
 - ▶ Disagreement – e.g. in decision making for achieving points etc.
- The creation of conflict requires rules intended to produce gameplay



Game Mechanics

■ Game Mechanics (Constructs of rules)

- ▶ Describe the elements and features of rules that make games fun and compelling (and hopefully addictive)
- ▶ **Interactions and relationships** that remain [in a game] when all the esthetics, the technology, and story are stripped away *The Art of Game Design, p. 130*

■ Behavioral Game Mechanics. This is mechanics that **engages people** by Amy Jo Kim

- ▶ **Collecting**
 - More / better stuff than you
- ▶ **Points**
 - More than you
- ▶ **Feedback**
 - You are an explorer!
- ▶ **Exchange**
 - I endorse you for ...
 - Add friend / Follow
- ▶ **Customization**
 - My car, my house, my avatar

The image shows a mobile application interface. At the top, there is a grid of 12 circular badges with various icons like a book, a cake, a shield, and a soccer ball. Below this is a table titled "Fußball-Bundesliga Scores & Schedule". The table has columns for Week 14 through Week 18, with Week 17 highlighted in red. The data shows several matches: BTV Hoffenheim vs. Nürnberg (Final score 1-0), Mönchengladbach vs. VfB Stuttgart (Final score 2-2), and Wolfsburg vs. Bayern Munich (Postponed). There are also entries for Wednesday, December 22 and Wednesday, January 29.

Week 14	Week 15	Week 16	Week 17	Week 18	Week 19	Wk >
BTSV Hoffenheim		1 0	Final	Nürnberg Schalke 04	0 0	Final
Sunday, December 22						
Mönchengladbach	2		VfB Stuttgart			
Wolfsburg	2	Final	Bayern Munich			
Wednesday, January 29						
VfB Stuttgart		2:00 PM				
Bayer Munich						



Gamification

■ **Gamification** - the application of game play mechanics and entertainment, emotion, and enchantment to create positively and psychologically stimulating applications and incentives for engaging people to activate problem solving capacities

The image displays three examples of gamification:

- Foursquare Profile:** Shows a user profile for "Martin Gaedke" with stats: 203 DAYS OUT, 590 CHECKINS, and 24 THINGS DONE. It includes a "To-Do List" and recent checkins for "Chemnitz Hauptbahnhof".
- English Attack! News Feed:** A news feed titled "Die neue Möglichkeit, Englisch zu lernen" featuring posts like "Nad's hat 92 Punkte beim Spiel Verb Dash erzielt." and "Ilochatt hat 2760 Punkte bei JOBS: The Industrial Revolution Video Boost...".
- Martin's Badges:** A collection of badges earned on various platforms, including "4sqDay 2011" (April 16, 2011), "Barista" (March 22, 2011), "Bookworm" (February 22, 2011), "1st Birthday" (January 13, 2011), "Dog's Best Friend" (February 05, 2011), "Steelers Super Bowl" (February 06, 2011), "PA Groundhog Day" (February 02, 2011), "Grouper" (January 31, 2011), "New Year's 2011" (December 31, 2010), "Overshares" (November 20, 2010), "Jetsetter" (September 18, 2010), "Swarm" (September 14, 2010), "I'm on a boat" (August 05, 2010), "Superstar" (May 25, 2010), "Super Mayor" (May 21, 2010), "Photogento" (May 06, 2010), "School Knight" (May 06, 2010), "Crunched" (May 04, 2010), "Explorer" (May 04, 2010), "Super User" (April 29, 2010), and "Newbie" (March 17, 2010).

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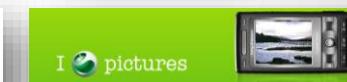
And there is much more to relationships...

- Brand guru's - focus on the next level of trademarks
(creating love-connections between people and brand)
 - ▶ A lovemark is a product, service or entity that inspires loyalty beyond reason
 - ▶ "The Lovemarks Effect: Winning in the Consumer Revolution: Mystery, Sensuality and Intimacy at Work", by Kevin Roberts, Saatchi & Saatchi of Publicis Groupe

<http://www.lovemarks.com/>



www.mcdonalds.com/



www.sonyericsson.com

Viel Erfolg...



See you soon!

