T. O’Reilly (2007) (more technical): Web 1.0 → Web 2.0: paradigm switch of replacing certain types of conventional monolithic software by a collection or network of web based services that

- utilize and implement ‘the Web as a platform’,
- ‘harnesses collective intelligence’ of a broad user base (→ Social Media),
- emphasize importance of content / data (made accessible, relatable and extensible via web-based services),
- that are continuously updated (replacing the traditional software life cycle) and integrate users as co-developers,
- use lightweight programming models,
- collectively implement ‘software above the level of a single device’,
- and provide a ‘rich user experience’. [O’Reilly 2007; in (2)]
Web 2.0, Social Media

**definitions**

- **Web2.0**: “denoting the extension of Web 1.0 in terms of instances of Social Media services and platforms […]” [2]

- **Social Media service**: Web-based service (in the sense of SOA [MacKenzie et al., 2006; in [2]]) supporting (direct and indirect) social interaction” “via the generation and exchange of large amounts of content by a broad (compared to the number and nature of Internet users), non-IT-specialist set of users.” [2]

- **Social Media platform**: “functionally coherent bundle of Social Media services” [2] (distinction service ↔ platform often not totally sharp)
  PLUS commonly accessible, sufficiently widespread, distributed, functionally coherent bundle of network technologies (e.g. P2P or client-server Web-Protocols) on which it operates

---

**definitions (contd.)**

- **Social Media service or platform instance**: instance of service or platform with an associated user base and information space

- **Social Media service class**: examples: Wiki, Blog, discussion board etc.

- **Social Media service software**: implementing Social Media services;

- **Social Media platform software**: implementing Social Media platforms;
  example: Elgg [elg, 2012; in [2]] implementing Social Networking platforms

- **Social Software**: Social Media service software U Social Media platform software
Web 2.0, Social Media

**definition issues:**

- **CSCW software:** collaboration is form of social interaction → CSCW software/services (examples: Revision Control Software (e.g. SVN [svn, 2012; in (2)]), Google Docs [goo, 2012a; in (2)], or professional collaboration platforms (e.g. Creativity Support Systems, Open Innovation platforms (see (2), chapter 11), Company Social Networking platforms (see [Koch and Richter, 2009; in (2)])) also Social Media software/services?

- **Social Media:** involving user-generated content that is “created outside of professional routines and practices” [OECD, 2009, in (2)] [Kaplan and Haenlein, 2010; in (2)] but: constant blurring between „professional“ and „non-professional“

- [OECD, 2009; in (2)], [Kaplan and Haenlein, 2010; in (2)]: user-generated content in Social Media should “show a certain amount of creative effort” and should be published to a larger audience → exclude classic messaging services (e.g. email) from Social Media?

---

Social Media - Characteristics

**Social Media characteristics**

- **openness:** admissibility, low technical barriers

- **content:** subject to constant change

- more interactive → e.g. enabling back-channeling [Sutton et al., 2008]

- **dynamics:** fast media → emergent social effects: e.g. triggering initiatives in cases of disasters, e.g. in
  - 2007 Southern California wildfire [Sutton et al., 2008; in (2)];
  - Fukushima 2011 radiation levels measurements [par, 2012; in (2)] 2011
  - Arab Spring phenomenon [DeLong-Bas, 2012; in (2)].
Social Media - Characteristics

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Social Media - Characteristics (contd.)

**Social Media characteristics (contd.)**

Users collaboratively explicate / model relations of various kinds:

- *Social Context*: models of any aspects of social interaction having a relation to IT systems
  - e.g. social relations
  - e.g. tags, folksonomies, semantic metadata

---

Social Media - Characteristics (contd.)

**Social Media characteristics (contd.)**

- *social information processing paradigm*: collectively solve problems beyond individual capabilities [Lerman 2007 in (2)]:
  - (Authoring tools → Blogs), Micro-Blogs, ...
  - Collaboration tools → Wikis, Wikipedia , ...
  - Tagging systems → del.icio.us, Flickr, CiteULike , ...
  - Social Networking → Facebook, Xing , ...
  - Collaborative Filtering → Digg, Amazon , ...
  - Social Games → MMOGs (WoW etc.), ...
Social Media – Technologies

general enabler technologies for Social Media: technologies for building general Rich Internet Applications (RIAs) or Web-applications (see e.g. [Shklar and Rosen, 2009; in (2)]):

- basic Web protocols (e.g. HTTP(S))
- languages for declarative representation of structure, actual content, and format of content (e.g. HTML5, XML + related (e.g. XSLT), specialized XML languages (e.g. GML))
- Semantic Web languages (e.g. RDF(S), OWL, SPARQL), Social Semantic Web Ontologies (e.g. SIOC, FOAF)
- client-side technologies (e.g. Flash, JavaScript, JSON, AJAX, Silverlight)
- server-side technologies (e.g. PHP, JSP, ASP, Ruby on Rails, Spring, Databases)
- syndication and mash-up of content (e.g. RSS, Atom)
- Social Software (e.g. Elgg, MediaWiki)

Axes Characterizing Communication

communication axes (contd.):

- Content: {textual, graphical, video, contextual (locations, social relations, user-item-relations etc.)}
- Transmission: {stream, discrete}
- User Interface / Device / Usage Pattern: {mobile, laptop, desktop}
- Goals (may overlap):
  - higher level of abstraction: {informing or being informed, create or gain awareness, collaborate, chat, etc.}
  - lower level of abstraction: {find a partner, maintain + expand social network, generate + manage ideas, exchange movies or music, entertain or be entertained, explicate and organize knowledge, etc.}
- Commercialization: {commercial, non-commercial}
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Social Media Classes

course classes of Social Media

- **Awareness** services (/ contextual services):
  - inform users about **events or states** directly linked with other users that fulfill certain (contextual) criteria, proactively or on request
  - manage contextual data (social network, privacy settings etc.)
  - primary form of **content**: contextual information.
  - typical form of **communication**: 1:n and m:n; indirect; non-anonymous; non-threaded; contextual (e.g. locations, social relations, online-status etc.); discrete transfer; non-commercial.
  - example sub-class: Location-Based Awareness services

- **Direct Communication** services:
  - support **direct communication** of all forms (emphasis on 1:n, 1:m)
  - examples: group-messaging, certain forms of Micro-Blogging, chat

- **Information** services:
  - support **indirect communication** (if not already classified as Awareness service)
  - comprise the majority of the finer grained Social Media classes discussed above.
coarse classes of Social Media

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---

classes with an emphasis on certain forms of communication

- **Blogs**:
  - examples: Blogspot [blo, 2012; in (2)] (Blog hosting platform), official Google blog (an instance) [goo, 2012c in (2)].
  - Social Software example: WordPress [wor, 2012].
  - overlaps with: Microblogs. Superclass: information services.
  - supported typical communication form: 1:n; indirect; non-anonymous; non-threaded; textual (+ photos); desktop or laptop; discrete transfer; noncommercial;
  - typical goals: self-presentation, informing, awareness.

- **Microblogs**:
  - examples: Twitter [twi, 2012], Tumblr [tbl, 2014]
  - overlaps with: direct communication services.
  - superclass: information services.
  - emphasis on short blog items and mobile use.
  - supported typical communication form: 1:n; indirect (and also direct); non-anonymous; non-threaded; short textual; mobile; discrete transfer; non-commercial
  - typical goals: self-presentation, informing, awareness.
classes with an emphasis on certain forms of communication

- **(IP-Telephony)**
  - example: Skype [sky, 2012].
  - superclass: direct communication services.
  - supported typical communication; form: 1:n, m:n, and 1:1; directed; non-anonymous; non-threaded; audio + video; desktop or laptop; streaming; non-commercial
  - typical goals: informing, chatting, collaborating etc.
  - usually not considered to be Social Media but matching our definition of Social Media in case of n:m (group communication)

**Social Media Classes**

- **(Chat)**
  - superclass: direct communication services.
  - supported typical communication form: m:n and 1:1; mostly directed; non-anonymous; non-threaded; textual; desktop or laptop; streaming; non-commercial
  - typical goals: informing, chatting, etc.
  - usually not considered to be social media but matching our definition of Social Media in case of n:m

- **Social Games**
  - examples: Farmville, World of Warcraft
  - supported typical communication form: 1:1, m:n; directed; non-anonymous; non-threaded; via game elements emulating human social interaction; mobile, desktop or laptop; streaming, commercial and non-commercial
  - typical goals: entertainment

**Social Media Classes**

- **(Revision Control)**
  - example Social Software: SVN [svn, 2012; in (2)].
  - superclass: Information services.
  - overlaps with: content oriented classes, especially document management.
  - supported typical communication form: 1:n; undirected; non-anonymous; threaded; code; desktop or laptop; discrete transfer; commercial and non-commercial
  - typical goals: collaborative code development for Open Source
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Social Media Classes

**collaboration oriented classes:**

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---

**goal oriented classes**

- **Altruistic Community platforms**
  - examples:
    - Utopia [uto, 2012; in (2)]: support sustainable consumption,
    - Causes [cau, 2012; in (2)]: meta-community platform for communities focusing on social issues,
    - IndieGoGo [ind, 2012; in (2)]: crowd funding
  - spectrum of services and communication forms comparable to other Community platforms.
  - superclass: community platforms
  - overlaps with: Social Networking platforms, Political Community platforms.

---

**Social Networking and related classes**

- **Company Community / Social Networking platforms.**
  - examples: IBM’s SocialBlue [soc, 2012; in (2)] (formerly called Beehive).
  - similar to Social Networking and community platforms, targeted to members of large companies.
  - goals of communication: maintain and expand social network within the company (including self-presentation), expert-finding (see e.g. [Nauerz and Groh, 2008; in (2)]), yellow pages function.
  - companies may also use Blogs and Wikis as instruments of knowledge management or project management [Koch and Richter, 2009; in (2)].
  - overlaps with: Social Networking and community platforms; slightly overlaps with: Open Innovation platforms.

---

**goal oriented classes**

- **Political Community platforms**
  - example: Occupy movement platforms (e.g. Occupy Wallstreet [occ, 2012; in (2)], Wikileaks [wik, 2012; in (2)]).
  - overlaps with: altruistic community platforms.
  - Wikileaks: may not be a typical Social Media service since not as open for uncontrolled user-generated content; relies on whistleblowers
  - implements a special form of 1:n, anonymous, indirect, textual form of communication
  - goal: function as control instance for organizations, governments and companies via leaking classified information documenting unethical behavior.

- **Knowledge Codification services**
  - example: Wikipedia; may be listed here as well
classes with an emphasis on content

- **Events services / platforms**
  - example: Eventful [eve, 2012; in (2)] (users can upload, comment, demand, state planned attendance for events).
  - most important communication forms: 1:n, n:m; indirect; anonymous and non-anonymous; non-threaded; contextual (spatio-temporal), textual + photo; mobile, desktop, or laptop; discrete transfer; non-commercial;
  - goals: awareness, information in view of events.
  - superclass: Awareness services.
  - slightly overlaps with: Microblogging; overlaps with: News services.

classes with an emphasis on content

- **News**
  - example: Digg [dig, 2012; in (2)] (users can submit and rate news articles).
  - overlaps with: events services.
  - superclass: Information services
  - most important communication forms: 1:n, n:m; indirect; anonymous and non-anonymous; non-threaded; textual, contextual (user-item relations); desktop or laptop; discrete transfer; non-commercial
  - goals: awareness, information.

classes with an emphasis on content

- **File Sharing** services.
  - examples / example social software: BitTorrent [bit, 2012; in (2)] Peer-to-Peer file sharing protocol and abstract distributed service.
  - superclass: Content Sharing.

- **Video Sharing** services
  - example: Youtube
  - superclass: Content Sharing

- **Photo Sharing** services
  - example: Flickr [fli, 2012; in (2)]
  - superclass: Content Sharing

- **Teaching Material Sharing** services
  - example: Slideshare [sli, 2012; in (2)]
  - superclass: Content Sharing
### Social Media ↔ Social Games

#### Games, Social Games

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#### Social Media

| SM is not “outside ordinary life”, but rather outside many aspects of “serious” life. SM seen as communication support → cross divisional role of SM |
| must be negated for knowledge codification, collaboration classes etc. |
| insofar as communication is subjective |
| yes but not exactly as much as for games |
| only insofar as the communicated contents are intended or absorbed in an imaginary / make believe way |
| rules of social interaction, emergent special rules of SM (e.g. “netiquette”) |

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<tr>
<td>• actor: tolerance of outcomes</td>
</tr>
<tr>
<td>• formation of social groupings</td>
</tr>
<tr>
<td>• transformative social play: players extend, transform, and manipulate existing social relationships</td>
</tr>
<tr>
<td>• “manipulation that indulges curiosity”</td>
</tr>
<tr>
<td>• involving fate, uncertainty</td>
</tr>
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#### Social Media

| other flavors of these aspects |
| (transformative use: many examples) |
| (social reactions not exactly foreseeable) |
| |
### Social Media ↔ Social Games

#### Games, Social Games

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<tr>
<td><img src="48x304" alt="Image" /></td>
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- **game:**
  - social
    - [Frasca, 2007; in (3)]
  - rules
    - [Frasca, 2007; in (3)]; [Judd, 2005; in(1)]; [Zelen and Zimmerman, 2004 in (1)]; [Judd, 2005 in (1)]
  - utility function for states and outcomes (inspired by social motives):
    - [Frasca, 2007; in (3)]; [Judd, 2005; in(1)]
    - cooperation, competition
      - [Zelen and Zimmerman, 2004 in (1)]
    - active player participation, effort, skills
      - [Frasca, 2007; in (3)]; [Judd, 2005; in(1)]
    - emotional attachment
      - [Judd, 2005; in(1)]
    - emergent (social) systems
      - [Zelen and Zimmerman, 2004; in (1)]
  - game: „a problem-solving activity, approached with a playful attitude” [Schell, 2010; in (1)]
  - chance + uncertainty
    - [Zelen and Zimmerman, 2004 in (1)]
  - systems of information
    - [Zelen and Zimmerman, 2004 in (1)]

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- **[Novak, 2012; in (1)]**
  - extrinsic / intrinsic motivation
  - seamless technology: deep embedding into all day life / blurring between virtual and real (especially in Pervasive Games)
  - interaction forms: information retrieval, immediate social interaction → involves communication
  - *Klutz, 2004; in (1):
    - spatiotemporal context ↔ social play
  - *Steinkuehler and Williams, 2006; in (1):
    - groups and their social context important in games
  - *Heidtke, 2009; in (1):
    - key elements of social play: emotional contagion, performance / Hawthorne effect, learning, relationship building

#### Social Media

- ![Image](48x18) | ![Image](416x294) | ![Image](426x18) | ![Image](794x294) |

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## Social Media ↔ Social Games

### Games, Social Games

- Fellowship fun
- People Fun
- Social value as characteristic of reward, sociality as utilization of reward
- Most achievements of games:
  - Self Esteem level
  - Belonging Love level (social games)
- Most players develop into socializers over time
- Narrative structure: games of emergence, games of progression ↔ social media

### Social Media

- "Like" in Facebook

### Social Media ↔ Social Games

- decentralized narrative structure; stories that emerge from social communication forms (blogs, facebook-chronic)

---

## Social Media ↔ Social Games

### Games, Social Games

- Systems that build behavior via interaction
- MDA framework (Mechanics, Dynamics, Aesthetics)
- Player types

### Social Media

- "Hardcore"
- Social Media and (Social) Games share a lot of characteristics
- The distinctions
  - game ↔ not game
  - Social Media ↔ not Social Media
  - Social Media ↔ game
    are not fully sharp