

# Social Web Profiles

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## 1. Breaking down the Walled-Gardens

People in the real world express their personality through social norms that allow them to deviate from a single instance, depending on the social context. This human trait enables people to maintain various relationships within and across different social structures; your family, your sporting team, your work colleagues, etc. We can usually sustain this multiplicity of personalities as we are usually physically constrained to a small set of social structures and interaction opportunities (See Social George in Figure 1).

However, in the digital world, many Web users manage different social and professional network accounts and utilise them in different ways depending on the digital context. For example, more friendly chat on FaceBook, more professional discussion on LinkedIn, and a bit more daring interactions on Hi5. Maintaining these multitude of online profiles is cumbersome and time consuming for the typical web user. This is also an impediment for new social networks to attract new members simply because of the effort involved in creating and maintaining "yet-another-profile" and reestablishing different aspects of your profile under a new context. The scalability and non-interoperability of social networks seriously fragments the global digital world.

What is really needed - when the physical world meets the digital word - is the ability for a user to create and control

*During the seventh season of Seinfeld ("The Pool Guy"), George Costanza reveals he has two distinct personas, Relationship George and Independent George. Relationship George, he explains, is the conscientious personality he feels forced to adopt in the presence of his fiancée, Susan. Independent George, on the other hand, is the "real" George. Independent George is composed of a subset of personalities, such as Movie George, Coffee Shop George, Liar George, and Bawdy George. Independent George is the George that Jerry knows and grew up with. George worries that if Susan starts socializing with the group, his two worlds will irrevocably collide, resulting in Relationship George "killing" Independent George. Paraphrasing Abraham Lincoln, he declares, "A George divided against itself cannot stand!"*

*Extract from <[http://en.wikipedia.org/wiki/George\\_Costanza](http://en.wikipedia.org/wiki/George_Costanza)>*

**Fig. 1.** Social George

their own single profile and, more importantly, what partial aspects of the profile they will expose to different social networks. This gives the user the notion of centralised control, even though the data could be distributed, by empowering them to decide how they can be viewed and contextualised by different services. So the web user can drift from being a "social butterfly" on Hi5 where they can expose characteristics relevant to that site (for example, my favourite drink and best dance moves), to be a "professional scientist" on LinkedIn where they can expose relevant attributes (for example, my previous employment roles and expertise areas) and many other contextual profiles in between.

Participation is key to social networks and critical if such networks are to thrive and provide engaging and new services to web users. The ability to slice-up your profile, depending on the context of the social network, will be the driving factor that expands participation beyond the big monopolist players like FaceBook and MySpace. A web user should be able to organise their profile, or parts of their profile, at a location of their choice. For example, a user might want to manage their personal information such as home address, telephone number, and best friends on FaceBook and their work-related information such as office address, office telephone number, and work colleagues on LinkedIn, or may even want to store their entire profile locally with a trusted third party. This is not possible today in an open environment. The current "aggregator" approach are short term solutions akin to the "screen scraping" days of the 1980s.

The new approach allows the user to associate their Partial Profile directly to Web 2.0 service providers. For example, your Friends Profile can be exposed to MySpace and Twitter, whereas your Work Profile to Plaxo and LinkedIn. Additionally, traditional service providers can utilise the same features, and your Health Profile can be exposed to Medicare Australia and Medibank Private (See Figure 2).

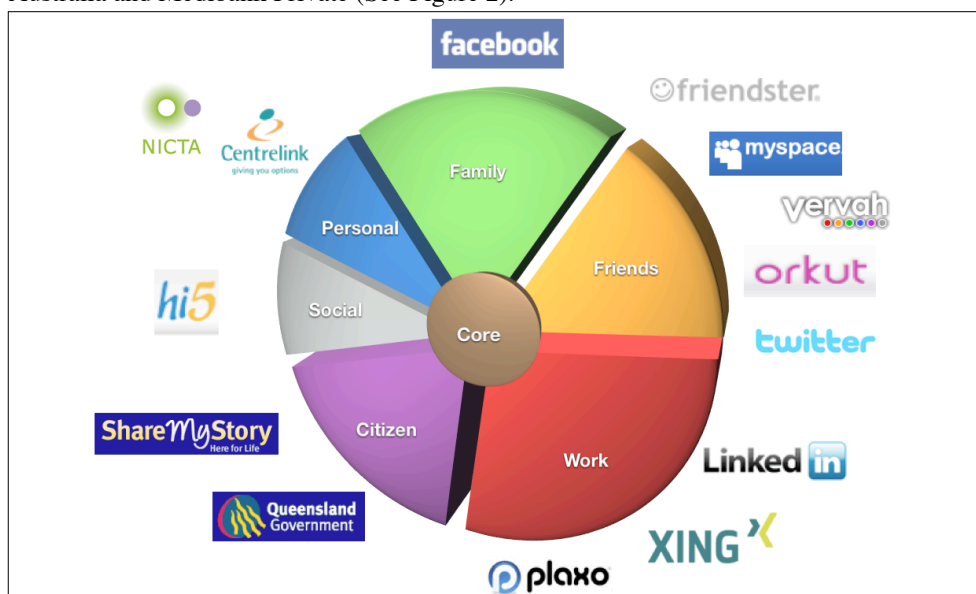


Fig. 2. Partial Profile Pie

Open technical standards for interoperable partial profiles are the enabling technology. They will allow more social networks to give web users the necessary control of their own profiles. It will allow them to decide on which service providers they share which partial profiles. It will make it easier to shift your profile to other services providers, and it will make the service providers compete for the attention of the web users, improving value added services. Technical issues, such as profile synchronisation, can also be addressed with the clearer management of profile sources. The range of technical issues for distributed profiles [1] is immense and growing; from different architectures and representation formats that all provide interoperability challenges for the future.

Privacy is still one of the major issues with online profiles [2] managed by social networks, and often the user believes that by setting a "private" user profile they will not be exposed to any threats [3] outside of their social network. With the user now in direct control of access and usage permissions to their Partial Profiles, the issue of Privacy, and also rights management, then becomes somewhat easier to understand for the user and the implications of their decisions. As your own "data custodian", the user can decide on which service providers can access their personal details via exposing one (or more) Partial Profiles to that provider. It is an explicit act, and one that the user is more aware of, and can just as easily retract as well. This, in itself, is one of the biggest challenges for the entire web community, not just social networks, and needs a new "policy-oriented web" architecture [4] to support trusted rule-based services in the longer term.

What properties are described in a Partial Profile will depend greatly on the needs of the individual user and context of each service provider. There are many clear candidates to cover personal and work information (eg vCard) and social graph relationships. Any Partial Profile must be extensible to cater for all types of properties needed for that specific context. However, one of the more interesting aspects of Partial Profiles will be the dynamic properties that capture the evolving changes of a person's context. For example, your interests or experiences or opinions of a particular topic or subject (in a specific context of one of your profiles). For example, as a Professional Partial Profile, the profile properties may capture my technical expertise and interest based on my actual discussion group and blog interactions on LinkedIn. Thus creating and updating parts of a partial profile depending on the user interactions with the services of that provider over time. These are called "Semantic Profiles" and are targeted to appropriately express dynamic and less explicit information about a user that can be used to eventually create better connections between users who exhibit similar characteristics.

The portable social environment will focus new ICT challenges for "identity, shared profiles, authorship, vitality, and reputation [5]. An evolving combination of interoperable frameworks (see Figure 3) will move us towards this objective. Clearly a Profile Framework will provide the core distributed management of user-controlled partial profiles. The Policy Framework will capture the expression, transparency, conflict detection, and accountability services for trusted rules-based policies for permissions and obligations. Specifically, the Policy Framework would apply Privacy services to Profiles and underlying rights management services to the Content Framework that consistently manages the user-

generated content on online interactions (eg blogs). Finally the Semantic Framework provides the driver that enables users to benefit from active social network participation by providing the dynamic understanding of the user's behaviour and feeding this back into the user's profile.

A new emerging Social Web Architecture will make social network services as transparent and ubiquitous as an email address. It will break down the current "walled-gardens" and will radically re-shape the next generation of social web networks. This will involve a unique balance between the complexity of managing partial profiles and policies with the benefits of greater user control and social networks interoperability. The challenges ahead will push web science researchers, technologists, developers to think of new innovative ways to move towards a open social web architecture.

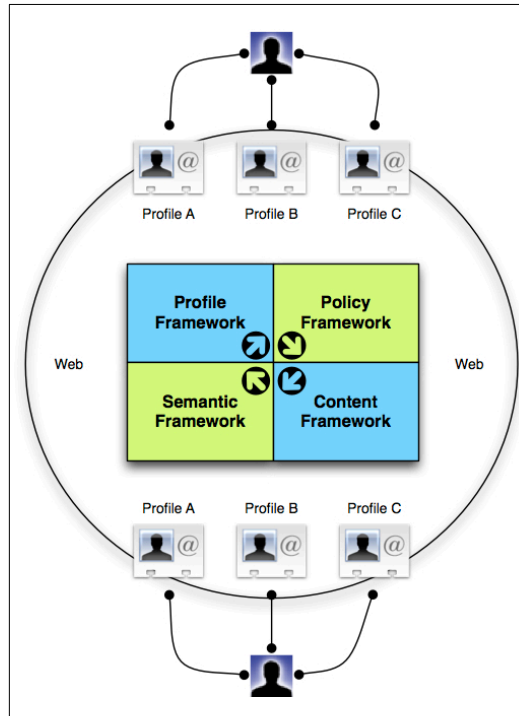


Fig. 3. Social Web Architecture

## References

- [1] Houben, G. J. (ed) State of the art semantic interoperability for distributed social user profiles. Telematica Institute Technical Report, June 2005
- [2] Karahasanovic, A. & Brandtzaeg, P. & Vanatenhoven, J. & Lievens, B. & Nielsen, K. & Pierson, J. Ensuring Trust, Privacy, and Etiquette in Web 2.0 Applications. IEEE Computer. June 2009. Pp 42-49.
- [3] Zheleva, E. & Getoor, L. To Join or Not to Join: The Illusion of Privacy in Social Networks with Mixed Public and Private User Profiles. Proceedings of the 18th International World Wide Web Conference. Madrid, Spain. 20-24 April 2009
- [4] Iannella, R. Towards E-Society Policy Interoperability. 9th IFIP Conference on e-Business, e-Services, and e-Society, Nancy, France, 23-25 Sept 2009
- [5] Ramakrishnan, R. & Tomkins, A. Toward A PeopleWeb. IEEE Computer, August 2007, Pp 63-72