

Integration and Portability of Semantic Social Networks

(using the OKKAM's Entity Name System)

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[joint work with Stefano Bortoli & Themis Palpanas]

- Two main models today for social networking:
 - the “**FOAF-like**” model
 - the “**Walled-garden**” model

As usual, both have *pros* and *cons* ...

- Message 1: we (the *Semantic Web* community) can do a better work with the FOAF-like model [→OKKAM as an enabler]
- Message 2: the improved FOAF-like model can be used to open up (in a controlled way) the walled garden networks → the “**pub-like**” model
- Conclusions

The FOAF-like model



Personal

Some information about you, and how people can contact you.

Title (Mr, Mrs, Dr, etc)

First Name

Last Name (Family/Given)

Nickname

Your Email Address

Homepage

Your Picture

Phone Number



Work

Information about the place you work.

Work Homepage

Page describing what you do at work

School

Where did you go to school?

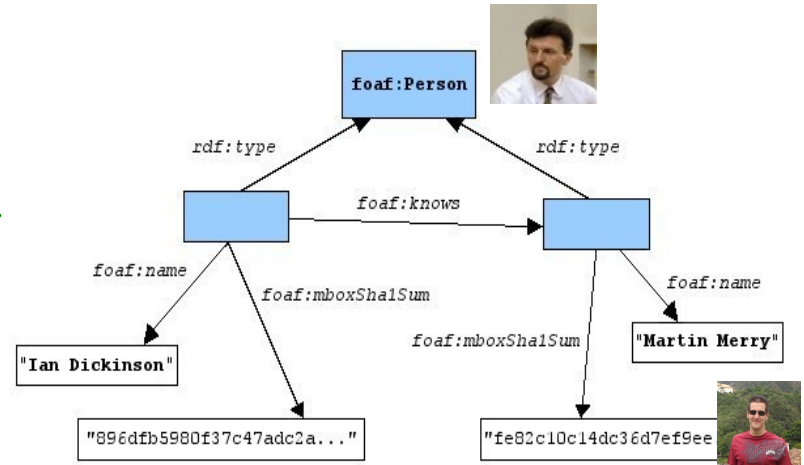
School Homepage

People You Know

Tell FOAF-a-matic about some people you know. Click "Add Friend" to add space to add more people. If your friend already has a FOAF description, then place a link to it in the 'seeAlso' field.

Friend-- Name Email See Also

Friend-- Name Email See Also



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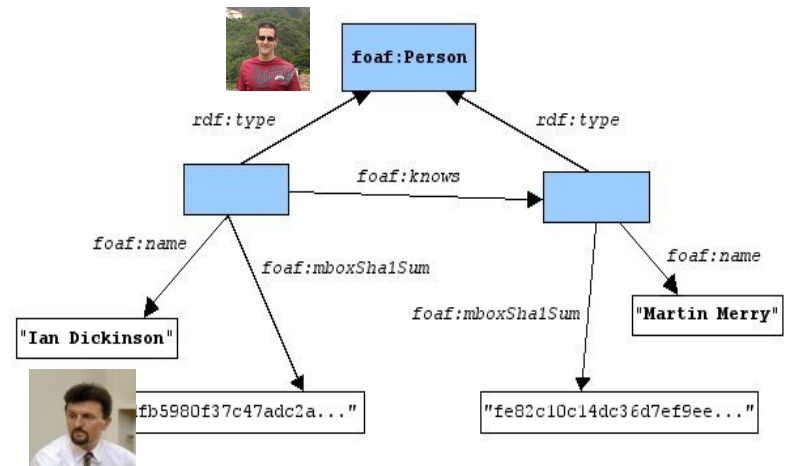
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FOAF-like model (2)

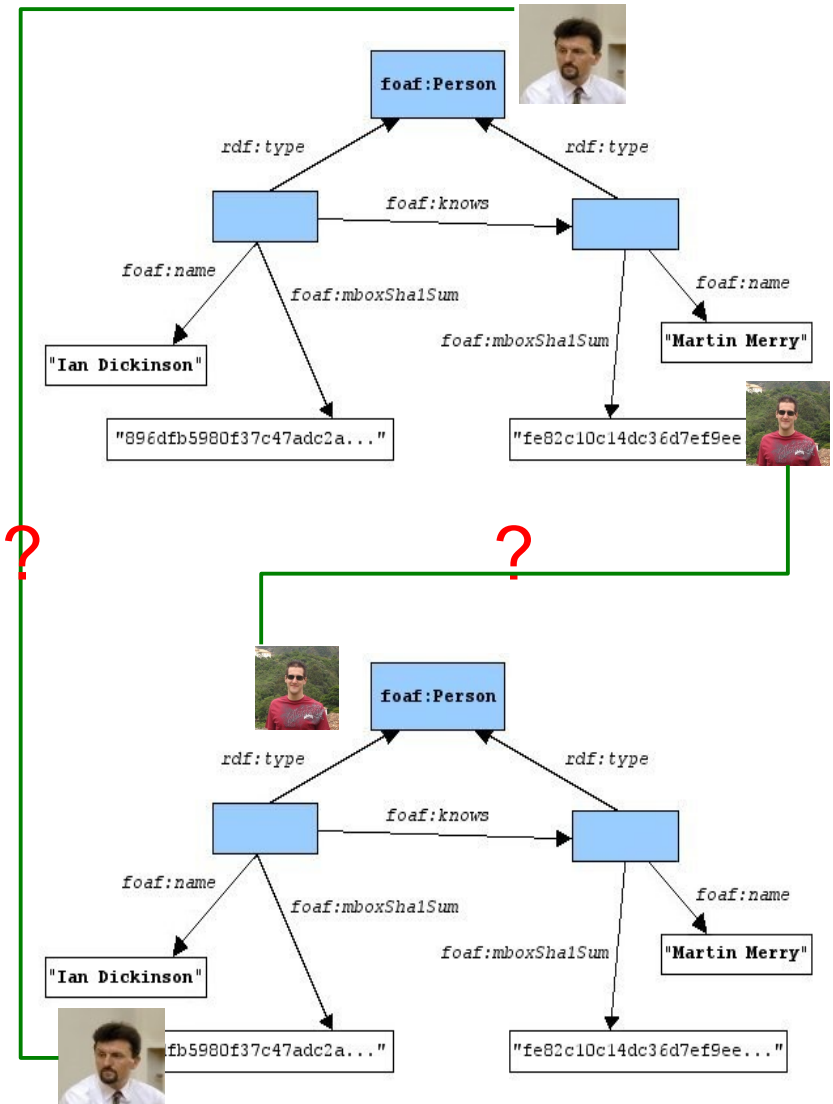


Advantages:

- Fully decentralized (no need for “portability”)
- Ownership of personal data
- Editing/updating is easy and secure

Problems:

- Heuristic-based integration
- No fancy applications
- No simple access control (only ideas so far)

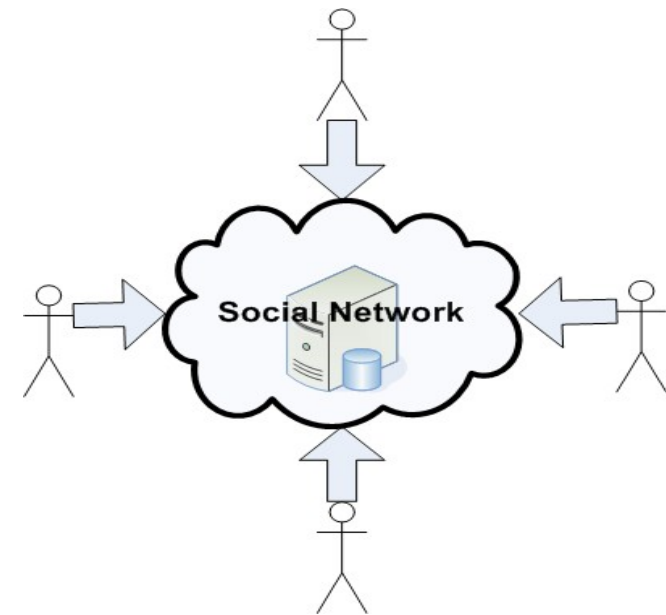


Advantages

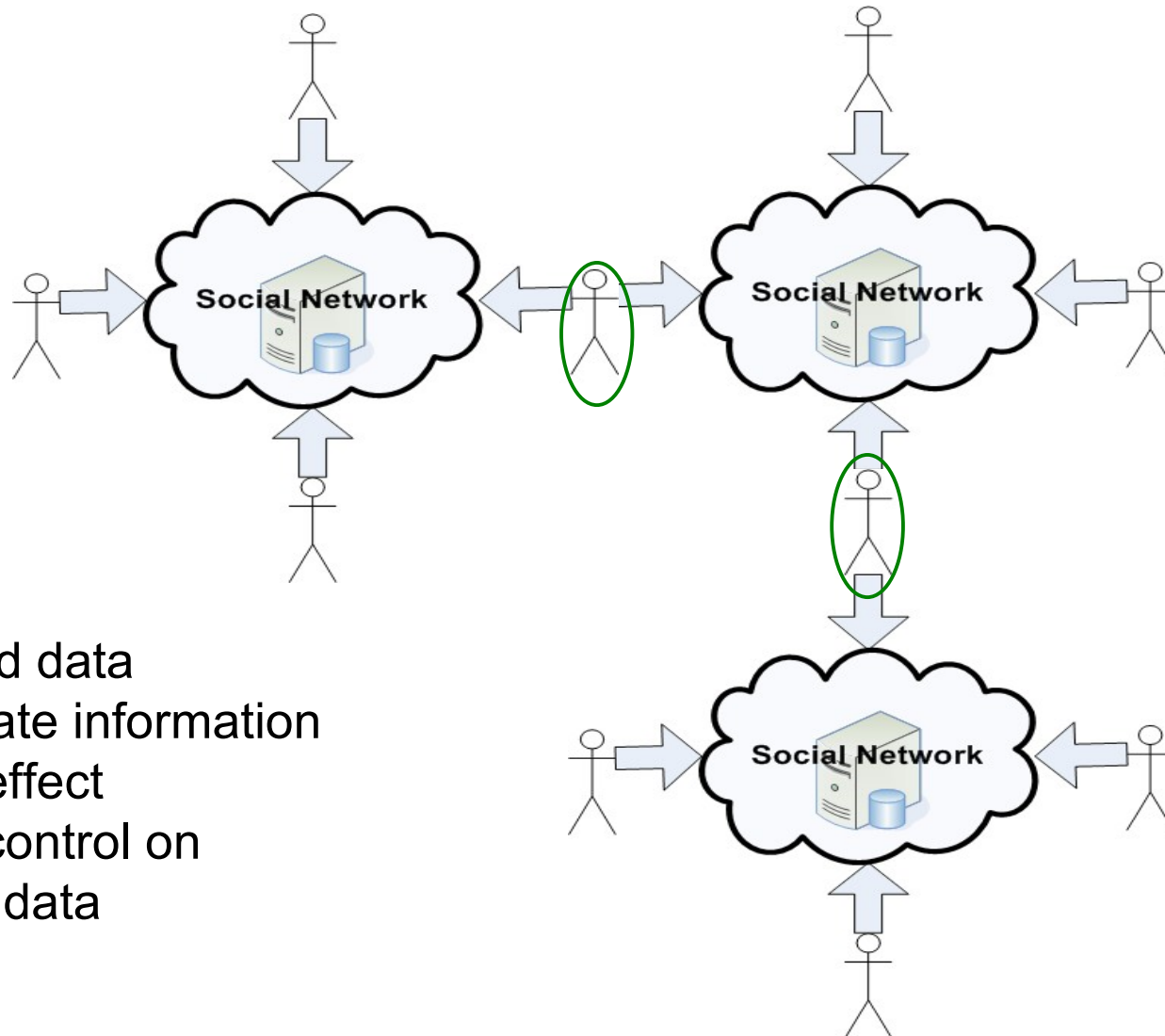
- Built-in integration
- Fancy applications
- Good access control

Problems

- Strong centralization
- No (easy) portability (lock-in effect)
- No clear ownership of data
... it's a walled garden!



The well-known outcome



- Repeated data
- Out-of-date information
- Lock-in effect
- Limited control on personal data
- ...

Merging the two visions: The “pub” model



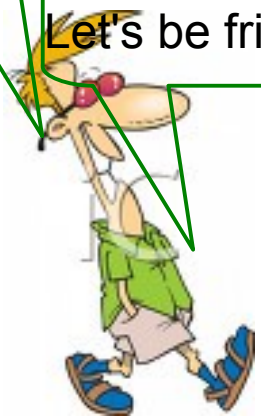
Want a good drink

Good food & Soft drink bar

Want a good sandwich

Let's be friend

Ok, let's go to watch the match



It was cool,
Let's meet again

Large Screen Football Bar

Ok. We can meet
Wherever we like!
It's easy to move around

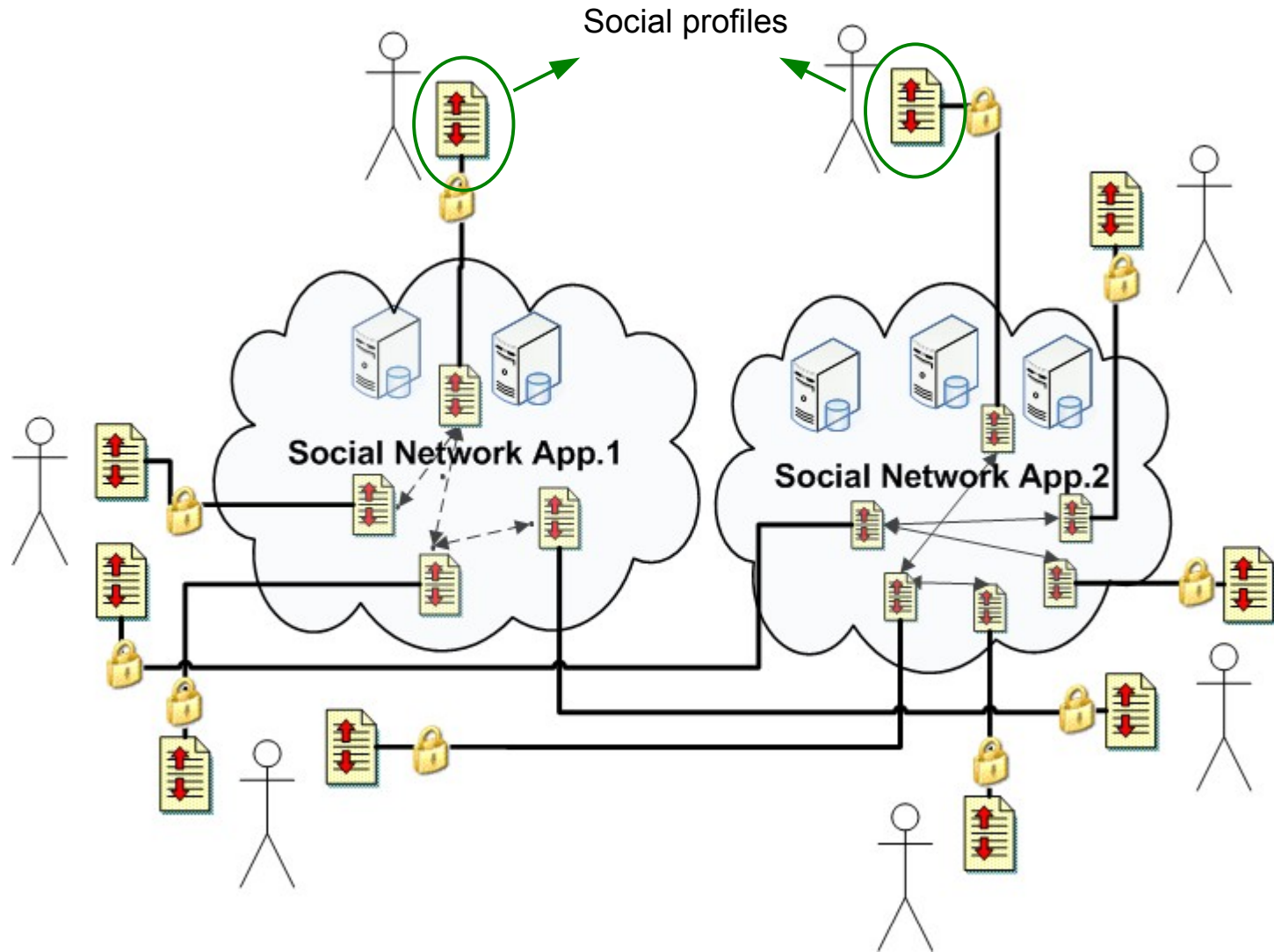


The “pub” model - Features



- Personal data and social connections (*my social profile*) do not belong to any specific social networking platform
- Moving (part of) my social profile from one platform to another should be easy
- Different platforms offer different services, which is the reason why people join several of them
- Different platforms compete on quality and quantity of services, not by locking-in users
- Lower entrance barriers → potentially more users for everyone

The pub model: abstract view



What do we need?



1. Ontologies for personal data and social connections

(FOAF can be a starting point)

2. Neutral user-oriented web-based tools for enabling personal data and connections management outside social networking platforms

(like `foaf-a-matic` – a tool for editing FOAF profiles)

3. Neutral social profile repositories to guarantee proper and secure access control

(e.g. OAuth is a good candidate to manage access control)

1. Ontologies



- Shared ontologies are critical to guarantee consistent social network portability
- FOAF is a good example, even though it needs extensions (e.g. the `foaf:knows` property is too general in many practical situations)
- We need shared vertical ontologies for social network applications covering the same “sector” or domain

2. Neutral Tools for managing social profiles



- Users should be able to manage their social profile independently from any social networking platform & application
- This means at least:
 - Editing personal information
 - Adding/Removing connections to other people
 - Enabling the storage and controlled sharing of social profiles

3. Neutral and Smart Social Network Profile Repository

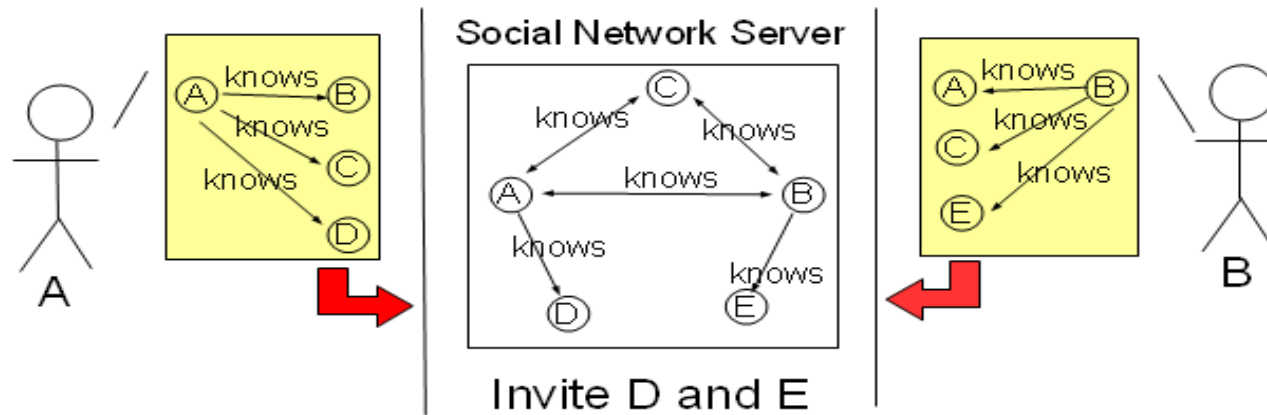


- A Social Network Profile Repository should enable the user to store and handle one or more social profiles
- Users can chose which social profiles to share with what social networking platforms & applications
- A *Social Profile Repository* should guarantee adequate access control methods, e.g. through OAuth (an open protocol that allows users to share their resources on the web without handing out their username and password)

The missing ingredient: sharing/reusing URIs for entities



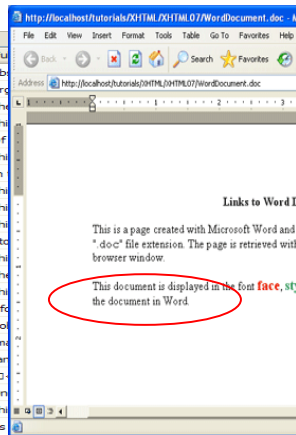
- Using the same vocabulary for building social profiles is not enough for social network integration
- If we use RDF, we need to make sure that the same URI is used for the same entity (person, organization, location, etc.) in different independent profiles
- This, combined with shared vocabs/ontologies, allows the automatic and frictionless social network profiles integration when a user joins a new social network application



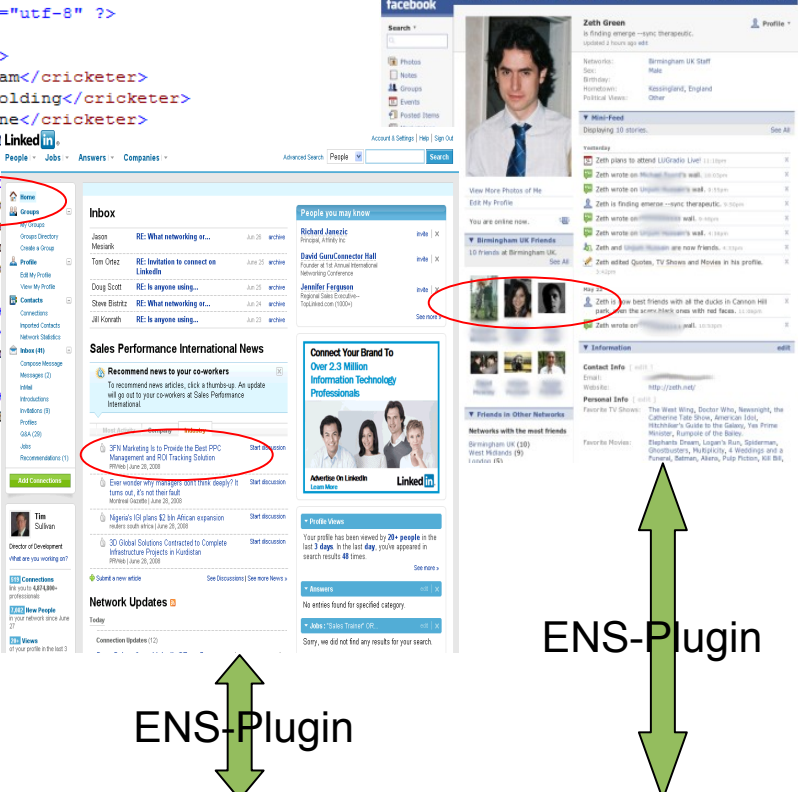
The OKKAM's ENS: intuition



ASIN	ReviewerID	Rating	Summary	Fu
0135974445	AS6H78AHJTF38	5	Required Reading - none...	Ab
0140449248	AS6H78AHJTF38	5	One of the greatest...	Ar
014118034X	AS6H78AHJTF38	5	Volume 4 -- not volume 5	Th
0142003840	AS6H78AHJTF38	5	Part II of Darwin's Dang...	Th
015101017X	AS6H78AHJTF38	4	Straightforward and fas...	Of
0226451011	AS6H78AHJTF38	5	Fascinating legal review ...	Th
0262042258	AS6H78AHJTF38	5	Brilliant follow up to Con...	In
027597652X	AS6H78AHJTF38	5	Best overview of the de...	Th
0299193748	AS6H78AHJTF38	5	Brilliant, insightful, seminal	Th
0312200250	AS6H78AHJTF38	5	A compelling history of t...	Th
0312241356	AS6H78AHJTF38	5	A revelation - history, jo...	St
031242227X	AS6H78AHJTF38	5	Brilliant, incredible, horrific	Th
0312423799	AS6H78AHJTF38	5	More disturbing and mor...	Th
031618066X	AS6H78AHJTF38	5	Seminal work on conscio...	Th
0321193776	AS6H78AHJTF38	5	Excellent tutorial	I f
0321193857	AS6H78AHJTF38	5	More than I ever expect...	Ro
0393326403	AS6H78AHJTF38	5	Brilliant, self-indulgent, a...	Im
0425167720	AS6H78AHJTF38	5	Intelligent, gripping, rise...	Iar
0449909174	AS6H78AHJTF38	5	Required Reading - Extr...	□
0451525264	AS6H78AHJTF38	5	Pure pleasure. Forget th...	On
0465009573	AS6H78AHJTF38	5	A history of how marriag...	Th
0465073514	AS6H78AHJTF38	5	Brilliant and accessible	As



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    <cricketer>Michael Holding</cricketer>
    <cricketer>Shane Warne</cricketer>
    <cricketer>Muthaiah I<Linked>
  </category>
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    <cricketer>Sunny Gaw<
    <cricketer>Sachin Te<
    <cricketer>Vivian Ri<
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  <category type="Allround">
    <cricketer>Kapil Dev<
    <cricketer>Ian Botha<
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ENS-Plugin

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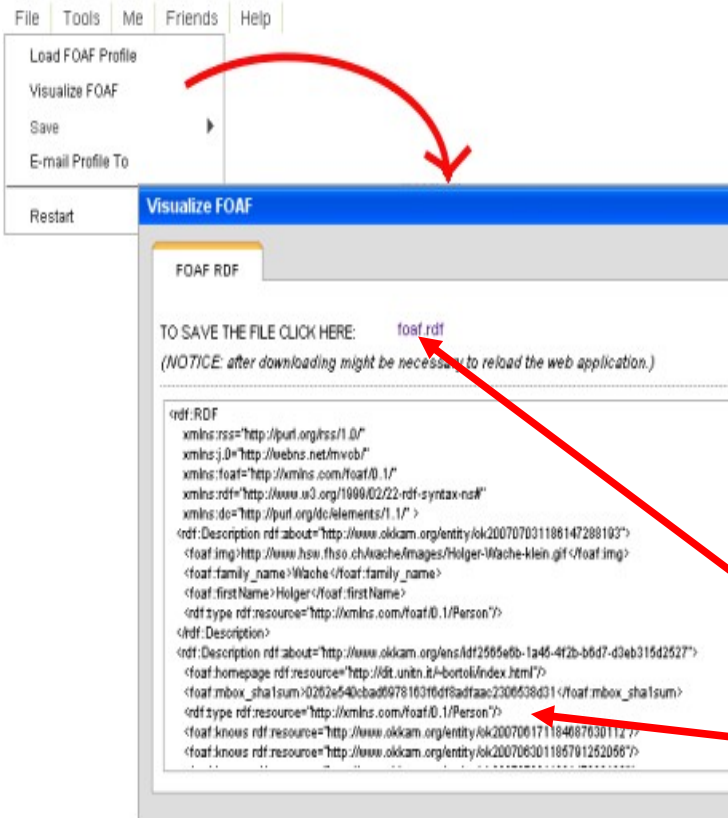
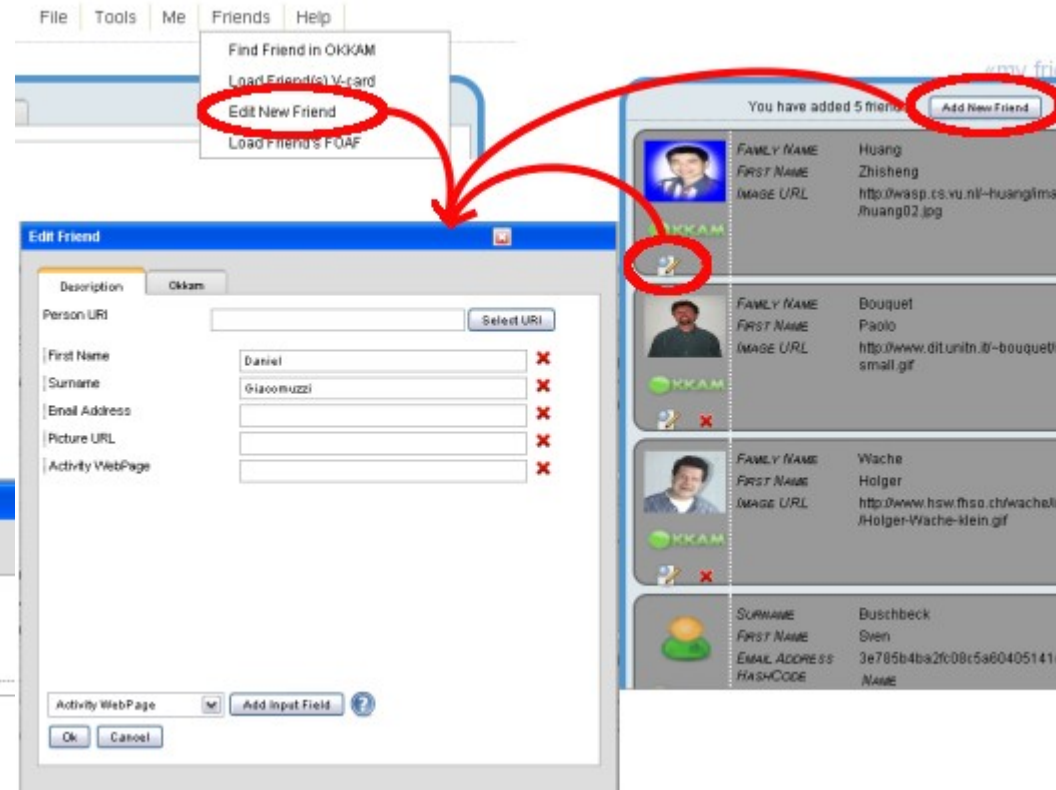
ENS-Plugin



= <http://www.okkam.org/ens/id47371904-6218-41e1-8b6d-af806de3dabb>

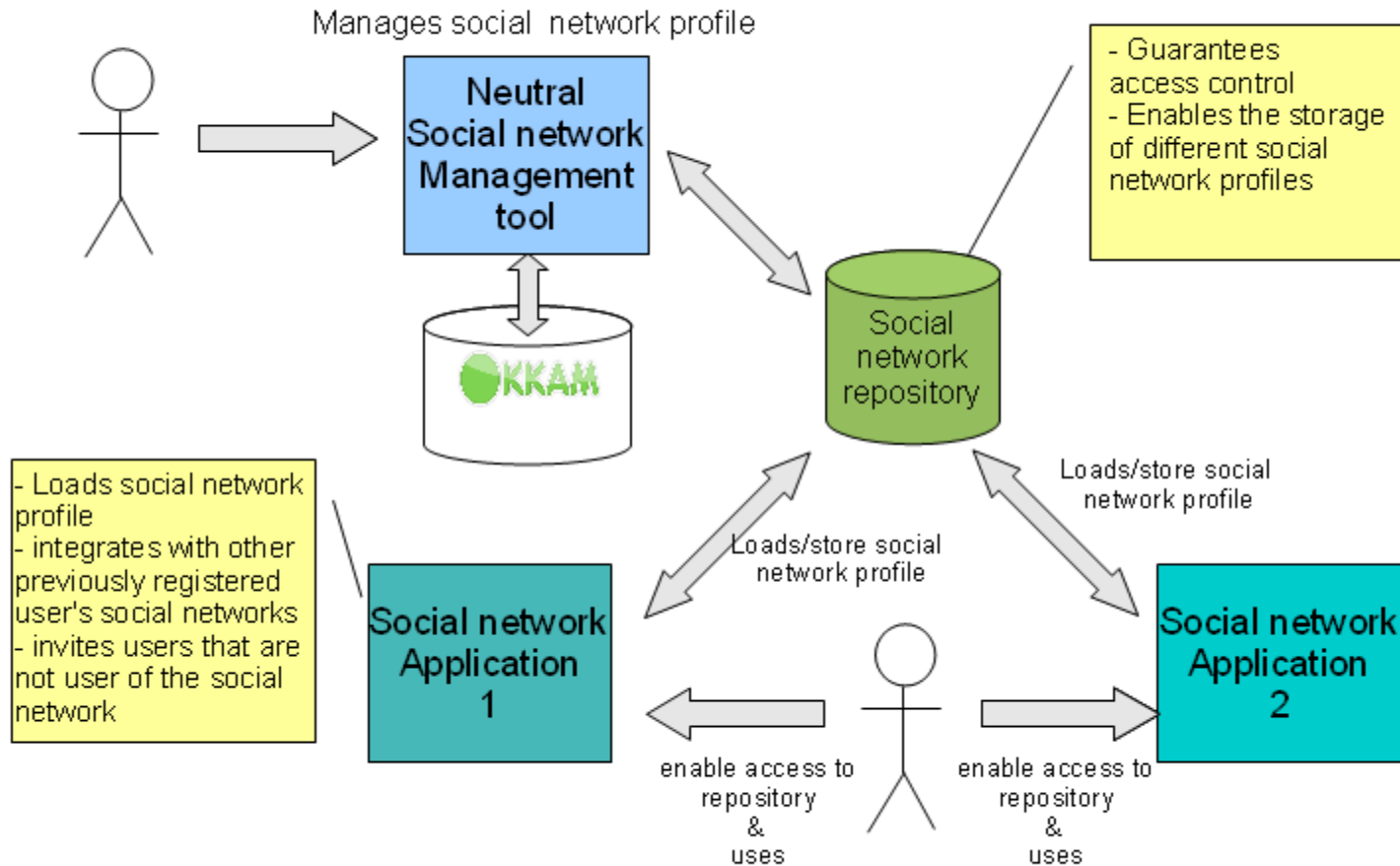
Entity Name System

- edit friend description
- okkamize friends

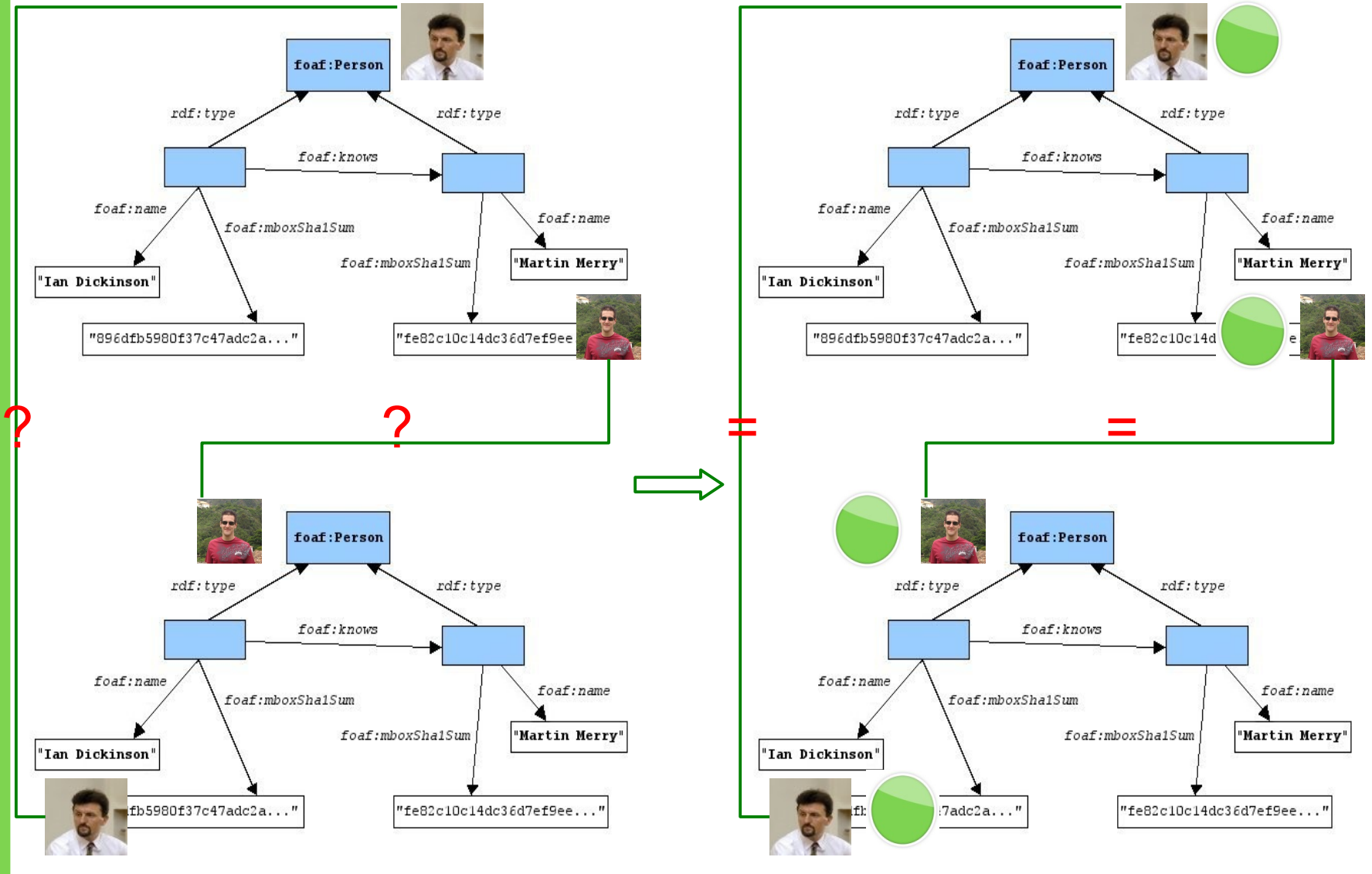


- Save RDF File
- Generate, visualize and save FOAF RDF social network

The pub-inspired architecture



Integrating OKKAMized profiles



Conclusions



- In an open world, there is room for both decentralized personal profiles (à la FOAF) and centralized social networking platforms
- Users must retain full ownership and control over their personal profiles, and choose how to use them to join any platforms they like
- But this requires better (semantic) quality of personal profiles, including uniform names for instances (people, but also companies, locations, etc.)
- OKKAM can help with its Entity Name System and ENS-empowered tools (including foaf-O-matic)
- Using the ENS may improve integration with other web data
→ better integration of social data into the Web of Data