Emergent Social Networking using Atom

James Tyson

July 5, 2006

Contents

List of Figures

1 About this document

1.1 Copyright

The authoritative source of this document can be located at helicopter.geek.nz/xesn

2 Emergent Social Networking Overview

XML Emergent Social Networking (XESN) is a method for providing "friends list" for without using a centralised webservice such as MySpace, Facebook, Orkut, etc.

XESN uses features latent within the Atom standard of XML based web content syndication to allow for content management systems implementing "blogging" systems to easily implement social networking features in an emergent[1] fashion.

While it is not the authors intention for XESN to explicitly compete with microformats such as XFN[2] there is bound to be some overlap in capabilities. XESN takes advantage of XFN where present as an additional strategy for automatic discovery of peers.

The main properties of XESN are as follows:

Atom is used as the main format for syndication, however RSS can be accomodated with a reduced featureset.

Peers are people or sites to which you are related in some way.

Friends are first-order peers whom you are aspecially related.

Emergence meaning that discovery of Peers is primarily automatic, although implementations should allow users to perform functions such as add, remove and block Peers.

Implementation agnostic XESN is an open specification and non-reference implementations are encouraged.

[1] emergent in this context is taken to mean using a combination of automatic discovery and optional user configuration.

[2] XHTML Friends Network

3 XESN and Atom

XESN primarily exists as an extension to the Atom format, specifically as additional <link /> elements within Atom's <feed /> element.

3.1 Link Elements

XESN uses Atom's ability to extend the Link element by providing a "rel" attribute containing a unique URI (in XESN's case "http://helicopter.geek.nz/xesn"). The link must point to another Atom or RSS feed, meaning that the "href" attribute should provide the absolute URI to the Peer's feed and the "type" attribute should contain either "application/atom+xml" or "application/rss+xml".

XESN also uses several extra attributes named "class" and "discovery" in the "xesn" XML namespace. "discovery" must contain one of the following values:

configured This Peer relationship was manually configured by a user.

automatic This Peer relationship was automatically discovered.

The "class" attribute must contain one of the following values.

friend The person or site related to by this link is a Friend (as specified by the user). In order for a Peer relationship to become a Frend relationship a user must confirm it.

peer The person or site related to by this link is a Peer, ie the local site is directly related in some manner to the referenced site.

Implementations should ignore a Link element does not contain valid "class" and "discovery" attributes.

3.1.1 Example Atom Feed

```
<?xml version="1.0" encoding="utf-8"?>
<feed xmlns="http://www.w3.org/2005/Atom"
  xmlns:xesn="http://helicopter.geek.nz/xesn">

  <title>Example Feed</title>
  <link href="http://example.org/"/>
  <link
    rel="self"
    href="http://example.org/feed"
    type="application/atom+xml" />
  <!-- begin XESN extensions -->
  <link
    rel="http://helicopter.geek.nz/xesn"
    href="http://first.peer.org/feed"
    type="application/atom+xml"
    xesn:class="friend"
    xesn:discovery="configured" />
  <link
```

```
    rel="http://helicopter.geek.nz/xesn"
    href="http://second.peer.org/feed"
    type="application/atom+xml"
    xesn:class="peer"
    xesn:discovery="discovery" />
  <!-- end XESN extensions -->
  <updated>2003-12-13T18:30:02Z</updated>
  <author>
    <name>John Doe</name>
  </author>
  <id>urn:uuid:60a76c80-d399-11d9-b93C-0003939e0af6</id>

  <entry>
    <title>Atom-Powered Robots Run Amok</title>
    <link href="http://example.org/2003/12/13/atom03"/>
    <id>urn:uuid:1225c695-cfb8-4ebb-aaaa-80da344efa6a</id>
    <updated>2003-12-13T18:30:02Z</updated>
    <summary>Some text.</summary>
  </entry>

</feed>
```

4 Implementation

4.1 Reference Implementation

The XESN reference implementation will be added to the open-source bliki application FinScribe.

4.2 XESN Participation

In order to participate in an XESN cloud the minimum any implementation must provide is a mechanism for users to provide "configured" Friends and Peers which are published in the sites ATOM feed. However whenever was implementing the minimum requirement any fun?

What makes XESN different to other standards is it's ability to automatically discover peers using existing technologies. Suggested methods include:

- HTML Anchors Parsing content at publish time looking for links to remote sites.
- HTTP Referrers Checking referring sites.
- TrackBacks Checking TrackBack (and Pingback) URIs.

Each of these methods is documented in the *Discovery* section of this document.

4.3 Discovery

This section describes how automatic discovery of Peers takes place in XESN. One of the problems with autmatic systems such as XESN that allow remote users to essentially post content to a site is the potential for abuse. One need only look at ones TrackBack logs to highlight this. This document will suggest techniques for minimising potential problems caused by abuse of the XESN system.

4.3.1 HTML Anchors

XESN suggests a method similar to the following to locate Peers in locally published content:

1. Parse out all XHTML link and anchor elements from content at posting time. This can be achieved several ways, but the simples of which is to use an XPath query such as "`//a|link`".
2. Send an HTTP HEAD request for the linked URI.
3. It the request is successful and the remote MIME type is "text/html", "application/xml+xhtml", "application/xml+atom" or "application/xml+rss" then request the URI's contents.
4. If the MIME type is "text/html" or "application/xml+xhtml" (ie an XHTML document) then parse out any link elements in the XHTML head which link to an Atom or RSS feed for the site (XPath: "`/html/head/link[@rel='alternate' and (@type='application/xml+atom' or @type='applcation/`
   If so send a new request for the Atom or RSS feed.
5. Add the URI for the Atom or RSS feed to the list of Peers. If the original link contains the XFN "rel" attribute "friend" then automatically promote the Peer to Friend status.

4.3.2 HTTP Referrers

4.3.3 TrackBacks

4.4 Using XESN