XEP-0453: DOAP usage in XMPP

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Status	Type	Short Name
Experimental	Informational	NOT_YET_ASSIGNED

This specification defines how XMPP projects can provide a machine-readable description of their abilities, and how external entities can interact with it.

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1 Introduction

Gathering information on many implementations has always been a chore, there exist various lists or comparisons for XMPP clients, servers and libraries, but these are often out of date, inaccurate, incomplete, or generally unmaintained.

This specification aims at solving this problem by putting the work of publishing and keeping up to date said information onto the maintainers of the software. Given many already do maintain this kind of list, the inconvenience should be minimal.

The information listed SHOULD include, but isn't limited to, the project name, homepage, description, logo, screenshots if relevant, specifications supported (RFCs and XEPs). A full list of supported properties is described in RDF format at http://usefulinc.com/ns/doap#.

A central point should be defined to gather the list of implementations publishing their information, this specifications proposes xmpp.org for this purpose.

2 Requirements

Creating, publishing and maintaining a project description should be as easy as possible for producers.

Fetching, parsing and using a project description should be as easy as possible for consumers. These two requirements have oriented the choice of technologies towards being as restrictive as possible:

- The chosen RDF serialisation format MUST be RDF/XML, assuming XMPP project authors are already familiar with XML as a serialisation format.

- The resulting file should be published over HTTPS, without access restrictions.

3 Glossary

DOAP Description of a Project, the chosen RDF format used by this specification to describe the various properties of a project.

RDF Resource Description Framework, a generic data model framework, supporting many serialisation formats and conversions between them. For the purpose of this specification we will only consider RDF/XML, an XML serialisation format, with the rationale that all XMPP authors are already familiar with this serialisation format.

4 Use Cases

A user might want to know which compliance suite level a given client supports before choosing it.

A sysadmin might want to know which compliance suite level a given server supports before

choosing it.

An XMPP service might want to propose clients based on their advertised support of what they consider a modern client.

A specification author might want to know the list of projects implementing this specification, their support level and version.

An XMPP enthousiast website might want to automatically update their XMPP comparison page with up to date information.

4.1 Examples

This specification won't list every property one could add to their DOAP file, that is the role of the DOAP specification, so it will start with examples.

Here is a minimal DOAP file, containing the same data as the XMPP Software Listing:

Listing 1: A Minimal DOAP File

```xml
<?xml version='1.0' encoding='UTF-8'?>
<rdf:RDF xmlns:rdf='http://www.w3.org/1999/02/22-rdf-syntax-ns#'
         xmlns='http://usefulinc.com/ns/doap#'>
  <Project xml:lang='en'>
    <name>Poezio</name>
    <homepage rdf:resource='https://poez.io'/>
    <os>Linux</os>
  </Project>
</rdf:RDF>
```

But a lot more information can be added:

Listing 2: A More Featureful DOAP File

```xml
<?xml version='1.0' encoding='UTF-8'?>
<rdf:RDF xmlns:rdf='http://www.w3.org/1999/02/22-rdf-syntax-ns#'
         xmlns='http://usefulinc.com/ns/doap#'
         xmlns:xmpp='https://linkmauve.fr/ns/xmpp-doap#'
         xmlns:schema='https://schema.org/'>
  <Project>
    <name>poezio</name>

    <created>2010-01-10</created>

    <shortdesc xml:lang='en'>Free console XMPP client</shortdesc>
    <shortdesc xml:lang='fr'>Client XMPP libre en console</shortdesc>

    <description xml:lang='en'>Free and modern console XMPP client
        written in Python with the ncurses library</description>
    <description xml:lang='fr'>Client console XMPP libre et moderne,
        écrit en Python avec la bibliothèque ncurses</description>
```

```xml
<homepage rdf:resource='https://poez.io/'/>
<schema:documentation rdf:resource='https://doc.poez.io/'/>
<download-page rdf:resource='https://poez.io/#download'/>
<bug-database rdf:resource='https://lab.louiz.org/poezio/poezio/-/
    issues'/>
<developer-forum rdf:resource='xmpp:poezio@muc.poez.io?join'/>
<support-forum rdf:resource='xmpp:poezio@muc.poez.io?join'/>

<license rdf:resource='https://git.poez.io/poezio/plain/COPYING'/>

<language>en</language>

<schema:logo rdf:resource='https://poez.io/img/logo.svg'/>
<schema:screenshot rdf:resource='https://poez.io/img/screenshot.
    png'/>

<programming-language>Python</programming-language>

<os>Linux</os>

<category rdf:resource='https://linkmauve.fr/ns/xmpp-doap#category
    -client'/>

<repository>
  <GitRepository>
    <browse rdf:resource='https://lab.louiz.org/poezio/poezio'/>
    <location rdf:resource='https://lab.louiz.org/poezio/poezio.
        git'/>
  </GitRepository>
</repository>

<implements rdf:resource='https://xmpp.org/rfcs/rfc6120.html'/>
<implements rdf:resource='https://xmpp.org/rfcs/rfc6121.html'/>
<implements rdf:resource='https://xmpp.org/rfcs/rfc6122.html'/>
<implements rdf:resource='https://xmpp.org/rfcs/rfc7590.html'/>

<implements>
  <xmpp:SupportedXep>
    <xmpp:xep rdf:resource='https://xmpp.org/extensions/xep-0030.
        html'/>
    <xmpp:status>complete</xmpp:status>
    <xmpp:version>2.5rc3</xmpp:version>
    <xmpp:since>0.5</xmpp:since>
    <xmpp:note xml:lang='en'>The 'disco' plugin can be loaded to
        make manual queries.</xmpp:note>
    <xmpp:note xml:lang='fr'>Le plugin 'disco' peut être chargé
        pour faire des requêtes manuellement.</xmpp:note>
  </xmpp:SupportedXep>
```

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```
    </implements>
    <!-{}- And a lot more! -{}->

    <release>
      <Version>
        <revision>0.13.1</revision>
        <created>2020-05-31</created>
        <file-release rdf:resource='https://lab.louiz.org/poezio/
            poezio/-/archive/v0.13.1/poezio-v0.13.1.tar.gz'/>
      </Version>
    </release>
  </Project>
</rdf:RDF>
```

It is recommended to start from such an example and tweak it to correspond to your project.

4.2 Extensions Specific to XMPP

As per the requirements, and as you may have seen in the previous example, we want to know the implementation status of each relevant XMPP specification, which isn't covered by the DOAP specification.

In order to support that, the https://linkmauve.fr/ns/xmpp-doap# namespace defines the <SupportedXep/> element, which sports a few properties:

Property	Description	Required
xep	The URL to the XEP document.	Required
status	The support status by this project, can be 'complete', 'partial', 'planned', 'deprecated', 'removed' or 'wontfix'.	Required
version	XEP version implemented by this software.	Optional
since	Software version this support first appeared in.	Optional
note	Any implementation note the project deems relevant.	Optional

5 Business Rules

A project SHOULD publish the information it deems relevant in the format defined in this specification.
A project MAY maintain this information in another serialisation (JSON-LD, Turtle...), but MUST submit it in RDF/XML serialisation.

Once satisfied with it, a project SHOULD submit their DOAP file to xmpp.org following this process.

xmpp.org SHOULD cache and host the given files on the behalf of projects, so that if their website goes down for whichever reason other consumers can keep working as usual.

6 Internationalization Considerations

Projects with an existing internationalization process are encouraged to use it to translate user-facing strings in the DOAP file.

7 Security Considerations

This document introduces no additional security considerations above and beyond those defined in the documents on which it depends.

8 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA) [1].

9 XMPP Registrar Considerations

This document requires no interaction with the XMPP Registrar [2].

10 Design Considerations

`https://schema.org/` was also considered, given the considerable overlap in features with DOAP, but it didn't contain many properties useful for software projects. Parts of its properties are reused in this specification, where DOAP was lacking (namely for the logo, screenshot and documentation properties).

AppStream was also considered, but it lacks the extensibility and existing tooling of RDF,

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[1] The Internet Assigned Numbers Authority (IANA) is the central coordinator for the assignment of unique parameter values for Internet protocols, such as port numbers and URI schemes. For further information, see <`http://www.iana.org/`>.

[2] The XMPP Registrar maintains a list of reserved protocol namespaces as well as registries of parameters used in the context of XMPP extension protocols approved by the XMPP Standards Foundation. For further information, see <`https://xmpp.org/registrar/`>.

while being limited to being a description for software installers instead of a generic software description.