XEP-0317: Hats

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This specification defines a more extensible model for roles and affiliations in Multi-User Chat rooms.

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Contents

1 Introduction

Multi-User Chat (XEP-0045) [1] defines a widely-implemented XMPP extension for chatrooms, including basic roles and affiliations such as owner, administrator, and moderator. However, in many scenarios it is desirable to define different roles that are appropriate for the relevant application. Examples might include a "presenter" or a "scribe" in an online meeting system, a "representative" or a "manager" in a customer service application, a "comms officer" in a military chat system, an "incident manager" in a first responder system, a "teacher" or a "teacher's assistant" in an online classroom, specialized roles in online games, etc. To prevent confusion with standard MUC roles, these extended roles are call "hats", since a participant can "wear many hats" in a room.

2 Discovery

A MUC service that supports hats MUST advertise a Service Discovery (XEP-0030) [2] feature of "urn:xmpp:hats:0".

3 Protocol

3.1 Including a Hat in Presence

MUC already includes a way for the room to signal the roles and affiliations of room occupants. Hats are signalled in a similar way. For example, the following presence notification would be sent by the room for an occupant who is a MUC room moderator but who also has a hat of "teacher's assistant" in an online classroom.

Listing 1: Presence With Hat

```
<presence
    from='physicsforpoets@courses.example.edu/Terry'
    id='DE5C66DE-EC7D-4ECB-844A-B717A67CCE3D'
    to='steve@example.edu/tablet'>
  <x xmlns='http://jabber.org/protocol/muc#user'>
    <item affiliation='owner' role='moderator'/>
  </x>
  <hats xmlns='urn:xmpp:hats:0'>
    <hat uri='http://tech.example.edu/hats#TeacherAssistant' title='
        Teacher&apos;s␣Assistant' xml:lang='en-us'/>
  </hats>
</presence>
```

---

[1]XEP-0045: Multi-User Chat <https://xmpp.org/extensions/xep-0045.html>.
[2]XEP-0030: Service Discovery <https://xmpp.org/extensions/xep-0030.html>.

Every hat is uniquely identified by its URI. Hats also carry a human-readable title for display purposes. Within XMPP, a hat is contained within a <hat/> element in the 'urn:xmpp:hats:0' namespace. This element MUST possess a 'uri' attribute (containing the hat's URI), a 'title' attribute containing the name of the hat for display purposes, and MAY contain an 'xml:lang' attribute that identifies the language used in the 'title' attribute. The <hat/> element MAY contain additional custom payloads defined by other XEPs, or payloads specific to an implementation or deployment.

Entities may have multiple hats. The <hats/> element is defined as a container of zero or more <hat/> elements.

As noted, a participant can wear many hats. The following example shows a participant who is a MUC room owner and both a "host" and a "presenter" in an online meeting system. This system also demonstrates how hats can be annotated with custom information (here, the example <badge/> element).

Listing 2: Presence With Multiple Hats

```
<presence
    from='meeting123@meetings.example.com/Harry'
    id='D568A74F-E062-407C-83E9-531E91526516'
    to='someone@example.com/foo'>
  <x xmlns='http://jabber.org/protocol/muc#user'>
    <item affiliation='owner' role='moderator'/>
  </x>
  <hats xmlns='urn:xmpp:hats:0'>
    <hat title='Host' uri='http://schemas.example.com/hats#host'
        xml:lang='en-us'>
      <badge xmlns="urn:example:badges" fgcolor="#000000" bgcolor="
          #58C5BA"/>
    </hat>
    <hat title='Presenter' uri='http://schemas.example.com/hats#
        presenter' xml:lang='en-us'>
      <badge xmlns="urn:example:badges" fgcolor="#000000" bgcolor="#
          EC0524"/>
    </hat>
  </hats>
</presence>
```

3.2 Adding a Hat

Hats are added and removed using Ad-Hoc Commands (XEP-0050) [3].
The following flow shows how to add a hat.

Listing 3: Admin Requests to Add a Hat

---

[3]XEP-0050: Ad-Hoc Commands <https://xmpp.org/extensions/xep-0050.html>.

```
<iq from='professor@example.edu/office'
    id='fdi3n2b6'
    to='physicsforpoets@courses.example.edu'
    type='set'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           action='execute'
           node='urn:xmpp:hats:commands:don'/>
</iq>
```

Unless an error occurs, the service returns the appropriate form.

Listing 4: Service Returns Form to Admin

```
<iq from='physicsforpoets@courses.example.edu'
    id='fdi3n2b6'
    to='professor@example.edu/office'
    type='result'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           node='urn:xmpp:hats:commands:don'
           sessionid='A971D19A-2226-4DAD-B261-8D0886B9A026'
           status='executing'>
    <x xmlns='jabber:x:data' type='form'>
      <title>Assigning a Hat</title>
      <instructions>Fill out this form to assign a hat.</instructions>
      <field type='hidden' var='FORM_TYPE'>
        <value>urn:xmpp:hats:commands</value>
      </field>
      <field label='User Address'
             type='jid-single'
             var='accountjid'>
        <required/>
      </field>
      <field label='The role'
             type='list-single'
             var='hat'>
        <option label='Teacher'><value>http://tech.example.edu/hats#
            Teacher</value></option>
        <option label='Teacher&apos;s Assistant'><value>http://tech.
            example.edu/hats#TeacherAssistant</value></option>
        <option label='Test Proctor'><value>http://tech.example.edu/
            hats#Proctor</value></option>
      </field>
    </x>
  </command>
</iq>
```

Listing 5: Admin Submits Form

```xml
<iq from='professor@example.edu/office'
    id='9fens61z'
    to='physicsforpoets@courses.example.edu'
    type='set'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           node='urn:xmpp:hats:commands:don'
           sessionid='A971D19A-2226-4DAD-B261-8D0886B9A026'>
    <x xmlns='jabber:x:data' type='submit'>
      <field type='hidden' var='FORM_TYPE'>
        <value>urn:xmpp:hats:commands</value>
      </field>
      <field var='accountjid'>
        <value>terry.anderson@example.edu</value>
      </field>
      <field var='hat'>
        <value>http://tech.example.edu/hats#TeacherAssistant</value>
      </field>
    </x>
  </command>
</iq>
```

Listing 6: Service Informs Admin of Completion

```xml
<iq from='physicsforpoets@courses.example.edu'
    id='9fens61z'
    to='professor@example.edu/office'
    type='result'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           node='urn:xmpp:hats:commands:don'
           sessionid='A971D19A-2226-4DAD-B261-8D0886B9A026'
           status='completed'/>
</iq>
```

Note: only one hat is added at a time, and the form uses a field of type "list-single" to enforce that logic.

3.3 Removing a Hat

The following flow shows how to remove a hat.

Listing 7: Admin Requests to Remove a Hat

```xml
<iq from='professor@example.edu/office'
    id='fdi3n2b6'
    to='physicsforpoets@courses.example.edu'
```

```
     type='set'
     xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           action='execute'
           node='urn:xmpp:hats:commands:doff'>
    <x xmlns='jabber:x:data' type='submit'>
      <field type='hidden' var='FORM_TYPE'>
        <value>urn:xmpp:hats:commands</value>
      </field>
      <field var='accountjid'>
        <value>terry.anderson@example.edu</value>
      </field>
      <field var='hat'>
        <option label='Teacher&apos;s Assistant'><value>http://tech.
            example.edu/hats#TeacherAssistant</value></option>
      </field>
    </x>
  </command>
</iq>
```

Listing 8: Service Informs Admin of Completion

```
<iq from='physicsforpoets@courses.example.edu'
    id='9fens61z'
    to='professor@example.edu/office'
    type='result'
    xml:lang='en'>
  <command xmlns='http://jabber.org/protocol/commands'
           node='urn:xmpp:hats:commands:doff'
           sessionid='A971D19A-2226-4DAD-B261-8D0886B9A026'
           status='completed'/>
</iq>
```

4 Security Considerations

To follow.

5 IANA Considerations

This document requires no interaction with the Internet Assigned Numbers Authority (IANA)
[4].

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[4]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/>.

6 XMPP Registrar Considerations

6.1 Protocol Namespaces

The XMPP Registrar shall add "urn:xmpp:hats:0" to its registry of protocol namespaces.

7 XML Schema

To follow.

8 Acknowledgements

The concepts underlying this specification were first discussed several years ago at an XMPP Summit in Brussels, Belgium. Special thanks to Joe Hildebrand and Ralph Meijer for their contributions to those discussions. Thanks also to Matt Miller, Kevin Smith, and Matthew Wild for their feedback on the written specification.