             The application/smil and application/smil+xml Media Types

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Abstract

   This document specifies the media type for versions 1.0, 2.0, and 2.1
   of the Synchronized Multimedia Integration Language (SMIL 1.0, SMIL
   2.0, SMIL 2.1).  SMIL allows integration of a set of independent
   multimedia objects into a synchronized multimedia presentation.

1.  Introduction

   The World Wide Web Consortium (W3C) has issued specifications that
   define versions 1.0 [1], 2.0 [2] and 2.1 [3] of the Synchronized
   Multimedia Integration Language (SMIL).  This memo provides
   information about the application/smil and application/smil+xml media
   types.

   The definition is based on RFC 3023, which defines the use of the
   "application/xml" media type [4].  Before using the
   "application/smil" or "application/smil+xml" media type, implementors
   must thus be familiar with [4].

2.  Synchronized Multimedia Integration Language

   SMIL allows integrating a set of independent multimedia objects into
   a synchronized multimedia presentation.  Using SMIL, an author can

   1. describe the temporal behavior of the presentation,
   2. describe the layout of the presentation on a screen,
   3. associate hyperlinks with media objects, and
   4. define conditional content inclusion/exclusion based on
      system/network properties.

3.  Registration Information

3.1.  Registration of MIME media type application/smil

   MIME media type name: application

   MIME subtype name: smil

   Required parameters: none

   Optional parameters:

      charset

         Same as charset parameter considerations of application/xml in
         RFC 3023.

      profile

         See Section 5 of this document.

   Encoding considerations:

      Same as encoding considerations of application/xml in RFC 3023

   Security considerations: See Section 6, "Security Considerations", of
   this document.

   Interoperability considerations:

      SMIL documents contain links to other media objects.  The SMIL
      player must be able to decode the media types of these media in
      order to display the whole document.  To increase
      interoperability, SMIL has provisions for including alternate
      versions of a media object in a document.

   Published specification: See [1], [2], and [3]

   Applications which use this media type:

      SMIL players and editors

   Additional information:

      Semantics of fragment identifiers in URIs: The SMIL media type
      allows a fragment identifier to be appended to a URI pointing to a
      SMIL resource (e.g., http://www.example.com/test.smil#foo).  The
      semantics of fragment identifiers for SMIL resources are defined
      in the SMIL specification.

   Magic number(s):

      There is no single initial byte sequence that is always present
      for SMIL files.  However, Section 4 of this document gives some
      guidelines for recognizing SMIL files.

   File extension(s): .smil, .smi, .sml

   NOTE: On the Windows operating system and the Macintosh platform, the
   ".smi" extension is used by other formats.  To avoid conflicts, it is
   thus recommended to use the extension ".smil" for storing SMIL files
   on these platforms.

   Macintosh File Type Code(s): "TEXT", ".SMI", "SMIL"

   Object Identifier(s) or OID(s): none

   Person & email address to contact for further information:

   The author of this memo.

   Intended usage: OBSOLETE

   Author/Change controller:

   The SMIL specification is a work product of the World Wide Web
   Consortium's SYMM Working Group.

   The W3C has change control over the specification.

3.2.  Registration of MIME media type application/smil+xml

   MIME media type name: application

   MIME subtype name: smil+xml

   Required parameters: See registration of application/smil.

   Optional parameters: See registration of application/smil.

   Encoding considerations: See registration of application/smil.

   Security considerations: See Section 6, "Security Considerations", of
   this document

   Interoperability considerations: See registration of
   application/smil.

   Published specification: See registration of application/smil.

   Applications which use this media type: See registration of
   application/smil.

   Additional information: See registration of application/smil.

   Magic number(s): See registration of application/smil.

   File extension(s): See registration of application/smil.

   Macintosh File Type Code(s): See registration of application/smil.

   Object Identifier(s) or OID(s): See registration of application/smil.

   Person & email address to contact for further information: See
   registration of application/smil.

   Intended usage: COMMON

   Author/Change controller: See registration of application/smil.

4.  Recognizing SMIL Files

   All SMIL files will have the string "<smil" near the beginning of the
   file.  Some will also begin with an XML declaration that begins with
   "<?xml", though that alone does not indicate a SMIL document.

   All SMIL 2.0 files must include a declaration of the SMIL 2.0
   namespace.  This should appear shortly after the string "<smil", and
   should read 'xmlns="http://www.w3.org/2001/SMIL20/Language"'.

   All SMIL 2.1 files must include a declaration of a SMIL 2.1
   namespace, appearing shortly after the string "<smil".  The namespace
   string depends on the language profile.  Please refer to the SMIL 2.1
   specification for the definition of the relevant namespace names.

5.  The "profile" Optional Parameter

   This parameter is meant to be used in MIME media-type-based content
   negotiation (such as that done with the HTTP "Accept" header) to
   negotiate for a variety of SMIL-based languages.  It is modelled
   after the "profile" parameter in the application/xhtml+xml MIME type
   registration [5] and is motivated by very similar considerations.

   The parameter is intended to be used only during content negotiation.
   It is not expected that it be used to deliver content, or that origin
   web servers have any knowledge of it (though they are welcome to).
   It is primarily targeted for use on the network by proxies in the
   HTTP chain that manipulate data formats (such as transcoders).

   The value of the profile attribute is a URI that can be used as a
   name to identify a language.  Though the URI need not be resolved in
   order to be useful as a name, it could be a namespace, schema, or
   language specification.

   For example, user agents supporting only SMIL Basic (see
   http://www.w3.org/TR/smil20/smil-basic.html) currently have no
   standard means to convey their inability to fully support SMIL 2.0.
   While SMIL 2.0 Basic user agents are required to parse the full SMIL
   2.0 language, there is potentially a substantial burden in receiving
   and parsing document content that will not be presented to the user,
   since its functionality is not included in SMIL Basic.

   In the future, the functionality afforded by this parameter will also
   be achievable by the emerging work on a protocol to transfer
   Composite Capability/Preferences Profiles (CC/PP) descriptions [6].
   It is suggested that the "profile" parameter be used until the CC/PP
   protocol work has been finalized.

   An example use of this parameter as part of a HTTP GET transaction
   would be:

        Accept: application/smil+xml;
            profile="http://www.w3.org/2001/SMIL20/HostLanguage"

## 6.  Security Considerations

   SMIL documents contain a construct that allows "infinite loops".
   This is indispensable for a multimedia format.  However, SMIL clients
   should foresee provisions such as a "stop" button that lets users
   interrupt such an "infinite loop".

   As with HTML, SMIL documents contain links to other media (images,
   sounds, videos, text, etc.), and those links are typically followed
   automatically by software, resulting in the transfer of files without
   the explicit request of the user for each one.  The security
   considerations of each linked file are those of the individual
   registered types.

   The SMIL language contains "switch" elements.  SMIL provides no
   mechanism that ensures that the media objects contained in a "switch"
   element provide equivalent information.  An author knowing that one
   SMIL player will display one alternative of a "switch" and another
   will display a different part can put different information in the
   two parts.  While there are legitimate use cases for this, it also
   gives rise to a security consideration: The author can fool viewers
   into thinking that the same information was displayed when in fact it
   was not.

   In addition, all of the security considerations of RFC 3023 also
   apply to SMIL.

## 7.  Normative References

[1]  "Synchronized Multimedia Integration Language (SMIL) 1.0
      Specification", W3C Recommendation REC-smil-19980615,
      http://www.w3.org/TR/1998/REC-smil/, July 1998.

[2] "Synchronized Multimedia Integration Language (SMIL 2.0) -
    [Second Edition]", W3C Recommendation,
    http://www.w3.org/TR/2005/REC-SMIL2-20050107/, January 2005.

[3] "Synchronized Multimedia Integration Language (SMIL 2.1)", W3C
    Recommendation, http://www.w3.org/TR/2005/REC-SMIL2-20051213/,
    December 2005.

[4]  Murata, M., St. Laurent, S., and D. Kohn, "XML Media Types", RFC
     3023, January 2001.

## 8.  Informative References

[5]  Baker, M. and P. Stark, "The 'application/xhtml+xml' Media
     Type", RFC 3236, January 2002.

[6]  H. Ohto, J. Hjelm, G. Klyne, M. Butler, L. Tran, F. Reynolds, C.
     Woodrow "Composite Capability/Preferences Profiles (CC/PP):
     Structure and Vocabularies 1.0", W3C Recommendation
     http://www.w3.org/TR/CCPP-struct-vocab/, January 2004.

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