

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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