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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

1 Scope

The present document specifies an HTML5 profile as a common presentation layer for 3GPP services.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] W3C Recommendation 28 October 2014, HTML5: "A vocabulary and associated APIs for HTML and XHTML", http://www.w3.org/TR/html5/.

[2] 3GPP TS 26.234: "Transparent end-to-end Packet-switched Streaming Service (PSS); Protocols and codecs".

[3] 3GPP TS 26.346: "Multimedia Broadcast/Multicast Service (MBMS); Protocols and codecs".

[4] 3GPP TS 26.247: "Transparent end-to-end Packet-switched Streaming Service (PSS); Progressive Download and Dynamic Adaptive Streaming over HTTP (3GP-DASH)".

[5] 3GPP TS 26.140: "Multimedia Messaging Service (MMS); Media formats and codecs".

[6] 3GPP TR 21.905: " Vocabulary for 3GPP Specifications".

[7] W3C Recommendation 03 February 2015: "Server-Sent Events", http://www.w3.org/TR/eventsource/.

[8] W3C Candidate Recommendation 20 September 2012: "The WebSocket API", http://www.w3.org/TR/websockets/.

[9] W3C Recommendation 07 June 2011: "Cascading Style Sheets Level 2 Revision 1 (CSS 2.1)".

[10] W3C Working Draft, 26 November 2013: "CSS Transforms Module Level 1".

[11] W3C Working Draft, 19 November 2013: "CSS Transitions".

[12] W3C Recommendation, 07 June 2011: "CSS Color Module Level 3".

[13] Standard ECMA-262, 5.1 Edition / June 2011: "ECMAScript Language Specification".

[14] W3C Candidate Recommendation, 7 July 2015: "CSS Basic User Interface Module Level 3 (CSS3 UI)".

[15] W3C Candidate Recommendation, 17 April 2012: "CSS Image Values and Replaced Content Module Level 3".

[16] W3C Candidate Recommendation, 9 September 2014: "CSS Backgrounds and Borders Module Level 3".

[17] W3C Recommendation, 19 June 2012: "Media Queries".

[18] W3C Working draft, 19 February 2013: "CSS Animations".

[19] W3C Last Call Working draft, 14 May 2015: "CSS Flexible Box Layout Module".

[20] W3C Editor's Draft 20 March 2015: "ISO BMFF Byte Stream Format".

[21] W3c Recommendation 24 October 2013: "Geolocation API Specification".

[22] W3C Candidate Recommendation 21 August 2014: "HTML Canvas 2D Context", http://www.w3.org/TR/2dcontext/.

[23] W3C Working Draft 30 January 2014: "XMLHttpRequest Level 1", http://www.w3.org/TR/XMLHttpRequest/.

[24] W3C Candidate Recommendation 31 March 2015: "Media Source Extensions", http://www.w3.org/TR/media-source/.

[25] ISO BMFF Byte Stream Format, http://www.w3.org/2013/12/byte-stream-format-registry/isobmff-byte-stream-format.html

[26] W3C Working Draft 27 October 2015: "Encrypted Media Extensions", http://www.w3.org/TR/encrypted-media/

[27] W3C Candidate Recommendation, 11 December 2014: "Web Cryptography API", http://www.w3.org/TR/WebCryptoAPI/.

[28] IETF RFC 6455: "The WebSocket Protocol", December 2011.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TR 21.905 [6] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in 3GPP TR 21.905 [6].

Application: an interactive service authored using the set of languages defined by the present document.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [6] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [6].

API	Application Programming Interface
CSS	Cascading Style Sheet
DASH	Dynamic and Adaptive Streaming over HTTP
EME	Encrypted Media Extensions
HTML5	Hyper-Text Mark-up Language 5
ISO BMFF	ISO Base Media File Format
MBMS	Multimedia Broadcast/Multicast Service
MMS	Multimedia Messaging Service
MPD	Media Presentation Description
MSE	Media Source Extensions
PSS	Packet-switched Streaming Service
SSE	Server-Sent Events
XML	EXtensible Markup Language

4 Required Mark-up Support

4.1 Introduction

The present document defines a 3GPP HTML5 profile for use in 3GPP services, such as PSS [2], MBMS [3] and MMS [5]. In this clause, the set of required mark-up and APIs for the 3GPP HTML5 profile is defined.

The present document defines requirements and recommendations for Applications and UEs conforming to the 3GPP HTML5 Profile.

4.2 Markup

The HTML5 [1] specification defines conformance requirements for user-agents and documents:

- Applications shall comply with conformance requirements for documents in [1].
- UEs shall comply with conformance requirements for user agents as defined in [1].

4.3 Style

4.3.1 Introduction

Support for CSS as a whole is not required by HTML5, even though some features are defined in terms of specific CSS requirements. This clause defines requirements for CSS and other style and/or graphic related technologies.

4.3.2 Basic Graphic

- UEs shall support CSS 2.1 [9].
- UEs shall support CSS Color Module Level 3 [12].
- UEs shall support CSS Image Values and Replaced Content Module Level 3 [15].
- UEs shall support CSS Backgrounds and Borders [16].
- UEs should support CSS Basic User Interface [14].

4.3.3 Device Adaptation, Layout and Processing

- UEs should support CSS Media Queries [17].
- UEs should support CSS Flexible Box Layout [19].

4.3.4 Advanced Graphic

- UEs shall support the CSS Transforms [10].
- UEs shall support CSS Transitions [11].
- UEs shall support CSS Animations [18].

4.4 Scripting

Scripts are small programs that can be embedded into applications. While defining features that rely on scripting, HTML5 does not mandate support for scripting for all user-agents. Furthermore, scripting is defined using a syntax that in most cases is independent from the underlying scripting language. For such reasons, the present document has additional requirements as defined in this clause.

- UEs shall support scripting as defined in [1].
- UEs shall support ECMA scripting language [13].

5 API Support

A number of specifications from W3C or other organizations define APIs that provide additional functionalities to applications. This clause lists the specifications that SHALL and SHOULD be supported by a UE.

- UEs shall support the Forms API [1].
- UEs shall support the Canvas API [22].
- UEs shall support the XMLHttpRequest API [23].
- UEs shall support the Media Source Extensions [24].
- UEs shall support the ISO BMFF Byte Stream Format [25] with the MIME type and subtypes audio/mp4 and video/mp4.
- UEs should support the GeoLocation API [21].
- UEs should support the Encrypted Media Extensions [26].
- UEs should support the Web Socket API [8] with the protocol defined in RFC 6455 [28].
- UEs should support the Server-Sent Events API [7].
- UEs should support the WebCrypto API [27].

6 Service-Specific Aspects

6.1 Introduction

Additional requirements and usage restrictions are necessary depending on the service type that uses the 3GPP HTML5 profile. In this clause, these aspects are addressed.

6.2 DASH

When an HTML5 presentation uses DASH [4] for media streaming, then the HTML5 presentation may reference one or more DASH presentations through a reference to the MPD either as a source of an HTML5 media element or as a reference from one of the referenced resources.

The user agent should support DASH MPD as a supported MIME type for its source elements and attributes, in which case the DASH playback is done by the user agent.

Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
09-2015	SA#69	SP-150446			Presented to TSG SA #69 (for information)		1.0.0
12-2015	SA#70	SP-150654			Presented to TSG SA #70 (for approval)	1.0.0	2.0.0
12-2015	SA#70				Approved at TSG SA #70	2.0.0	13.0.0

Change history							
Date	Meeting	TDoc	CR	Rev	Cat	Subject/Comment	New version
2017-03	75					Version for Release 14	14.0.0

History

Document history		
V14.0.0	April 2017	Publication