

Final CD 15445—Work in Progress

ISO/IEC JTC1/WG4 Document Description Languages
Information Technology—Hypertext Markup Language (ISO-HTML)
Technologies de l'information—Langage de balisage d'hypertexte

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1 Foreword

Warning: This Final CD has been prepared for submission to ISO/IEC JTC1/WG4, and for review by the HTML Working Group of the World Wide Web Consortium. It is work in progress and subject to change. It should not be quoted as a specification or used for reference.

The New Work Item Proposal 4742 was approved at the JTC1 level in August 1997 and assigned project number JTC1.18.43. The work was undertaken by JTC1/SC18/WG8 which became JTC1/WG4 “Document Description Languages” at the JTC1 Plenary meeting September 9-12th, 1997.

JTC1/WG4 has worked on this project in liaison with the Internet Engineering Task Force and the World Wide Web Consortium. This Final CD references the W3C Working Draft 17-Sep-1997 for HTML 4.0 [RHJ97]. The World Wide Web Consortium’s specification is based on earlier documents prepared by the Internet Engineering Task Force:

- IETF Proposed Standard RFC 1866 “Hypertext Markup Language—2.0” edited by Tim Berners-Lee and Daniel W. Connolly, September 22nd, 1995. <ftp://ds.internic.net/rfc/rfc1866.txt>
- IETF RFC 1867 “Form-based File Upload in HTML” edited by E. Nebel and L. Masinter, November 1995. <ftp://ds.internic.net/rfc/rfc1867.txt>
- IETF RFC 1942 “HTML Tables” edited by Dave Raggett, May 1996. <ftp://ds.internic.net/rfc/rfc1942.txt>
- IETF RFC 2070 “Internationalization of the Hypertext Markup Language” edited by François Yergeau, Gavin T. Nicol, Glenn Adams and Martin J. Dürst, January, 1997. <ftp://ds.internic.net/rfc/rfc2070.txt>

This document replaces all previous working documents which are now obsolete.

2 Introduction

The Hypertext Markup Language is an SGML application conforming to International Standard ISO 8879—Standard Generalized Markup Language (SGML). It provides a simple way of structuring hypertext documents which refer to one another and which collectively create an enormous “web” which continues to grow and evolve as many hypertext authors add and modify documents.

The web has expanded and browser developers have added additional features to the markup language such as new tags and new semantics for the tags. As a result, many documents have been created which can only be rendered faithfully on a limited number of browsers. Common web practice is to hide any syntactic problems detected by the browsers and thus the reader is not always aware that the page being browsed is not faithful to the original authored document.

This Final CD has been developed in an effort to ensure that it will remain possible for an author to produce simple hypertext for the web

and be confident that a conforming browser will be able to render the document faithfully. This specification represents a core of the language to be supported by all conforming browsers, authoring and validating systems, and provides techniques for extending the core that are SGML conformant and represent good SGML practice.

The language defined by this Final CD is a refinement of the W3C Working Draft 17-Sep-1997 for HTML 4.0 and provides additional specifications for the use of that document. All conforming ISO-HTML documents also conform to the W3C Working Draft 17-Sep-1997 for HTML 4.0. ISO-HTML omits all deprecated features of the language, features whose role is purely cosmetic, and features which are still unstable or immature. This has been done in preparation for the expected future introduction of style sheets. Certain optional facilities such as markup omission of the document element and the major elements have been removed to produce more robust texts in keeping with recognized good SGML practice. This does not reduce in any way the expressive power of the language.

It is recognised that some HTML documents are generated from other structured sources and further processing is not intended. Authors wishing to simplify the production of ISO-HTML in such a case may omit the *Structure* facility which eliminates the need to respect the correct structuring of sections.

Although this Final CD recommends the complete separation of content and style, it is simpler for authors creating documents that are not intended for re-use to include style information with the document. To support this practice the *InLineStyle* facility allows style information to be placed in the document. The style language is not defined by this specification.

Many popular user agents do not support the full power of SGML and are unable to parse the document type declaration subset. To facilitate the use of such browsers, the DTD has been *packaged* to allow reference to the DTD including facilities such as `InLineStyle` and `Structure` without having any internal subset.

The conformance statements in this specification distinguish between a *conforming* system and a *validating* system. Conforming systems behave correctly when processing conforming documents, but are not required to handle broken documents. Validating systems are required to identify all SGML and ISO-HTML errors, and must be able to certify that a document is valid ISO-HTML. Commercial browsers are usually conforming systems, whereas authoring systems are usually validating systems.

Note 1 *A conforming system is not sufficient to validate an ISO-HTML document. A validation system is required.*

This specification does not define any error handling for user agents: It emphasises validation at the source rather than error handling at the destination.

A minimal ISO-HTML document has the form:

```
<!DOCTYPE ISO-HTML
  PUBLIC "ISO 15445:1998 //DTD ISO-HTML Structure//EN">
<ISO-HTML>
<HEAD>
<TITLE>Les unités de base</TITLE>
```

... other head elements ...

</HEAD>

<BODY>

... document body ...

</BODY>

</ISO-HTML>

This Final CD follows the convention of presenting element and attribute names in upper case, although there is no formal requirement for the practice.

In order to support world wide use of the markup language, the internationalization facilities specified by the IETF in RFC 2070 have been included in this Final CD. It is recognised the full compliance to RFC 2070 will be progressive and the conformance clause allows for progressive compliance to the use of ISO 10646.

2.1 References to pages in the referenced specification

To facilitate the use of this Final CD, frequent references are provided to pages in the W3C Working Draft 17-Sep-1997 for HTML 4.0. The references are all presented in the abbreviated style: [p.123].

2.2 Source material for this document

This Final CD is based on earlier work by the IETF, the World Wide Web Consortium, and the ISO:

- the IETF RFC 1866 [BLC95],
- the W3C Working Draft 17-Sep-1997 for HTML 4.0 [RHJ97],
- ISO/IEC 8879:1986 Standard Generalised Markup Language (SGML), and the SGML Handbook [Gol90],
- the IETF RFC 2070 HTML internationalisation specification [YNAD97].

2.3 Source markup

This document was prepared using ISO 8879 based technology. Details of the DTD used to structure this document may be found in “ISO/IEC TR 9573-11 Information processing—SGML support facilities—Techniques for using SGML—Part 11: Application at ISO Central Secretariat for International Standards and Reports”.

3 Scope

The scope of this Final CD is a conforming application of SGML, ISO 8879:1986, which provides a simple and stable markup language for documents to be published on the World Wide Web. This Final CD also provides techniques whereby application, regional or industry-specific extensions may be added in a way which follows good SGML practice.

3.1 Specificity of the scope

This Final CD describes the way in which the HTML language specified by the following clauses in the W3C Working Draft 17-Sep-1997 for HTML 4.0 shall be used, and does so by identifying all the differences between the HTML language specified by the W3C Working Draft 17-Sep-1997 for HTML 4.0 and ISO-HTML.

- Clause 2, Introduction to HTML 4.0 [p.15].
- Clause 5, HTML and URLs [p.37].
- Clause 6, HTML document character set [p.41].
- Clause 8: The global structure of an HTML document [p.49].
- Clause 9: Language information and text direction [p.65].
- Clause 10: Text [p.75].
- Clause 11: Lists [p.89], excluding subclause 11.3.
- Clause 12: Tables [p.97], excluding subclause 12.2.
- Clause 13: Links [p.125].
- Clause 14: Objects, Images and Applets [p.139], excluding subclauses 14.3 and 14.6.
- Clause 15: Style sheets [p.159].
- Subclause 16.2.1: Font style elements [p.175], excluding the <BIG>, <SMALL>, <STRIKE>, <S> and <U> elements.
- Subclause 16.3: Rules: the HR element [p.178].
- Clause 18: Forms [p.193].
- Clause 25: Named character entities [p.269].

Since it is expected that a wide range of products, user applications, recommendations and other standards may use this standard, the scope focuses on the general structuring aspects and provides only sufficient semantics to ensure that the structures are rendered in a familiar way.

The scope excludes any material in the W3C Working Draft 17-Sep-1997 for HTML 4.0 not listed in this subclause. It also excludes any standardization of models, services, systems, protocols or applications which are likely to make use of the ISO-HTML language. This specification does not define the “look and feel” of any conforming product.

4 Conformance

This Final CD distinguishes between “validating” systems and “conforming” systems.

A validating system is able to verify that the document it is processing contains correct ISO-HTML. If the document is correct, the validator certifies it as such; if not, the validator identifies the errors.

An ISO-HTML validator requires an SGML parser since ISO-HTML makes full use of the underlying SGML language, particularly when the formal public identifier with the SGML keyword is used.

Conforming systems merely promise to operate correctly provided that the documents they process are already validated as conforming ISO-HTML.

Note 2 *It is possible for a system that is simply “conforming” to identify many errors in an invalid document, and notification of such errors could be of value to a user, but it is not “validating” unless it can detect all errors, including any in a document type declaration subset (see clause 47 on page 24), [Gol90, p.403].*

4.1 Conforming ISO-HTML documents

A document which conforms to this Final CD shall

1. Be a conforming ISO-HTML document consisting of a required document type declaration (see clause 12 on page 9), followed by a single document instance, contained by the <ISO-HTML> [p.50] document element (see clause 35 on page 21). The document type declaration may be surrounded by white space. The document instance may be followed by white space. White space consists of RS, RE, SPACE [Gol90, figure 2 p.345] and ISO-HTML comments (see clause 16 on page 12).
2. Conform to the requirements of this Final CD.

4.2 Validating ISO-HTML systems

An ISO-HTML system is a validating ISO-HTML system if

1. It is a validating SGML parser as defined by ISO 8879:1986 subclause 15.4; and

2. It is able to process any conforming ISO-HTML document; and
3. It finds and reports an ISO-HTML error if one exists; and
4. It does not report an ISO-HTML error where none exists.

4.2.1 Documentation of validating ISO-HTML systems

Validating systems conforming to this Final CD shall display the following identification text prominently:

1. In a prominent location in the front matter of all publications (normally the title page and the cover page),
2. On all identifying display screens of programs,
3. In all promotional and training material,

and in the national language of the documentation.

The ISO-HTML validating system identification text is:

ISO-HTML—A validating system conforming to International Standard ISO/IEC 15445—Hypertext Markup Language, and International Standard ISO 8879—Standard Generalized Markup Language (SGML).

The documentation shall distinguish SGML constructs from ISO-HTML conventions and system functions, and shall identify the SGML constructs as being part of the Standard Generalized Markup Language.

Note 3 *The objective of this requirement is for the user to be aware of which constructs are common to all SGML systems, and which are unique to ISO-HTML. This should reduce the experienced user's learning time for a new system or application.*

The documentation shall cite ISO 8879:1986 as a reference for supported SGML constructs which are not specifically documented with the system.

4.3 Conforming ISO-HTML systems

A conforming ISO-HTML system is an ISO-HTML system which is able to process all conforming ISO-HTML documents with the exception of those containing the keyword SGML in the formal public identifier (see clause 12 on page 9), or those making use of the document type declaration subset [ISO 8879 production 110], [Go190, p.403].

4.3.1 Documentation of conforming ISO-HTML systems

Conforming systems shall display the following identification text prominently:

1. In a prominent location in the front matter of publications (normally the title page and the cover page),
2. On identifying display screens of programs,
3. In promotional and training material,

and in the national language of the documentation.

The ISO-HTML conforming system identification text is:

ISO-HTML—A system conforming to International Standard ISO/IEC 15445—Hypertext Markup Language.

The documentation shall identify ISO-HTML as being an application of International Standard 8879—Standard Generalized Markup Language, and shall cite ISO 8879:1986 as a reference for supported SGML constructs that are not specifically documented for the system.

The documentation shall not claim or imply that the system may be used to validate ISO-HTML documents.

4.4 Character set conformance

The SGML declaration provided with this Final CD calls for the use of the Basic Multilingual Plane of the ISO/IEC 10646 Universal Multiple-Octet Coded Character Set (UCS). ISO/IEC 10646 addresses whole classes of provisions and this Final CD does not imply that they are all implemented in any user agent. As a result it is only practicable to envisage limited conformance to ISO/IEC 10646 as defined in this subclause.

Under limited conformance, the following is required:

1. When the characters described by ISO/IEC 10646 are used, they shall be implemented with the meanings and coded representation specified in ISO/IEC 10646.
2. If a server is unable to express a document using the character set supported by the user agent, it should instead deliver the document in a limited character set and explain the problem.

Note 4 *This Final CD does not discuss the operation of the HTTP protocol [FGM⁺ 97].*

3. If a server is unable to express a document using the limited character set supported by the user agent, it should instead deliver a document in the limited character set explaining the impossibility.
4. Code positions that are either reserved for registration or reserved for future standardization shall not be used.
5. No registered escape sequence shall be used with a meaning different from that defined by ISO/IEC 10646.

The UTF-1 transformation format of ISO/IEC 10646, registered by IANA as ISO-10646-UTF-1, has been removed from the ISO/IEC 10646 and should not be used.

5 Normative references

ISO 639:1988 Code for the representation of names of languages.

ISO 646:1991 ISO 7-bit coded character set for information interchange.

ISO 3166-1:1997 Codes for the representation of names of countries and their subdivisions — Part 1: Country codes.

ISO 8859-1:1987 8-bit single-byte coded graphic character sets — Part 1: Latin alphabet No. 1.

ISO 8879:1986 Standard Generalized Markup Language (SGML).

ISO 10646-1:1993 Universal Multiple-Octet Coded Character Set (UCS) — Part 1: Architecture and Basic Multilingual Plane.

IETF RFC 1630 Universal Resource Identifiers in WWW - A Unifying Syntax for the Expression of Names and Addresses of Objects on the Network as used in the World Wide Web.

IETF RFC 1730 Uniform Resource Locators (URL).

IEFC RFC 1766 Tags for the Identification of Languages.

IETF RFC 1808 Relative Uniform Resource Locators.

IETF RFC 1866 Hypertext Markup Language — 2.0.

IETF RFC 1867 Form-based File Upload in HTML.

IETF RFC 1942 HTML Tables.

IETF RFC 2068 Hypertext Transfer Protocol — HTTP/1.1

IETF RFC 2070 Internationalization of the Hypertext Markup Language.

W3C Working Draft 17-Sep-1997 for HTML 4.0. *Work in progress.*

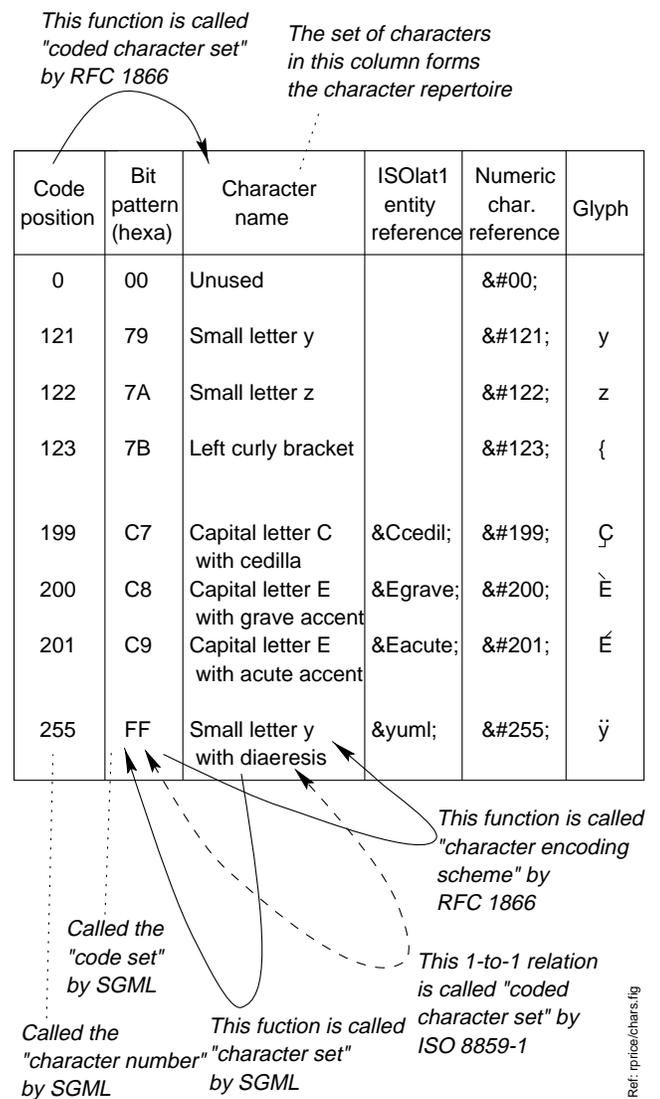


Figure 1: Illustration of some character representation definitions. This illustration is based on the character set defined by ISO 8859-1:1987 “8-bit single-byte coded graphic character sets”, Part 1: Latin alphabet No. 1.

6 Definitions

The definitions of ISO 8879:1986 apply to this specification.

1. **Browser**

A User Agent whose main function is to present documents to a user.

2. **Character**

(Source: RFC1866) An atom of information, for example a letter or a digit. Graphic characters have associated glyphs, whereas control characters have associated processing semantics.

The multiple definitions and techniques for the representation of characters may be the source of confusion. Figure 1 shows some of the ideas involved.

3. **Character encoding scheme**

(Source: RFC1866) A function whose domain is the set of sequences of octets, and whose range is the set of sequences of characters from a character repertoire; that is, a sequence of octets and a character encoding scheme determines a sequence of characters.

4. **Character repertoire**

(Source: RFC1866) A finite set of characters; eg. the range of a coded character set.

5. **Code position**

(Source: RFC1866) An integer; a coded character set and a code position from its domain determine a character.

6. **Coded character set**

(Source: RFC1866) A function whose domain is a subset of the integers and whose range is a character repertoire. That is, for some set of integers (usually of the form 0, 1, 2, ..., N), a coded character set and an integer in that set determine a character. Conversely, a character and a coded character set determine the character's code position (or, in rare cases, a few code positions).

7. **CRLF**

(Source: RFC1521) The sequence of the two ISO 646:1983 characters CR (13) and LF (10) which, taken together, in this order, denote a line break.

8. **Form data set**

(Source: RFC 1866) A sequence of name/value pairs; the names given by an ISO-HTML document and the values given by the user.

9. **Fragment identifier**

(Source: RFC1866) The portion of an HREF attribute following the '#' character.

10. **ISO-HTML browser**

Browser which presents ISO-HTML documents.

11. **ISO-HTML document**

A document structured in accordance with this Final CD.

12. **Hyperlink**

A relationship between two anchors, called the source and the target. The link goes from the source to the target. The source is also known as the tail, and the target is also known as the destination or head.

7 Synonyms and abbreviations

The following symbols and abbreviations are used in this Final CD.

ISO-HTML

Pertaining to this standard.

HTML 4.0

A Proposed Recommendation for the Hypertext Markup Language developed by the World Wide Web Consortium.

HTTP

IETF RFC 2068 Hypertext Transfer Protocol.

IANA

Internet Assigned Numbers Authority. IANA is the central coordinator for the assignment of unique parameter values for Internet protocols. The IANA is chartered by the Internet Society (ISOC) and the Federal Network Council (FNC) to act as the clearinghouse to assign and coordinate the use of numerous Internet protocol parameters [RP94].

IETF

Internet Engineering Task Force.

RFC

Request for Comments. An Internet Engineering Task Force specification.

SGML

Notation provided through use of ISO 8879:1986.

URI

Universal Resource Identifier as defined by [BL94].

URL

Uniform Resource Locator as defined by [BLMM94].

WWW

World Wide Web

W3C

World Wide Web Consortium, founded in 1994 to develop common standards for the evolution of the World Wide Web <<http://www.w3.org/>>. It is an industry consortium, hosted by the Massachusetts Institute of Technology Laboratory for Computer Science (MIT/LCS) in the United States, the Institut National de Recherche en Informatique et en Automatique (INRIA) in Europe and the Keio University Shonan Fujisawa Campus in Asia.

8 Requirements

This Final CD has been designed to satisfy the following requirements:

- Provide a minimum presentation architecture for SGML applications.
- Clarify relationships between ISO-HTML and SGML details, such as SGML declaration and minimization.
- Allow ISO-HTML to be used in environments where ISO standards are required.
- Allow ISO-HTML to be used as a base architecture for other SGML applications.
- Documents conforming to this Final CD should be viewable by browsers that conform to the W3C Working Draft 17-Sep-1997 for HTML 4.0 (or an appropriate later version of that specification).
- Define useful subsets of the W3C Working Draft 17-Sep-1997 for HTML 4.0 (or an appropriate later version of that specification).

9 Use of the W3C Working Draft 17-Sep-1997 for HTML 4.0

Throughout this Final CD, page references to the referenced text are given in the abbreviated style [p.xy]. These should be read as [RHJ97, p.xy].

While the syntax of ISO-HTML is defined by the DTD described in this specification, the semantics of the following elements are defined normatively in the W3C Working Draft 17-Sep-1997 for HTML 4.0.

<ACRONYM>	[p.77]—Acronyms
	[p.175]—Bold character style
<BD0>	[p.70]—Bidirectional override
 	[p.83]—Line break
<CAPTION>	[p.100]—Table caption
<CITE>	[p.77]—Citation
<CODE>	[p.77]—Program code
<DD>	[p.93]—Definition data
	[p.85]—Deleted material
<DFN>	[p.77]—Defining instance
<DIV>	[p.61]—Document division
<DL>	[p.93]—Definition list
<DT>	[p.93]—Definition term
	[p.77]—Emphasized text
<FIELDSET>	[p.208]—Group of form items
<FORM>	[p.193]—Forms
<HR>	[p.178]—Horizontal rule
<I>	[p.175]—Italic character style
<INS>	[p.85]—Inserted material
<KBD>	[p.77]—Keyboard input
<LEGEND>	[p.208]—Fieldset label
	[p.90]—List item
<META>	[p.53]—Document meta-information
	[p.90]—Ordered list
<OPTION>	[p.203]—User choice
<P>	[p.80]—Paragraph
<PARAM>	[p.145]—Agent interface parameter
<PRE>	[p.84]—Preformatted text
<SAMP>	[p.77]—Sample output
<SELECT>	[p.203]—Form selection

 [p.61]—Generic container
 [p.77]—Strong emphasis
 <SUB> [p.79]—Subscript character style
 <SUP> [p.79]—Superscript character style
 <TEXTAREA> [p.205]—Multi-line text field
 <TFooter> [p.101]—Table footer
 <THEAD> [p.101]—Table header
 <TITLE> [p.52]—Document title
 <TT> [p.175]—Monospaced character style
 [p.90]—Unordered list
 <VAR> [p.77]—Generic variable

The definitions of the following elements are refined by this Final CD:

<A> [p.128]—Source and target anchors: clause 17 on page 12
 <ADDRESS> [p.64]—Author’s address: clause 18 on page 13
 <AREA> [p.152]—Image map region: clause 19 on page 13
 <BASE> [p.136]—Base URL specification: clause 20 on page 13
 <BLOCKQUOTE> [p.78]—Block quotation: clause 21 on page 13
 <BODY> [p.57]—Document body: clause 22 on page 13
 <BUTTON> [p.201]—Selectable input mechanism: clause 23 on page 14
 <COL> [p.103]—Table column properties: clause 24 on page 14
 <COLGROUP> [p.103]—Table column group properties: clause 25 on page 14
 <HEAD> [p.51]—Document header: clause 26 on page 15
 <H1> [p.62]—Major section header: clause 27 on page 15
 <H2> [p.62]—Section header: clause 28 on page 15
 <H3> [p.62]—Subsection header: clause 29 on page 16

<H4> [p.62]—Subsubsection header: clause 30 on page 16
 <H5> [p.62]—Subsubsubsection header: clause 31 on page 17
 <H6> [p.62]—Minor subsubsubsection header: clause 32 on page 17
 [p.140]—Inline images: clause 33 on page 18
 <INPUT> [p.196]—User input field: clause 34 on page 18
 <ISO-HTML> [p.50]—Document instance: clause 35 on page 21
 <LABEL> [p.206]—Form field label: clause 36 on page 21
 <LINK> [p.133]—Interdocument relations: clause 37 on page 21
 <MAP> [p.152]—Client-side image map: clause 38 on page 21
 <OBJECT> [p.142]—Simple agent: clause 39 on page 21
 <Q> [p.78]—Quote: clause 40 on page 22
 <STYLE> [p.162]—Inline style specification: clause 46.1 on page 23
 <TABLE> [p.98]—Tables: clause 41 on page 22
 <TBODY> [p.101]—Table body: clause 42 on page 22
 <TD> [p.107]—Table data cell: clause 43 on page 22
 <TH> [p.107]—Table header: clause 44 on page 22
 <TR> [p.106]—Table row: clause 45 on page 22

Any element not listed in this clause is excluded from this Final CD.

10 Omitted attributes

The W3C Working Draft 17-Sep-1997 for HTML 4.0 provides a number of attributes that are not supported by this Final CD:

Note 5 *Packages of attribute extensions may be defined by industrial, regional and national standards development organizations using the extension mechanisms provided by this Final CD.*

ABBR—Omitted from the <TD> [p.107] and <TH> [p.107] elements.

ALIGN—Omitted from all elements on which it occurs.

ALT—Omitted from the `<INPUT>` [p.196] element.

ARCHIVE—Omitted from the `<OBJECT>` [p.142] element.

AXIS—Omitted from the `<TD>` [p.107] element.

BGCOLOR—Omitted from the `<TABLE>` [p.98] element.

BORDER—Omitted from all elements on which it occurs.

CELLPADDING—Omitted from the `<TABLE>` [p.98] element.

CELLSPACING—Omitted from the `<TABLE>` [p.98] element.

CHAR—Omitted from all elements on which it occurs.

CHAROFF—Omitted from all elements on which it occurs.

CHARSET—Omitted from all elements on which it occurs.

CLEAR—Omitted from the `
` [p.83] element.

COMPACT—Omitted from all elements on which it occurs.

COORDS—Omitted from the `<A>` [p.128] element.

FRAME—Omitted from the `<TABLE>` [p.98] element.

HEIGHT—Omitted from all elements on which it occurs.

HSPACE—Omitted from all elements on which it occurs.

ONBLUR—Omitted from all elements on which it occurs.

ONCHANGE—Omitted from all elements on which it occurs.

ONCLICK—Omitted from all elements on which it occurs.

ONDBLCLICK—Omitted from all elements on which it occurs.

ONFOCUS—Omitted from all elements on which it occurs.

ONKEYDOWN—Omitted from all elements on which it occurs.

ONKEYPRESS—Omitted from all elements on which it occurs.

ONKEYUP—Omitted from all elements on which it occurs.

ONLOAD—Omitted from all elements on which it occurs.

ONMOUSEDOWN—Omitted from all elements on which it occurs.

ONMOUSEMOVE—Omitted from all elements on which it occurs.

ONMOUSEOUT—Omitted from all elements on which it occurs.

ONMOUSEOVER—Omitted from all elements on which it occurs.

ONMOUSEUP—Omitted from all elements on which it occurs.

ONRESET—Omitted from all elements on which it occurs.

ONSELECT—Omitted from all elements on which it occurs.

ONSUBMIT—Omitted from all elements on which it occurs.

ONUNLOAD—Omitted from all elements on which it occurs.

RULES—Omitted from the `<TABLE>` [p.98] element.

SHAPE—Omitted from the `<A>` [p.128] element.

SRC—Omitted from the `<INPUT>` [p.196] element.

SUMMARY—Omitted from the `<TABLE>` [p.98] element.

TARGET—Omitted from all elements on which it occurs.

TYPE—Omitted from the `` [p.90], `` [p.90] and `` [p.90] elements.

USEMAP—Omitted from the `<INPUT>` [p.196] element.

VALIGN—Omitted from all elements on which it occurs.

VSPACE—Omitted from all elements on which it occurs.

WIDTH—Omitted from all elements on which it occurs.

11 Common structures

11.1 Block and text elements

This Final CD defines two classes of structure: *block* elements and *text* elements. The two classes are defined in the DTD by the entities:

- %block;

The block class contains the elements <BLOCKQUOTE> [p.78], <DIV> [p.61], <DL> [p.93], <FIELDSET> [p.208], <FORM> [p.193], <HR> [p.178], [p.90], <P> [p.80], <PRE> [p.84], <TABLE> [p.98] and [p.90].

- %text;

The text class contains parsed character data (PC-DATA) [Gol90, p.140, p.411] and the subclasses *physical styles*, *logical styles* and *special*. These subclasses are defined by entities:

- The physical styles subclass contains the elements [p.175], <I> [p.175], <SUB> [p.79], <SUP> [p.79] and <TT> [p.175].
- The logical styles subclass contains the elements <ACRONYM> [p.77], <CITE> [p.77], <CODE> [p.77], <DFN> [p.77], [p.77], <KBD> [p.77], <SAMP> [p.77], [p.77] and <VAR> [p.77].
- The special subclass contains the elements <A> [p.128], <BDO> [p.70],
 [p.83], [p.140], <OBJECT> [p.142], <MAP> [p.152], <Q> [p.78], [p.61] and those elements which are introduced into the language using the %body.extend; technique.

The distinction between block elements and text elements appears in

- The content model,
- Formatting and presentation,
- Directionality.

For details, see the W3C Working Draft 17-Sep-1997 for HTML 4.0.

11.2 Common attributes

This subclause specifies the attributes CLASS, ID and TITLE defined by parameter entity %core; which are associated with most of the elements defined by this Final CD. The common attributes are extended to include STYLE when the InLineStyle facility is used (see clause 46.2 on page 23).

11.2.1 The CLASS attribute

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

11.2.2 The ID attribute

The ID attribute provides a unique name for an element which may be verified by an SGML parser: two generally useful language facilities are based on this:

1. The ID attribute provides a unique identification of an element for use by an associated style sheet [LB96].
2. The ID attribute identifies the start of the element as a target anchor and the possible destination of a link.

The name space of the ID attributes is shared with the name space of the NAME attribute of the <A> [p.128] element (see clause 17 on page 12). ID and NAME values shall be distinct. It is an error for an ID or NAME value to be duplicated in a document.

It is strongly recommended that authors of documents intended for further processing specify the ID attribute in preference to the NAME attribute.

See the W3C Working Draft 17-Sep-1997 for HTML 4.0 for further details.

11.2.3 The TITLE attribute

The TITLE attribute provides additional annotation for most of the elements in the language. The annotation may, for example, be rendered by a visual user agent when a pointer lingers over an element, or may be spoken by a speech enabled user agent.

See the W3C Working Draft 17-Sep-1997 for HTML 4.0 for further details.

11.3 Internationalization attributes

This subclause specifies the attributes DIR and LANG defined by parameter entity %i18n; which are associated with most of the elements defined by this Final CD.

11.3.1 The DIR attribute

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

11.3.2 The LANG attribute

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

11.3.3 Byte order

When an ISO-HTML text is transmitted directly in a multibyte representation, this Final CD recommends:

1. That it be transmitted in big-endian byte order—high order byte first.
2. That the document always begin with a ZERO-WIDTH NON-BREAKING SPACE character (hexadecimal FEFF) which, when byte-reversed becomes number FFFE, a character guaranteed never to be assigned. Thus a user agent receiving an FFFE as the first two octets of a text would know that bytes have to be reversed for the remainder of the text.

11.3.4 Use of named character references

It is often convenient for an author to use named character references to specify characters that are not available on the author's keyboard. Wherever named references are used for characters specified by ISO 10646, the name used shall be that specified in ISO TR 9573.

Example:

```
<EM>Libert&eacute; &Eacute;galit&eacute;
Fraternit&eacute;!</EM>
```

12 Document type declaration for ISO-HTML

The DTD provided by this Final CD has the following document type declaration:

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998//DTD ISO-HTML SGML//EN">
```

This document type declaration should not be used for documents intended for general publication. Authors should choose one of the alternate document type declarations.

Note 6 *The SGML keyword indicates that this document type declaration requires the user agent to be able to parse the document type declaration subset and is intended only for standards development purposes.*

12.1 Alternate document type declarations

Many popular user agents do not currently support the use this Final CD makes of the document type declaration subset. To facilitate the use of ISO-HTML, alternate public document type declarations are provided to specify DTDs which are totally self contained and which include all of the features of ISO-HTML without using the document type declaration subset. Such alternate declarations are known as *packages*. The following subclauses list the packages defined by this Final CD.

12.1.1 The basic language

This package requires structured headings and does not include inline style facilities.

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998
  //DTD ISO-HTML Structure//EN">
```

12.1.2 Inline style package

This package, which has two formal declarations, requires structured headings and includes inline style facilities.

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998
  //DTD ISO-HTML Structure InLineStyle//EN">
```

and

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998
  //DTD ISO-HTML InLineStyle Structure//EN">
```

12.1.3 Unstructured package

This package does not require structured headings and does not include inline style facilities.

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998
  //DTD ISO-HTML//EN">
```

12.1.4 Unstructured with inline style package

This package does not require structured headings and includes inline style facilities.

```
<!DOCTYPE ISO-HTML PUBLIC
  "ISO 15445:1998
  //DTD ISO-HTML InLineStyle//EN">
```

13 Copyright protection

This document makes several references to industry and proprietary standards, products and publications. Such references are not normative, and do not imply endorsement by the ISO, IEC, or their national member bodies or affiliates. Any brand names or trademarks mentioned are the property of their respective owners.

The formal SGML definitions are part of the text of this Final CD and are protected by copyright held by the IETF, the W3C and the ISO. Permission to copy is granted provided the following copyright notice is included in all copies.

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14 Extensions to the language

Extensions to the language may be defined by national, regional and industrial organizations using the facilities defined by this Final CD. It is recommended that the extensions be developed using the full SGML facilities of the language and then repackaged in such a way that the user agent need not support the document type declaration subset. Organizations offering a package of extensions should be careful

1. Not to prevent the use of other packages of extensions.
2. To provide further facilities for extensions to their package.

The `InLineStyle` extension defined by this Final CD is an example of such a package (see subclause 12.1.2 on page 9 and clause 46.1 on page 23).

14.1 The extend and addon interfaces

Document designers may wish to add additional facilities to the ISO-HTML document architecture. This is possible, and conveniently done using the *extend* and *addon* interfaces. Many extensions and addons may be defined in the future: this clause defines the general *extend* and *addon* interface mechanism and provides an example of its use.

There are three types of interfaces available to document designers:

- New element interface

The `head.extend` and `body.extend` interfaces which allow the addition of new elements and their attributes.

- Additional attribute interface

The *a.addon*, *acronym.addon*, *address.addon*, *area.addon*, *base.addon*, *bdo.addon*, *blockquote.addon*, *body.addon*, *br.addon*, *button.addon*, *caption.addon*, *col.addon*, *colgroup.addon*, *dd.addon*, *del.addon*, *div.addon*, *dl.addon*, *dt.addon*, *fieldset.addon*, *form.addon*, *heading.addon*, *head.addon*, *hr.addon*, *img.addon*, *input.addon*, *ins.addon*, *iso-html.addon*, *label.addon*, *legend.addon*, *li.addon*, *link.addon*, *logical.style.addon*, *map.addon*, *meta.addon*, *object.addon*, *ol.addon*, *option.addon*, *p.addon*, *param.addon*, *physical.style.addon*, *pre.addon*, *q.addon*, *select.addon*, *span.addon*, *table.addon*, *tbody.addon*, *td.addon*, *textarea.addon*, *tfoot.addon*, *th.addon*, *thead.addon*, *title.addon*, *tr.addon* and *ul.addon* interfaces which allow the addition of further attributes to existing elements.

- Notation interface

The use of *notations* as defined by ISO 8879:1986.

14.2 Conformance of extensions

No *extend* or *addon* shall cause a document to be non-conforming if that document is conforming in the absence of the *extend* or *addon*.

Note 7 *This Final CD does not address the question of interdependencies between possibly incompatible extensions defined by other specifications.*

14.3 The new element interface

The `head.extend` and `body.extend` interfaces provide a means of extending the architecture of a document to include additional elements and attributes. The `head.extend` interface allows additions within the head of a document, at any point at which the `<META>` [p.53] element may be used. The `body.extend` interface allows additions within the body of a document at any point where an `<A>` [p.128] element might be used. The technique used is to extend the content models which contain the `<META>` [p.53] and `<A>` [p.128] elements.

By default the interfaces contain a `<NOP>` element which has no semantic value, but the interface may be redefined to include an additional DTD fragment in the document architecture.

Note 8 Editors to NB experts: *The use of the <NOP> element will be reviewed when changes to ISO 8879 provide a simpler solution.*

The procedure for adding new elements is as follows:

1. Place the definitions of the new elements and their attributes in a DTD fragment and assign it a public text identifier. The definitions in this DTD fragment may make use of the entities defined in the ISO-HTML entity set.

Note 9 *The fragment may be in a single file, or in multiple files, for example one file for parameter entity definitions and another for element definitions.*

2. Place a new definition for the `head.extend` or `body.extend` parameter entity in the document type declaration subset. The definition should provide a content model for the new elements. Typically it is of the form `ELEMENT1 | ELEMENT2 . . .`. The definition will override the default definition `<NOP>` provided by the Final CD DTD entity set [Gol90, p.404 line 32]. More than one extension may be defined in the `head.extend` or `body.extend` parameter entities with declarations of the form `EXTEND1.EL1 | EXTEND1.EL2 | . . . | EXTEND2.EL1 . . .`.
3. Place a parameter entity definition (or definitions) for the DTD fragment(s) containing definitions of the new elements and attributes in the document type declaration subset.
4. Invoke the `head.extend` or `body.extend` parameter entity before invoking the parameter entities for the DTD fragments at the end of the document type declaration subset.

14.4 The additional attribute interface

The *a.addon*, *acronym.addon*, *address.addon*, *area.addon*, *base.addon*, *bdo.addon*, *blockquote.addon*, *body.addon*, *br.addon*, *button.addon*, *caption.addon*, *col.addon*, *colgroup.addon*, *dd.addon*, *del.addon*, *div.addon*, *dl.addon*, *dt.addon*, *fieldset.addon*, *form.addon*, *heading.addon*, *head.addon*, *hr.addon*, *img.addon*, *input.addon*, *ins.addon*, *iso-html.addon*, *label.addon*, *legend.addon*, *li.addon*, *link.addon*, *logical.style.addon*, *map.addon*, *meta.addon*, *object.addon*, *ol.addon*, *option.addon*, *p.addon*, *param.addon*, *physical.style.addon*, *pre.addon*, *q.addon*, *select.addon*, *span.addon*, *table.addon*, *tbody.addon*, *td.addon*, *textarea.addon*,

tfoot.addon, *th.addon*, *thead.addon*, *title.addon*, *tr.addon* and *ul.addon* interfaces provide a means of extending the set of attributes of an existing element. By default, the interfaces contain an empty string, ie. no additional attributes, but by redefining the interface, new attributes may be added to extend the document architecture.

The procedure for adding new attributes to an existing element X is as follows:

1. Place the definitions of the new attributes for the X element in an *X.addon* parameter entity in a DTD fragment and assign it a public text identifier. The definitions in this DTD fragment may make use of the entities defined in the ISO-HTML entity set.

Note 10 *This DTD fragment may be shared with the one defined in subclause 14.3 on page 10.*

This definition will override the default definition provided by the Final CD DTD entity set [Gol90, p.404 line 32].

2. Place a parameter entity definition for the DTD fragment in the document type declaration subset.
3. Invoke the parameter entities for the DTD fragments at the end of the document type declaration subset.

14.5 An example of an extension

The extensions of ISO-HTML to support the `<STYLE>` [p.162] element (see clause 46.1 on page 23 and the `STYLE` attribute (see clause 46.2 on page 23) are examples of the techniques described in this clause.

14.6 Use of the document type declaration subset

The extension techniques provided by this Final CD make use of the document type declaration subset which is a part of all SGML documents. However many historic World Wide Web browsers do not process the subset, so it is recommended that for wide public use, the designer of an extension consider repackaging the extension with the parameter entity set and the document type definition provided by this Final CD as a single entity (file) which can be referenced by a suitable public text identifier in the DOCTYPE declaration.

Such a repackaging will reduce the risk of error by users of the extension, and will allow the designer defining the package to provide better documentation and quality assurance, particularly when the package contains several extensions.

15 The separation of structure and style

This Final CD is based on the well established principle that it is good document design to separate the structure of a document from the intended style in which it is to be presented to a reader. This facilitates the reprocessing of documents in ways that were not envisaged when they were created, and thus protects the content owners' long term investment in documents.

However it is recognised that some documents have a short life span and are created dynamically from properly structured information, perhaps a structured data base or a richer SGML DTD, and thus the need for reprocessing may disappear.

In such a case, “once only” documents might carry their styling information in the marked up structure. This is known as “inline style”.

Clause 46.1 on page 23, clause 46.2 on page 23 and subclause 12.1.2 on page 9 provide a specification for a <STYLE> [p.162] element, and a STYLE attribute which becomes available everywhere the ID attribute is available. This element and attribute provide a vehicle for the inline style instructions accompanying “once only” documents. The Final CD does not provide specifications for style specifications. See the home page of the World Wide Web Consortium for further information on work in this area <http://www.w3.org/>. See also [LB96].

15.1 Descriptions of presentation style in this specification

Wherever the text of this Final CD describes a possible presentation, eg. as a button, the styling information is intended to provide assistance to the reader in understanding the semantics of the element or attribute. It is not intended as a normative style requirement.

16 Comments in ISO-HTML

All comments in ISO-HTML document instances shall appear in comment declarations [Gol90, 10.3 p.391]. There shall be exactly one comment per comment declaration. For example:

```
<!-- This is a single comment
      in a comment declaration. -->
```

Note 11 *The intention of this provision is to facilitate the use of popular user agents which are unable to parse SGML and which do not handle comments outside comment declarations.*

17 Refinement of the A element — Source and target anchors

The attributes of the <A> [p.128] element are restricted to:

- Common attributes CLASS and TITLE.
See subclause 11.2 on page 8.
- Common attribute ID.
See subclause 11.2 on page 8. Case shall not be taken into account when determining matches with NAME and HREF values. It is recommended that authors specify values for the ID attribute as if comparisons were case sensitive, even though they are not.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- ACCESSKEY
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- HREF
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. Case shall be taken into account when determining matches with NAME values, but shall not be taken into account when determining matches with ID values.
- NAME
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. The attributes value specification shall be processed as if the declared value were NAME.

Note 12 *Entity references and character references are replaced, entity ends and record starts are removed, record end and separator characters are replaced by a space. Any sequence of space characters is replaced by a single space and leading and trailing spaces are deleted, [Gol90, 7.9.3 p.331].*

Case shall be taken into account when determining matches with HREF values, but shall not be taken into account when determining matches with ID values.

It is strongly recommended that authors of documents intended for further processing give preference to the ID attribute over the NAME attribute since this allows an SGML parser to verify that the ID values are distinct.

- REL, REV and TABINDEX.

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

18 Refinement of the ADDRESS element — Author's address

The <ADDRESS> [p.64] element shall only appear in the content of the following elements: <BLOCKQUOTE> [p.78], <BODY> [p.57], <DIV> [p.61], <FIELDSET> [p.208], <FORM> [p.193] and <OBJECT> [p.142].

19 Refinement of the AREA element — Image map region

The attributes of the <AREA> [p.152] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- ACCESSKEY
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- ALT
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. *Authors are very strongly recommended to provide meaningful ALT attributes to support interoperability with speech-based or text-only agents.* The language and direction of the text are defined by the containing elements.
- COORDS, HREF, NOHREF, SHAPE and TABINDEX.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

A value shall be provided for the ALT attribute. One of HREF or NOHREF shall be specified. COORDS shall not be specified if SHAPE has the value default.

20 Refinement of the BASE element — Base URL specification

The attributes of the <BASE> [p.136] element are restricted to:

- HREF

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

A value shall be provided for the HREF attribute.

21 Refinement of the BLOCKQUOTE element — Block quotation

The contents of the <BLOCKQUOTE> [p.78] element shall not be surrounded with quotation marks. These may be added by the user agent through the use of a style sheet.

21.1 Example

This example quotes from article 129C of the European Union Treaty.

```
<BLOCKQUOTE
  LANG=fr
  TITLE="Trait&eacute; sur l'Union
        Europ&eacute;enne, Article 129 C.">
<p>
Afin de r&eacute;aliser les objectifs
vis&eacute;s &agrave; l'article 129B,
la Communaut&eacute; ;
<p>
met en oeuvre toute action qui peut
s'av&eacute;rer n&eacute;cessaire pour
assurer l'interop&eacute;abilit&eacute; des
r&eacute;seaux, en particulier dans le
domaine de l'harmonisation des normes
techniques ;
</BLOCKQUOTE>
```

22 Refinement of the BODY element — Document body

This Final CD provides two formal definitions for the <BODY> [p.57] element. The active definition depends on the presence or absence of the Structure keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If Structure is present, the definition of the <BODY> [p.57] element requires the correct nesting of headings and sections:

```
<!ELEMENT BODY - 0
  (%section.content;,(H1,DIV1)*)
  + (DEL | INS) >
```

```
<!ATTLIST BODY
  %core;  -- CLASS, ID and TITLE --
  %i18n;  -- DIR and LANG --
  %body.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT BODY - 0
  (%section.content; |H1|H2|H3|H4|H5|H6)+
  +(DEL|INS) >

<!ATTLIST BODY
  %core;  -- CLASS, ID and TITLE --
  %i18n;  -- DIR and LANG --
  %body.addon; >
```

The start tag is required but the end tag is optional. Authors are recommended to include the end tag if the document is to be the subject of further processing.

23 Refinement of the **BUTTON** element — Selectable input mechanism

The start and end tags are required. The **<BUTTON>** [p.201] element shall not contain the **<A>** [p.128], **<BUTTON>** [p.201], **<FIELDSET>** [p.208], **<FORM>** [p.193], **<INPUT>** [p.196], **<LABEL>** [p.206], **<SELECT>** [p.203] or **<TEXTAREA>** [p.205] elements. If the **<BUTTON>** [p.201] element contains an **** [p.140] element, that **** [p.140] shall not have an **ISMAP** or **USEMAP** attribute.

The attributes of the **<BUTTON>** [p.201] element are restricted to:

- Common attributes **CLASS**, **ID** and **TITLE**.
See subclause 11.2 on page 8.
- Internationalization attributes **DIR** and **LANG**.
See subclause 11.3 on page 8.
- **DISABLED**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- **NAME**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required if the **TYPE** attribute has the value **submit**.
- **TABINDEX**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

- **TYPE**

Specifies the behaviour associated with the button and takes one of the following values:

- **TYPE=reset**

See the W3C Working Draft 17-Sep-1997 for HTML 4.0. If the **<BUTTON>** [p.201] is contained in a **<FIELDSET>** [p.208], the reset action is limited to the contents of the **<FIELDSET>** [p.208].

- **TYPE=submit**

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

- **VALUE**

See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required if the **TYPE** attribute has the value **submit** and specifies the value to be returned if the button is selected.

The **TYPE** attribute shall be provided, and when the **TYPE** is specified as **submit**, the **NAME** and **VALUE** attributes shall be provided.

24 Refinement of the **COL** element — Table column properties

The attributes of the **<COL>** [p.103] element are restricted to:

- Common attributes **CLASS**, **ID** and **TITLE**.
See subclause 11.2 on page 8.
- Internationalization attributes **DIR** and **LANG**.
See subclause 11.3 on page 8.
- **SPAN**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

25 Refinement of the **COLGROUP** element — Table column group properties

The attributes of the **<COLGROUP>** [p.103] element are restricted to:

- Common attributes **CLASS**, **ID** and **TITLE**.
See subclause 11.2 on page 8.

- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- SPAN
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

The SPAN attribute should only be used if the <COLGROUP> [p.103] element has no content.

26 Refinement of the HEAD element — Document header

The <HEAD> [p.51] element content model defined by this Final CD does not include the <SCRIPT> [p.218] element.

The start tag of the <HEAD> [p.51] element is required and shall not be omitted.

27 Refinement of the H1 element — Major section header

This Final CD provides two formal definitions for the <H1> [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the <H1> [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H1      - -      (%text;)+ >
<!ELEMENT DIV1   0 0
  (%section.content;,(H2,DIV2)*) >
<!ATTLIST H1
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H1      - -      (%text;)+ >
<!ATTLIST H1
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

The <H1> [p.62] element specifies the beginning of a major section of a document and contains the title of that major section.

If **Structure** is present in the formal public identifier, the sections shall be correctly nested. The <H1> [p.62] element shall not be followed by an <H3> [p.62], <H4> [p.62], <H5> [p.62], or <H6> [p.62] element without an

intervening <H2> [p.62] element. The <DIV1> element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the <H1> [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

27.1 Example of structured headings

```
<H1>Continent</H1>
...
<H2>Country</H2>
...
<H3>Province</H3>
...
<H4>County</H4>
...
<H5>City</H5>
...
<H3>State</H3>
...
<H4>City</H4>
...
```

28 Refinement of the H2 element — Section header

This Final CD provides two formal definitions for the <H2> [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the <H2> [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H2      - -      (%text;)+ >
<!ELEMENT DIV2   0 0
  (%section.content;,(H3,DIV3)*) >
<!ATTLIST H2
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H2 - - (%text;)+ >
<!ATTLIST H2
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

The <H2> [p.62] element specifies the beginning of a section of a document and contains the title of that section.

If **Structure** is present in the formal public identifier, this Final CD requires the correct nesting of sections. The <H2> [p.62] element shall not be followed by an <H4> [p.62], <H5> [p.62], or <H6> [p.62] element without an intervening <H3> [p.62] element. An <H2> [p.62] element shall be preceded by an <H1> [p.62] element. The <DIV2> element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the <H2> [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

29 Refinement of the H3 element — Subsection header

This Final CD provides two formal definitions for the <H3> [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the <H3> [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H3 - - (%text;)+ >
<!ELEMENT DIV3 0 0
  (%section.content;, (H4,DIV4)*) >
<!ATTLIST H3
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H3 - - (%text;)+ >
<!ATTLIST H3
```

```
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

The <H3> [p.62] element specifies the beginning of a subsection of a document and contains the title of the subsection.

If **Structure** is present in the formal public identifier, this Final CD requires the correct nesting of sections. The <H3> [p.62] element shall not be followed by an <H5> [p.62] or <H6> [p.62] element without an intervening <H4> [p.62] element. An <H3> [p.62] element shall be preceded by an <H1> [p.62] element. The <DIV3> element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the <H3> [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

30 Refinement of the H4 element — Subsubsection header

This Final CD provides two formal definitions for the <H4> [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the <H4> [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H4 - - (%text;)+ >
<!ELEMENT DIV4 0 0
  (%section.content;, (H5,DIV5)*) >
<!ATTLIST H4
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H4 - - (%text;)+ >
<!ATTLIST H4
  %core; -- CLASS, ID and TITLE --
  %i18n; -- DIR and LANG --
  %heading.addon; >
```

The `<H4>` [p.62] element specifies the beginning of a subsubsection of a document and contains the title of the subsubsection.

If **Structure** is present in the formal public identifier, this Final CD requires the correct nesting of sections. The `<H4>` [p.62] element shall not be followed by an `<H6>` [p.62] element without an intervening `<H5>` [p.62] element. An `<H4>` [p.62] element shall be preceded by an `<H1>` [p.62] element. The `<DIV4>` element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the `<H4>` [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

31 Refinement of the H5 element — Subsubsection header

This Final CD provides two formal definitions for the `<H5>` [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the `<H5>` [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H5      - -      (%text;)+ >
<!ELEMENT DIV5   0 0
    (%section.content;,(H6,DIV6)*) >
<!ATTLIST H5
    %core; -- CLASS, ID and TITLE --
    %i18n; -- DIR and LANG --
    %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H5      - -      (%text;)+ >
<!ATTLIST H5
    %core; -- CLASS, ID and TITLE --
    %i18n; -- DIR and LANG --
    %heading.addon; >
```

The `<H5>` [p.62] element specifies the beginning of a subsubsection of a document and contains the title of the subsubsection.

If **Structure** is present in the formal public identifier, this Final CD requires the correct nesting of sections. An `<H5>` [p.62] element shall be preceded by an `<H1>` [p.62] element. The `<DIV5>` element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the `<H5>` [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

32 Refinement of the H6 element — Minor subsubsection header

This Final CD provides two formal definitions for the `<H6>` [p.62] element. The active definition depends on the presence or absence of the **Structure** keyword specified in the formal public identifier (see subclause 12.1.1 on page 9). If **Structure** is present, the definition of the `<H6>` [p.62] element requires the correct nesting of headings and sections:

```
<!ELEMENT H6      - -      (%text;)+ >
<!ELEMENT DIV6   0 0      %section.content; >
<!ATTLIST H6
    %core; -- CLASS, ID and TITLE --
    %i18n; -- DIR and LANG --
    %heading.addon; >
```

If **Structure** is absent, a simpler definition allows unstructured documents:

```
<!ELEMENT H6      - -      (%text;)+ >
<!ATTLIST H6
    %core; -- CLASS, ID and TITLE --
    %i18n; -- DIR and LANG --
    %heading.addon; >
```

The `<H6>` [p.62] element specifies the beginning of a minor subsubsection of a document and contains the title of the minor subsubsection.

Both start and end tags are required.

If **Structure** is present in the formal public identifier, this Final CD requires the correct nesting of sections. An `<H6>` [p.62] element shall be preceded by an

<H1> [p.62] element. The <DIV6> element is for internal use only within the DTD and is not a part of the language. It shall not appear in any ISO-HTML document or associated style sheet.

It is recommended that authors of high value documents intended for further processing specify the **Structure** keyword.

The attributes of the <H6> [p.62] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

33 Refinement of the IMG element — Inline images

Non-graphical user agents should process the value of the ALT attribute as an alternative to processing the image resource indicated by the SRC attribute.

The attributes of the [p.140] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- ALT
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- ISMAP

If the ISMAP attribute is present in an [p.140] element, the [p.140] element shall be contained in an <A> [p.128] element with an HREF attribute present. This construct represents a set of hyperlinks. The user can choose from the set by selecting a pixel on the image. The user agent computes the target URL by appending the character ‘?’ and the comma separated x and y coordinates of the selected pixel to the URL given in the <A> [p.128] element.

Note 13 *The server-side image maps supported by the ISMAP attribute may be of use in cases where the image map is too complicated for the user agent to handle, but in general, authors should prefer client-side image maps.*

- LONGDESC

The value of the ALTSRC attribute is a URL [BLMM94] which specifies an extended description suitable for a text-only or speech-based user agent. Use of either this attribute or the ALT attribute is vital for interoperability with speech-based and text only user agents.

- SRC, USEMAP.

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

The SRC and ALT attributes shall be provided. At most one of the attributes ISMAP and USEMAP may be provided.

34 Refinement of the INPUT element — User input field

The TYPE attribute of the <INPUT> [p.196] element discriminates between several different types of input field. The set of applicable attributes depends on the value of the TYPE attribute as specified in the following subclauses. By default the value of the TYPE attribute is **text**.

Note 14 *The value `button` for the attribute TYPE is not available in this specification. Authors wishing to place button-like devices in documents should use the <BUTTON> [p.201] element (see clause 23 on page 14).*

The attributes of the <INPUT> [p.196] element are restricted to ACCEPT, ACCESSKEY, CHECKED, DISABLED, MAXLENGTH, NAME, READONLY, SIZE, TABINDEX, TYPE and VALUE. Their use depends on the value of the TYPE attribute as specified in the following subclauses.

34.1 TYPE=checkbox

An <INPUT> [p.196] element with TYPE=checkbox specifies a boolean choice. A set of <INPUT> [p.196] elements in the same <FORM> [p.193] element with the same NAME attribute value represents an n-of-many choice.

The other attribute values are as follows:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- ACCESSKEY, CHECKED, DISABLED.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

- **NAME**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.
- **TABINDEX**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. The value is a non-negative integer.
- **VALUE**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.

34.2 **TYPE=file**

An `<INPUT>` [p.196] element with `TYPE=file` provides a means for users to attach a file to a form's contents. The `<INPUT>` [p.196] is typically structured within a `<FIELDSET>` [p.208] containing a text and an associated `<BUTTON>` [p.201] which when selected invokes a file browser to select a file name. The file name can also be entered directly in the text field. See RFC 1867 for further details [NM95].

It is important that a user agent not send any file that the user has not explicitly asked to be sent. Thus ISO-HTML interpreting agents are expected to confirm any default file names that might be suggested. Fields specifying files shall not be hidden.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCEPT`, `ACCESSKEY`, `DISABLED`, `MAXLENGTH`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- **NAME**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.
- **SIZE**, **TABINDEX**.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

34.3 **TYPE=hidden**

An `<INPUT>` [p.196] element with `TYPE=hidden` declares that fields should not be rendered—they are hidden from the user. The user does not interact with the field; instead, the `VALUE` attribute specifies the value of the field.

The `NAME` and `VALUE` attributes are required, and are returned to the server when the form is submitted.

Note 15 *This input element may be used to handle state information in a form.*

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- **ACCESSKEY**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- **NAME**, **VALUE**.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. These attributes are required.

34.4 **TYPE=password**

An `<INPUT>` [p.196] element with `TYPE=password` specifies a single line text field into which users may type a password. As the user types, the characters are usually echoed as '*' to hide the password from prying eyes.

Application designers should note that this is only a light security protection. Although the password is masked by the browser from casual observers, it is transmitted back to the server in clear text, and can be read by anyone with low-level access to the network.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCESSKEY`, `DISABLED`, `MAXLENGTH`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- **NAME**
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.
- **SIZE**, **TABINDEX**.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

34.5 TYPE=radio

An `<INPUT>` [p.196] element with `TYPE=radio` specifies a boolean choice. A set of `<INPUT>` [p.196] elements in a `<FORM>` [p.193] element with the same `NAME` attribute value represents a 1-of-many choice.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCESSKEY`, `CHECKED`, `DISABLED`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- `NAME`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.
- `TABINDEX`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- `VALUE`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.

At all times one and only one of the radio buttons in a set is checked. Initially, if none of the `<INPUT>` [p.196] elements in a set of radio buttons specifies `CHECKED`, then the user agent shall mark the first radio button of the set as checked.

34.6 TYPE=reset

An `<INPUT>` [p.196] element with `TYPE=reset` specifies an input option, usually represented by a button, that instructs the user agent to reset the form's fields to their initial states.

This behaviour is also offered by the `<BUTTON>` [p.201] element which should be preferred.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCESSKEY`, `DISABLED`, `TABINDEX`, `VALUE`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

34.7 TYPE=submit

An `<INPUT>` [p.196] element with `TYPE=submit` represents an input option, typically a button, that instructs the user agent to submit the form.

This behaviour is also offered by the `<BUTTON>` [p.201] element which should be preferred.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCESSKEY`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- `NAME`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required if the `VALUE` attribute is present .
- `TABINDEX`, `VALUE`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

34.8 TYPE=text

An `<INPUT>` [p.196] element with `TYPE=text` specifies a single line text field into which users may type a string.

The other attribute values are as follows:

- Common attributes `CLASS`, `ID` and `TITLE`.
See subclause 11.2 on page 8.
- Internationalization attributes `DIR` and `LANG`.
See subclause 11.3 on page 8.
- `ACCESSKEY`, `DISABLED`, `MAXLENGTH`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- `NAME`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.
- `READONLY`, `SIZE`, `TABINDEX`.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- `VALUE`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This attribute is required.

35 Refinement of the ISO-HTML element — Document instance

The start and end tags of the `<ISO-HTML>` [p.50] element are required, and shall not be omitted.

36 Refinement of the LABEL element — Form field label

The `<LABEL>` [p.206] element shall refer to a form field in the content of the `<FORM>` [p.193] element which contains the `<LABEL>` [p.206].

37 Refinement of the LINK element — Interdocument relations

The attributes of the `<LINK>` [p.133] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- HREF
See the HREF attribute of the `<A>` [p.128] element (clause 17 on page 12).
- MEDIA
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- REL
The REL attribute defines the relationship of the target anchor to the source anchor. See the W3C Working Draft 17-Sep-1997 for HTML 4.0.
- REV
The REV attribute defines the relationship of the source anchor to the target anchor. The same generally recognised values are available for the REV attribute as for the REL attribute, but the semantics are reversed for a given link. For example

– REV=contents

This document serves as a table of contents for the document referred to by the link.

The corresponding behaviour of the user agent is not specified in this Final CD.

- TYPE

See the W3C Working Draft 17-Sep-1997 for HTML 4.0 and [FB96] for further information.

37.1 Example

In this example the current document is “Chapter2.html”, and the links describe the relationships with the preceding and following chapters:

```
<HEAD>
<LINK REL="Index"      HREF="../index.html">
<LINK REL="Next"      HREF="Chapter3.html">
<LINK REV="Previous"  HREF="Chapter3.html">
<LINK REV="Next"      HREF="Chapter1.html">
</HEAD>
```

If the HREF is unchanged, changing REL to REV requires reversing the semantics of the REL/REV attribute.

38 Refinement of the MAP element — Client-side image map

The NAME attribute shall be provided. Its value is case sensitive, and the attribute value specification shall be processed as if the declared value were NAME.

Note 16 *Entity references and character references are replaced, entity ends and record starts are removed, record end and separator characters are replaced by a space. Any sequence of space characters is replaced by a single space and leading and trailing spaces are deleted, [Gol90, 7.9.3 p.331 and 10.1.7 p.380].*

39 Refinement of the OBJECT element — Simple agent

The attributes of the `<OBJECT>` [p.142] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8. The ID attribute is also available to assist inter agent communication.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

- CLASSID, CODEBASE, CODETYPE, DATA, DECLARE, SHAPES, STANDBY, TABINDEX, TYPE, USEMAP.

See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

40 Refinement of the Q element — Quote

The contents of the <Q> [p.78] element shall not be surrounded with quotation marks. These may be added by the user agent through the use of a style sheet.

40.1 Example

A <Q LANG=de>quotation in German</Q>
and a <Q LANG=fr>quotation in French</Q>.

might be rendered as:

A „quotation in German” and a « quotation in French ».

41 Refinement of the TABLE element — Tables

The attributes of the <TABLE> [p.98] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- COLS
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

42 Refinement of the TBODY element — Table body

The start tag is required for <TBODY> [p.101] element.

43 Refinement of the TD element — Table data cell

The attributes of the <TD> [p.107] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- AXES, COLSPAN and ROWSPAN.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

44 Refinement of the TH element — Table header

The attributes of the <TH> [p.107] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.
- The specific attributes AXES, AXIS, COLSPAN and ROWSPAN.
See the W3C Working Draft 17-Sep-1997 for HTML 4.0.

45 Refinement of the TR element — Table row

It is recommended that authors pay attention to the following points in order to avoid inconsistent rendering of their tables.

The <TR> [p.106] element should require exactly the same number of columns as

1. The number of columns specified by the COLS attribute of the containing <TABLE> [p.98] element, if present,
2. The number of columns specified by the <COL> [p.103] or <COLGROUP> [p.103] elements in the containing <TABLE> [p.98] element, if present,

taking into account the effect of the ROWSPAN and COLSPAN attributes of the <TD> [p.107] and <TH> [p.107] elements, the SPAN attributes of the <COL> [p.103] and <COLGROUP> [p.103] elements and the padding of incomplete rows by a user agent.

The attributes of the <TR> [p.106] element are restricted to:

- Common attributes CLASS, ID and TITLE.
See subclause 11.2 on page 8.
- Internationalization attributes DIR and LANG.
See subclause 11.3 on page 8.

46 Normative Annex 1 — Inline style extensions to the language

This annex describes facilities which are included in the language when the document type declaration contains the keyword `InLineStyle` (see subclause 12.1.2 on page 9 and subclause 12.1.4 on page 9):

- The `<STYLE>` [p.162] element which is included in the contents of the `<HEAD>` [p.51] element (see clause 26 on page 15).
- The `STYLE` attribute which is included in the general attributes defined by parameter entity `%core`; (see subclause 11.2 on page 8).

Although this Final CD recommends the complete separation of content and style, it is simpler for authors creating documents that are not intended for re-use to include style information with the document. This normative annex specifies an *InLineStyle* facility which allows style information to be placed in the document. The style language is not defined by this specification.

46.1 Refinement of the `STYLE` element — Inline style specification

The `<STYLE>` [p.162] element contains style sheet information which shall be passed to the user agent's style manager. Any style sheet language may be used, and none is defined by this specification.

It is a user agent error to render the style sheet information as if it were part of the document's text.

This Final CD recommends that authors:

1. Offer a range of styles for their documents to take into account the different types of user agent on which the document may be rendered, and the special needs of the readers, eg. larger fonts for the visually impaired.
2. Do not use style as an intrinsic part of the content. For example: *The correct answer is shown in green, the others are in red*, would be useless on a user agent which does not render colours.
3. Specify the default style sheet language using the `<META>` [p.53] element.

46.2 Additional common attribute for inline style

The `InLineStyle` facility provides a further common attribute in addition to those defined in subclause 11.2 on page 8.

- `STYLE`
See the W3C Working Draft 17-Sep-1997 for HTML 4.0. This Final CD does not specify any style sheet language.

46.2.1 Example

Assuming that the default style sheet language has been set with the declaration:

```
<META HTTP-EQUIV="Content-Style-Type"
      CONTENT="text/css">
```

then the markup

```
<P STYLE="font-size: 12pt;
          color: fuschia">
```

Isn't this pretty?

would set the colour and the font size attributes for the paragraph.

47 Normative Annex 2 — SGML engineering

This annex describes the SGML techniques that are used in the formal specification of ISO-HTML, its features and extensions. Validating systems (see subclause 4.2 on page 1) are required to support these techniques, but conforming systems (see subclause 4.3 on page 2) are not.

The engineering is based on a three step process:

1. The ISO-HTML document instance always contains a DOCTYPE declaration (see subclause 12.1 on page 9 and [Gol90, p.402]), which identifies the set of features to be used. The formal public identifiers in the DOCTYPE declarations are used as keys in an SGML Open catalogue which identifies the files, known as *packages*, which specify the corresponding external subsets. There are no internal subsets, since conforming systems are not required to support this construction.
2. The packages declare values for the %InLineStyle; and %Structure; parameter entities which manage the customisation of the DTD. The packages then declare the entities (files) which contain the document type definition. The formal public identifiers in the entity declarations are used as keys in an SGML Open catalogue to identify the corresponding files. The packages then reference these entities.
3. The SGML parser parses the files making up the formal definition of ISO-HTML, taking into account the values of the parameter entities specified by the designated package.

47.1 Step 1 — Package identification

The five DOCTYPE declarations defined by subclause 12.1 on page 9 for general use are:

```
<!DOCTYPE ISO-HTML PUBLIC "ISO 15445:1998//DTD ISO-HTML Structure//EN">
<!DOCTYPE ISO-HTML PUBLIC "ISO 15445:1998//DTD ISO-HTML Structure InLineStyle//EN">
<!DOCTYPE ISO-HTML PUBLIC "ISO 15445:1998//DTD ISO-HTML InLineStyle Structure//EN">
<!DOCTYPE ISO-HTML PUBLIC "ISO 15445:1998//DTD ISO-HTML//EN">
<!DOCTYPE ISO-HTML PUBLIC "ISO 15445:1998//DTD ISO-HTML InLineStyle//EN">
```

The formal public identifiers in these declarations are used to identify the corresponding package in the following SGML Open catalogue fragment:

```
PUBLIC "ISO 15445:1998//DTD ISO-HTML Structure//EN"      15445.struct.nostyle.package
PUBLIC "ISO 15445:1998//DTD ISO-HTML Structure InLineStyle//EN"
                                                    15445.struct.style.package
PUBLIC "ISO 15445:1998//DTD ISO-HTML InLineStyle Structure//EN"
                                                    15445.struct.style.package
PUBLIC "ISO 15445:1998//DTD ISO-HTML//EN"              15445.nostruct.nostyle.package
PUBLIC "ISO 15445:1998//DTD ISO-HTML InLineStyle//EN"  15445.nostruct.style.package
```

Note 17 *The four file names are system dependent. Shorter names may be needed on restricted operating systems.*

47.1.1 Example of a package

The packages all have the same structure.

Here is the package `iso-html.nostruct.style.package` corresponding to use of the keyword `InLineStyle`:

```
<!-- 15445.nostruct.style.package
Copyright (C) W3C, ISO, 1997
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in ISO/IEC 15445, provided this copyright notice is included in
all copies.
This package contains
a) A declaration of parameter entity InLineStyle which calls for the
```

```

        inclusion of the <STYLE> element and the STYLE attribute,
    b) A declaration of parameter entity Structure which removes the
        requirement for correct nesting of sections,
    c) The ISO-HTML entity set,
    d) The ISO-HTML DTD,
    e) The HTMLlat1 entity set,
    f) The HTMLsymbol entity set,
    g) The HTMLspecial entity set.
-->
        <!-- Specify the facilities to be included -->
<!ENTITY % Structure "IGNORE" >
<!ENTITY % InLineStyle "INCLUDE" >

        <!-- Specify entity sets required by ISO-HTML -->
<!ENTITY % ISOhtme PUBLIC "ISO 15445:1998//ENTITIES ISO-HTML//EN" >
<!ENTITY % ISOhtml PUBLIC "ISO 15445:1998//DTD ISO-HTML SGML//EN">
<!ENTITY % HTMLlat1 PUBLIC "-//W3C//ENTITIES Full Latin 1//EN//HTML" >
<!ENTITY % HTMLsymbol PUBLIC "-//W3C//ENTITIES Symbolic//EN//HTML" >
<!ENTITY % HTMLspecial PUBLIC "-//W3C//ENTITIES Special//EN//HTML" >

        <!-- Invoke parameter entities for ISO-HTML -->
%HTMLlat1;%HTMLsymbol;%HTMLspecial;%ISOhtme;%ISOhtml;

```

47.2 Step 2 — Declaration of parameter entities

Each package contains declarations of those parameter entities for which the default value defined in clause 49 on page 28 is not acceptable. The values in the packages take precedence over the default values provided in clause 49 on page 28 (see [Gol90, 9.4.4.1 p.351]).

The parameter entities are:

- **%InLineStyle**; If the value is `IGNORE`, the `<STYLE>` [p.162] element and the `STYLE` attribute are excluded. If the value is `INCLUDE`, the `<STYLE>` [p.162] element and the `STYLE` attribute are included. By default, the value is `IGNORE`.
- **%Structure**; If the value is `INCLUDE`, the mechanisms which require correct nesting of the elements `<H1>` [p.62] through `<H6>` [p.62] are included. If the value is `IGNORE`, the mechanisms which require correct nesting of headings are omitted.

The ISO-HTML entity set (see clause 49 on page 28), defines the inverse parameter entities `%NoInLineStyle`; and `%NoStructure`; . The result is that the packages specify the following parameter entities:

- Base package, no features.

```

- %InLineStyle; = IGNORE, %NoInLineStyle; = INCLUDE
- %Structure; = INCLUDE, %NoStructure; = IGNORE

```

- Inline style package.

```

- %InLineStyle; = INCLUDE, %NoInLineStyle; = IGNORE
- %Structure; = INCLUDE, %NoStructure; = IGNORE

```

- Unstructured package.

```

- %InLineStyle; = IGNORE, %NoInLineStyle; = INCLUDE
- %Structure; = IGNORE, %NoStructure; = INCLUDE

```

- Unstructured with inline style package.
 - %InLineStyle; = INCLUDE, %NoInLineStyle; = IGNORE
 - %Structure; = IGNORE, %NoStructure; = INCLUDE

47.3 Step 3 — Parsing the formal definition

The SGML parser parses the files making up the formal definition of ISO-HTML, taking into account the values of the %InLineStyle;, %NoInLineStyle;, %Structure; and %NoStructure; parameter entities specified in step 2. The parameter entities control the inclusion or exclusion of marked sections, see [Gol90, 10.4 p.391], thus changing the formal definitions.

A typical usage of the parameter entities is in the addition of the element <STYLE> [p.162](see subclause 46.1 on page 23), to the content model of the <HEAD> [p.51] element (see subclause 14.3 on page 10).

```
<![ %InLineStyle;
 [
   <!ENTITY % head.extend    "STYLE" -- Extended head content model -->
 ]]>
<![ %NoInLineStyle;
 [
   <!ENTITY % head.extend    "NOP"  -- Place holder -->
 ]]>
```

When the author's DOCTYPE declaration calls for the base package, this is the same as:

```
<!ENTITY % head.extend    "NOP"  -- Place holder -->
```

but when the author's DOCTYPE declaration calls for the InLineStyle package this is the same as:

```
<!ENTITY % head.extend    "STYLE" -- Extended head content model -->
```

48 Normative Annex 3 — The SGML declaration

```
<!SGML "ISO 8879:1986"
-- ISO/IEC 15445 Hypertext Markup Language (ISO-HTML)
   SGML Declaration
```

```
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```

```
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```

```
--
```

```
CHARSET
```

```
-- The character set description is limited to the characters
with numbers 0-255 during testing, so we comment out the
full description [Goldfarb p.453].
```

```
BASESET "ISO Registration Number 177//CHARSET
        ISO/IEC 10646-1:1993 UCS-4
        with implementation level 3//ESC 2/5 2/15 4/6"
DESCSET  0          9 UNUSED
         9          2      9
        11         2 UNUSED
```

```

13          1    13
14          18 UNUSED
32          95    32
127         1 UNUSED
128         32 UNUSED
160        65376 160 --

```

-- This is a temporary character set description in which we use only 256 character positions while testing --

```

BASESET "ISO 646:1983//CHARSET
International Reference Version
(IRV)//ESC 2/5 4/0"
DESCSET  0          9 UNUSED
          9          2    9
          11         2 UNUSED
          13         1    13
          14         18 UNUSED
          32         95    32
          127        1 UNUSED
BASESET "ISO Registration Number 100//CHARSET
ECMA-94 Right Part of
Latin Alphabet Nr. 1//ESC 2/13 4/1"
DESCSET  128         32 UNUSED
          160        96    160

```

--

In ISO 10646, the positions with hexadecimal values 0000D800 - 0000DFFF, used in the UTF-16 encoding of UCS-4, are reserved, as well as the last two code values in each plane of UCS-4, i.e. all values of the hexadecimal form xxxxFFFE and xxxxFFFF. These code values or the corresponding numeric character references shall not be included when generating an ISO-HTML document, and they should be ignored if encountered when processing an HTML document.

--

```

CAPACITY      SGMLREF
              TOTALCAP      150000
              GRPCAP        150000
              ENTCAP        150000

```

```

SCOPE  DOCUMENT
SYNTAX

```

```

SHUNCHAR CONTROLS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
              17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 127
BASESET "ISO 646:1983//CHARSET
International Reference Version
(IRV)//ESC 2/5 4/0"

```

--* Note we differ from W3C on the escape values in BASESET --

```

DESCSET  0 128 0

```

```

FUNCTION
RE          13
RS          10
SPACE      32

```

```

TAB SEPCHAR 9 -- Deprecated --

NAMING  LCNMSTRT ""
        UCNMSTRT ""
        LCNMCHAR ".-" -- Wait for W3C to advise on extension --
        UCNMCHAR ".-" -- Wait for W3C to advise on extension --
        NAMECASE GENERAL YES
                ENTITY NO
DELIM   GENERAL SGMLREF
        SHORTREF SGMLREF

NAMES   SGMLREF
QUANTITY SGMLREF
        ATTSPLLEN 65536 -- These are the largest values --
        LITLEN   65536 -- permitted in the declaration. --
        NAMELEN  65536 -- Avoid fixed limits in actual --
        PILEN    65536 -- implementations of user agents. --
        TAGLVL   100
        TAGLEN   65536
        GRPGTCNT 150
        GRPCNT   64
--* Note we specify the ATTCNT. W3C dont --
        ATTCNT   41 -- Required by ISO TR 9573-11 DTD --
FEATURES
MINIMIZE
  DATATAG NO
  OMITTAG YES
  RANK NO
  SHORTTAG YES
LINK
  SIMPLE NO
  IMPLICIT NO
  EXPLICIT NO
OTHER
  CONCUR NO
  SUBDOC NO
  FORMAL YES
--* Note that W3C's declaration misses the following line.--
  APPINFO ""
>

```

49 Normative Annex 4 — The entity set

```

<!-- 15445.ent
      ISO/IEC 15445 Hypertext Markup Language (ISO-HTML) Entity Set.

```

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```

-->

```

```

<!-- Specify the default values for the entities which control the facilities
to be included.  These values may be over-ridden by the document
author but require that the SGML option be used in the formal public
identifier, since the technique requires use of the internal subset.
See Goldfarb 9.4.4.1 p.351. -->
<!ENTITY % Structure "INCLUDE" >
<!ENTITY % InLineStyle "IGNORE" >

<!-- This hack is needed to generate the inverse entities NoInLineStyle and
Structure which are internal to the DTD and are not for use by the
document author. -->
<!-- Define the inverse if Structure -->
<![ %Structure; [
<!ENTITY % NoStructure "IGNORE" -- Inverse of Structure = INCLUDE -->
    ]]>
<!ENTITY % NoStructure "INCLUDE" -- Inverse of Structure = IGNORE -->
<!-- Define the inverse if InLineStyle -->
<![ %InLineStyle; [
<!ENTITY % NoInLineStyle "IGNORE" -- Inverse of InLineStyle = INCLUDE -->
    ]]>
<!ENTITY % NoInLineStyle "INCLUDE" -- Inverse of InLineStyle = IGNORE -->
<!-- End of hack -->

    <!-- Interface for HTML extensions -->

<!-- Extensions may be pre-empted by placing earlier definitions of the
following parameter entities in the document type declaration subset -->

<!-- The in-line style facilities add the element <STYLE> to the
<HEAD> element inclusions. -->
<![ %InLineStyle; [
<!ENTITY % head.extend "STYLE" -- Extended head content model -->
    ]]>
<![ %NoInLineStyle; [
<!ENTITY % head.extend "NOP" -- Extend head content model -->
    ]]>
<!ENTITY % body.extend "NOP" -- Extend body content model -->

<!ENTITY % a.addon      "" -- Extend a element attribute set -->
<!ENTITY % address.addon "" -- Extend address element attribute set -->
<!ENTITY % area.addon   "" -- Extend area element attribute set -->
<!ENTITY % base.addon   "" -- Extend base element attribute set -->
<!ENTITY % bdo.addon    "" -- Extend bdo element attribute set -->
<!ENTITY % blockquote.addon "" -- Extend blockquote element attribute set -->
<!ENTITY % body.addon   "" -- Extend body element attribute set -->
<!ENTITY % br.addon     "" -- Extend br element attribute set -->
<!ENTITY % button.addon "" -- Extend button element attribute set -->
<!ENTITY % caption.addon "" -- Extend caption element attribute set -->
<!ENTITY % col.addon    "" -- Extend col element attribute set -->
<!ENTITY % colgroup.addon "" -- Extend colgroup element attribute set -->
<!ENTITY % dd.addon     "" -- Extend dd element attribute set -->

```

```

<!ENTITY % del.addon      "" -- Extend del element attribute set -->
<!ENTITY % div.addon      "" -- Extend div element attribute set -->
<!ENTITY % dl.addon       "" -- Extend dl element attribute set -->
<!ENTITY % dt.addon       "" -- Extend dt element attribute set -->
<!ENTITY % fieldset.addon "" -- Extend fieldset element attribute set -->
<!ENTITY % form.addon     "" -- Extend form element attribute set -->
<!ENTITY % head.addon     "" -- Extend head element attribute set -->
<!ENTITY % hr.addon       "" -- Extend hr element attribute set -->
<!ENTITY % img.addon      "" -- Extend image element attribute set -->
<!ENTITY % input.addon    "" -- Extend input element attribute set -->
<!ENTITY % ins.addon      "" -- Extend ins element attribute set -->
<!ENTITY % iso-html.addon "" -- Extend iso-html element attribute set -->
<!ENTITY % label.addon    "" -- Extend label element attribute set -->
<!ENTITY % legend.addon   "" -- Extend legend element attribute set -->
<!ENTITY % li.addon       "" -- Extend li element attribute set -->
<!ENTITY % link.addon     "" -- Extend link element attribute set -->
<!ENTITY % map.addon      "" -- Extend map element attribute set -->
<!ENTITY % meta.addon     "" -- Extend meta element attribute set -->
<!ENTITY % object.addon   "" -- Extend object element attribute set -->
<!ENTITY % ol.addon       "" -- Extend ol element attribute set -->
<!ENTITY % option.addon   "" -- Extend option element attribute set -->
<!ENTITY % p.addon        "" -- Extend p element attribute set -->
<!ENTITY % param.addon    "" -- Extend param element attribute set -->
<!ENTITY % pre.addon      "" -- Extend pre element attribute set -->
<!ENTITY % q.addon        "" -- Extend q element attribute set -->
<!ENTITY % select.addon   "" -- Extend select element attribute set -->
<!ENTITY % span.addon     "" -- Extend span element attribute set -->
<!ENTITY % table.addon    "" -- Extend table element attribute set -->
<!ENTITY % tbody.addon   "" -- Extend tbody element attribute set -->
<!ENTITY % td.addon       "" -- Extend td element attribute set -->
<!ENTITY % textarea.addon "" -- Extend textarea element attribute set -->
<!ENTITY % tfoot.addon    "" -- Extend tfoot element attribute set -->
<!ENTITY % th.addon       "" -- Extend th element attribute set -->
<!ENTITY % thead.addon    "" -- Extend thead element attribute set -->
<!ENTITY % title.addon    "" -- Extend title element attribute set -->
<!ENTITY % tr.addon       "" -- Extend tr element attribute set -->
<!ENTITY % ul.addon       "" -- Extend ul element attribute set -->

<!ENTITY % heading.addon  "" -- Extend heading elements attribute set -->

<!ENTITY % physical.style.addon "" -- Extend physical character style
                                attribute set -->
<!ENTITY % logical.style.addon "" -- Extend logical character style
                                attribute set -->

<!-- The in-line style facilities call for an additional generic attribute -->
<![ %InLineStyle; [
<!ENTITY % core.addon      -- Additional core attributes --
    "STYLE      CDATA      #IMPLIED -- Associated style information --"
    ]]>
<![ %NoInLineStyle; [
<!ENTITY % core.addon "" -- Additional core attributes --
    ]]>

```



```

<!-- SHORTREF mapping for the tab character -->
<!-- Use of the tab character is deprecated.  However, to facilitate
      the preparation of conforming documents by authors who use it,
      the tab character is tolerated and is mapped into a single space. -->
<!ENTITY nontab " " >
<!SHORTREF tabmap "&#TAB;" nontab >
<!USEMAP tabmap ISO-HTML >

<!-- End of file -->

```

50 Normative Annex 5 — The elements and attributes

```

<!-- 15445.dtd
      ISO/IEC 15445 Hypertext Markup Language (ISO-HTML)
      Document Type Definition.

```

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```
-->
```

```

<!ENTITY % version "FinalCD" >

      <!-- Document structure -->

<!--      ELEMENTS      MIN CONTENT (EXCEPTIONS) -->
<!ELEMENT ISO-HTML    - - (HEAD, BODY) >
<!-- %InLineStyle; controls the addition of <STYLE> to %head.extend; -->
<!ELEMENT HEAD        - 0 (TITLE & BASE?)
                        + (LINK | META | %head.extend;) >
<!ELEMENT TITLE       - - (#PCDATA)
                        - (LINK | META | %head.extend;) >
<!ELEMENT BASE        - 0 EMPTY >
<!ELEMENT LINK        - 0 EMPTY >
<!ELEMENT META        - 0 EMPTY >

<!-- The definition of the body and headings depends on
      the Structure option -->
<![ %Structure; [
<!-- The DIV1 through DIV6 elements are for DTD internal use only -->
<!ELEMENT BODY        - 0 (%section.content;, (H1,DIV1)* ) + (DEL|INS) >
<!ELEMENT H1          - - (%text;)+ >
<!ELEMENT DIV1       0 0 (%section.content;, (H2,DIV2)* ) >
<!ELEMENT H2          - - (%text;)+ >
<!ELEMENT DIV2       0 0 (%section.content;, (H3,DIV3)* ) >
<!ELEMENT H3          - - (%text;)+ >
<!ELEMENT DIV3       0 0 (%section.content;, (H4,DIV4)* ) >
<!ELEMENT H4          - - (%text;)+ >
<!ELEMENT DIV4       0 0 (%section.content;, (H5,DIV5)* ) >

```

```

<!ELEMENT H5          - - (%text;)+ >
<!ELEMENT DIV5       0 0 (%section.content; , (H6,DIV6)* ) >
<!ELEMENT H6          - - (%text;)+ >
<!ELEMENT DIV6       0 0 (%section.content;) >
    ]]>
<![ %NoStructure; [
<!ELEMENT BODY       - 0 (%section.content;|H1|H2|H3|H4|H5|H6)+ +(DEL|INS) >
<!ELEMENT (H1|H2|H3|H4|H5|H6) - - (%text;)+ >
    ]]>
<!ELEMENT DIV        - - %section.content; >
<!ELEMENT ADDRESS    - - (P | %text;)+ -(IMG|OBJECT|MAP) >
<!ELEMENT P          - 0 (%text;)+ >
<!ELEMENT (OL|UL)    - - (LI)+ >
<!ELEMENT LI         - 0 ((%text;)+ | (%block;)+) >
<!ELEMENT DL         - - (DT|DD)+ >
<!ELEMENT DT         - 0 (%text;)+ >
<!ELEMENT DD         - 0 %section.content; -(ADDRESS) >
<!ELEMENT PRE        - - (%text;)+ -(IMG|MAP|OBJECT|SUB|SUP|%body.extend;) >
<!ELEMENT BLOCKQUOTE - - %section.content; >
<!ELEMENT Q          - - (%text;)+ >
<!ELEMENT FORM       - - %form.content; -(FORM) >
<!-- Leading #PCDATA absorbs white space that otherwise chokes SGML. -->
<!ELEMENT FIELDSET   - - (#PCDATA,LEGEND,%form.content;) -(FIELDSET) >
<!ELEMENT INPUT      - 0 EMPTY >
<!ELEMENT BUTTON     - - (%text;)+ -(A|FIELDSET|FORM|%form.fields;) >
<!ELEMENT LABEL      - - (%text;|%form.fields;)+ -(LABEL) >
<!ELEMENT LEGEND     - - (#PCDATA) >
<!ELEMENT OPTION     - 0 (#PCDATA) >
<!ELEMENT SELECT     - - (OPTION)+ >
<!ELEMENT TEXTAREA   - - (#PCDATA) >
<!ELEMENT HR         - 0 EMPTY >
<!ELEMENT TABLE     - - ((CAPTION?) & ((COL*|COLGROUP*),
                          THEAD?, TFOOT?, TBODY+)) >
<!ELEMENT CAPTION    - - (%text;)+ >
<!ELEMENT (THEAD,TFOOT,TBODY) - 0 (TR)+ >
<!ELEMENT COL        - 0 EMPTY >
<!ELEMENT COLGROUP   - 0 (COL)* >
<!ELEMENT TR         - 0 (TH|TD)+ >
<!ELEMENT (TH|TD)    - 0 %table.content; >
<!ELEMENT (%physical.styles;|%logical.styles;)
    - - (%text;)+ >
<!ELEMENT A          - - (%text;)* -(A) >
<!ELEMENT IMG        - 0 EMPTY >
<!ELEMENT OBJECT     - - (PARAM | %section.content;)* >
<!ELEMENT PARAM      - 0 EMPTY >
<!ELEMENT BR         - 0 EMPTY >
<!ELEMENT MAP        - - (AREA)+ >
<!ELEMENT AREA       - 0 EMPTY >
<!ELEMENT SPAN       - - (%text;)+ >
<!ELEMENT (DEL|INS)  - - (%text;)+ >
<!ELEMENT BDO        - - (%text;)+ >
<!-- The InLineStyle facility introduces a STYLE element -->
<![ %InLineStyle; [

```

```

<!ELEMENT STYLE      - -  CDATA >
]]>
<!ELEMENT NOP        - 0  EMPTY -- for DTD internal use only -->

      <!-- Attribute definition lists -->

<!--      ELEMENTS
      NAME      VALUE      DEFAULT -->
<!ATTLIST A
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  ACCESSKEY  CDATA      #IMPLIED -- Accessibility key character --
  HREF       %URL;      #IMPLIED -- Source anchor is URL of target --
  NAME       CDATA      #IMPLIED -- Target anchor --
  REL        CDATA      #IMPLIED -- Forward link types --
  REV        CDATA      #IMPLIED -- Reverse link types --
  TABINDEX   NUMBER     #IMPLIED -- Position in tabbing order --
  %a.addon;
>
<!ATTLIST ADDRESS
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  %address.addon;
>
<!ATTLIST AREA
  ACCESSKEY  CDATA      #IMPLIED -- Accessibility key character --
  ALT        CDATA      #REQUIRED -- Description for text-only UAs --
  COORDS     CDATA      #IMPLIED -- Comma separated list of values --
  HREF       %URL;      #IMPLIED -- This region acts as hypertext link --
  NOHREF     (nohref)   #IMPLIED -- This region has no action --
  SHAPE      %shape;    rect -- Control interpretation of coords --
  TABINDEX   NUMBER     #IMPLIED -- Position in tabbing order --
  %area.addon;
>
<!ATTLIST BASE
  HREF       %URL;      #REQUIRED -- URL for resolving relative URLs --
  %base.addon;
>
<!ATTLIST BDO
  %core;                -- Element CLASS, ID and TITLE --
  DIR        (ltr|rtl)  #REQUIRED -- Direction of writing --
  LANG       NAME       #IMPLIED -- RFC1766 language value --
  %bdo.addon;
>
<!ATTLIST BLOCKQUOTE
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  CITE       %URL;      #IMPLIED -- URL for source document or message --
  %blockquote.addon;
>
<!ATTLIST BODY
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --

```

```

    %body.addon;
>
<!ATTLIST BR
    %core;                -- Element CLASS, ID and TITLE --
    %br.addon;
>
<!ATTLIST BUTTON
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    DISABLED (disabled) #IMPLIED -- Control unavailable in this context --
    NAME      CDATA      #IMPLIED -- Required for all except submit, reset --
    TABINDEX  NUMBER     #IMPLIED -- Position in tabbing order --
    TYPE (submit|reset)  submit -- For use as form submit/reset button --
    VALUE     CDATA      #IMPLIED -- Passed to server when submitted --
    %button.addon;
>
<!ATTLIST CAPTION
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    %caption.addon;
>
<!ATTLIST COL
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    SPAN      NUMBER     1 -- Number of cols spanned --
    %col.addon;
>
<!ATTLIST COLGROUP
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    SPAN      NUMBER     1 -- Number of cols spanned by group --
    %colgroup.addon;
>
<!ATTLIST DD
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    %dd.addon;
>
<!ATTLIST DEL
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    CITE      %URL;      #IMPLIED -- Information on reason for change --
    DATETIME  CDATA      #IMPLIED -- When changed, subset of ISO 8601 --
    %del.addon;
>
<!ATTLIST DIV
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    %div.addon; >
<!ATTLIST DL
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    %dl.addon;

```

```

>
<!ATTLIST DT
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %dt.addon;
>
<!ATTLIST FIELDSET
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %fieldset.addon;
>
<!ATTLIST FORM
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  ACCEPT-CHARSET CDATA #IMPLIED -- List of supported char sets --
  ACTION          %URL;      #REQUIRED -- Server-side form handler --
  ENCTYPE         %Content-Type; "application/x-www-form-urlencoded"
  METHOD          %HTTP-Method; get -- See HTTP specification --
  %form.addon;
>
<!ATTLIST HEAD
  %i18n;           -- Internationalization DIR and LANG --
  PROFILE         %URL;      #IMPLIED -- Named dictionary of meta info --
  %head.addon;
>
<!ATTLIST HR
  %core;           -- Element CLASS, ID and TITLE --
  %hr.addon;
>
<!ATTLIST IMG
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  ALT            CDATA      #REQUIRED -- Text for text-only user agent --
  ISMAP          (ismap)   #IMPLIED -- Use server image map --
  LONGDESC       %URL;     #IMPLIED -- Extended description for text UA --
  SRC            %URL;     #REQUIRED -- URL of image to embed --
  USEMAP         %URL;     #IMPLIED -- Use client-side image map --
  %img.addon;
>
<!ATTLIST INPUT
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  ACCEPT         CDATA      #IMPLIED -- List of MIME types for file upload --
  ACCESSKEY      CDATA      #IMPLIED -- Accessibility key character --
  CHECKED        (checked) #IMPLIED -- For radio buttons, checkboxes --
  DISABLED       (disabled) #IMPLIED -- Control unavailable in this context --
  MAXLENGTH      NUMBER     #IMPLIED -- Max chars for text fields --
  NAME           CDATA      #IMPLIED -- Required for all except submit, reset --
  READONLY       (READONLY) #IMPLIED -- For text --
  SIZE           CDATA      #IMPLIED -- Specific to each type of field --
  TABINDEX       NUMBER     #IMPLIED -- Position in tabbing order --
  TYPE           %InputType; text -- Widget --
  VALUE          CDATA      #IMPLIED -- Required for radio, checkboxes --

```

```

    %input.addon;
>
<!ATTLIST INS
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    CITE      %URL;      #IMPLIED -- Information on reason for change --
    DATETIME  CDATA      #IMPLIED -- When changed, subset of ISO 8601 --
    %ins.addon;
>
<!ATTLIST ISO-HTML
    %i18n;                -- Internationalization DIR and LANG --
    VERSION   CDATA      #FIXED   %version;
    %iso-html.addon;
>
<!ATTLIST LABEL
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    ACCESSKEY CDATA      #IMPLIED -- Accessibility key character --
    DISABLED  (disabled) #IMPLIED -- Control unavailable in this context --
    FOR       IDREF      #IMPLIED -- Points to associated field --
    %label.addon;
>
<!ATTLIST LEGEND
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    ACCESSKEY CDATA      #IMPLIED -- Accessibility key character --
    %legend.addon;
>
<!ATTLIST LI
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    VALUE     NUMBER     #IMPLIED -- Reset sequence number --
    %li.addon;
>
<!ATTLIST LINK
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    HREF      %URL;      #IMPLIED -- URL for link resource --
    MEDIA     CDATA      #IMPLIED -- Destination media of referenced doc --
    REL       CDATA      #IMPLIED -- Forward link types --
    REV       CDATA      #IMPLIED -- Reverse link types --
    TYPE      CDATA      #IMPLIED -- Advisory Internet content type --
    %link.addon;
>
<!ATTLIST MAP
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    NAME      CDATA      #REQUIRED -- Referenced by USEMAP in <IMG> --
    %map.addon;
>
<!ATTLIST META
    %i18n;                -- Internationalization DIR and LANG --
    CONTENT   CDATA      #REQUIRED -- Associated information --

```

```

HTTP-EQUIV NAME      #IMPLIED -- HTTP response header name --
NAME                NAME      #IMPLIED -- Meta-information name --
SCHEME              CDATA      #IMPLIED -- Nature of content --
%meta.addon;
>
<!ATTLIST OBJECT
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  CLASSID             %URL;     #IMPLIED -- Identifies implementation --
  CODEBASE             %URL;     #IMPLIED -- Needed by some systems --
  CODETYPE            CDATA      #IMPLIED -- Internet content type for code --
  DATA               %URL;     #IMPLIED -- Reference to object's data --
  DECLARE              (declare) #IMPLIED -- Flag: declare but dont instantiate --
  SHAPES               (shapes)  #IMPLIED -- Object has shaped hypertext links --
  STANDBY              CDATA      #IMPLIED -- Show this msg while loading --
  TABINDEX            NUMBER     #IMPLIED -- Position in tabbing order --
  TYPE                 CDATA      #IMPLIED -- Internet content type for data --
  USEMAP              %URL;     #IMPLIED -- Reference to image map --
%object.addon;
>
<!ATTLIST OL
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  START               NUMBER     #IMPLIED -- Start sequence number --
%ol.addon;
>
<!ATTLIST OPTION
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  DISABLED             (disabled) #IMPLIED -- Control unavailable in this context --
  SELECTED             (selected) #IMPLIED -- Pre-selected option --
  VALUE                CDATA      #IMPLIED -- Defaults to content --
%option.addon;
>
<!ATTLIST P
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
%p.addon;
>
<!ATTLIST PARAM
  ID                   ID         #IMPLIED -- Document-wide unique id --
  NAME                 CDATA      #REQUIRED -- Name of parameter --
  TYPE                 CDATA      #IMPLIED -- Internet Media Type --
  VALUE                CDATA      #IMPLIED -- Value of parameter --
  VALUETYPE            (data|ref|object)
                        data      -- Interpret value as --
%param.addon;
>
<!ATTLIST PRE
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --


```
pre.addon;
>
```


```

```

<!ATTLIST Q
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  CITE      %URL;      #IMPLIED -- URL for source document or message --
  %q.addon;
>
<!ATTLIST SELECT
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  DISABLED  (disabled) #IMPLIED -- Control unavailable in this context --
  MULTIPLE  (multiple) #IMPLIED -- Default is single selection --
  NAME      CDATA      #REQUIRED -- Field name --
  SIZE      NUMBER     #IMPLIED -- Rows visible --
  TABINDEX  NUMBER     #IMPLIED -- Position in tabbing order --
  %select.addon;
>
<!ATTLIST SPAN
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  %span.addon;
>
<!-- The InLineStyle facility introduces attributes for the STYLE element -->
<![ %InLineStyle; [
<!ATTLIST STYLE
  %i18n;                -- Internationalization DIR and LANG --
  MEDIA      CDATA      #IMPLIED -- Designed for use with these media --
  TITLE      CDATA      #IMPLIED -- Advisory title --
  TYPE      CDATA      #REQUIRED -- Internet content type for style lang. --
>
      ]]>
<!ATTLIST TABLE
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  COLS      NUMBER     #IMPLIED -- Used for immediate display mode --
  %table.addon;
>
<!ATTLIST TBODY
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  %tbody.addon;
>
<!ATTLIST TD
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --
  AXIS      CDATA      #IMPLIED -- Abbreviated name for header cell --
  AXES      CDATA      #IMPLIED -- List of row and column header names --
  COLSPAN   NUMBER     1 -- Number of columns spanned by cell --
  ROWSPAN   NUMBER     1 -- Number of rows spanned by cell --
  %td.addon;
>
<!ATTLIST TEXTAREA
  %core;                -- Element CLASS, ID and TITLE --
  %i18n;                -- Internationalization DIR and LANG --

```

```

COLS      NUMBER  #REQUIRED -- Number required in av char widths --
DISABLED  (disabled) #IMPLIED -- Control unavailable in this context --
NAME      CDATA   #REQUIRED -- Name of form field --
READONLY  (readonly) #IMPLIED -- For text --
ROWS      NUMBER  #REQUIRED -- Number of rows required --
TABINDEX  NUMBER   #IMPLIED -- Position in tabbing order --
%textarea.addon;
>
<!ATTLIST TFOOT
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %tfoot.addon;
>
<!ATTLIST TH
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  AXIS          CDATA   #IMPLIED -- Abbreviated name for header cell --
  AXES          CDATA   #IMPLIED -- List of row and column header names --
  COLSPAN       NUMBER  1 -- Number of columns spanned by cell --
  ROWSPAN       NUMBER  1 -- Number of rows spanned by cell --
  %th.addon;
>
<!ATTLIST THEAD
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %thead.addon;
>
<!ATTLIST TITLE
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %title.addon;
>
<!ATTLIST TR
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %tr.addon;
>
<!ATTLIST UL
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %ul.addon;
>

      <!-- Attribute group definition lists -->

<!ATTLIST (%physical.styles;)
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --
  %physical.style.addon;
>
<!ATTLIST (%logical.styles;)
  %core;           -- Element CLASS, ID and TITLE --
  %i18n;          -- Internationalization DIR and LANG --

```

```
    %logical.style.addon;
>
<!ATTLIST (H1 | H2 | H3 | H4 | H5 | H6)
    %core;                -- Element CLASS, ID and TITLE --
    %i18n;                -- Internationalization DIR and LANG --
    %heading.addon;
>

<!-- End of file -->
```

51 Informative Annex 1 — Maintenance of this Final CD

It is recognised that the World Wide Web is growing very quickly and that the organizations providing services on the web are becoming increasingly sophisticated in their management of web documents.

Every effort has been made to provide a language specification that is correct, extensible and rigorously specified. However since change is inevitable, facilities have been provided to manage the maintenance of this text.

An informal list of error notifications is available at the location <ftp://ftp.cs.tcd.ie/isohtml/errata>. This service is provided by Trinity College Dublin. Error notifications should be made via your national body [<http://www.iso.ch/adresse/address.html>] or via a liaison organization such as the World Wide Web Consortium [<http://www.w3.org>]. Once confirmed, error notifications will be made public on the server cited above, and will be incorporated in the formal ISO standard maintenance process.

52 Informative Annex 2 — Bibliography

References

- [BL94] Tim Berners-Lee. *RFC1630 Uniform Resource Identifiers in WWW: A unifying syntax for the expression of names and addresses of objects on the network as used in the World-Wide Web*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc1630.txt>>., June 1994.
- [BLC95] Tim Berners-Lee and Daniel W. Connolly. *RFC1866 HyperText Markup Language - 2.0*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc1866.txt>>., September 22nd 1995. ‘Proposed Standard’.
- [BLMM94] Tim Berners-Lee, Larry Masinter, and M. McCahill. *RFC1738 Uniform Resource Locators (URL)*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc1738.txt>>., December 1994.
- [FB96] N. Freed and N. Borenstein. *RFC2046 Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc2046.txt>>., November 1996. Obsoletes RFC1521, RFC1522 and RFC1590.
- [FGM⁺97] Roy T. Fielding, Jim Gettys, Jeffrey C. Mogul, Henrik Frystyk Nielsen, and Tim Berners-Lee. *RFC2068 HyperText Transfer Protocol — HTTP/1.1*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc2068.txt>>., January 1997.
- [Gol90] Charles F. Goldfarb. *The SGML Handbook*. Clarendon Press, Oxford University Press, Walton Street, Oxford, first edition, 1990. Use in preference to the ISO 8879 document which it contains.
- [LB96] Håkon W. Lie and Bert Bos. *Cascading Style Sheets, level 1*. Technical Report REC-CSS1-961217, W3C, <<http://www.w3.org/TR/REC-CSS1-961217.html>>, 1996.
- [NM95] E. Nebel and L. Masinter. *RFC1867 Form-based File Upload in HTML*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc1867.txt>>., November 1995.
- [RHJ97] Dave Ragget, Arnaud Le Hors, and Ian Jacobs. *HTML 4.0 Specification: W3C Working Draft*. Technical report, World Wide Web Consortium, <<http://www.w3.org/TR/WD-html40-970917/>>, 17th September 1997. Work in progress.
- [RP94] J. Reynolds and J. Postel. *RFC1700 Assigned Numbers*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc1700.txt>>., October 1994.
- [YNAD97] François Yergeau, Gavin T. Nicol, Glenn Adams, and Martin J. Dürst. *RFC2070 Internationalisation of the HyperText Markup Language*. Internet Engineering Task Force <<ftp://ds.internic.net/rfc/rfc2070.txt>>., January 1997.

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