

Understanding the HTML `<meta>` Tag

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1 Introduction

This document explores the `<meta>` tag in HTML, a crucial element for providing metadata about a web document. Metadata refers to data about data and, in the context of a webpage, it means information about the document that isn't displayed directly on the web page itself but is important for search engines, browsers, and other web services.

2 Usage of the `<meta>` Tag

The `<meta>` tag is placed within the `<head>` section of the HTML document and is used for specifying various kinds of metadata. These include page description, keywords, document author, character encoding, and viewport settings.

3 Common Attributes of the `<meta>` Tag

3.1 Name Attribute

The **name** attribute in the `<meta>` tag defines the type of information its **content** attribute will hold. Commonly used name attributes include:

- **description**: Provides a brief description of the page's content.
- **keywords**: Contains a list of keywords relevant to the page.
- **author**: Specifies the author's name of the HTML document.
- **viewport**: Used for controlling the layout on mobile browsers.

3.2 Charset Attribute

Contrary to the **name** attribute, the **charset** attribute is used independently to specify the character encoding of the HTML document, such as UTF-8.

4 Examples of <meta> Tag Usage

4.1 Specifying Character Encoding

```
<meta charset="UTF-8">
```

This line sets the document character encoding to UTF-8.

4.2 Setting the Viewport for Responsive Design

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

4.3 Adding a Description and Keywords

```
<meta name="description" content="Learn about the meta tag in HTML">  
<meta name="keywords" content="HTML, meta tag, web development">
```

5 Importance of the <meta> Tag

The <meta> tag plays a vital role in SEO (Search Engine Optimization), accessibility, and providing a better user experience. It helps search engines understand the content of a page and appropriately index and rank it. For mobile devices, it ensures that web pages render correctly according to screen size.