Summary

Generated using AI language models: distilbart and gec-t5_small for grammar correction

- XML stands for Extensible Markup Language. It started out more than ten years ago and was originally used by very few. XML now has a permanent place in IT systems. It’s hard to imagine an' non-trivial application' that doesn’t use XML for some degree.

- There are two main uses for XML: one is a wa y to represent low-level data, for example configuring ation files. The second is to add metada-glyta to documents; for example, you want to stress a particular sen-glytence in a report b y putting it in italics or bold. The document text is contained in an over all container, the body > element.

- A binary file, at its simplest, is just a stream of bits (1 s and 0 s). It’s up to the application that created the binary file to understand what all of the bits mean. Binary files can only be read and produced by computer programs, which have been written to under-ishlystand them.

- Text files are easier to read and manipulate than binary files. The main disadvantage of text files is their lack of support for metadata. XML has a way of specifying how a file was encoded, and you’ll see these later on. Text files can also be read by a wide range of applications, such as Notepad or W ordPad.

- Standard Generized Generized Markup Language (SGML) was released in the mid -1990 s. SGML allows you to create your own markup language and then define it using a standard syntax. The most ubiquitous example of this is HTML, which uses angular br ackets to separate text from basic text.

- The World Wide Web Consortium (W 3 C) is the main international standards organization for the Web. It has a number of working groups targeting different aspects of the Web that discuss standardization and contextualization of the different technologies used on the Internet. XML doesn’t dictate the over-all format of a file or what can be added, it just specifies a few rules.

- Using the XML format r ather than the plain text version, it’s much easier to map these data items within the ap-plication itself so they can be handled correctly. The two common features of virtually all XML files are called elements and attributes. A big disadvantage of this metadata is the consequent increase in the size of the file.

- The browser has shown the metadata in a different color than the base data, and allows expansion and contraction of the applicationUsers section. Even though the browser has no idea that this file represents three different users, it knows that some of the content is to be handled differently from other parts.

- In this case, the original XML is transformed into HTML, which allows for the styling of elements to give the different colors as well as the ability to expand and contract sections using script. The rules of XML have to be quite strict, but this also works to the user’s advantage. XML is simple with XML as there are no built-in presentational techniques such as exist in HTML.

- The need for quotes in turn makes it easy to tell when certain data is missing. Unsuitable files can be rejected at an early stage, causing application errors. The easy extensibility of

XML files is also an advantage in XML files. The older version of the application can still consume this data and ignore the middle name information.

- XML-formatted data flourishes over simple text files when representing a hier arch y. XML is hard to read and quickly assimilate with text files. For example, a text file has a column representing the path and one to describe whether it's a folder or a file: Path Type.

- The main advantage of XML is the ability to use an XML format to exchange data between applications. XML is much easier to use than binary files that require an arbitrary format that requires accompanying information for processing. XML can be used to create documents in a format that is easy to read and create.

- The W 3 C XML Recommendation is available at www. w 3 C. org / TR / XML. This chapter deals with some of the current uses of XML and gives a foretaste of what is coming in the chapters ahead. XML is truly the best-choice-choice for web services and Ajax.

- XML is used both as a convenient way to serialize objects in a cross-platform manner and as a means of returning results in a single-sally accepted fashion. XML is also used heavily in document-management and web services. The main reasons for using XML are that it's so much easier to parse than the traditional name / value pair style.

- Most modern high-end database systems, such as Or acle and SQL Server, can store XML documents. XML is used to store information such as a document's author, the date of cre-orativeation, and some modifications. XML should enable updates using the X Query language, which is briefly covered later.

- XML is rich and flexible, but for all but the most trivial processing, code using basic string manipulation will be unreliable. A number of XML parsers are available — some free, some as well as free — that facilitate the break down and yield more reliable-centric results.

- MSXML (Microsoft Core XML Services) is Microsoft's standard set of XML tools. It is exposed as a number of COM-objects, so it can be accessed using older forms of Visual Basic (6 and below) as well as from C ++ and script. In these browsers the MS XML parsers are integrated using the ActiveX technology, which can present problems in some secure environments.

- Document Object Model exposes properties and methods that let you extract information from and modify the XML. The DOM was used for many years, but it has a reputation for being unwieldy and difficult to use. It also tends to tak up a lot of memo-or memo-ry. As a result of these problems, a number of other models have sprung up.

- Most recently developed XML formats are described using schemas rather than D TDs. D TDs use a completely different format that is much harder to work with than XML Schemas. DTDs and XML Schemas are covered in depth in Chapters 4 and 5.

- XPath enables you to target specific elements or attributes. XPath is used in XSLT, X Query and other XML-related technologies. It works similar to how paths in a filesystem work, starting at the root and progressing through the various la yers until the target is found.

- HTML tables are very verbose and can easily double or triple the amount of bandwidth between client and server. This is especially the case when the data consists of man-y rows of similar data that are to be shown in tabular form. XML is designed to be able to accept an XML as an input and tr answer the data.

- The XSLT can be used to transform XML files into a browser using a simple text editor. Use the transformed file as appUsersWithXslt. xslt in the same folder as the previous example. Make a small change to appUsers. xml so that the browser will know how to use the specified XslT to transform XML.

- The browser sees the following line at the top of the XML :‘ Use appUsers. xslt’Instead of the default style sheet that produced the result shown in Figure 1-2, it should use appUsersWithXslt. xml. The resulting code is treated as if it were a traditional HTML page. The actual code produced by the transformation is shown here:

- XQuery shares many features with X SLT and because of this, a common question on the XML development forums is,“ Is this a job for XSLT or XQuery?” XQuery can be used on single documents, but it is also often used in large collections, especially those that are stored in a database.

- The main difference in syntax between X SLT and X Query is that X Query uses br aces (br aces) to mark parts of the document that need processing. X Query has a plain-text syntax aimed at document collections. XQuery is covered in depth in Chapter 9.

- The W 3 C recommendation for these standards is called XProc and you can find the relevant documentation at www. w 3. org / TR / xproc. Only a handful of implementations exist at the moment, but if you have the need for this type of workflow it’s certainly worth taking a look at the Xproc standard.

- There are two main types of XML formats: those used to store pure data and those used for adding metadata to documents. XML specifications are curated by the W orld Wide W eb Consortium, the W 3 C and the W 4 C. XML is designed to make data more easily accessible to humans and computers.