Assignment 3: XML Implementation using XBRL

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**Table of Contents**

1. **Table of Contents ............................................................................................................. 2**
2. **Tryit Editor Proof ………............................................................................................... 3**
3. **Transform Display 1 ........................................................................................................ 4**
4. **Transform Display 2 ........................................................................................................ 5**
5. **Transform Display 3 ........................................................................................................ 6**
6. **Access Database Query As XML File …………………………………………………..7**
7. **XML Spy Validation 1 ……………………………………...………………………… 23**
8. **XML Spy Validation 2 ……………………………………...………………………… 24**
9. **XBRL Taxonomy …………………………………………...…………………………. 25**
10. **GAAP.xsd Taxonomy ………………………….…………...…………………………. 26**
11. **SEC Process ………………………………………………...…………………………. 27**
12. **Advantages and Disadvantages of XBRL .………………...……………………..….. 28**

**Tryit Editor Proof**

A screenshot of a computer screen

AI-generated content may be incorrect.

The following proof of my completion of the XPATH tutorial in w3 schools.

**Transform Display 1**

A screenshot of a computer

AI-generated content may be incorrect.

The following is the results of hitting the transform button when executed. When the transform button is executed, a table is displayed, showing the title and the artist behind that title. This evidently is the display of a database centered around CD collections.

**Transform Display 2**

A white background with black and white clouds

AI-generated content may be incorrect.

After modifying the style sheet to include COMPANY and YEAR elements, we clearly see the results of this transformation with the table now expanding to include both COMPANY and YEAR elements. Evidently, the table is filled with key data points while also being formatted properly.

**Transform Display 3**

A screenshot of a computer

AI-generated content may be incorrect.

When the remaining elements of the CATALOG.XML are included, the following well formatted table is constructed, consisting of Title, Artist, Country, Company, Price (Country and Price are the new additions in this case), and Year. This would be the full data table which would be part of a database centered on CD Collection.

**Access Database Query As XML File**

When I exported the Microsoft Access SQL Query as an XML file several key events occurred. First, it resulted in the creation of an XML file but it also created a .xsd file. Upon examination of the file the following code was displayed:

<?xml version="1.0" encoding="UTF-8"?>

<dataroot xmlns:od="urn:schemas-microsoft-com:officedata" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noNamespaceSchemaLocation="SQL%20Query%20Execution%201.xsd" generated="2025-02-19T20:25:47">

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<TY\_DESCR>Softw, Educational</TY\_DESCR>

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</dataroot>

This long line of code essentially displayed the results of the query in XML while also referencing multiple <SQL\_x0020\_Query\_x0020\_Execution\_x0020\_1> elements mainly to represent an individual record from the query results. Additionally, the file references the schema instances as seen in code above to ensure XML validation and maintain data structure. Ultimately, the contents of the XML file display the query results and each individual record while also maintaining a format acceptable to XML to ensure adherence with XML validation.

**XML Spy Validation 1**

A screenshot of a computer

AI-generated content may be incorrect.

The following is the XMLSpy file for HelloWorld example. The validation confirms that the file is valid in the messages, thus confirming the files validity and successful execution.

**XML Spy Validation 2**

A screenshot of a computer

AI-generated content may be incorrect.

The following is the loaded Comprehensive XBRL example file in XMLSpy. I executed validation twice and it clearly is indicated here that the file is indeed valid. Message section corroborates this.

**XBRL Taxonomy**

XBRL or in this case eXtensible Business Reporting Language taxonomy is an electronic dictionary of data elements used typically in business and financial reporting. It acts as a standardization protocol that allows organizations to exchange key information with each other while also defining how those elements relate to one another. There are many common elements associated with this terminology including InterestExpense, DeferredTaxAssetsLiabilitiesNet, FinancingReceivableAllowanceForCreditLossesWriteOffs and DefinedBenefitPlanBenefitsPaid just to name a few. As noted in this example, many of the elements are often financial based but there are other uses involving business reporting. Ultimately, the use of these example elements are helpful allowing organizations to not only relay key information but also analyze and make key recommendation in diverse situations.

**GAAP.xsd Taxonomy**

The GAAP.xsd taxonomy is a type of schema file that defines the elements and relationships in the US Generally Accepted Accounting Principles (GAAP). It is primarily used in XBRL and provides a schema for financial reporting under US GAAP. This schema ensures the accuracy of financial statements and provides a technical framework for structuring financial data in compliance with U.S. GAAP accounting principles and reporting practices. Building off the relation to XBRL, the GAAP is used in the XBRL reporting as well and includes similar elements to what is used in XBRL including InterestExpense, DeferredTaxAssetsLiabilitiesNet and DefinedBenefitPlanBenefitsPaid. Ultimately, GAAP.xsd is a schema file used in the US GAAP that not only lays the groundwork for financial reporting but is responsible for ensuring proper reporting and accountability of US GAAP standards in organizations.

**SEC Process**

The SEC stands for Security and Exchange Commission. The SEC as an organization plays a role in maintaining integrity and transparency in financial markets. It also enforces regulation and oversight through its mandatory filings, overseeing exchanges, brokers dealers and enforces protections through its surveillance of the market. An SEC filing is an official document that publicly trading companies must submit to the SEC. Typically the filings provide a detailed account of a company’s financial performance, activities, and other occurrences that usually impact investors’ decisions. Through SEC filings, companies can boost investor confidence, foster an environment of transparency, and allows for advanced risk management. When a company typically files with SEC, it typically depends on what they are filing. It can be anything from corporate documents to detailed financial statements. In that regards, the company filing with the SEC must examine and extract key data from their internal servers and databases. Upon the completion of the extraction, the company now must convert that internal information utilizing the acceptable XBRL format (mainly adhering to US GAAP Taxonomy if reporting financials) into a standardized and acceptable format designated by the SEC when filing. Once said conversion is completed, the data that is now converted into the accepted XBRL is assembled in a document that is then submitted using the EDGAR (Electronic Data Gathering, Analysis and Retrieval) system. This system does multiple validation steps prior to acceptance by the SEC. One this report submission is accepted, the submission is made public by the SEC. Ultimately, this process ensures transparency on part of the company but also compliance as well as enforcement with electronic submission through adherence to established protocols using accepted practices.

**Advantages and Disadvantages of XBRL**

The primary advantages of XBRL are its standardization, automation, its use in regulatory compliance and its improvements to transparency. XBRL through standardization guarantees that the financial data is structured in a format that is consistent across the various industries. An example use case would be that Apple can report its revenue using the same standardized XBRL tag as Microsoft. This enables investors and analysts to compare both companies’ financial performance without needing to interpret, or reformat into different styles. Through its automation, XBRL greatly reduces the chance for manual entry errors due to its automated data processing. An example of this is an accountant manually inputting data points for financial reporting. In this situation, XBRL allows the company’s financial system to generate reports that automatically tag and categorize financial information. This improves the speed of financial reporting while also reducing manual labor and errors. In addition, its use in many regulatory bodies including the SEC has made it a preferable option for companies to utilize, especially the SEC mandating XBRL fillings to meet compliance standards. Lastly, while this standard is widely adopted, it has also successfully improved transparency by making financial data more accessible and easier to analyze. Numerous examples of company’s financial statements exist that allow investors to make informed decisions based off company’s transparency. This will now lead into the downsides of XBRL.

While beneficial in many cases, there are many disadvantages as well with XBRL, including implementation cost, learning curves, continuous updates and potential errors in tagging. Adopting XBRL in an organization requires investment in software, training and integration which can be costly for the company involved. In addition, the company must also ensure that their teams have a distinct understanding of the XBRL taxonomy which itself would be a learning curve as it requires expertise. Secondly, due to the continuous update cycle, the company must keep investing in training to ensure not only that their employees are up to date on software but also make sure that the infrastructure for XBRL integration is well maintained. This can be considered a downside due to the need to direct some of the company’s resources towards this area, potentially putting a strain on future companies’ ability to capitalize on future advancements or tasks. Finally, machines may not be able to fully catch potential incorrect tagging in financial data. Human error can potentially happen if something as small as a numerical error (like wrong number being implemented) can cause a staggering complex problem. This can perhaps create a hassle for the company having to deal with addressing compliance issues perpetrated by these errors or needing to spend time and resources finding this error, fixing it, thereby delaying submission.

In conclusion, XBRL can be an advantageous way to gain public trust as well as utilize stakeholders but also resource consuming to maintain. Perhaps expanding to a certain point where your company can handle this is best recommended.