CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

XML is stands for eXtensible Markup Language. A markup language describes the structure and contain of data. The term of extensible means capable being extended and modified. Thus, XML is a markup language that can be extended and modified to match the needs of the author and data content. (Goldberg, 2007). Xml was specially designed for data storage and transportation. XML looks a lot like HTML, complete with tags, attributes, and values. The reason to use XML is that it is easy extended and adapted. Xml can also be used to share the data between disparate system and organizations. On the other resources says, XML or eXtensible Markup Languages is a specification for storing information. It is also a specification for describing the structure of that information. XML is a Markup language (just like HTML), while the XML has no tags of its own. (Goldberg, 2007)

The structure of XML is fundamentally tree oriented. This document explores relationships found in the tree structures of XML, and derives XML Query Language requirements from this structure. We will see that supporting the tree structure of XML makes a query language very expressive, capable of combining hierarchy, sequence, position, and text in powerful ways. (Robie, 1999). Hierarchical database are the example of the oldest kinds of database. They arrange data in ‘tree’ structured. In fact that hierarchical structure must have the parent and child relationship.
Hierarchical database is suitable for the simple structure only. These schema which is required instances to maintain relationship among entities strictly through nested structures. However, XML document have its own ability to transfer the data into the relational structure. Similarly outlook with the other database language called Relational Database. The relational structure can maintain relationship among entities through use the keys rather than physical nesting.

A relational database (RDB) is a collective set of multiple data sets organized by tables, records and column. Relational database (RDB) establish as well-define relationship between database tables. Table communicate and share information which facilitates data search ability, organization and reporting. Relation database organize data in different way if we compare with hierarchical structure.

Each table in relation database is known as relation, which contains one or more data category columns. Each table have rows contain a unique data instance defined for a corresponding column category. One or More data record characteristics relate to one or many records to form functional dependencies. There have its own meaning with the type of relation that has classified. For example, One to One, One to many, Many to one, and many to many relationship among the table.

Relational database performs the database operation by “select”, “project”, and “join”. Select is used for retrieved the data. Project is identifies data attributes and join combines relations. On the other hand, there had a lot of advantages of use relational database. The advantages are easy to extendibility, as new data may be added without modifying existing records. Relational database also promote a flexibility performance with multiple data requirement capabilities.
Data is king! This statement is made by IT professionals because a large age of the application is data driven. In particular, developer needs solution to generate XML document using information stored in databases. XML and database are needed to integrate. The XML and database integrations are important because the XML provides a standard technique to describe data.

1.2 PROBLEM STATEMENT

XML (eXtensible Markup Language) is the example of the tools that carry a data in a hierarchical structure. The hierarchical database is the traditional organization of data. This concept is acceptable if handle by machine. But not design to human look. User has its own difficulties to read and store data in a hierarchical structure.

XML is bulky indeed. Metadata in XML document, which are encode as element name, attribute, comment or processing instruction can result in verbose presentation. Besides, to track the data in a hierarchical structure database will cost a lot of time. This is because the set of large data lead us to track it line by line. Moreover, the new records cannot be added to a child table until it has already been incorporated into the parent table. The hierarchical structure database still creates repetition of database system and welcoming the redundancy.

Moreover, with the hierarchical model we will easy to see the problem arise because as each “child” can only have one “parent”. The ability to describe the relationship between data such as “many-to-many” or “many-to-one” are not well form if there is involve of more than one child.

The propose method approach is clear about the content in data sets. The data in tree view make a lot of confuse because sometime the redundancy occur. To avoid this situation, the methods and a way have to prove by the end of the research.