Introduction

1.) Context.

2.) Databases.
   2.1) Definition.
   2.2) The different models.

3.) XML (Extensible Markup Language) and relational databases.
   3.1) What is XML?.
   3.2) Storage of XML documents in a relational database.
   3.3) XML and query language.
   3.4) Publication of XML documents in a relational database.

4.) XML and federated databases.

Conclusion

Bibliography

Glossary
Introduction
1.) **Context.**

Today web applications become more and more sophisticated and need to access to a full different type of information. These applications are the diffusion of information such as publicity, the exchange of information such as news, the search of information which uses some search web engine and finally the web business such as purse activities or transactional commercial activities which develop and increase every day. Now a lot of firm open their system of information to the internet, and so some new kind of architecture appear. The development of internet and firms' technologies show that the web applications need to couple internet technologies and databases. Today clients access to the databases through the web and so it needs a special architecture in order to answer to their requests. In parallel, Web sites are developing every day. The web sites become very numerous and very heterogeneous. Their contents are very complex for example we can find several HTML files with different links and it has became very difficult to modify it when it is necessary that’s why database is a good solution to solve this problem. It gives a method to represent information and organize a logical hierarchy between information.

2.) **Databases.**

2.1) **Definition.**

2.2) **The different models.**

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Figure 3: Example of a relational schema

For example, the relational table CLASS is:

<table>
<thead>
<tr>
<th>NumClass</th>
<th>Nbstudent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

The advantages of this model are that the query language is based on a solid theory and algebra rules and it is simple to build. But the inconvenience of this model is that the schema is fixed and it is difficult to modify it.

So the second model is a model of files. It has a simple structure and so it is easier to modify it than the first model. This model consists of collecting files and it is organized as the system of files of an operating system, such as we have on a computer. In this model, the big advantage is the simplicity for managing files. But there are no information on the structure and no schema so the consequences are that information can be redundant. But the real problem is that there is no query language for this model.

The third model is the semi-structured data which must answer to the facts of:

- The data cannot be compatible with a schema.
- The structure of the data evolves and needs to be updated frequently.
- The data can be to structure slightly.

It is a compromise between the relational model and the model of files. So there is a supple schema and a query language. This model appeared in order to manage heterogeneous and structured data.
3.) **XML (Extensible Markup Language) and relational databases.**

3.1) **what is XML?**
3.2) Storage of XML documents in a relational database.
3.3) **XML and query language.**

- XPath 2.0 works on a XML document. It gives the possibility to extract nodes and puts a reference on each node of the tree.
- XSLT 2.0 which can translate a XML document to XML, HTML or text.
- XQuery 1.0 comes from XPath 2.0. It is used to access the database and it is a real query language.

3.4) **Publication of XML documents in a relational database.**
4) **XML and federated databases.**

![Diagram of EJB, JB, JDBC, XML, MAPI, MEDIATOR, REQUESTOR, JAVA API, O/R Repository, Translation, Mediation, Coordination]

**Conclusion:**
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