Tribhuvan University
Institute of Engineering
Pulchowk, Campus

Final Report on the
Database Management System
Project

Entitled

"National Data"

Submitted By:
Pankaj Ghimire(061/BCT/528)   ghimirepankaj@gmail.com   9841727463
Ram Chandra Panday(061/BCT/536) pul.rcp@gmail.com   9841657767
Vaskar Gnyawali(061/BCT/546)   nepalivcg@gmail.com 9841579382

Submitted To:
Department of Electronics and Computer Engineering
16th Jan,2008

Table of Contents

Background

The world has changed to the reformation in the policy making and administration. As the recent development of the administration the world has developed the new way as the e-governance. It includes the documentation and data management through the electronic means. This development has started touching our policies too. On the platform of that policy every component of the country's ruling bodies has changed the way of administration. To facilitate that rule we have proposed our project relating the new way of administration and data handling.

Next, web has become the other way of information sharing and has made the data access easy. Similarly, we have used the web as the data accessing medium and MySQL as database. We intended to collect almost all of the data as far as possible that are related to every aspect of the country as population, education, communication etc. These data are managed in such a way that a user can access those data as they wish. It is made interactive using the map in the page so that any one can look as the requirement. We are interested in managing the map district wise so that it will be easy to manage the data.

Problem Statement

As we have seen that it is very hard to get the data and information that is required by the people. They have no access to all the information and data of the country and the local level. We have not yet formed the strong basis of the storing of data. Although our legislative body have made the law of getting the information of the country and the offices by the people as if they require. But there is no best way or storing the data so it has become awesome to obtain the data. These days there have been made a move to make the systematic way of storing the information. Our project is also the result of such problems. We hope that our small work will make a move in the direction of the systematic and scientific store of the data that a citizen requires about his country, region and his district too.

Objectives

- To be familiar with database management system

- To be familiar with web programming(php/jsp)

- To be familiar with database server(MySQL)

- To make the collection of the data from different areas

- To make interactive data accessing system

- To create web page including the features of database management

ER Diagram
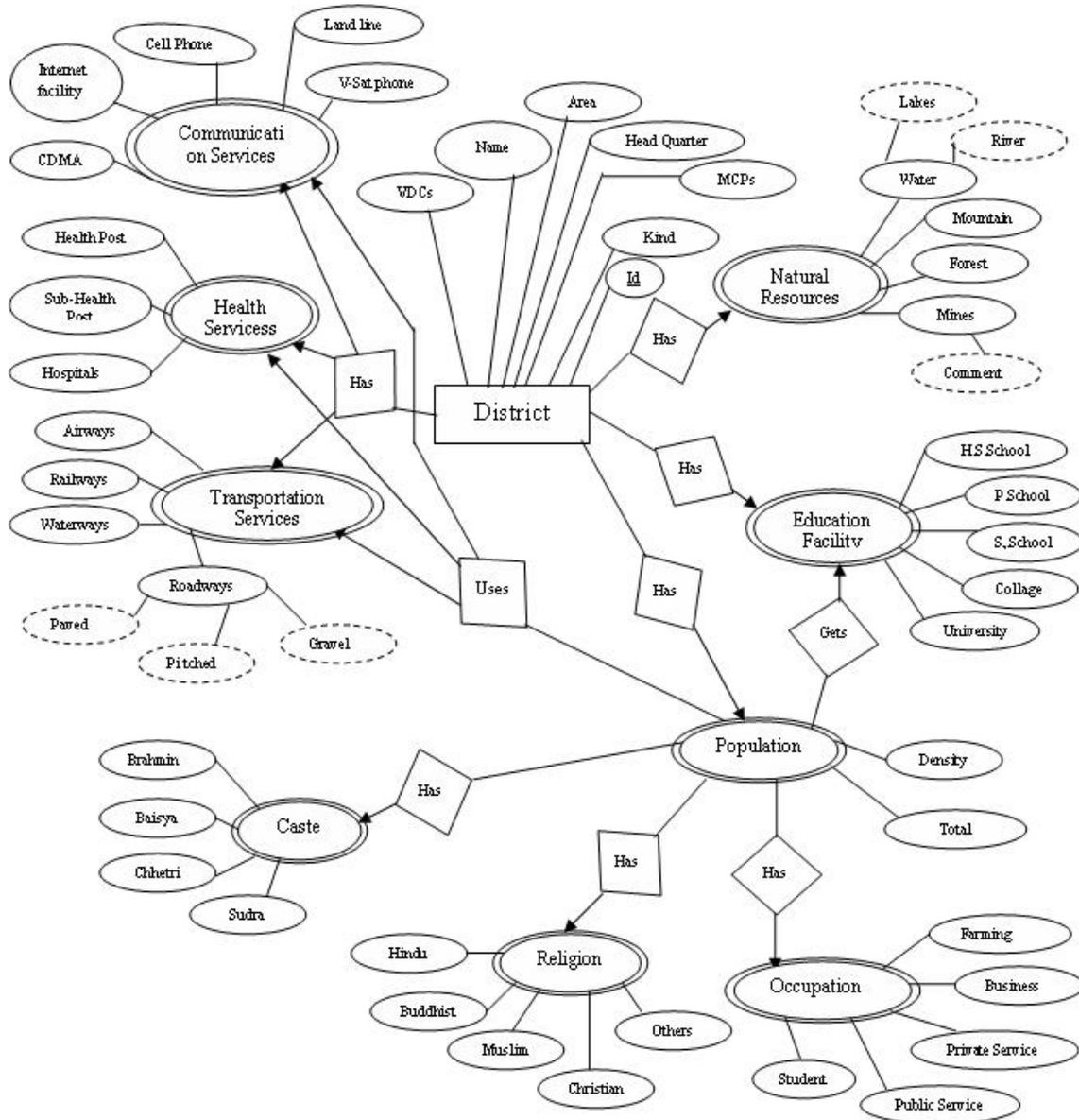
Abbreviations
VDCs-village development Committees
MCPs- Municipalities
CDMA-Code Division Multiple Access
P.School- Primary School
H.S.School- Higher Secondary School
S.School- secondary School

Fig. **Complete E-R Diagram of the Project**

Programming Environments

We have included description of some of programming environments we have used in our project.

Java Server Pages

An increasingly popular approach in recent years has been the use of web server scripting languages such as Netscape LiveWire and Microsoft ASP (Active Server Pages). With these systems, a programmer embeds code snippets into web pages. The pages themselves can be professionally designed by a web designer. The web server executes the code snippets when serving the page, inserting the HTML that result from the execution of each snippet.

MySQL

MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by MySQL AB. MySQL AB is a commercial company, founded by the MySQL developers. It is a second generation Open Source company that unites Open Source values and methodology with successful business model.The main reasons before selecting the MySQL.

- MySQL is a database management system
- MySQL is a relational database management system.
- MySQL software is Open Source.
- The MySQL Database Server is very fast, reliable, and easy to use.
- MySQL Server works in client/server or embedded systems.
- A large amount of contributed MySQL softwares are available.

CSS(Cascadestylesheet)

In web development **Cascading Style Sheets** (**CSS**) is a style sheet language used to describe the presentation of a document written in a markup language Its most common application is to style web pages written in HTML and XHTML but the language can be applied to any kind of XML document, including SVG and XUL

CSS is used to help readers of web pages to define colors, fonts, layout, and other aspects of document presentation. It is designed primarily to enable the separation of document content (written in HTML or a similar markup language) from document presentation (written in CSS). This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, and reduce complexity and repetition in the structural content. CSS can also allow the same markup page to be presented in different styles for different rendering methods, such as on-screen, in print, by voice (when read out by a speech-based browser or screen reader) and on Braille-based, tactile devices. CSS specifies a priority scheme to determine which style rules apply if more than one rule matches against a particular element. In this so-called *cascade,* priorities or *weights* are calculated and assigned to rules, so that the results are predictable.

The CSS specifications are maintained by the World Wide Web Consortium (W3C). Internet media type (MIME type) `text/css` is registered for use with CSS by RFC 2318 (March 1998).

Methodology

Hotspot

An image map is an image that has been divided into regions, or "hotspots"; when a hotspot is clicked an action occurs, for example a new file opens. The image found at the bottom is an example of an image map. All the links are in one image which is linked to different pages.

Steps:

1. We have to select the image on which we would like to make multiple links. Clicking on the rectangular hotspot tool found in the Properties Inspector. We select the rectangle tool and drag the pointer over the image to create a rectangular hotspot. We can also choose the oval or polygon hotspot tool to make an oval or polygon selection.

2. In the hotspot Property inspector's Link field, clicking the folder icon to browse to the file we want opened when the hotspot is clicked. Alternatively, typing the file name.

3. The above steps are repeated to define additional hotspots in the image map.

4. We successfully created an image map.

Database Management

Our Entity Set is **District** and it has **multivalued attributes**.So all the attributes are accessed from database with the primary key **Distric_ID** which is set as foreign key for all attributes. Data are retrieved from the database using different queries.

Schemas:
communication (District_ID, CDMA,Cellphones,Landlines,Vsat,Internet)

district(District_ID,Name,Kind,Headquarter,Mcps,Vdcs,Area, Zone)

**education (District_ID,Primaryschool,Secondary,Hsecondary,
Colleges,Universities)**

health (District_ID,Healthposts,Subhealthpost,Hospitals)

naturalresources (District_ID,Rivers,Mountains,Forest, Wild life Conservation)

occupation (District_ID ,Farming ,Business,Priv,Public ,Student ,Others)
population (District_ID,Density,Male,Female)
religion (District_ID,Hindu ,Buddhist ,Muslim ,Christian ,Others)
**transportation (District_ID,Airways,Railways ,Waterways ,Roadway)**

Displaying Bar Chart

 To make the analysis and comparisons more convenient we have displayed the Bar Chart. The Bar Chart shows the status of different attributes graphically with height showing the values of the attributes.

Steps:

1. Inside a <td> tag of a table we made a div tag

2. Height of the div tags was calculated using the proportion of the value of attributes.

3. The div was colored which generate the bar of the chart.
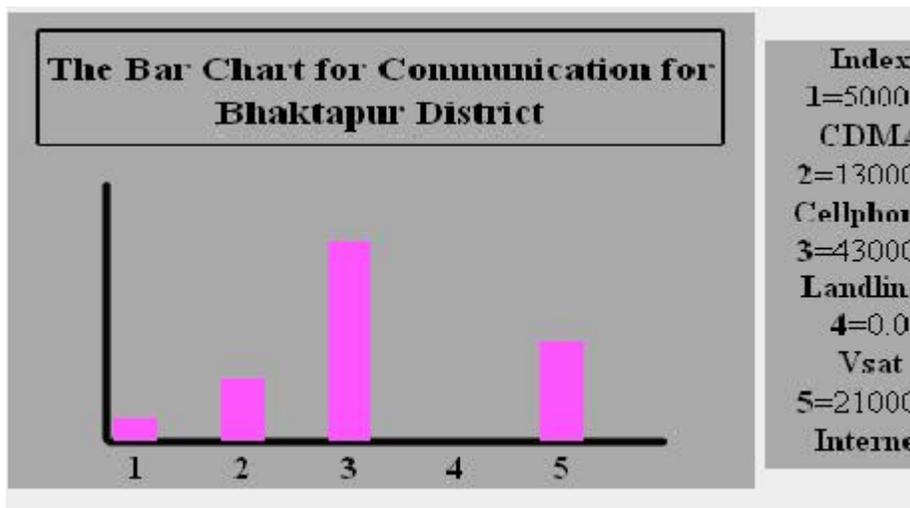
Data Access and users: In our project data are inserted only by the Administrator.

Once the data are inserted they are kept preserved and unchanged up to next census. The authorized user can view and analyze all the data using Bar Chart. General web visitor can get the information by clicking the corresponding map of the district starting from map of whole Nepal

Scope of the project

As we have already explained about our project above, so we can easily say that from our project anybody can access or view different data related to different district. We are trying to collect each and every data related to different fields with in a district and finally through out the whole country as much as possible. So we can say that if we extend this project up to maximum level(i.e. for whole country) ,it makes easier to access updated data related to specific district through internet ,which also makes the official works easier ,reliable ,efficient and fast.

Limitations

We have got some problems that we couldn't solve during the course of our project .This is may be due to time frame limitations or knowledge limitations. Some limitations of our projects are

- **Browser Dependency**: Session value doesn't expire after we have logged out from our page (this problem is seen in Mozilla browser but it works well on Internet Explorer)

- **Data Accuracy**: Data we have collected are not all real and accurate (we have-not collected data for whole Nepal rather we are confined only to central development region due to time constraints)

Conclusion

Doing projects in group really helps in development of our knowledge and ability on Database Management along with good relation with friends. But the time frame and advanced knowledge are also the major issues for the successful completion of the project. But we have used our full effort to develop this project up to this stage keeping in mind the major objectives of the project. Although we have got some limitations due to timeframe we can resolve it in future and make this project more realistic and accurate for accessing the whole data of Nepal.

References

- **DataBase Management System Concepts by Silberschatz,Korth,Sudarshan**

- **Lecture Notes by Mr. Jayaram Timsina**

- **Introduction to Oracle9i SQL - Volume I**

- **mysql and jsp web applications data driven programming using tomcat and mysql**

- **Teach Yourself JSP 2.0 with Apache Tomcat in 24 Hours 2004**

- **http://forum.java.sun.com**